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### STANDARD PLAN NUMBER

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## **SECTION 1 CONSTRUCTION PLAN REQUIREMENTS**

### **1.1 General Formatting**

General formatting, copying, and submittal processes shall include:

- A Plans shall be drawn on vellum or high-quality bond plan sheets or plan and profile sheets, 36 inches horizontal by 24 inches vertical.
- B Each sheet shall include:
  - 1. Standard Town of Los Gatos border and title block for public projects.
  - 2. The project title appearing in the title block along with the Town's project number, if public project, or street address for private development projects.
  - 3. Sealed and signed by a Professional Civil Engineer or Surveyor, as appropriate for the project, licensed in the State of California.
  - 4. Scale, north arrow, datum, legend, date, and general notes.
  - 5. Description, location and elevation of all bench mark data available on the project site or adjacent to site.
  - 6. Improvements to be constructed shall be shown with solid lines.
  - 7. Future improvements shall be shown and labeled with dotted lines.
  - 8. Existing improvements shall be shown with screened lines.
- C Survey control and elevations shall be in accordance with Section 1.2, "Town of Los Gatos - Basis of Mapping and Survey Control."
- D Engineering design drawings shall be submitted in accordance with this standard system:
  - 1 Cover Sheet including the following:
    - i. An overall drawing of the proposed construction area including street names and lot numbers.
    - ii. Vicinity map showing the proximity of the project to major roadways or cities. Project shall be outlined on map.
    - iii. Name of Developer
    - iv. Name of Engineer
    - v. General Notes
    - vi. Benchmark and Basis of Bearings
    - vii. Signature blocks of all involved agencies
    - viii. Index of Plan Sheets

- 2 Detail Sheet showing all design details and specifications for construction.
- 3 Separate Sheet for storm drainage, water, sewer, grading, demolition, horizontal control, utility, and street design. Scale shall be 1" = 20' for design sheets.

E Storm Drainage/Sanitary Sewer/Water Quality Treatment/Detention Plan and Profile

- 1 Label all cleanouts, manholes, and catch basins in sequential number indicating size, location, and type on the Plans. In profiles, label rim and invert elevations as well as catch basin or manhole size and type.
- 2 Include flow direction arrows on all storm drain pipes.
- 3 Label pipe size, length, material and slope in plan or profile.
- 4 Include horizontal and vertical datum and benchmark information on each plan and/or profile sheet.
- 5 Show spot elevations of pavement in parking lots, and runoff flow direction arrows.
- 6 Show all stub-out locations for future connections.
- 7 Show location of outfalls and include section details for outfalls in grading or street improvement plans.
- 8 Show and label the following for all stormwater facilities:
  - i. At least two cross-sections through detention pond. One cross-section shall show the control structure.
  - ii. Location and detail of emergency overflows and spillways.
  - iii. Invert elevations of all pipes, inlets, tanks, vaults and spot elevations of the pond bottom. Call out pond volume and dimensions, and design surface elevation.
  - iv. Plan and section views and details of all rock protection and energy dissipaters.
  - v. Section and plan view on restrictor/control structure; detailed, including size and elevation of orifices.
  - vi. Show length, width, and bottom width dimensions for all bio-filtration and water quality swales and stormwater conveyance swales. Include sectional view, showing side slopes and design depth of flow.
  - vii. Include seeding material information for erosion control.

F Engineering design calculations shall be submitted for review where applicable:

- 1 Water and sewer pipe sizing.
- 2 Hydrologic and hydraulic analysis and report.
- 3 Geotechnical and Geologic report.
- 4 Design of roadway section.

- 5 Traffic Impact Study.
- 6 Structural, foundation, and stability calculations for retaining walls; bridges, embankments, etc.

G Erosion control plans for construction shall be submitted for review:

- 1 Temporary erosion and sedimentation control plan, showing the control measures intended to minimize the effects of erosion due to construction operations shall be submitted with the plans.
- 2 Traffic Control Plan
- 3 Timing schedules and sequence of development clearing, including stripping, rough grading, construction, final grading, and vegetative stabilization.

H Before final acceptance, the Applicant shall provide the Town of Los Gatos with certified as-builts vellum stamped by a registered civil engineer licensed in the State of California within 30 days of the final inspection.

All final as-built drawings shall also be submitted as Autocad release 2004 or later version. The submittal shall be on a CD.

The as-built drawings shall include final plat information including right of ways and easements. The as-built drawings shall certify that the facility has been constructed as shown on the as-built plans and meets approved plans and specifications. They shall include but not be limited to the information as outlined in the individual Sections of these Standards.

I All work shall be performed in accordance with the current edition of Standard Specifications and Plans prepared by the State of California Department of Transportation and the American Public Works Association (APWA) and the Town of Los Gatos Engineering Design Standards.

## **1.2 Town of Los Gatos - Basis of Mapping and Survey Control**

The Town of Los Gatos has established 60 survey control monuments throughout the Town to be used as the official survey control benchmarks. All surveying and engineering related work shall use these monuments. All monuments are 3.5" brass disks set in concrete in a metal casing. The lids are marked "Control Monument".

Copies of full size survey control monument maps are available at the Public Works Department Office located at 41 Miles Avenue.

## **1.3 Horizontal Plan and Profile Elements**

Profile plans shall be submitted together with horizontal plans if appropriate. Horizontal plan and profile elements shall include the following:

- A North arrow.

- B Centerline with stationing of construction as the major line in the plans.
- C Ticks for each even 100-foot station along the centerline of construction. Stationing shall increase from west to east or south to north.
- D Stationing at points of curve, tangent, and intersections with ties to sections and/or quarter corners surrounding the improvement. All construction features should have station and off-sets from station line.
- E Section, township, range, lines, and breakdown to boundaries of subdivision.
- F Right-of-way lines and width for existing and proposed roads and intersecting roads.
- G Topographic features within the right-of-way limits and sufficient area beyond to resolve questions of setback, slope, drainage, access onto abutting property, and road and utility continuations. Contour interval maximum 2-foot. Topographic features shall show at least 50 feet beyond the limits of the project.
- H Centerline horizontal curve data including radius, delta, arc length, and tangent distance on all horizontal curves.
- I Lot lines and numbers.
- J Proposed improvements including location of buildings or other structures, impervious surfaces, landscaping, and other improvements, together with finished contours and elevations.
- K Locations of all existing underground and surface installations and utilities in relation to the centerline of construction stationing and its offsets.
- L Existing and proposed wetlands, watercourses, drainage features, storm drainage facilities, and areas to remain undisturbed, if applicable, indicating location (station & offset) direction of flow, size, and kind of each drainage channel, pipe, and structure.
- M For earthwork, show cuts and fills, catch points. Earthwork quantities for private development projects shall be broken down as: 1. Building Foundation Excavations; 2. Driveway and Access Road; and 3. Site Grading.
- N Typical roadway sections of proposed road and the location.
- O Scale shall be 1 inch = 20 feet
- P Street signs and pavement markings required by the current Manual of Uniform Traffic Control Devices and Town of Los Gatos Engineering Design Standards.
- Q Location of easements, including permanent drainage easements and temporary construction easements.



- R Entire width of both sides of adjoining streets showing driveways, wheelchair ramps, sidewalks, street lights, trees, traffic signs and any permanent markings.

#### **1.4 Profile Elements**

- A Profile elements shall include:
  - A. Scale shall be as follows:
    - 1 Where there is 10 feet or less of vertical differential in the street or utility design profile on any sheet, the vertical scale shall be 1 inch = 2 feet.
    - 2 Where there is more than 20 feet of vertical differential in the street design profile on any sheet, the vertical scale shall be 1 inch = 5 feet.
- B Stationing in the profile shall line up vertically with the same stations in the plan as closely as practical.
- C Show profile of original ground lines with elevations at 100-ft. stations and at significant ground breaks and topographic features, along the center line of construction.
- D Provide profile of the design crown line of the new street or proposed utility lines.
- E Provide grades at 25-foot intervals on vertical curves, at point of intersections and at angle points.
- F Show the lengths of vertical curves and the gradients of each tangent.
- G Show superelevation criteria where utilized. For roadways, profiles for both curb lines are required.
- H A profile of each storm drain, catch basin, manhole, or culvert shall be shown in its entirety.
- I Show profiles for water, sewer and storm lines and show all utility crossings including electric, gas, telephone, and cable lines.

## **SECTION 2 STREET DESIGN STANDARDS**

### **2.1 Introduction**

Design procedures shall conform to accepted engineering practices, and shall be certified by a registered professional civil engineer, licensed by the State of California. All projects will be constructed in conformance with Town of Los Gatos Engineering Design Standards and the current edition of the Caltrans Standard Specifications for Road, Bridge, and Municipal Construction and such amendments that modify these specifications.

### **2.2 Street Classifications**

All streets within the Town are classified into five major road classifications: arterial streets, collector streets, neighborhood collectors, hillside collectors, and local streets. These street classifications are to be used with the street design standards. A list of streets with their designation is available in The Town of Los Gatos General Plan, Appendix A.

#### *A. Arterial Streets*

Arterial streets are designed to facilitate two or more lanes of moving traffic in each direction, and provide intra-community travel and access to the county-wide highway system. Arterial streets may be divided by a median island that controls left turn lanes and provides lanes for left-turn movements. Access to community arterials should be provided at collector roads and local streets. Highways and arterial streets shall conform to the width as adopted by the circulation element of the general plan.

#### *B. Collector Streets*

Collector Street is a street that provides circulation within and between neighborhoods. Collectors usually serve short trips and are intended for collecting trips from local streets and distributing them to the arterial network. Collectors serve abutting property and carry traffic to other collectors, the arterial and expressways. See **Standard Plan #201** for typical section.

#### *C. Neighborhood Collectors*

Neighborhood collector, in an identifiable neighborhood, carries traffic that is predominantly generated within that neighborhood. See **Standard Plan #201** for typical section.

## *D Hillside Collectors*

A hillside collector street serves abutting property in the hillside areas, carrying traffic to arterial streets or other collectors. The cross-section of the hillside collector shall be dictated by grade and other topographical or botanical considerations. In general, two lanes without parking, with or without sidewalk along one side of the road (depending on topographical considerations), shall be provided. See **Standard Plan #202** for typical section.

## *E. Local Streets*

Local streets provide for local (neighborhood), traffic movement with direct access to abutting property, carry traffic from individual properties to collector and arterial streets, and shall not, by design, encourage through traffic. See **Standard Plan #203** for typical section. See **Standard Plan #204** for typical hillside local street section.

Some existing local streets may have 50 foot right-of-ways. No new 50 foot right-of-ways may be constructed per section 24.50.015 in Los Gatos Town Code.

## **2.3 Other Roads**

### *A. Special Design Streets*

Special design streets shall be allowed wherever warranted by unique land use, circulation conditions, or environmental conditions. These streets can either be arterial streets, collectors, existing local hillside streets or scenic residential streets\_ their design will take into consideration the following features:

1. Retention of existing physical amenities.
2. Protection of existing trees within existing right-of-way.
3. Special treatment of transition sections when conforming to standard street sections.

### *B. Private Roads*

Road safety, function and reliability are best served if the road is owned and maintained by the Town. However, recognizing that private roads may be occasionally allowed in Planned Residential Developments, provision is made for them in these standards. Private roads, defined as those roads serving more than 20 Average Daily Traffic (ADT), shall meet the following conditions:

1. Permanently established by tract or easement providing legal access to each affected lot, dwelling unit, or business and sufficient to accommodate required

improvements, and to include future use by adjacent property owners when applicable.

2. Designed to serve up to the maximum potential of dwelling units based on the ADT thresholds when the entire length of the private road system to the nearest public road is considered. The maximum potential is the number of dwelling units that can possibly be served by the road when physical barriers, zoning or other legal constraints are considered.
3. Accessible at all times for emergency and public service vehicle use.
4. Located so that land locking of present or future parcels will not occur.
5. Maintained by capable and legally responsible owner or homeowners association or other legal entity made up of all benefited property owners.
6. Covenants shall be required for maintenance of the private road binding each lot owner and all subsequent lot owners, such that by acceptance of a deed or other conveyance, is deemed to covenant and agree that if at any time the Town of Los Gatos concludes that maintenance of the roadway included in the common property is necessary and has not been done by the Association, the Town of Los Gatos may perform such maintenance as agent for the Association, and the Town of Los Gatos will charge the Association for the cost of any such maintenance, which charge shall be an obligation of the Association. Such reimbursement shall be a cost subject to assessment, and there shall be a lien on the property, which may be placed on the tax bill and collected as ordinary taxes by the Town.
7. Clearly described on the face of the plat, short plat, or other development authorization and clearly signed as a private road.

## **2.4 Surfacing**

### *A. Arterial, Commercial, and Industrial Streets*

Any pavement arterials, commercial and industrial collector streets shall be designed to accommodate "all weather traffic" using the current AASHTO Pavement Design Method, or other accepted methodology that considers the load bearing capacity of the soils and the traffic-carrying requirements of the roadway. All weather roads are defined as road pavement sections and drainage required to assure no weight restrictions on roads during periods of thaw. Plans shall be accompanied by a pavement thickness design based on soil strength parameters reflecting actual field tests and traffic loading analyses. Design year shall be 30 years later than that year construction is scheduled. The analysis shall include the traffic volume and axle loading, the type and thickness of roadway materials and the recommended method of placement and compaction. Pavement sections shall not be less than those required for residential access streets.

The subgrade shall be designed by a Professional Geotechnical Engineer prior to placement of asphalt. The basis of proposed pavement design shall be reviewed and approved by the Town Engineer. These sections shall not be less than:

- 4" Asphalt Concrete (2 lifts)
- 9" Class II Aggregate Base (95% Relative Compaction)

#### *B. Collector Residential Streets, and Private Streets*

The minimum paved section, with alternate combinations of materials, for all other streets shall be as shown below. These sections are acceptable only on visually good, well-drained, stable compacted subgrade. Any proposed exception to these materials will be subject to soils strength testing and traffic loading analysis. All expenses for determining revised materials shall be borne by the Applicant and subject to review and approval by the Town Engineer. The subgrade shall be designed by a Professional Geotechnical Engineer prior to placement of asphalt.

- 3" Asphalt Concrete
- 6" Class II Aggregate Base (95% Relative Compaction)

These material thicknesses are not acceptable if there is any evidence of instability in the subgrade. This includes free water, swamp conditions, fine-grained or organic soil, slides, uneven settlement, or pumping resulting from construction equipment including loaded trucks\_ If there are any of these characteristics, the soil shall be sampled and tested sufficiently to establish a pavement design as specified in Section 2-4.A, Arterials, Commercial, and Industrial Streets, that will support the proposed use. Measures may include, but are not limited to, a stronger paved section, a strengthening of subgrade by adding or substituting fractured aggregate, asphalt treated base, geotextile, more extensive drainage or a combination of such measures\_ The soils test report and the resulting pavement design are subject to review and approval by the Town Engineer.

## **2.5 Bicycle Lane Widths**

Bicycle lanes will be designed per Caltrans Design Standards. The Town of Los Gatos can modify any proposed bikeway design for specific projects.

### **2.6 Horizontal Design Standards A. Horizontal Curves**

Design shall be based upon accepted engineering practices and the requirements listed in this manual. The AASHTO tables for curvature or Caltrans Design Manual may be considered accepted engineering practices to be used in conjunction with the design speed requirements that follow:

#### Minimum Design Speed Requirements(mph)

|                    |    |
|--------------------|----|
| Arterials          | 45 |
| 'Collector Streets | 45 |
| Local Streets      | 35 |
| Private Street     | 35 |

#### *B. Horizontal Stopping Sight Distance*

Stopping sight distance is where sight obstructions such as bridges, walls, cut slopes, wooded areas, buildings, etc. exist on the inside of a curve. Use Caltrans Highway Design Manual to check for adequate stopping sight distance.

### **2.7 Vertical Design Standards**

#### *A. Grades*

Grades and vertical sight distance are subject to approval by the Town Engineer to ensure proper drainage and/or safety for vehicles and pedestrians. Grades of roads shall not be less than 0.5%. Per Town Code Sec. 24.50.045, the grades of highways, streets and alleys in subdivisions shall not exceed fifteen (15) percent unless otherwise approved by the Town Engineer and the advisory agency.

#### *B. Vertical Curves*

To achieve-minimum stopping sight distance, vertical curve lengths shall meet or exceed the criteria listed in Caltrans Highway Design Manual.

All vertical curves shall be symmetrical parabolic curves.

### **2.8 Intersections**

#### *A. Angles*

Proposed public streets shall intersect on another at 90 degree angles or as close to 90 degrees as topography permits but in no case shall be less than 75 degrees.

#### *B. Corner Radii*

At public road intersections, the following minimum curb-line radius is required:

|                                    |         |
|------------------------------------|---------|
| Arterial Intersection - Any Street | 35 Feet |
| Local Street to Local Street       | 30 Feet |
| Truck Route and/or Bus Turns       | 55 Feet |

C. Minimum Center Offset at Adjacent Streets (Either same side or opposite sides of primary street.)

|   |          |
|---|----------|
| Local Streets Intersecting Each Other           | 150 Feet |
| Local Streets Intersecting Arterials/Collectors | 250 Feet |
| Arterials Intersecting Arterials                | 300 Feet |

D. Line of Sight at Intersections

At any intersection of a private road with a Town street or a Town street with a Town street, there shall be a sight distance triangle which provides an unobstructed line of sight. The operator of a vehicle approaching an intersection at grade should have an unobstructed view of the whole intersection and of a length of the intersecting roadway sufficient for vehicle control. See **Standard Plan #232**.

Within the sight triangle, cut slopes, hedges, trees, signs, utility poles, or anything large enough to constitute a sight obstruction should be removed or lowered within the line of sight to a maximum height of 3 feet. Signs should be offset so sight distance is not obstructed.

In order to verify acceptable sight distance, the Town Engineer may require a developer to evaluate and document an existing sight distance condition. The evaluation and documentation of sight distance shall include adequate plan and profile drawings necessary to make a definitive determination. When the Engineer determines from the evidence presented that a location has insufficient sight distance, the developer may be required to provide a plan to improve the sight distance to at least the minimum acceptable standard.

## 2.9 Clear Zone/Side Slopes

### A. Analysis

Clear zone is that roadside border area starting at the edge of the traveled lane that is available for safe use by errant vehicles. The available clear zone is the distance measured in feet normal to the highway beginning at the edge of the traveled way to the closest part of any fixed object. Traffic control signs and luminaries with breakaway supports are not considered hazardous for the purpose of defining the available clear zone distance. The required clear zone is a function of the posted speed, side slope, and traffic volume.





In some conditions, with travel speeds of 35 mph or less, it is desirable to place any rigid object as far away as possible from the edge of the travel lane, such as beyond the sidewalk or at the edge of the right of way. Where this cannot be accomplished, the minimum clear zone distance is established at 30" inches beyond the face of the curb.

## **B. Hazards**

There are three general categories of hazards: embankment hazards, objects, and water.

### **1. Side Slopes**

Height and slope of embankments are the basic factors in determining barrier needs for a fill section. The preferred mitigation, over the installation of a traffic barrier, is the flattening of the side slopes where it is feasible.

### **2. Fixed Objects**

When feasible, objects which are hazards as determined by the Town Engineer, should be removed. Other mitigative measures include relocating an object outside of the clear zone, reducing the hazard such as using an appropriate breakaway feature, and installing a traffic barrier or earth berm.

### **3. Water**

Open water with a depth of 2 feet or more and located within the clear zone shall be considered a hazard and require mitigation.

## **2.10 Vertical Clearance**

A minimum vertical clearance of 15 feet shall be provided for all overhead obstacles measured from the crown of the street or useable shoulder to the lowest portion of the obstacle.

## **2.11 Road Width Transition Tapers**

The need for road width transition tapers in conjunction with development proposals will be determined by the Town Engineer on a case by case basis. The Caltrans Design Manual will be used as a guide in evaluating such proposals.



## **2.12 Construction Notes**

Quality control monitoring of subgrade backfill and embankment materials and construction shall be by a geotechnical firm approved by the Town and secured and paid for by the Applicant.

All improvements shall meet current ADA standards.

All contractors are responsible for verification of all existing utilities in field. Call Underground Service Alert (USA) 1-800-227-2600 before starting any excavations. It is the sole responsibility of the contractor to verify existence of and protect all existing utilities. Any damage to an existing utility will be repaired at the expense of the contractor.

It is the responsibility of the contractor to protect any existing utility boxes. Any cracked or broken boxes shall be brought to the attention of the Town Inspector prior to any work.

Pedestrian and vehicular access will be maintained at all times unless authorized by the Town Engineer.

All compaction tests performed shall be in accordance to ASTM D1557. Special care must be taken during the compaction and testing to prevent damages to the utility lines.

Materials shall conform to the requirements specified for materials in the Caltrans Standard Specifications:

All concrete used for curb, gutter, and sidewalk must be Class A (six sacks per cubic yard) as per State of California Specifications and must attain a strength of 3,000 PSI minimum in 28 days. Concrete shall include one (1) pound of lamp black per cubic yard of concrete or equivalent.

All aggregate base, and gravel base course shall have a 95% maximum dry density compaction based on the ASTM D1557.

A tack coat of asphalt shall be applied at a rate of 0.06 gallons per square yard of retained asphalt shall be applied to all paved surfaced on which any layer of asphalt concrete is to be placed on.

All asphalt concrete shall be compacted to 92% of the RICE gravity density... A minimum of 5 nuclear densometer compaction tests shall be taken each day per 400 tons of asphalt placed.

Dowel old concrete to new concrete with #4 Rebar. There will be two (2) dowels at each sidewalk cut and two (2) at each curb cut.

Grading of subgrade shall be accomplished by power grader of suitable size and by hand shoveling and raking as required to produce a neat and smooth uniform surface.

The subgrade shall be compacted prior to placement of aggregate base\_ the subgrade shall be compacted with rollers, mechanical tampers, or other suitable equipment until a 95% maximum density compaction is attained. (ASTM D1557)

Where required by the Town, the existing subgrade material shall be removed and replaced with aggregate base. Base material shall be placed to the depth required by the Town and shall be mechanically compacted to 95 percent of maximum density (ASTM D1557)

All grading shall conform to Chapter 12 of the Town Code of The Town of Los Gatos, entitled "Grading, Erosion and Sediment Control."

A pre-job meeting shall be held with the Engineering Inspector from the Town of Los Gatos Department of Parks and Public Works prior to any work being done for development projects.

All fills shall be constructed in loose lifts (8-10") and compacted to 90% relative compaction, unless otherwise directed by the Town Engineer.

Slopes to receive fills shall be stripped and keyed into hillside slope or benched prior of receiving fills.

All excess soil shall be off-hauled to an approved site.

All cut and fill slopes shall be properly maintained until effective erosion control has been established to the approval of the Town Engineer.

Call the Inspection Request Line at (408) 399-7530 to arrange for inspection of erosion control measures and grading operations.

## **2.13 Centerline Monuments**

Monuments shall be located at all centerline intersections of intersecting streets. Curved streets shall be monumented at PC (Point of Curvature) and PT (Point of Tangency) of curve. The installation detail is shown in **Standard Plan #233**.

- A. All existing centerline monuments which are disturbed, lost, or destroyed during surveying or construction shall be replaced at the expense of the responsible applicant, by a professional land surveyor registered in the State of California.

- B. All existing centerline monuments which are covered over by a street improvement shall be raised to the new finished surface.
- C. At unmonumented street intersections, new centerline monuments shall be established in the centers of all intersecting rights-of-way on a street improvement project. Additional centerline monuments shall be installed if requested by the Town Engineer.
- D. Centerline monuments shall be set in accordance with **Standard Plan #233** for all PC, PT, center of cul-de-sac, and intersection points. The point of intersection (PI) will be acceptable in lieu of a PC and PT for plan road curves, provided that such PI falls within the paved roadway or sidewalk.
- E. Boundaries of final plats shall be established with standard steel reinforcing bar.
- F. Standard steel reinforcing bars shall be 24 inches in length and at least 1/2 inch in diameter or at least 3/4-inch I.D. for iron pipe. Such pipe or rebar shall be permanently tagged with the Land surveyor's registration number and clearly show lot corners.
- G. In the case where a property corner is occupied by any obstruction, an offset standard steel reinforcing bar shall be provided along one of the boundary lines. Offset concrete monuments shall only be set to witness section and one-quarter section corners.
- H. If any of the above conditions occur, a Land Corner Record or Record of Survey shall be filed by a Licensed Land Surveyor in accordance with all Federal, State, County, and Town laws, regulations and standards. The Town shall be provided with a mylar copy.

## **2:14 Curbs and Gutters**

Vertical Cement Concrete Curb and Gutter shall be used for all curbed roadways and shall be 24 inches wide. All concrete shall be air entrained concrete Class A. Construction shall be in accordance with **Standard Plan #21D**.

Extruded Cement Concrete or Asphalt Curb, **Standard Plan #214**, may be used for parking areas, and driveways which will not become part of the Town public street system.

Where new cement concrete curb and gutter is constructed to connect to existing curbed roadway, care shall be taken to assure that no abrupt offsets in line or grade shall be constructed which will be unsightly or impede flow in the gutter line.

## 2.15 Curb Ramps.

Curb ramps shall meet current ADA requirements. Curb ramps shall be provided at all pedestrian crossings. One ramp shall be used on each curb return on access roads and unsignalized intersections. At signalized intersections, a curb ramp shall be aligned with each crosswalk. Ramps shall also be provided across driveways where radius returns border the driveway, **Standard Plans #220, 221, and 222** show alternatives for curb ramps. **Standard Plan #223** shows the typical curb ramp locations.

## 2.16 Sidewalks

Sidewalks shall be constructed in accordance with **Standard Plan #216**. Some sidewalks may need pedestrian handrail as shown in **Standard Plan #230**. The following specifications apply to pedestrian handrail:

1. Aluminum pedestrian rail shall be fabricated and installed in accordance with these special provisions and **standard plan #230**.
2. Aluminum pedestrian rail shall be natural aluminum color.
3. Completed aluminum railing units shall be anodized after fabrication conforming to the requirements of the aluminum association standard for anodized architectural aluminum, Class I Anodic Coating, AA-C22-A41.
4. Welding shall conform to the requirements of the specifications for aluminum structures of the aluminum association. All exposed welds shall be ground flush with adjacent surfaces.
5. The base metal for aluminum railing shall be ASA Alloy Designation 6063-T6\_ Pipe and tubing shall be extruded conforming to the requirements of ASTM B 429, plates and sheets shall be rolled conforming to ASTM B 209, and rods, bars, or shapes shall be extruded conforming to ASTM B 221.
6. Horizontal rails and vertical support posts shall be 1 1/2 inch diameter standard pipe and balusters be 3/4 inch diameter standard aluminum pipe. Rails, posts, and balusters shall be machine cut to provide a uniform length prior to assembly.
7. Railing shall be erected and adjusted, if necessary, to ensure a continuous line and grade.

A. *Private Streets*

1. For private roads ultimately serving 2 or less residential lots (20 ADT or less), the road is classified as a driveway and concrete sidewalks are not required.
2. For private roads ultimately serving 3 or more residential lots (30 ADT or more), concrete sidewalks shall be provided on one side of the street only.

B. *Residential Subdivisions*

1. Concrete sidewalks shall be constructed on all streets and highways within a subdivision; except for the exceptions noted in Town Code Sec. 24,50.065.

C. *Commercial/Industrial Developments*

1. Concrete sidewalks shall be provided on both sides of all streets.

D. *Width*

1. All sidewalks shall be a minimum of five (5) feet wide measured from back of curb or 5-1/2 feet measured from face of curb when directly attached to the curb.
2. All sidewalks shall be a minimum of five feet (5') when placed behind a planter area.

E. *Thickness*

Concrete sidewalks shall be 4" inches in thickness when placed behind curb and gutter\_ Concrete Sidewalks shall be 6" thick across the entire length of all driveways or back of rolled curbs:

F. *Planter*

Planter strips are required on all arterial and collector roads. A minimum 4' foot separation between the back of the curb and the sidewalk is required. See **Standard Plan #217**.

## **2.17 Site Access/Driveways**

A. Access to Town Streets is regulated by the Town of Los Gatos through one of the following permits:

1. Agreement to Construct Improvements - Industrial or Commercial Properties
2. Encroachment Permit - Residential Property

No construction, relocation or reconstruction of access points, driveways, or related improvements will be allowed without an encroachment permit. The permit shall be obtained prior to beginning any work within the right of way.

B. Property owners abutting roadway rights-of-way are normally allowed access to the roadway unless their access rights have been limited by plat restriction or State law. However, even where the property owner is allowed access, the physical design of the driveways shall be controlled by the Town to maintain the safety and efficiency of the public roadway.

C. A Traffic Study may be required as outlined in Section 2.36.

## **2.18 Number of Access Points**

The standard numbers of access points for a development giving access to an abutting arterial street are:

1. Residential property uses: one two-way access point or two one- way access points.
2. Commercial or industrial property uses: one two-way access points per 300 feet of total property frontage.

Additional access points may be considered by the Engineer provided a traffic engineering study or circulation plan is submitted to the Engineer indicating that more than the maximum number of access points permitted are required to adequately handle access point volumes, and will benefit the traffic flow on adjacent roads.

The requirements of this section are not intended to override the need for a secondary access for emergency vehicles if such access has been determined by the Fire Marshal to be necessary under the provisions of section 10.207 of the Uniform Fire Code.



## **2.19 Location of Access Points**

- A. Where a property has frontage on more than one roadway, access will generally be limited to the lowest volume roadway where the impacts of a new access will be minimized. Access onto higher volume roads may be denied in the interest of traffic safety or in order to lessen congestion on the higher volume road.
- B. Access points shall be aligned wherever possible with existing access points on the opposite side of the street. If this is not possible, a separation between the nearest edges of such opposite access point shall conform to Section 2.20 and Section 2.21.

## **2.20 Access Point Separation**

- A. Where two or more access points serve adjacent residential properties, the minimum distance between nearest edges for non-arterials must be at least 10 feet.

Where two or more access points serve adjacent residential properties, the minimum distance between nearest edges for arterials must be at least 50 feet.

When residential property frontages are narrow, such that minimum access point spacing criteria cannot be met, it may be necessary to require joint access locations at property lines.

- B. Where two or more access points serve the same or adjacent commercial or industrial property uses, the minimum access point spacing for non-arterials is 75 feet.

Where two or more access points serve the same or adjacent commercial or industrial property uses, the minimum access point spacing for arterials is 200 feet.

- C. In cases where access point spacing is not attainable because existing frontages are narrow, the owner of the parcel shall make good faith attempts to secure joint access through an adjoining parcel or access parcel from another street. If this is not possible, access points shall be located as close to the required values shown above as possible while maintaining proper corner clearance.

### **2.2 1 Corner Clearance from intersection**

- A. Corner clearances from access points for all uses fronting a non-arterial or non-collector road shall be a minimum of 50 feet.
- B. Corner clearances from residential access points fronting an arterial or collector road shall be a minimum of 50 feet.

Corner clearances for commercial/industrial access points, fronting an arterial or collector road with signalized intersection control shall be a minimum of 275 feet.

Corner clearances for commercial/industrial access points, fronting an arterial or collector road with stop sign intersection control shall be a minimum of 135 feet.

- C. In cases where corner clearances are not attainable because frontages are narrow, access points shall be located as close as practicable to the property line most distant from the intersection. At such locations, the Town may require investigations to substantiate whether left turns should be prohibited into or out of the access point.
- D. Access points near stop or signalized intersections shall be checked by the Applicant to determine whether stopping queues will block the access point.

## **2.22 Sight Distance**

All access points shall be constructed in such a manner that the minimum sight distances are available along the arterial in each direction from the access point as shown in **Standard Plan #232**.

## **2.23 Widths**

- A. For residential access points, the minimum driveway width is 14 feet and the maximum width shall be 30 feet.
- B. Commercial or industrial access points shall have minimum width of 25 feet fronting a non-arterial, and 30 feet fronting an arterial.
- C. The maximum two-way access point width shall be 40 feet for commercial property uses and 50 feet for industrial.
- D. See **Standard Plans #218 and #219** for driveway detail&

Wider commercial or industrial widths may be approved by the Town where a substantial percentage of oversized vehicle traffic exists. In this case, the access shall be sized to accommodate the largest design vehicle likely to use the access with considerable frequency.

## **2.24 Access Point Angles**

All access points shall intersect public roads at a 90 degree angle or as close to 90 degrees as topography permits, but in no case shall be less than 75 degrees.

## 2.25 Access Points Types and Radii

The design of the access point must take into consideration the percentage of truck traffic utilizing the access point. Drainage patterns must also be taken into account in the design of access points.

## 2.26 Vertical Alignment of Access Points

A landing area shall be provided, beginning at the cement concrete curb and gutter and extending for the following width:

|                         |                              |
|-------------------------|------------------------------|
| Residential driveway    | 5 ft. min, 20 ft. desirable  |
| Commercial / Industrial | 10 ft. min, 30 ft. desirable |

The pavement slope within the landing area shall not exceed 5.0%. Vertical curves shall not exceed a 3-1/4-inch hump or a 2-inch depression in a 10-foot cord.

The back edges of the access points shall be at the same elevation as the back of the sidewalk adjacent to the access point approach.

## 2.27 Grades

Access point grades beyond the landing area shall not exceed the following grades, measured from the pivot point between the intersection with the landing area:

|   |          |
|---|----------|
| Residential driveway / accessing Non-arterial     | 15% Max: |
| Residential driveway / accessing Arterial         | 6% Max.  |
| Commercial or Industrial / accessing Non-arterial | 8% Max.  |
| Commercial or Industrial / accessing Arterial     | 5% Max.  |

## 2.28 Left-Turn, Acceleration, Deceleration Lanes

The need for left-turn, acceleration, and deceleration lanes in conjunction with a development proposal will be determined by the Town on a case-by-case basis. Evaluation by the Town Engineer may require submittal of traffic data by the Applicant/Developer.

## 2.29 Construction of Access Points

A. Access point approaches shall be constructed in accordance with **Standard Plan #218 and #219**. Access approaches must extend from the curb to the back of

the sidewalk. Access point is to be surfaced with Class A cement concrete, 6 inches thick.

- B. When an opening for an access point is to be constructed through an existing portland cement concrete vertical curb, the existing curb, or curb and gutter shall be saw cut at the limits of the work or removed to the nearest construction joint and the opening replaced with standard curb and driveway.
- C. Prior to commencing any necessary removal or relocation of any public utilities, structures, trees, or plantings due to construction of an access point, the applicant/developer must secure approval from the person or persons having ownership or control of such facilities or features.

### **2.30 Maintenance**

Maintenance of driveway approaches or access roads shall be the responsibility of the legally responsible owner(s) whose property they serve.

If at any time the Town concludes that maintenance of the site access / driveway has not been done by the responsible owner, the Town may perform such maintenance, and the Town may charge the Owner for the cost of any such maintenance, which charge shall be an obligation of the Owner. Such reimbursement shall be a cost subject to assessment, and there shall be a lien on the property, which may be placed on the tax bill and collected as ordinary taxes by the Town.

### **2.31 Storm Water Site Plan and Water Quality Plan**

All Applicants for new development and redevelopment of sites must prepare a Storm Water Site Plan and Water Quality Plan as outlined in Section 1. All projects shall incorporate erosion control measures per **standard plan # 250-257**.

### **2.32 Cul-de-Sacs**

Generally, all residential parcels should be accessible from two directions. However, with the approval of the Town Engineer, cul-de-sacs will be allowed for roads with a total length less than 450 feet Cul-de-sacs shall not exceed eight hundred (800) feet in length; provided, the length of the cul-de-sac may be increased by action of the advisory agency upon finding that emergency access, utility services, and circulation are satisfactory. (Town Code Sec. 24.50.075) The cul-de-sac shall be designed in accordance with **Standard Plan #208**.

### **2.33 Signing**

All signing shall be in accordance with the current edition of the Manual of Uniform Traffic Control Devices, Caltrans Traffic Manual, and Town of Los Gatos **Standard Plan #239-242**.

### **2.34 Striping**

Striping shall be in accordance with the current edition of the Manual of Uniform Traffic Control Devices and Caltrans Standard Details. All new developments shall submit plans for signing and striping (centerlines, edgelines, turnlines, crosswalks and stopbars) to the Town for review and approval. The developer is responsible for all signing and striping of his project. See **Standard Plan #261-265**. The paints used for striping shall be 100% acrylic waterborne paint, type HLIY 297 (Yellow) and HLIW 197 (White) manufactured by Morton Corporation. The paint shall be applied to a wet film thickness of 15 mils at a pavement temperature of no less than 55 degrees Fahrenheit and air temperature rising. Paints shall not be thinned.

All liquid applied pavement striping shall be top dressed with glass beads. The beads used shall be M247/AC110 manufactured by Potters Corporation or equal.

The application rate on spray applied marking shall be 7 pounds minimum of beads per gallon of paint. The bead application system shall provide a uniform bead distribution over the entire surface of the marking. Beads shall be applied to the material while in the semi-liquid state on the roadway.

All pavement markings for crosswalk, stop bars, symbols, and arrows shall be "Starmark" 420 with liner and adhesive manufactured by 3M Corporation. All pavement markings shall be inlay and applied after placement of new asphalt per manufactures application procedures.

### **2.35 Utilities**

1. Utility companies or municipal corporations desiring to construct and/or maintain their facilities within the Town right of way are required to obtain a franchise with the Town unless specifically exempted by State law.
2. Utility installations shall be located to minimize need for later adjustment, to accommodate future roadway improvements and to provide service access to such installations with minimum interference to roadway traffic. Refer to Standard Plan #200 for typical utility locations.
3. Electric utilities, power, telephone, cable TV, and fiber optics lines shall be installed underground, for all new streets.

4. When trenching through existing pavement, the open cut shall be a neat-line cut made by saw cutting a continuous line. Utility Trench Restoration shall be in accordance with **Standard Plans #207, #305, and #306.**
5. Gravel shoulders distributed by excavation shall be replaced full depth with 4 inches crushed rock.
6. Quality control monitoring of subgrade backfill and embankment materials shall be by a certified independent laboratory approved by the Town and secured and paid for by Applicant. A minimum of 1 test shall be taken within every 100 feet of trench length and at depths of 50 percent of trench depth and at the surface, or as required by the Town. Compaction of laterals or service line trenches shall be tested where required by the Town. Testing of Controlled Density Fill shall be in accordance with ASTM D4832.
7. The Town shall be notified not less than two working days prior to actual trenching work in existing or proposed traveled Town streets.
8. The utility company or property owner who will be doing any trenching within public roadways will be required to resurface the road within the limits of their trenching operations. The extent and type of road resurfacing will be determined by the Town Engineer and shall be performed and paid for by the applicant.

#### ***Road Cuts Parallel to Road Alignment***

1. All trench backfill under roadway shall be mechanically compacted to 95 percent of maximum density.
2. Restoration of a trench within an asphalt pavement shall be per **Standard Plan #207, #305, and #306.**

#### ***Road Cuts Transverse to Street Alignment***

1. Utility trenching through existing pavement across the road alignment will be discouraged. It will not be permitted unless it can be shown that alternatives such as boring or jacking are not possible due to conflicts or soil conditions, or unless the utility can be installed just prior to reconstruction or overlay of the road.
2. The trench backfill transverse to street shall be CDF with appropriate color as designated by the Town.

#### ***Controlled Density Fill (CDF)***



CDF shall conform to the following:

1. Portland Cement: Type I-II AASHTO M85 (minimum 2-sack mix).
2. Mineral Filler Admixtures: pozzolans or fly ash (ASTM C-618, Class F).
3. Aggregate: Washed Coarse Sand.

Washed Coarse Sand shall be a clean mixture free from organic matter and conforming to the following gradation:

| U.S. Standard<br><u>Sieve Size</u> | Percent Passing<br><u>By Weight</u> |
|------------------------------------|-------------------------------------|
| 1/2 inch                           | 100                                 |
| <u>#1</u>                          | 65-100                              |
| <u>#50</u>                         | 0-10                                |
| <u>#200</u>                        | 0-3                                 |

All percentages are by weight

CDF shall be used in the following proportions for 1 cubic yard. Batch weights may vary depending on specific weights of aggregates.

|                    |                                |
|--------------------|--------------------------------|
| Portland Cement    | 50 lbs/yd <sup>3</sup>         |
| Fly Ash            | 250 lbs/yd <sup>3</sup>        |
| Washed Coarse Sand | 3,200 lbs/yd <sup>3</sup>      |
| Water              | 50 gals/yd <sup>3</sup> (max.) |

Testing of CDF shall be in accordance with ASTM D4832.

## **2.36 Traffic Study**

New developments may require a Transportation Impact Analysis, the extent of which is dependent on the type of development. The primary responsibility for assessing the traffic impacts associated with a proposed development rests with the permit applicant, with the Town serving in a review capacity. The study is the responsibility of the applicant and must be prepared by, or under the supervision of, a Professional Traffic Engineer, licensed in the State of California, with experience in traffic engineering and/or transportation planning.

A traffic impact study may be required for any development which meets the following criteria:

1. Proposed development has direct access to a State Highway and generates 10 peak hour trips or more.



2. Proposed development can be expected to generate 20 peak hour trips or more.
3. Changes in use of an existing commercial or industrial site.
4. Developments that require new curb cuts, or changes in traffic controls.
5. Any development which is located in an area where existing levels of service on area roads are "D", "E", or "F."

The applicant's transportation professional shall contact the Public Works Department for a scoping meeting prior to submittal of a traffic study. Scoping the requirements for the study is intended to identify key issues early in the project planning and development stage and assist the Town during the review and approval process.

Three copies of the traffic study must be submitted. The applicant will be notified if additional copies are needed.

Traffic Impact Analysis must show how the proposed development will affect the existing transportation network. If the final use(s) of the proposed development is not determined at the time of the study, the land use with the greatest overall traffic impact must be assumed for the study. Once the Town has reviewed the traffic study and comments have been returned to the applicant, all required changes must be incorporated into the study, and revised study must be submitted to the Town for final review and approval.

### ***Traffic Impact Analysis Guidelines***

While individual reports may vary in style and format, certain information must be included. Typical information required is included below.

1. Project Description
  - a. Project type and size.
  - b. Project location, with vicinity map,
  - c. Proposed site access, with site plan.
  - d. Horizon planning year.
2. Existing conditions
  - a. Existing traffic volumes.
  - b. Daily and peak hour intersection turning movement counts completed within six (6) months prior to the application date.
  - c. Roadway network, including traffic control.
  - d. Level of service calculations for peak hour at intersections impacted by the project outlined in the current Highway Capacity Manual.
  - e. Parking supply.

3. Accident/Safety Conditions

- a. Accident history at intersections and access points.
- b. Sight distance analysis at intersections and access points.
- c. Clear zone analysis.

4. Trip Generation and Distribution

- a. Daily and peak hour trip generation using the latest ITE Trip Generation Manual.
- b. Trip distribution map showing daily and peak hour turning movements assigned to the roadway network. The proposed development's trips are to be distributed through the street network to a level of three peak hour trips.
- C. Parking generation analysis using the latest Town of Los Gatos codes and ordinances, and ITE Parking Generation Manual.

5. Public Transit and Non-Motorized Facilities

- a. Identification of existing transit service.
- b. Identification of existing trails, bicycles lanes, and other non-motorized facilities.

6. Future Conditions

- a. Annual growth rate determined by actual data or other approved source. This shall include approved traffic estimates from other projects within the Town.
- b. Future conditions, with and without the project with commentary on compliance with concurrency requirements as needed.
- c. Level of service calculations sheets for peak hour traffic at all intersections impacted by the project and site access points, with and without the proposed project.
- d. Parking demand analysis,
- e. Effect on proposed development on public transit and non-motorized facilities. Any transportation facilities proposed by the Comprehensive Plan which may affect the development.
- f. Analysis of internal site circulation for vehicles, transit, non-motorized users, and handicap access.

**2.37 Signals, Lighting, Electrical System General**

Signals, lighting and electrical work shall conform to the provisions of Section 86, "Signals, Lighting and Electrical Systems," of the State of California Department of Transportation 833 (henceforth referred to as "SSS"), the State of California

Department of Transportation SSP (henceforth referred to "SSP" and these Town Specifications.

### **Town Standard Equipment**

Unless specified otherwise, the following standard equipment shall be used for the Town:

1. NEMA TS-2 Type "P" controller cabinet.
2. ECONOLITE ASC212S and ASC/2M signal controllers.
3. ITERIS Video Detection system.
4. VCALM speed radar signs.
5. EMTRAC emergency vehicle preemption system.

### **Conduit**

Conduit material, use, and installation shall conform to the provisions of Section 86-2.05, "Conduit," of the SSS, the SSP and the following.

All conduits shall be Schedule 40 polyvinyl chloride conduit unless otherwise specified. End bells shall be installed on all PVC conduits ends.

Conduit 1 1/2- inch and larger and in runs of more than ten (10) feet shall have bending radius of not less than eighteen (18) inches or twelve (12) times the inside diameter of the conduit, whichever is greater. Maximum bend rise of elbows into pull boxes shall be 45 degrees.

A bare #8 AWG (minimum) equipment grounding conductor shall be installed in all new conduit runs and in all existing conduit runs in which work is to be performed, regardless of conduit material type, that remain a part of an existing traffic signal and/or lighting system. Exceptions to this requirement are empty conduits and conduits containing only detector lead-in cable(s) and/or communication cable(s), provided that the conduits are terminated in pull box(es) that do not have metallic covers or components; or as - exempted by the Engineer.

All conduits placed in utility joint trenches shall be inspected and approved by the respective utility (PG&E, SBC, Verizon, Comcast) prior to backfill. The Contractor shall coordinate all such inspections with each Utility Company.

Conduits shall be installed either parallel to or perpendicular to the curb, unless otherwise approved by the Engineer prior to placement. Conduit at an oblique angle to the curb will not be permitted.

### **Trenching Installation of Conduit in Paved Streets (Single Conduit)**

Conduit may be placed under existing pavement in a trench approximately two (2) inches wider than the outside diameter of the conduit to be installed. The trench shall

not exceed 6 inches in width or thirty (30) inches in depth, unless otherwise approved by the Engineer. The top of the installed conduit shall be a minimum of twenty-four (24) inches below the finished grade. With the Engineer's approval, the minimum depth may be reduced at locations where existing underground facilities require special precautions.

Before the start of excavation work, the outline of all areas of pavement to be removed shall be cut through the pavement section with an abrasive type saw or with a rock cutting excavator specifically designed for this purpose. Cuts shall be neat and true with no shatter outside the removal area. The rock-cutting excavator shall be shielded to prevent loose material from being thrown away from the machine. The conduit shall be placed in the bottom of the trench and the trench shall be backfilled with sand to a maximum depth of four (4) inches over the conduit. The sand shall then be watered to promote densification. The trench shall then be backfilled with concrete containing not less than 564 pounds of cement per cubic yard, to a depth of 0.10 feet below the pavement surface. The concrete shall be tamped or vibrated to provide a dense material free from excessive voids and rock pockets.

The top 0.10 foot shall be backfilled with asphalt concrete, Type "A"<sup>1</sup>/2-inch medium gradation.

Excavation and installation of conduit and concrete backfill shall be completed within the same working day. Asphalt concrete backfill shall be completed within twenty-four (24) hours after the excavation of the trench.

#### Trenching Installation of Conduit in Paved Streets (Multiple Conduits)

Before the start of the excavation work, the outline of all areas of pavement to be removed shall be cut through the pavement section with an abrasive type saw or with a rock cutting excavator specifically designed for this purpose. Cuts shall be neat and true with no shatter outside the removal area.

Where two (2) or more conduits are placed in a common trench, the following requirements shall be met:

1. A minimum of one (1) inch of separation shall be provided between outer sides of conduits.
2. A minimum of one (1) inch of separation between outer sides of conduits and the trench walls.

Conduit separation shall be effectively maintained by the use of spacers of proper size specifically designed for the purpose. Spacers shall be placed at four (4) to six (6)-foot intervals maximum.

The conduit arrangement shall be such that the minimum cover over the uppermost conduit shall be twenty-four (24) inches:

Conduits shall be covered with sand to a depth of four (4) inches above the uppermost conduit. The sand shall then be watered to promote densification. Care shall be taken not to over water during densification.

After the sand is densified, the trench shall then be backfilled with concrete, containing not less than 564 pounds of cement per cubic yard, to a depth of 0.10 feet below the pavement surface. The concrete shall be tamped or vibrated to provide a dense material free from excessive voids and rock pockets. The top 0.10 foot shall be backfilled with asphalt concrete, Type "A" 1/2-inch medium gradation

Excavation/installation of conduit and concrete backfill shall be completed within the same working day. Asphalt concrete backfill shall be completed within twenty-four (24) hours after the excavation of the trench.

#### Jacking, Drilling, or Directional Boring Methods of Installation of Conduit

Jacking or drilling method shall conform to the provisions of Section 86-2.05C, "Installation," of the SSS and the following.

Conduits may be installed by jacking, drilling or directional boring methods with the approval of the Engineer.

#### Installation of Conduit by Directional Boring Method

Conduit may be placed by the directional boring method, utilizing a surface launch drill to install the conduit conforming to the following...

The Contractor shall obtain approval from the Town before the start of any directional boring operation.

If this method is utilized, all crossings in the proposed bore alignment shall be potholed and exposed to verify depth prior to commencing with the boring operation. Potholes shall then remain open until the reamer that widens the bore has passed the exposed utility, the Town Inspector will check and verify that no damage to the utility has occurred.

Horizontal alignment of the new conduit shall be straight and no deviation of more than six (6) inches will be accepted. The Contractor shall mark the approved horizontal alignment before beginning boring operations. The Contractor shall mark the progress and depth of the bore at twenty (20)-foot intervals by applying a paint dot to the ground in the same color scheme as used for Underground Service Alert. Deviations from the approved plans shall be corrected immediately to get the bore back to the approved alignment and depth.

Long sweeping bends shall not be used when making a 90 degree turn.

Directional guidance shall be by means of a tracking system consisting of a radio beacon mounted in the bore head and a hand held receiver/locator, allowing tracking of the bore and changes of the bore path due to the presence of obstacles such as existing utilities. Bentonite or approved equal shall be placed inside the hole to fill all voids around the conduit(s).

## **Pullboxes**

Pullboxes shall conform to the provisions of Section 86-2.06, "Pull Boxes," of the SSS, the SSP, and the following.

The identification "LOS GATOS" shall be engraved, welded or casted on the top face of all covers and followed by one of the following applicable markings:

1. "IRRIGATION" (for pullboxes containing irrigation controller circuits of 120 volts or higher).
2. "COMMUNICATIONS" (for pullboxes in telephone service runs and where utilities company conduits terminate).
3. "SERVICE" (for pullboxes in service runs and where utilities company conduits terminate).
4. "SPRINKLER-CONTROL" (for pullboxes containing sprinkler control circuits of 50 volts or less).
5. "STREET LIGHTING" (for pullboxes containing lighting circuits of 600 volts or less).
6. "TRAFFIC SIGNAL" (for pullboxes containing traffic signal circuits with or without street lighting circuits).
7. "TRAFFIC COMMUNICATIONS" (for pullboxes containing fiber-optic cabling system).

Pullboxes shall be No. 5 with the following exceptions:

1. No. 6 pullbox shall be used when five or more conduits entering the pullbox.
2. No. 3 ½ pullbox may be used if it is solely used for lighting purpose.
3. Pullbox for fiber-optic cabling system shall have the following minimum inside dimensions, unless specified otherwise in the contract documents: 48-inch long by 30-inch wide by 14-inch high. It shall be provided with a locking lid. Pullbox extension shall be in 14-inch high increment.

## **Conductors**

Conductors shall conform to the provisions of Section 86-2.08, "Conductors", of the SSS and the following.

Identification stripe color shall be permanently impregnated the conductor insulating jacket.

No. 10 or smaller traffic signal conductors shall be solid copper with either:

- Type USE insulation with a minimum thickness of 1 mm (40 mils), or
- Type THW insulation with a minimum thickness of 1 mm (40 mils).

### **Bonding and Grounding**

Bonding and grounding shall conform to the provisions of Section 86-2.10, "Bonding and Grounding," of the SSS and the following.

All metallic electrical equipment including, but not limited to, poles, metal conduit, service pedestals, controller cabinets, anchor bolts, foundation reinforcement, and metallic cable sheaths shall be tied to ground electrical potential and shall be interconnected by means of copper conductors and clamps to form a single, grounded and electrically bonded system. Grounding of the electrical system shall be accomplished by means of approved 5/8-inch x 10-foot copper-clad steel or 1/4-inch x 10-foot galvanized steel ground rods installed in all cabinet foundations and in all pull boxes that contain conduits with equipment ground conductors as shown on the project plans. Ground rods shall extend above the finished cabinet foundation or grouted pull box bottom sufficiently to attach a ground clamp and #8 AWG bare copper equipment ground conductor.

### **Galvanizing**

New traffic signal and street light poles shall have a galvanized finish in conformance to the provisions of Section 86-2.15, "Galvanizing," of the SSS.

### **Painting**

Painting shall conform to Section 86-2.16, "Painting", of the SSS and the following.

Galvanized steel poles or standards shall not be painted.

### **Controller Assembly**

The controller assembly shall conform to the provisions of Section 86-3.02, "Type 90 Controller Assemblies," of the SSS and the following.

The controller assembly shall be NEMA TS-2 Type "P" traffic signal controller cabinet. See 2.37B for the traffic signal controller cabinet specifications.

### **Traffic Signal Faces and Fittings**

Traffic signal faces and fittings shall conform to the provisions of Section 86-4, "Traffic Signal Faces and Fittings," of the SSS, the SSP and the following.

Traffic signal faces shall have metal signal sections and visors conforming to Section 86-4.01 "Vehicle Signal Faces", of the SSS. Plastic signal faces and visors shall not be allowed.

Vehicle signal face reflectors shall be made of specular aluminum conforming to Section 86-4.01A "Optical Units" of the SSS.

Backplates shall be furnished and installed on all signal faces. Backplates shall be made of aluminum and installable from the front of the signal head and conform to Section 86-4.03 "Backplates" of the SSS and the SSP ES-4C. Louvers shall not be used unless otherwise specified. Plastic backplates shall not be allowed.

Signal mounting assemblies shall conform to Section 86-4.06 "Signal Mounting Assemblies" except that terminal compartments, post top adapters, and plain side pole mounts shall be cast bronze. "Clam Shell" mounts shall not be used.

Pedestrian signal faces shall be Type A with 3/16 inch tempered glass message plate and z-crate type screen conforming to Section 86-4.05 "Pedestrian Signal Faces" of the SSS and the SSP ES-4B.

All new vehicle signal heads shall have 12" red, amber and green (circular and/or arrow) light emitting diode (LED) modules and all new pedestrian signal heads shall have a combination Portland orange "upraised hand"/lunar white "walking person" LED module. The LED modules shall be Gelcore brand or approved equal

### **Pedestrian Push Buttons**

Type "B" pedestrian push button assemblies shall conform to the provisions of Section 86-5.02, "Pedestrian Push Button Assemblies", of the SSS, the SSP ES-5C and the following.

Pedestrian push buttons shall be ADA compliant.

Pedestrian push buttons shall be mounted on their respective poles and post such that the actuator button is positioned thirty-six (36) inches above the surface upon which a pedestrian using the button would stand.

Multiple push buttons on the same standard shall be mounted at the same height with a maximum vertical offset of plus or minus 2 inches between push buttons.

Pedestrian push buttons shall be located within 5 feet of the crosswalk centerline, the wheelchair ramp, or entrance to the designated crosswalk.



## **Detector Loops**

Vehicle detectors shall conform to the provisions of Section 86-5, "Detectors", of the SSS, the SSP and the following.

1. Detector loops shall have square or circular configuration.
2. Loop conductor shall be Type 2 loop wires. The conductor shall be identified throughout the length per NEC Article 310-11 "Marking".
3. Detector lead-in cable shall be Type B.
4. Detector lead-in cables between pull boxes (immediately adjacent to the detector handhole) and controller cabinet shall run continuously and shall be unspliced throughout the length of the conductors.
5. The sealant for filling slots shall be asphaltic emulsion sealant for asphaltic concrete pavement application and hot-melt rubberized asphalt sealant for Portland cement concrete pavement, both as specified in the State SSS.

## **Luminaires**

Luminaires shall conform to the provisions of Section 86-6.01, "High Pressure Sodium Luminaires," of the SSS and the SSP.

Unless otherwise specified, luminaries shall be 250-watt, high pressure sodium, Type III cutoff lamp. Ballasts for luminaries shall be of regulated multitap (120/208/240/277 volt) integral ballasts.

Fused splice connectors for luminaire circuits shall be provided per Section 86-2.095 "Fused Splice Connectors" or the SSS.

## **Photoelectric Controls**

Photoelectric controls for luminaires shall conform to the provisions of Section 86-6.07, "Photoelectric Controls," of the SSS and the following.

Photoelectric controls shall be Type IV.

## **Removing, Reinstalling or Salvaging Electrical Equipment**

Removing and/or salvaging of equipment shall conform to the provisions of Section 86-7.01, "Removing Electrical Equipment," of the SSS and the following.

All salvaged equipment shall be delivered to the Town of Los Gatos Service Center at 41 Miles Avenue. The Contractor shall contact the Town of Los Gatos Department of Public Works at (408) 395-2859, forty-eight (48) hours in advance to arrange for acceptance of salvaged equipment.

## **2.38 Street Illumination**

Street lighting systems design shall conform to the following standards.

- A. Street lights shall be provided with the development of all new subdivisions, and for other commercial, industrial or institutional property development.
- B. All new street light wiring, conduit and service connections shall be located underground. The applicant will be responsible for providing or obtaining necessary easements for underground power for street lighting systems designed and constructed as part of an approved development permit.
- C. For private development projects, streetlights along the frontage shall be brought into conformance with these street lighting standards as part of their development process.
- D. For all new street light installations, the applicant shall coordinate jointly with Pacific Gas & Electric and the Parks & Public Works Department to prepare a street lighting plan for submittal to and approval by the Parks & Public Works Department.
- E. All new public street light plans, specifications, and a professional electrical engineering firm shall prepare calculations. All new developments shall submit the lighting plan on a separate drawing to the Town for review and approval. All street light plans, specifications, and calculations, including pole locations, types, and heights shall be reviewed and approved by the Town of Los Gatos.
- F. Street lights located within the public right-of-way shall be supplied by the applicant. The applicant is responsible for the installation of street lights and all accessories necessary to energize the street light system consistent with Standards. If approved, the installation of special luminaries shall be the responsibility of the applicant.
- G. Private lighting systems shall be maintained by the property owner or homeowners association.

### **Design Standards**

#### **1. Illumination Levels**

Street light illumination levels shall conform to the levels listed in the table below:

**Table 2-1**  
**Illumination Standards Average**  
**Maintained Horizontal Illumination (Foot Candles)**

| Road Class  | Area Class  |                       |
|---|-------------|-----------------------|
|   | Residential | Industrial/Commercial |
| Private   | 0.4         | NIA                   |
| Residential (Access)  | 0.6         | 1.2                   |
| Arterial *  | 0.8         | 1.6                   |
| * Intersection lighting is required. Street lights shall be placed in accordance with the Standards listed below. |             |                       |

Uniformity Ratio:                      6:1 average to minimum for private  
    4:1 average to minimum for residential (access)  
    3:1 average to minimum for arterial

Average illumination levels at intersections shall be 1.5 times the illumination required on the more highly illuminated street. Exception: Local residential streets intersecting other local residential streets shall not require 1.5 times the illumination at other intersections, provided that one luminary is placed at the intersection.

At signalized intersections, all signal poles shall include a street light. Lighting levels at these locations may be higher than the criteria listed above.

## 2. Luminaires

- a. The following luminaires have been approved for use in the Town of Los Gatos:

"Cobrahead" flat lens standard arm aluminum  
 Union Metal Design B40674-184-B1-Y1F  
 Steinberg 3800 Leesberg

- b. All Luminaires shall have clear lamps.
  - c. All luminaires shall be high pressure sodium
1. 400 watt lamp = 50,000 initial lamp lumens  
 250 watt lamp = 29,000 initial lamp lumens

200 watt lamp = 22,000 initial lamp lumens  
150 watt lamp = 16,000 initial lamp lumens  
100 watt lamp = 9,500 initial lamp lumens

2. Lamp Dirt Depreciation factor (LDD) = 0.90
3. Lamp Lumen Depreciation factor (LLD) = 0.85
4. Combined LDD+LLD = 0.76

### 3. Light Standards

- a. Light standards shall be located on one side of the roadway only or shall be located opposite each other when placed along both sides of the roadway.

Staggered spacing will be allowed upon approval of the Town Engineer where there is an established staggered pattern and it is necessary to continue this pattern, or when site or safety conditions prevent locating luminaires on only one side of the roadway.

- b. In areas where the street width differs from the Town standard, or there are other factors influencing the location of the street lights, the Town Engineer will provide input to the applicant on acceptable options.

Luminaire mounting heights shall be as shown in the following table:

**Table 2-2**  
**Recommended Mounting Heights**

| Type of Road         | Wattage | Mounting Height |
|----------------------|---------|-----------------|
| Arterial             | 200     | 30 feet         |
| Residential, Private | 100     | 30 feet         |

### 4. Line Loss

Line loss calculations shall show that no more than a 5 percent voltage drop occurs in any circuits. Branch circuits shall serve a minimum of four luminaries.

### 5. Conductors

The minimum wire size for any illumination circuit shall be No. 6 Aluminum. No. 10 wire will be acceptable for the pole and bracket cable within the light standard only.

## 6. Conduit

Conduits shall be sized to provide 26 percent maximum fill. A minimum one and one-half inch conduit shall be installed

### **2.39 Testing and Inspection Schedule & Requirements for Construction Projects**

#### *1. General*

##### **1.1 References**

- 1.1.1 ASTM: American Society for Testing and Materials, 2002 Annual Book of Standards
- 1.1.2 Caltrans Standard Specifications for Road, Bridge and Municipal Construction.
- 1.1.3 Town of Los Gatos 2004 Engineering Design Standards

#### *2. Utility Trenches*

##### **2.1 Compaction Testing**

- 2.1.1 Perform at least 2 compaction tests (ASTM D 2922 nuclear method) per 200 lineal feet of trench, one at subgrade level, and one at 50% of the trench depth if a hoe-pack is used for compaction. In addition, test all road crossings at subgrade and 50% depth. If walk-behind compaction equipment is used (i.e. jumping jack) test each 12" of depth.
- 2.1.2 Trench Backfill should be compacted to at least 95% of the maximum dry density (ASTM D 1557). Fill should be placed in horizontal lifts not to exceed 12 inches of loose thickness.

##### **2.2 Sieve analysis of backfill material**

- 2.2.1 Sample the imported fill material for sieve analysis prior to trench backfilling and at an interval of every 500 tons placed in the utility trenches.
- 2.2.2 Samples of materials to be used shall be submitted prior to construction to determine conformance to specifications for trench backfill.
- 2.2.3 Samples should be taken from material delivered to the site.

### **3. Road Sections**

#### **3.1 Proof Rolling**

3.1.1 Prior to placing structural fill for the road section, the Town inspector should observe a proof roll of the undisturbed native sub-base using a loaded dump truck. In areas of significant pumping and yielding, scarify, aerate and recompact existing materials. If loose native soil conditions prevail, over-excavate the deleterious material to the satisfaction of the Town inspector. After 18" of over-excavation, place a woven structural geo textile fabric that is equivalent to or better than a Mirafi 500x product. Backfill over-excavated areas with clean (<7% fines) structural fill compacted to 95% of the maximum dry density (ASTM D1557).

3.1.2 Once the entire road section is placed and prior to paving, the Town Inspector shall observe a proof roll the subgrade to ensure that there are no yielding or pumping areas.

#### **3.2 Compaction Testing**

3.2.1 Granular and crushed aggregate

3.2.1.1 Roadbed fill materials should be compacted to 95% of the maximum dry density (ASTM D 1557) and verified with the nuclear method (ASTM D 2922).

3.2.1.2 For every lift placed in the roadway, compaction testing should occur for each 100 linear feet, one on either side of the centerline.

3.2.2 Asphalt Concrete Pavement

3.2.2.1 Asphalt should be compacted to 92% of the RICE density. A minimum of 5 nuclear densometer tests should be taken each day per 400 tons of asphalt placed.

#### **3.3 Laboratory Analysis of Roadway Materials**

3.3.1 Perform a sieve analysis of all granular and crushed aggregate prior to placement in the roadway and at an interval of every 500 tons of material placed.

3.3.2 Sample the asphalt each day of paving in order to determine the RICE density for the mix.

33.3 Collect on sample for each 400 tons of asphalt placed to verify bituminous content, grain size, and fracture count.

#### *4. Reinforced Concrete Special Inspection*

##### **4.1 Concrete Quality Control**

- 4.1.1 The Town inspector should be on site for each concrete pour that requires a 28-day compressive strength greater than 2500 psi.
- 4.1.2 Concrete will be monitored for slump, air content, and temperature.
- 4.1.3 Four concrete cylinders (6" x 12") shall be taken per 150 cubic yards of concrete placed to verify compressive strength requirements.

##### **4.2 Reinforcing Steel**

- 4.2.1 Prior to concrete placement the Town inspector shall inspect reinforcing steel to ensure that it is placed with the appropriate spacing, clearance, cleanness, size, and conformance to other structural plan specifications.

#### *5. Soil Testing for Structures*

##### **5.1 Solid Bearing Capacity Verification and T-probing**

- 5.1.1 After excavation of footings down to the native sub-base and prior to placement of concrete forms, observe the condition of the native, undisturbed soil by T-probing or other methods deemed necessary by the Town inspector (such as dynamic cone penetrometer).
- 5.1.2 Soils with a T-probe penetration of greater than 6" will typically be deemed loose and unstable.
- 5.1.3 By direction of the Town inspector, unsuitable native soils should be over excavated and backfilled with structural fill. Woven geotextile fabric (equivalent to or better than a Mirafi 500x product) or quarry spall may be recommended if the soil conditions are significantly deleterious.

## **5.2 Compaction Testing**

- 5.2.1 For structural fill in footings, foundation slabs, perform 1 compaction test for each 1,000 square feet of area. Each lift of material that is up to 12" thick should be tested
- 5.2.2 Structural fill should be compacted to 95% of the maximum dry density (ASTM D 155)



Town of Los Gatos Public Works Department  
Testing and Inspection Quick Reference

| <b><u>Compaction Testing</u></b>          |  |                        |
|---|--|------------------------|
| Work Phase                                | Frequency of Testing/Inspection  | Required Result        |
| Trench back filling                       | 4 tests every 200 feet of trench, at subgrade and 50% of fill depth  | 95%.                   |
| Roadbed materials                         | 1 test every 100 feet of roadway, one on each side of centerline   | 95%                    |
| Asphalt                                   | 5 tests per 300 tons   | 92%                    |
| Building structural fill                  | 4 test per 1,000 square feet   | 95%                    |
| <b><u>Proof Rolling and T-Probing</u></b> |  |                        |
| Work phase                                | Frequency of Testing/Inspection  | Required Result        |
| Native roadway subbase                    | 1 Proof roll of moisturized and compacted native soil prior to placing fill, with fully loaded water truck or equivalent                                     | No yielding or pumping |
| Roadbed fill materials                    | 1 Proof roll at subgrade elevation, prior to paving with fully loaded water truck or equivalent  | No yielding or pumping |
| Footing and slab excavation               | T-probe after native soils have been excavated to footing subgrade, prior to placing concrete forms.   | <6" of penetration     |
| <b><u>Laboratory Analysis</u></b>         |  |                        |
| Work Phase                                | Frequency of Testing/Inspection  | Required Result        |
| Trench back filling                       | 1 gradation prior to backfilling and for each 55 tons of fill placed prior to backfilling. ASTM 1557   | To design spec         |
| Roadbed materials                         | 1 gradation prior to backfilling and for each 55 tons of fill placed prior to placing fill. ASTM 1557  | To design spec         |
| Asphalt                                   | 1 RICE density per day of paving; 1 extraction, fracture and gradation for every 400 tons of asphalt placed in a day.  | To design spec         |
| Building structural fill                  | 1 gradation prior to backfilling and for each 200 tons of fill placed prior to placing fill. ASTM 1557   | To design spec         |
| <b><u>Concrete Special Inspection</u></b> |  |                        |
| Work Phase                                | Frequency of Testing/Inspection  | Required Result        |
| Any phase                                 | 1 set of 4 cylinders per 100 yd placed in a day. Inspect rebar for spacing, clearance, size, location and cleanness, and radius bends prior to concrete pour | To design spec         |
|   |  |                        |

## **SECTION 3 STORM DRAINAGE**

### **3.1 Stormwater Management**

Stormwater management shall be in accordance with Caltrans standards and specifications and Town of Los Gatos Engineering Design Standards

#### **A) Minimum Control Requirements**

- 1 When required by the Town, developments, clearing, or grading and excavating projects shall provide stormwater control and stormwater management measures that maintain the post-development peak discharge from the projects site for the specified design storms at a level that is equal to or less than the pre-development peak discharge for the same design storm, through stormwater management facilities that control the volume, timing, and rate of flows(detention/retention).
- 2 Applicant shall provide sufficient stormwater management water quality controls to ensure that the stream or receiving water incurs the minimum possible adverse impacts. These measures shall include specific temporary facilities to function during construction, and additional facilities for permanent operation. The design of the system shall be per requirements of Section 1.
- 3 Any proposed drainage easements must be endorsed by the affected property owners and be recorded prior to approval of the proposed project engineering plan.

#### **B) Stormwater Site Plan**

Applicants for new development and redevelopment of sites must prepare a Stormwater Site Plan (SSP). The SSP must demonstrate compliance with the minimum requirements of the Town's NPDES permit All SSPs must include an"Erosion and Sediment Control Plan" which addresses control of pollution generated during the clearing, grading, construction and site stabilization phases. An offsite analysis and mitigation plan shall be prepared to ensure that future impacts from the project (i.e. reduced flood plain storage, etc.) will be controlled and/or existing impacts will not be aggravated by the project.

The SSP must be stamped by a professional civil engineer licensed in the State of California. The Stormwater Site Plan must be a comprehensive report containing all technical information and analysis necessary to evaluate the proposed stormwater facilities. The report shall describe clearly, concisely, and in a logical manner the development of the stormwater plan and include all plans, tributary area maps, assumptions, variables, data, results. In addition, the Stormwater Site Plan must provide the necessary information to prepare final construction plans, profiles, details, notes and specifications for all stormwater facilities. It should be prepared such that a technical person unfamiliar with the project and area can easily follow and verify the development of the stormwater plans and calculations. Additional information may be required if the proposed development impacts water quality sensitive areas.

The applicant shall certify that all clearing, grading, drainage, construction, and development shall be conducted in strict accordance with the plan. The SSP shall not be considered approved without the inclusion of the signature and date of signature of the Town Engineer on the plan.

### C) Construction

- 1 Erosion and sediment control facilities shall be in place before any land is disturbed. See **standard Plan # 250-257**.
- 2 Erosion and sediment control facilities shall be regularly inspected by the Applicant and maintained as needed.
- 3 Failure of said facilities to be in place or failure due to insufficient maintenance is grounds for revocation.
- 4 Fencing is required at the maximum water surface elevation, or higher, when a pond slope is steeper than 3:1. The Town may also require appropriate fencing as an additional safety requirement.
- 5 Access roads are required when detention/retention ponds do not abut public right-of-way. Access roads shall extend around the entire pond perimeter.

### D) Inspection

Retention and detention structures shall be inspected by the Design Engineer at the following stages:

1. Upon completion of excavation to subfoundation and where required, installation of structural supports or reinforcement for structures, including but not limited to:
  - (a) Core trenches for structural embankments
  - (b) Inlet-outlet structures and anti-seep structures, watertight connectors on pipes
  - (c) Trenches for enclosed storm drainage facilities
  - (d) Slope Stabilization
- 2 During placement of structural fill, concrete, and installation of piping and catch basins
- 3 During backfill of foundations and trenches
- 4 During embankment construction
- 5 Maintenance
  - (a) The maintenance and protection of buffers, including erosion control, care of vegetation, and removal of trash and obstructions, shall be the responsibility of the property owner or an association of property owners unless specifically agreed to be accepted by the Town.
  - (b) The owner of the property on which work has been done for private storm drainage systems, or any other person or agent in control of such property, shall maintain in good condition and promptly repair and restore all graded surfaces, walls, drains, darts and structures, vegetation, erosion and sediment control measures, and other protective devices.
  - (c) A maintenance schedule shall be developed for the life of any storm

drainage system element which shall state the maintenance to be completed, the time period for completion, and who shall perform the maintenance. This maintenance schedule shall be printed on the project construction plan.

The following are minimum standards for the maintenance of stormwater facilities:

- (i) Facilities shall be inspected annually and cleared of debris, sediment, and vegetation when they affect the functioning and/or design capacity of the facility.
- (ii) Grassy swales and other biofilters shall be inspected monthly and mowed or replaced as necessary. Clippings are to be removed and properly disposed of.
- (d) The Town shall be responsible for the maintenance and operation of all public storm drainage facilities following the successful completion of the two-year maintenance period and the acceptance of such facilities by the Town. The applicant shall submit a surety bond guaranteeing maintenance until the system is accepted by the Town.

### **3.2 Other Permits and Plan Requirements**

In addition to the Stormwater Site Plan requirements by the Town, other agencies may require a stormwater site plan to describe the proposed project's impact on surface, ground and stormwater. These other agency requirements are separate and in addition to the Town's requirements. It is the responsibility of the Applicant to coordinate with the other agencies. Agency Permit/Approvals that may be necessary include, but are not limited to:

- A) Joint Aquatic Resource Permit Application (JARPA) - issued by State of California Department of Fish and Game and other agencies.

### **3.3 Storm Pipe Installation**

- A) Lot drains shall be provided for lots in subdivisions as determined by project Geotechnical Engineer. This applicants engineer must design and obtain approval from the Town Engineer for the lot drain system
- B) A pipe system shall be provided for curb street sections whenever the length of surface drainage on road grade extends either direction from crest vertical curves as follows:

150feet for grades 0.5% to 1.5%  
200feet for grades 1.5% to 3.0%  
300 feet for grades 3.0% and greater

- C) Pipe-for storm sewers shall be PVC pipe and shall conform to ASTM D3034-SDR 35 or corrugated polyethylene and shall conform to AASHTO M294-97 & ASTM D3212.
- D) Minimum pipe size for storm drain is twelve-(12) inch diameter. Runoff shall be computed and, if the flow requires it, larger pipe shall be used.
- E) Connections to the pipe system shall be made only at catchbasins or manholes.

- F) Storm drain gradients shall provide a minimum flowing full velocity of 3 ft/sec.
- G) Storm drain pipes shall have a minimum 30" of cover.
- H) Natural streams shall not be placed in pipes except for essential roadway crossings as determined by the Town and subject to review by the State of California Department of Fish and Game and other State and Federal Agencies which have jurisdiction.
- I) Trench and pipe bedding details are shown in **Standard Plan #305 and #306**.
- J) Mark end of storm lot drains with pressure treated 2 X 4 painted white marked "STORM". Depth to stub as measured from ground to be placed on marker.

### 3.4 Catch Basins and Manholes

- A) Catch Basin structures shall be provided as follows:

- 1 Maximum spacing of catch basins are follows:

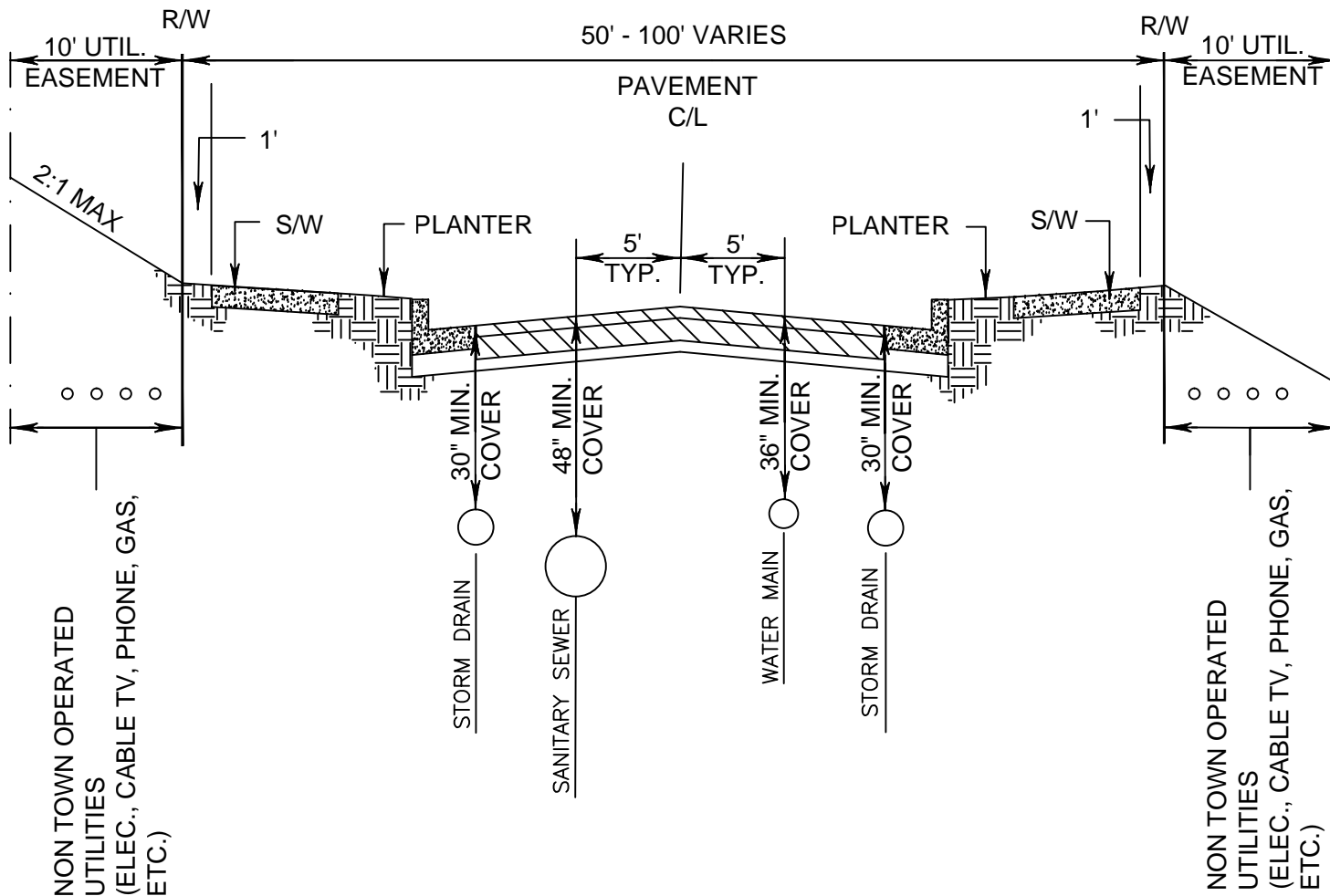
- 150 feet for grades 0.5% to 1.5%
- 200 feet for grades 1.5% to 3.0%
- 300 feet for grades 3.0% and greater

Additional catch basins shall be installed as needed to confine drainage to the gutter and prevent street drainage from sheet flowing across roadways for intersections.

- 2 At all intersections. Valley gutters on public roadway is not permitted.
  - 3 At junctions of dissimilar materials (PVC, concrete, metal) or dissimilar sizes.
  - 4 Change in horizontal or vertical alignment.
  - 5 Catch basins shall have through curb installation. See **Standard Plan #301 #302, and # 303**.
- B) Pipes connecting single inlets to main storm sewer by structure such as catch basins, shall be 12-inch diameter minimum, and single inlets shall be catch basins with sumps.
  - C) Where a structure is needed for access or for juncture of storm sewers, but not for catchment of silt, the structure shall be manhole.

With approval of the Town Engineer, a pre-cast cone may be substituted for the top slab. Manholes shall be a minimum of five feet deep to the invert of pipe. Joints on manhole sections shall be rubber gasket type. In addition, all joints shall be grouted.

- D) **Standard Plans #307-313** are for Typical Treatment facilities. Each projects design will be reviewed on a case by case basis by the Town Engineer.

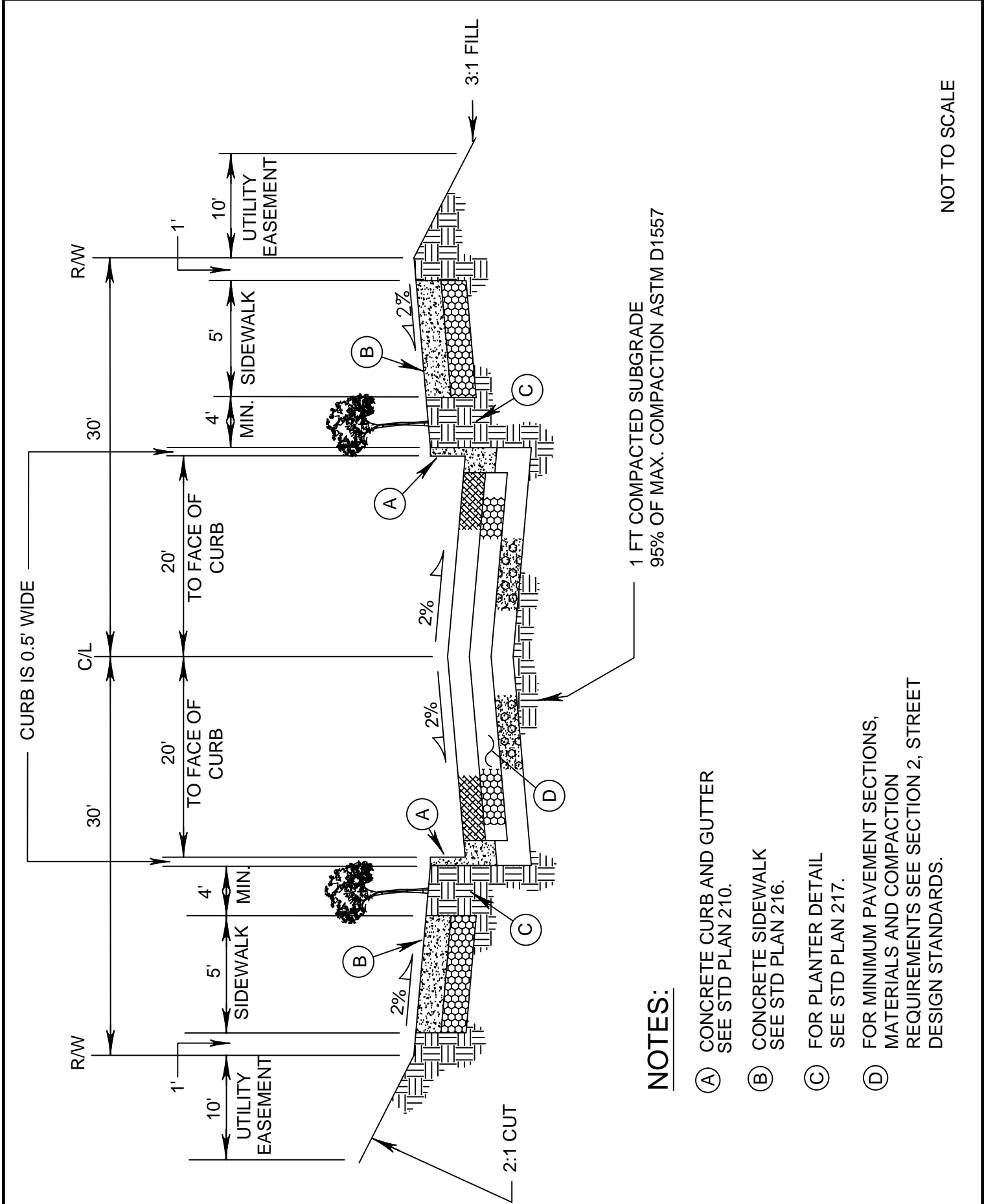


## NOTES:

1. NON-TOWN OPERATED UTILITIES CAN BE PLACED IN A JOINT TRENCH.
2. MINIMUM SEPARATION REQUIREMENTS FROM PUBLIC UTILITIES APPLY WITHIN EASEMENTS AND PRIVATE PROPERTY.
3. UTILITY POLES SHALL BE PLACED A MINIMUM OF 2.5' FROM FACE OF CURB TO OUTSIDE EDGE OF THE POLE.

NOT TO SCALE

|   |               |   |                                    |               |
|---|---------------|---|------------------------------------|---------------|
| APPROVED BY   | DATE          |  | TYPICAL STREET<br>UTILITY LOCATION | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                                    | ST-200        |
| TOWN ENGINEER   |               |   |                                    |               |



1 FT COMPACTED SUBGRADE  
95% OF MAX. COMPACTION ASTM D1557

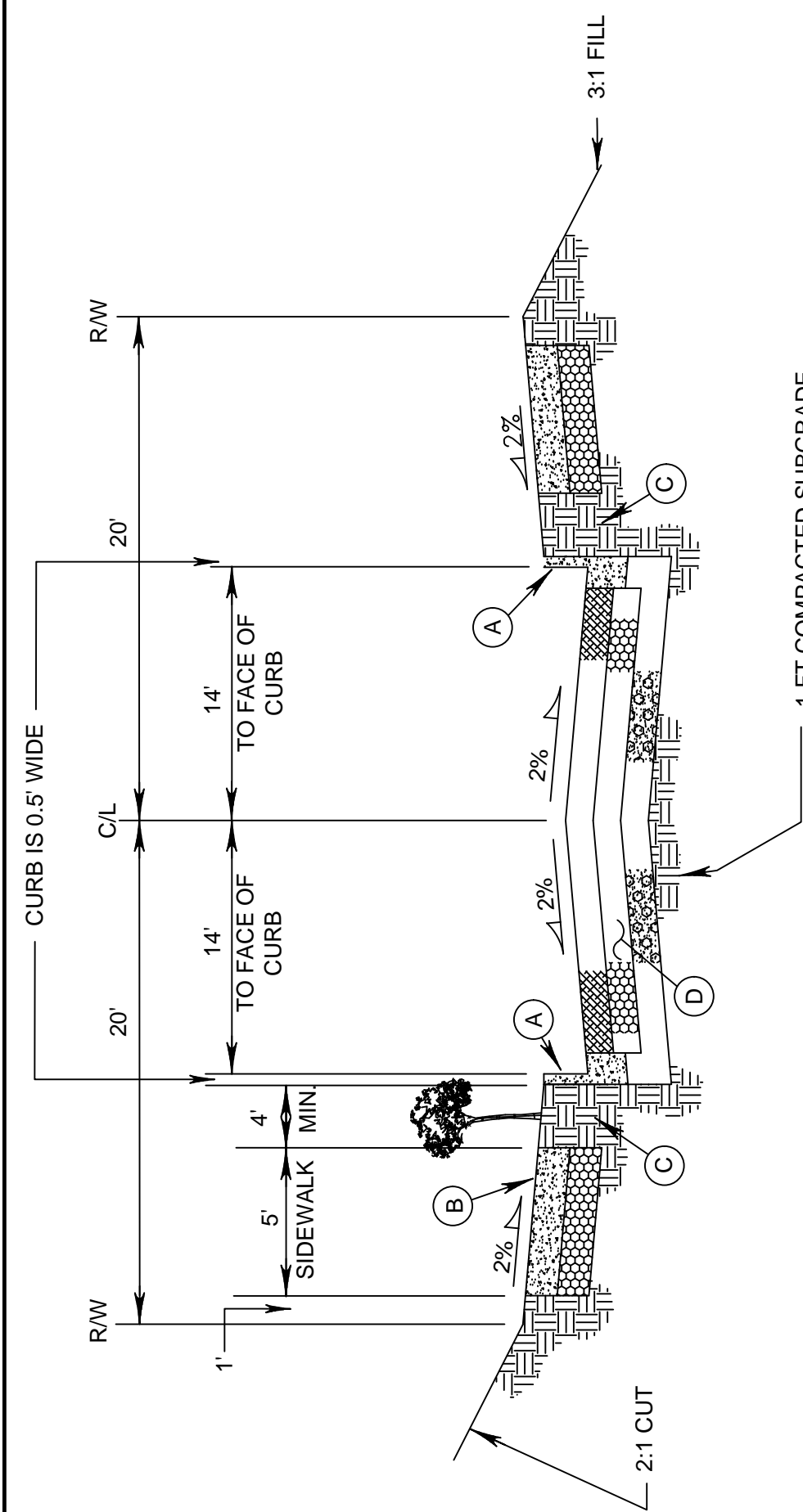
**NOTES:**

- (A) CONCRETE CURB AND GUTTER  
SEE STD PLAN 210.
- (B) CONCRETE SIDEWALK  
SEE STD PLAN 216.
- (C) FOR PLANTER DETAIL  
SEE STD PLAN 217.
- (D) FOR MINIMUM PAVEMENT SECTIONS,  
MATERIALS AND COMPACTION  
REQUIREMENTS SEE SECTION 2, STREET  
DESIGN STANDARDS.

NOT TO SCALE

|   |               |   |               |
|---|---------------|---|---------------|
| APPROVED BY   | DATE          |  | STD. PLAN NO. |
|  | NOVEMBER 2010 |   | ST-201        |
| TOWN ENGINEER   |               |   |               |

COLLECTOR TYPICAL  
STREET SECTION



### NOTES:

(A) CONCRETE CURB AND GUTTER. SEE STD PLAN 210. CURBS SHALL BE PROVIDED ON BOTH SIDES OF ROAD. GUTTER MAY BE OMITTED WITH TOWN ENGINEER APPROVAL.

(B) CONCRETE SIDEWALK. SEE STD PLAN 216. SIDEWALKS ON ONE SIDE MAY BE PROVIDED DEPENDING ON TOPOGRAPHICAL CONSIDERATIONS.

(C) FOR PLANTER DETAIL SEE STD PLAN 217.

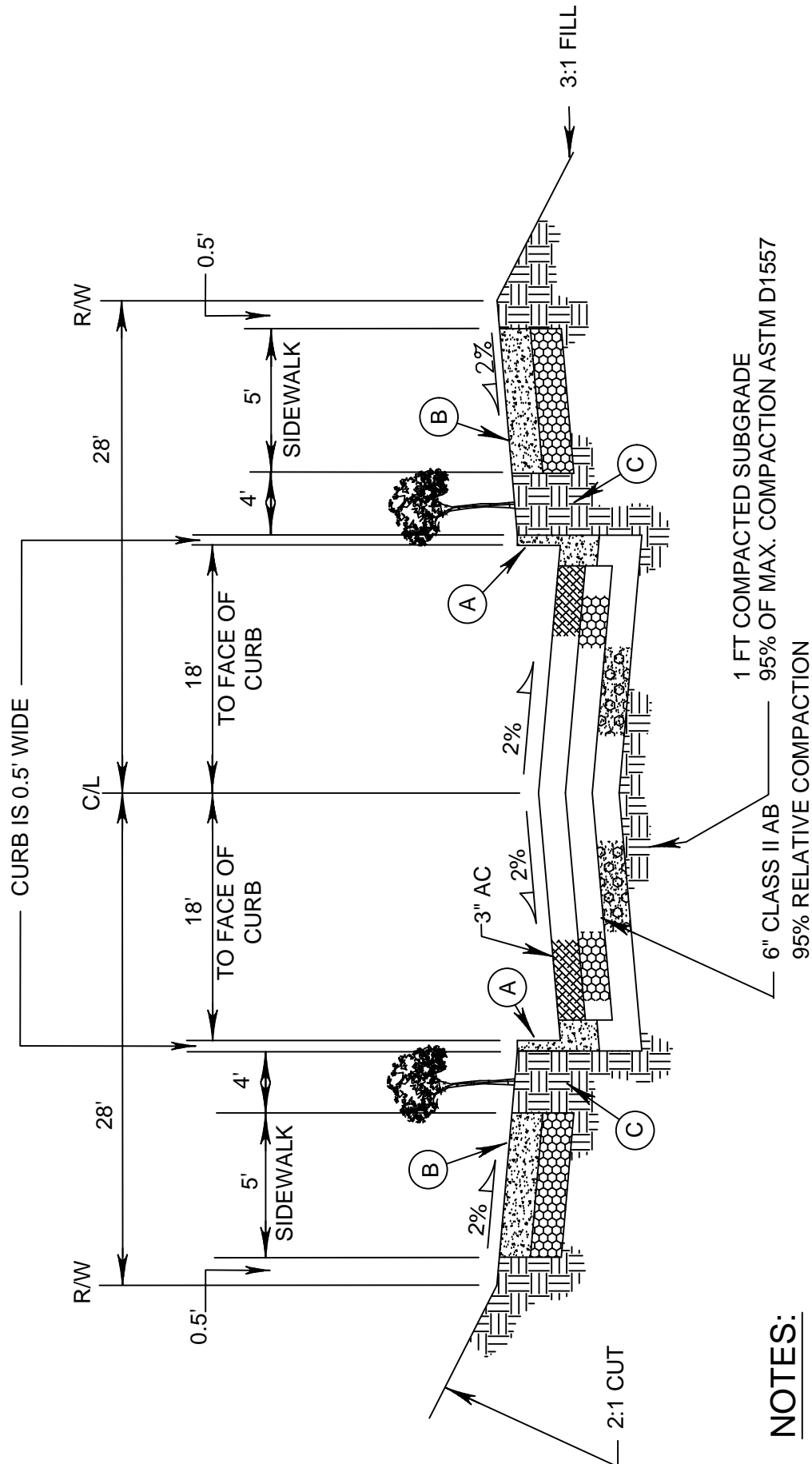
(D) FOR MINIMUM PAVEMENT SECTIONS, MATERIALS AND COMPACTION REQUIREMENTS SEE SECTION 2, STREET DESIGN STANDARDS.

(E) PARKING TYPICALLY PROHIBITED ON BOTH SIDES OF ROAD. IF PARKING IS ALLOWED ON ONE SIDE OF ROAD, PAVEMENT WIDTH SHALL BE 34' MIN.

NOT TO SCALE

|  |               |   |   |               |
|--|---------------|---|---|---------------|
| APPROVED BY  | DATE          |  | HILLSIDE COLLECTOR<br>TYPICAL STREET<br>SECTION | STD. PLAN NO. |
| <br>TOWN ENGINEER | NOVEMBER 2010 |   |   | ST-202        |


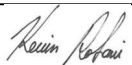


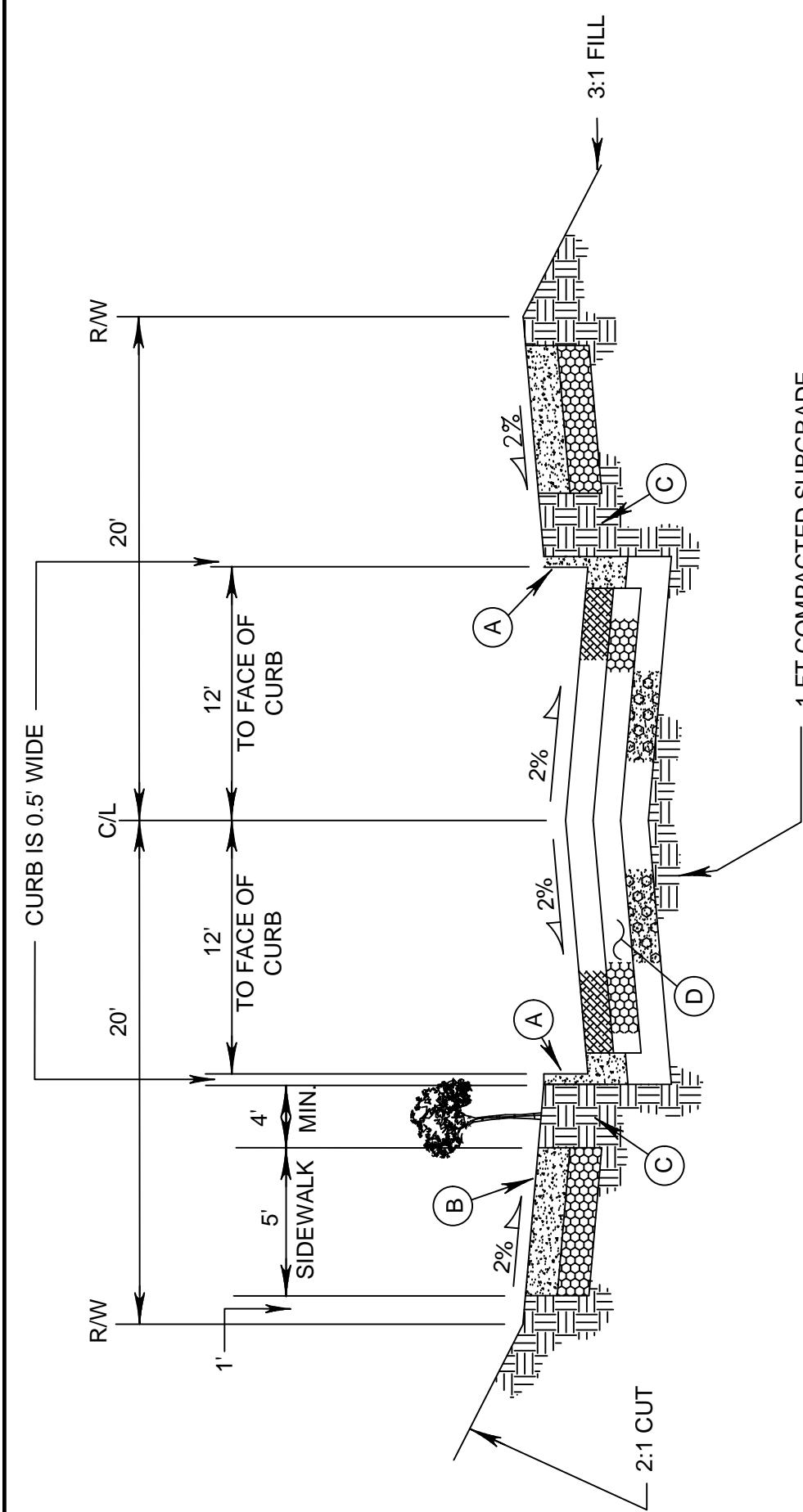


### NOTES:

- (A) CONCRETE CURB AND GUTTER  
SEE STD PLAN 210.
- (B) CONCRETE SIDEWALK  
SEE STD PLAN 216.
- (C) FOR PLANTER DETAIL  
SEE STD PLAN 217.
- (D) SAWCUTTING REQUIRED FOR ALL EDGES OF  
EXISTING IMPROVEMENTS TO BE REMOVED.

NOT TO SCALE

|  |               |   |                                 |               |
|--|---------------|---|---------------------------------|---------------|
| APPROVED BY  | DATE          |  | LOCAL STREET<br>TYPICAL SECTION | STD. PLAN NO. |
| <br>TOWN ENGINEER | NOVEMBER 2010 |   |                                 | ST-203        |



### NOTES:

(A) CONCRETE CURB AND GUTTER. SEE STD PLAN 210. CURBS SHALL BE PROVIDED ON BOTH SIDES OF ROAD. GUTTER MAY BE OMITTED WITH TOWN ENGINEER APPROVAL.


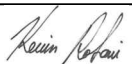
(B) CONCRETE SIDEWALK. SEE STD PLAN 216. SIDEWALKS ON ONE SIDE MAY BE PROVIDED DEPENDING ON TOPOGRAPHICAL CONSIDERATIONS.

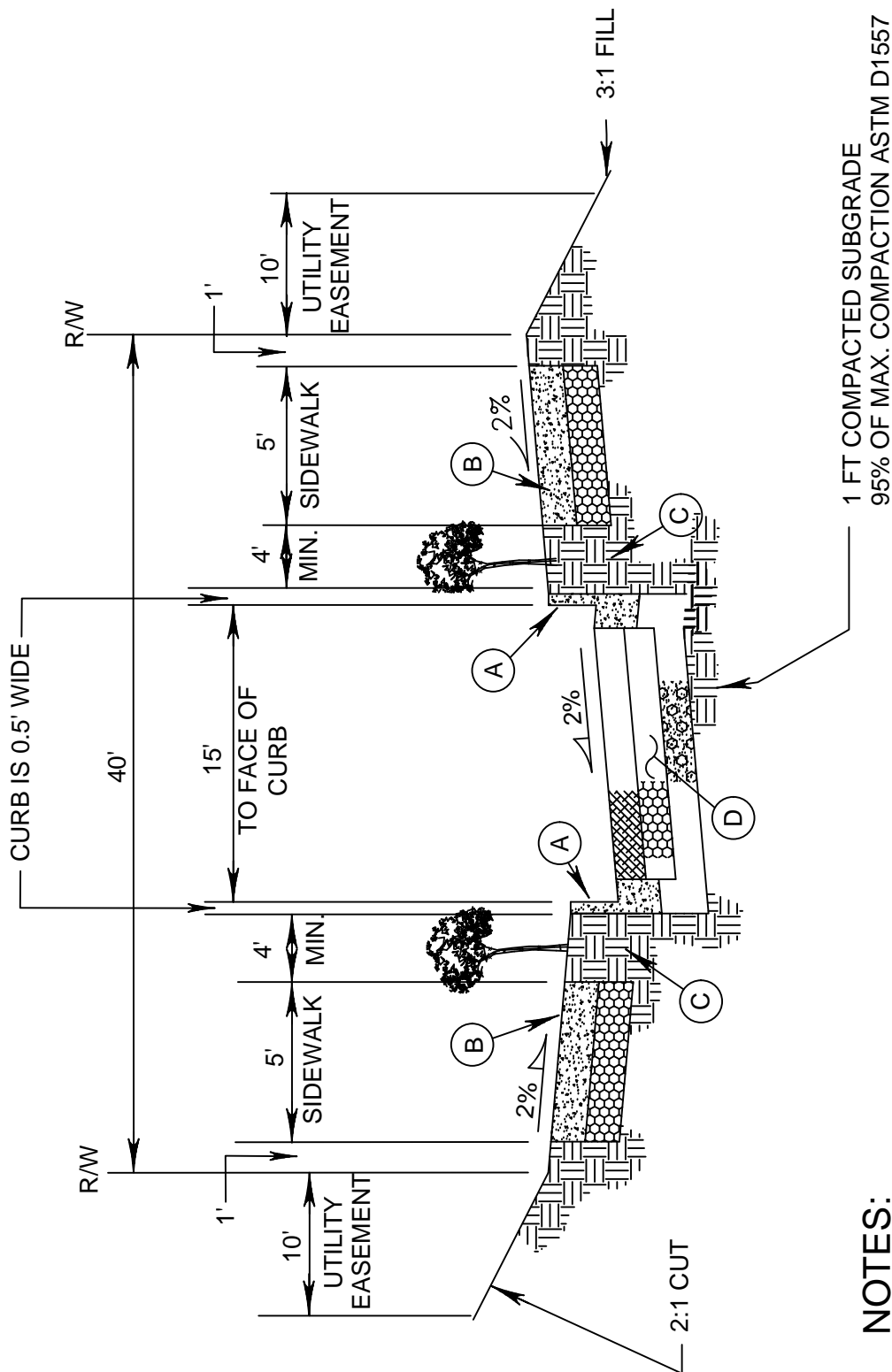
(C) FOR PLANTER DETAIL SEE STD PLAN 217.

(D) FOR MINIMUM PAVEMENT SECTIONS, MATERIALS AND COMPACTION REQUIREMENTS SEE SECTION 2, STREET DESIGN STANDARDS.

(E) PARKING TYPICALLY PROHIBITED ON BOTH SIDES OF ROAD. IF PARKING IS ALLOWED ON ONE SIDE OF ROAD, PAVEMENT WIDTH SHALL BE 30' MIN.

NOT TO SCALE


|   |               |   |   |               |
|---|---------------|---|---|---------------|
| APPROVED BY   | DATE          |  | HILLSIDE LOCAL<br>STREET TYPICAL<br>SECTION | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |   | ST-204        |
| TOWN ENGINEER   |               |   |   |               |

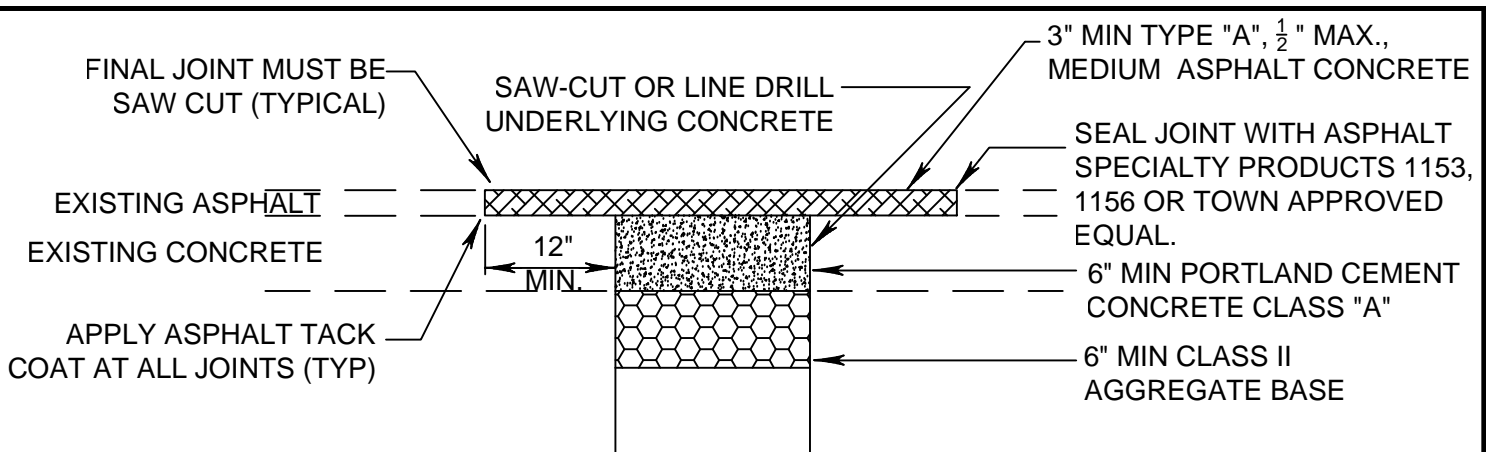


### NOTES:

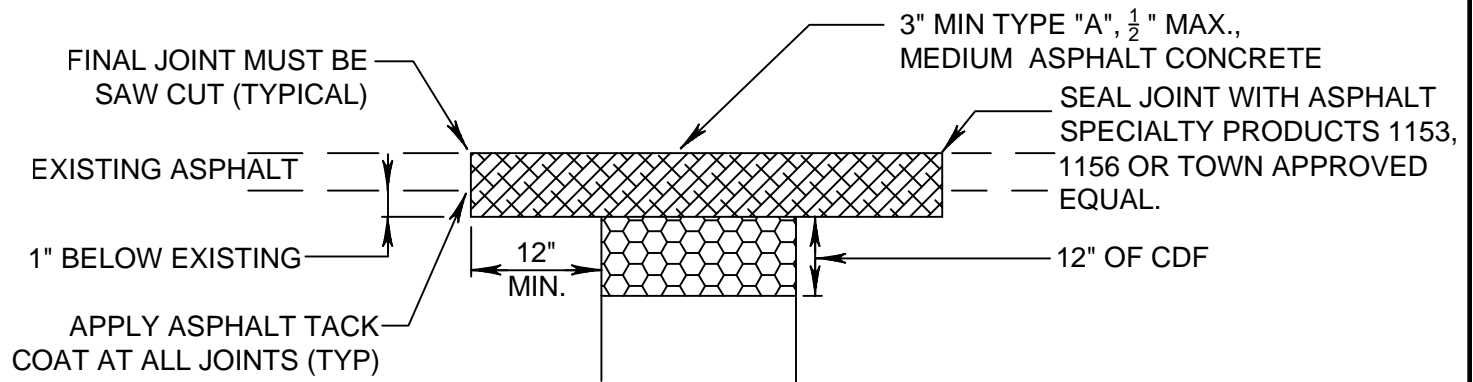
- (A) CONCRETE CURB AND GUTTER. SEE STD PLAN 210.
- (B) CONCRETE SIDEWALK. SEE STD PLAN 216.
- (C) FOR PLANTER DETAIL SEE STD PLAN 217.

NOT TO SCALE

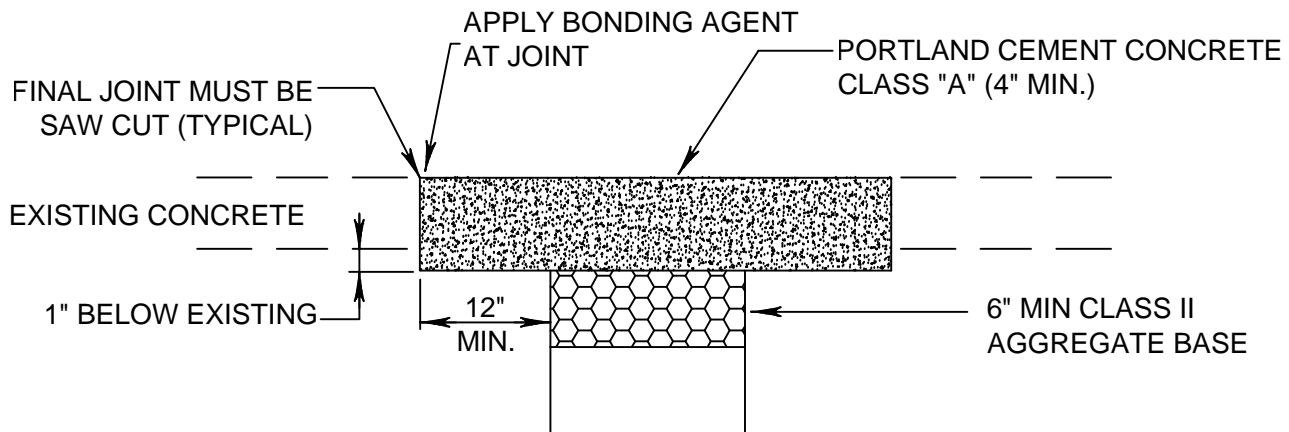
|                         |               |   |               |
|-------------------------|---------------|---|---------------|
| APPROVED BY             | DATE          |  | STD. PLAN NO. |
| <i>Kevin R. Ruffini</i> | NOVEMBER 2010 |   | ST-205        |
| TOWN ENGINEER           |               |   |               |



### EXISTING ASPHALT CONCRETE OVER CEMENT CONCRETE



### EXISTING ASPHALT CONCRETE OVER PREPARED GRADE





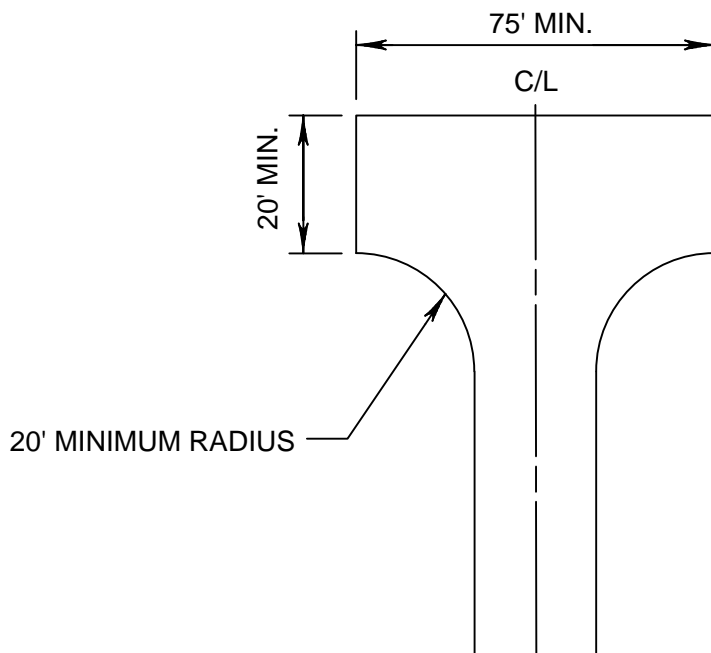
### EXISTING CEMENT CONCRETE OVER PREPARED GRADE

#### NOTES:

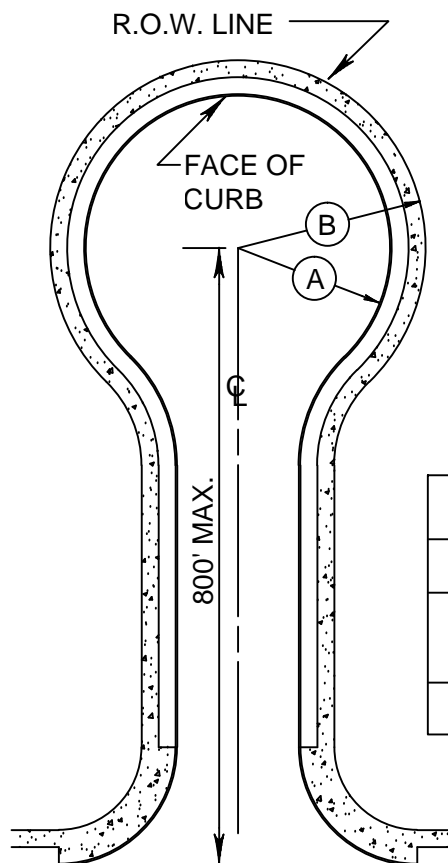
NOT TO SCALE

- 1 ALL TRENCHES IN ROADWAY AREAS SHALL BE BACKFILLED AND PATCHED WITH TEMPORARY ASPHALT AT THE END OF EACH WORK DAY, UNLESS PERMISSION IS GRANTED TO DO OTHERWISE BY THE TOWN ENGINEER.
- 2 ALL TEMPORARY PATCHES ON TRENCHES SHALL BE PERMANENTLY PATCHED WITHIN 7 WORKING DAYS OF COMPLETION OF WORK WITHIN THE ROADWAY AREA.
- 3 SEE SECTION 2, FOR COMPACTION REQUIREMENTS
- 4 EXCEPT WHERE GALVANIZED PIPES IS USED, THE BACKFILL SHALL BE EITHER A SAND SLURRY (2 SACK MIX), BE CERTIFIED BY A TEST TO BE 95% COMPACTED OR THE CONTRACTOR UTILITY PROVIDE AND IS ON HAND DURING THE RESTORATION.

|   |               |   |                              |               |
|---|---------------|---|------------------------------|---------------|
| APPROVED BY   | DATE          |  | PAVEMENT<br>PATCHING DETAILS | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                              | ST-207        |
| TOWN ENGINEER   |               |   |                              |               |



HAMMERHEAD


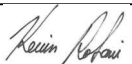


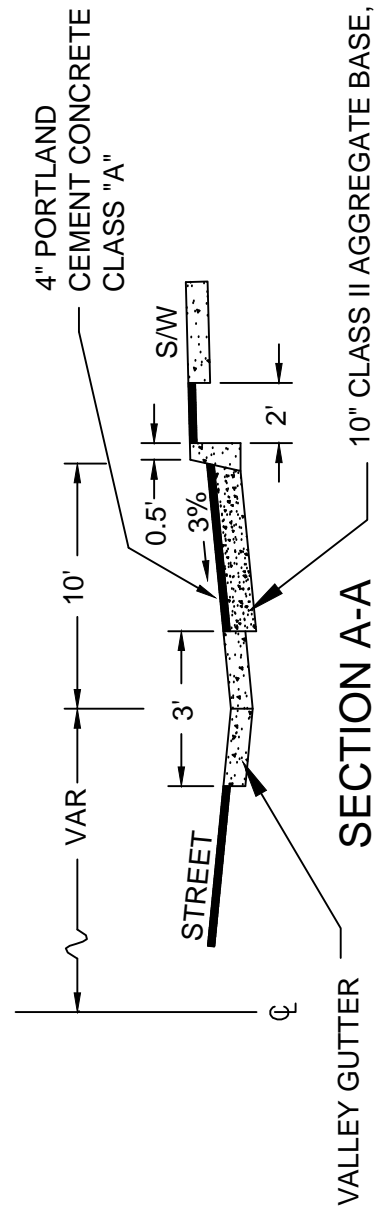
NOTE:

1. PARKING SHALL BE PROHIBITED ON ALL HILLSIDE TURNAROUNDS.

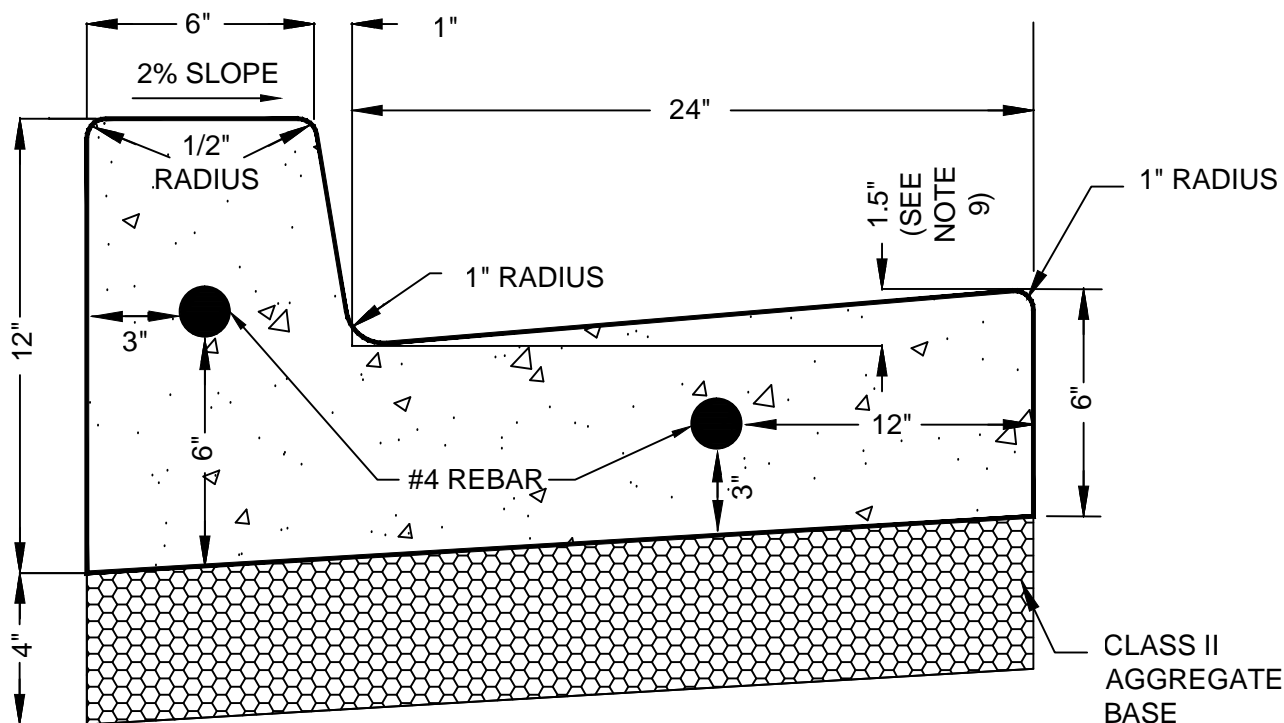
| ROAD TYPE                     | (A) | (B) |
|-------------------------------|-----|-----|
| RESIDENTIAL ST.               | 32' | 42' |
| COMMERCIAL/<br>INDUSTRIAL ST. | 55' | 65' |
| HILLSIDE                      | 26' | 32' |

CUL-DE-SAC

|   |               |   |  |               |
|---|---------------|---|--|---------------|
| APPROVED BY   | DATE          |  | STREET END<br>OPTIONS AND<br>TURNING CIRCLES | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |  | ST-208        |
| TOWN ENGINEER   |               |   |  |               |



NOT TO SCALE

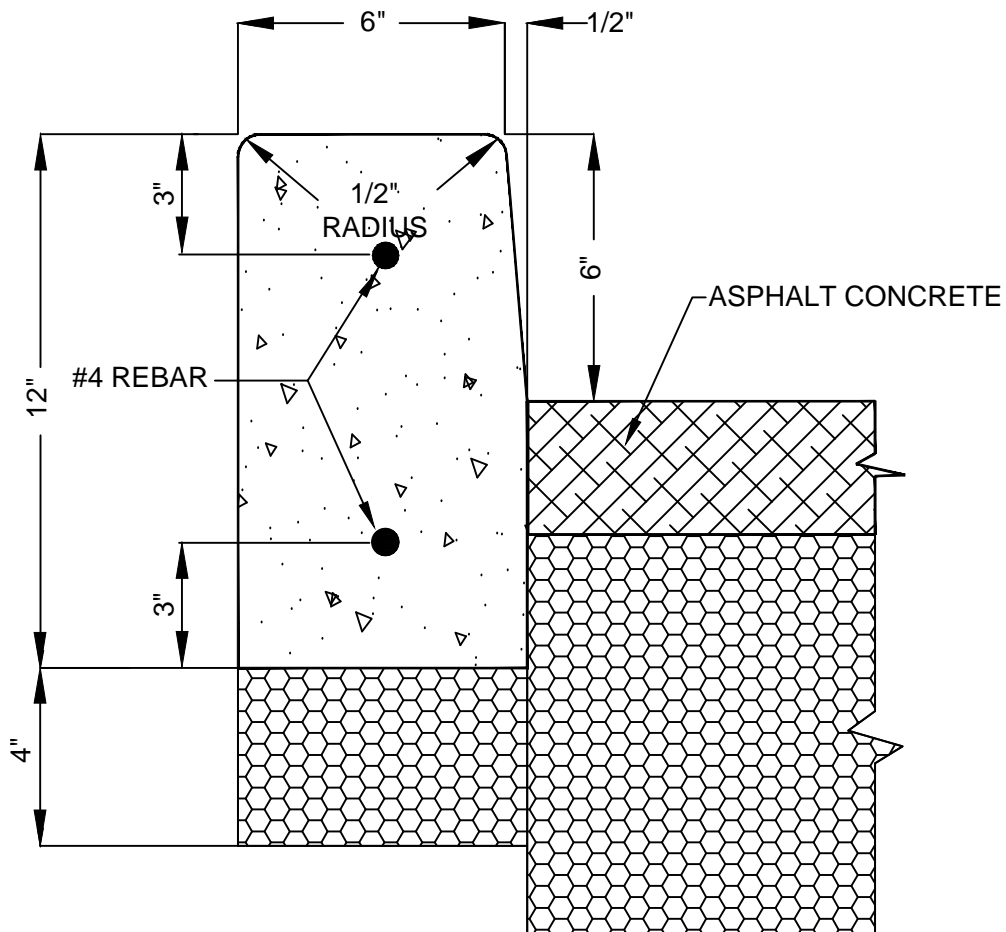


## NOTES:

1. ALL RADII LESS THAN 100' SHALL USE FLEXIBLE WOOD OR METAL FORMS TO ELIMINATE ANGULAR POINTS AT 10' SECTION POINTS.
2. SAWCUT AND REMOVE 20 IN. (MIN.) STREET SECTION FOR CURB AND GUTTER INSTALLATION ON EXISTING STREETS.
3. 3/4" EXPANSION JOINTS TO BE PLACED AT DRIVEWAY SECTIONS, CURB RETURNS, CURB RAMPS & COLD JOINTS OR A MAX. OF 30' C/C. EXPANSION JOINTS SHALL PROTRUDE 1" BELOW THE BOTTOM OF GUTTER
4. THRU JOINTS SHALL BE PLACED ADJACENT TO CATCH BASINS, INLETS AT POINTS OF TANGENCY ON STREETS, AND AT ALLEY AND DRIVEWAY RETURNS. MAXIMUM SPACING SHALL BE 30' PRE-MOLDED JOINT FILLER, SHALL BE 1/2" WIDE AND CONFORM TO AASHTO DESIGN M213. DUMMY JOINTS SHALL BE PLACED EVERY 10'.
5. FINISHED WORK SHALL NOT VARY MORE THAN 1/8" IN GRADE AND 1/4" IN ALIGNMENT.
6. THE FINISHED CURB SHALL IMMEDIATELY BE SPRAYED WITH A TRANSPARENT CURING COMPOUND. CURB SHALL BE COVERED BY WATERPROOF PAPER OR PLASTIC MEMBRANE IN THE EVENT OF RAIN OR OTHER UNSUITABLE WEATHER. CURING TIME SHALL BE A MINIMUM OF 72 HOURS.
7. ALL CURB AND GUTTER SHALL BE PLACED ON A MIN. OF 4" AGGREGATE BASE CLASS II 95% MAX. COMPACTION ASTM D1557
8. #4 REBAR SHALL BE EXTENDED ALONG LENGTH OF THE CURB AND GUTTER
9. GUTTER PAN SLOPE SHALL NOT EXCEED 5% SLOPE AT PEDESTRIAN CURB RAMP ENTRY LOCATIONS. CONTRACTOR SHALL USE 1.2" (MAX) BETWEEN LIP OF GUTTER AND FLOWLINE AT THESE LOCATIONS.
10. ALL CONCRETE SHALL INCLUDE ONE (1) POUND OF LAMP BLACK PER CUBIC YARD OF CONCRETE.
11. ALL CURB AND GUTTER SHALL HAVE 2 #4 REBARS THE ENTIRE LENGTH AND EMBEDDED ON BOTH ENDS USING DOWELS (ONE DOWEL IN THE CENTER OF THE GUTTER, ONE DOWEL IN THE CENTER OF THE CURB.)

NOT TO SCALE

|   |               |   |                          |               |
|---|---------------|---|--------------------------|---------------|
| APPROVED BY   | DATE          |  | CONCRETE CURB AND GUTTER | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                          | ST-210        |
| TOWN ENGINEER   |               |   |                          |               |



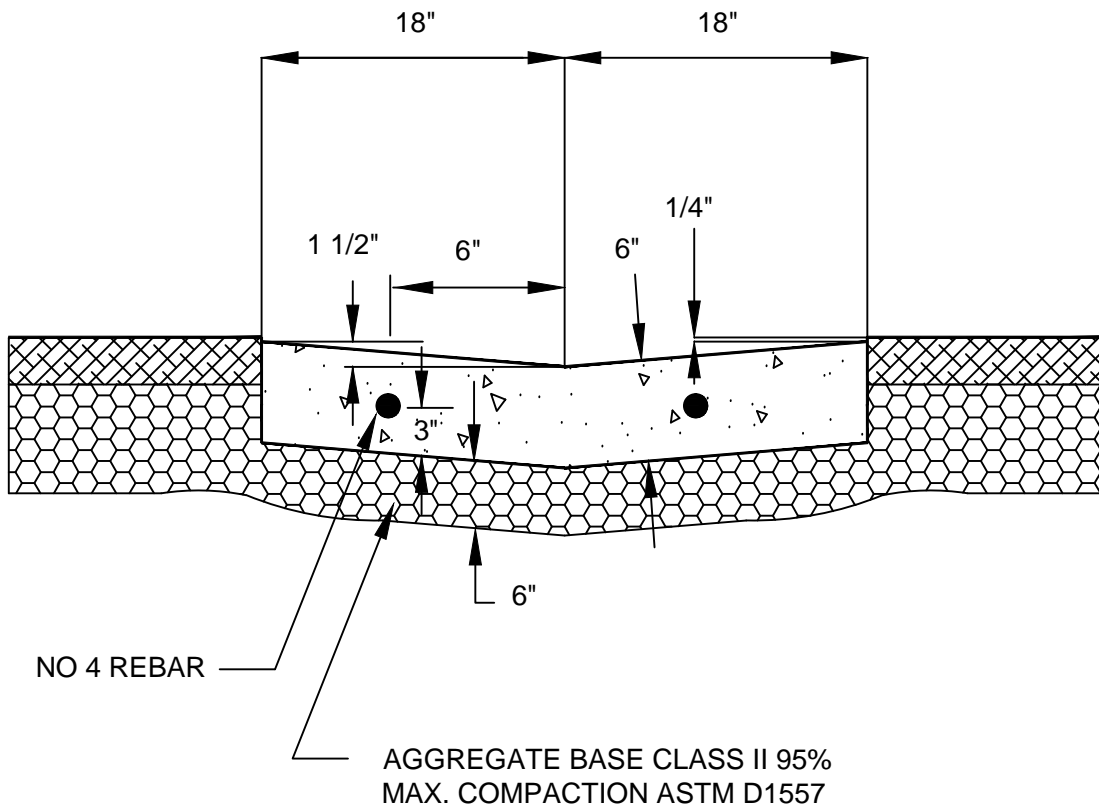
# NOTES:

1. THE CONSTRUCTION NOTES OF STD. PLAN 210 APPLY TO CONCRETE VERTICAL CURB.

NOT TO SCALE

|   |               |   |                        |               |
|---|---------------|---|------------------------|---------------|
| APPROVED BY   | DATE          |  | CONCRETE VERTICAL CURB | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                        |               |
| TOWN ENGINEER   |               |   |                        | ST-211        |


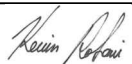


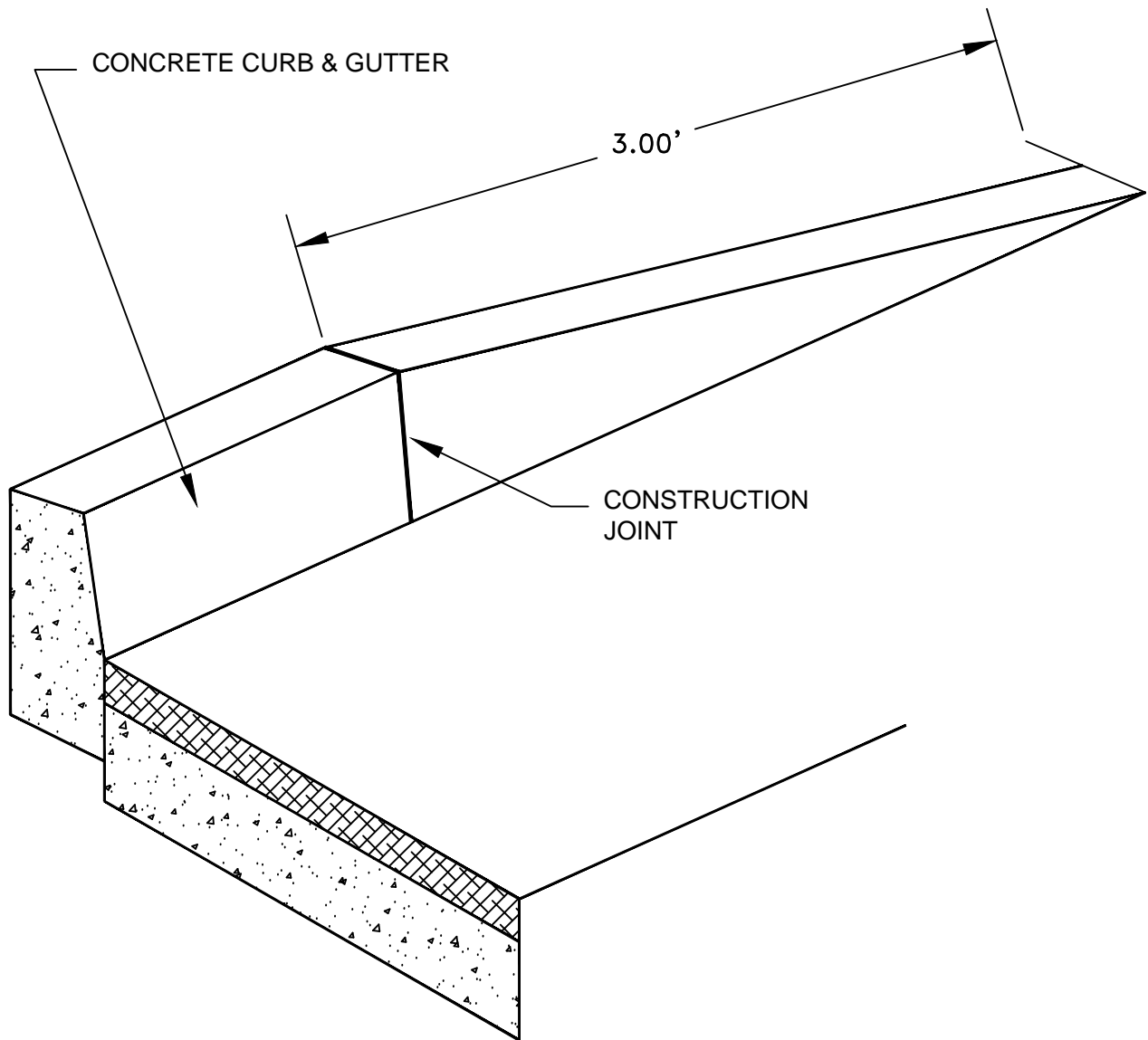


### NOTES:


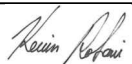
1. EXPANSION JOINTS WITH 1/2" x 12" SLIP.
2. DOWELS AT 20 FEET INTERVALS.
3. CONCRETE SHALL BE CLASS A.
4. ALL CONCRETE SHALL INCLUDE ONE (1) POUND OF LAMP BLACK PER CUBIC YARD OF CONCRETE.

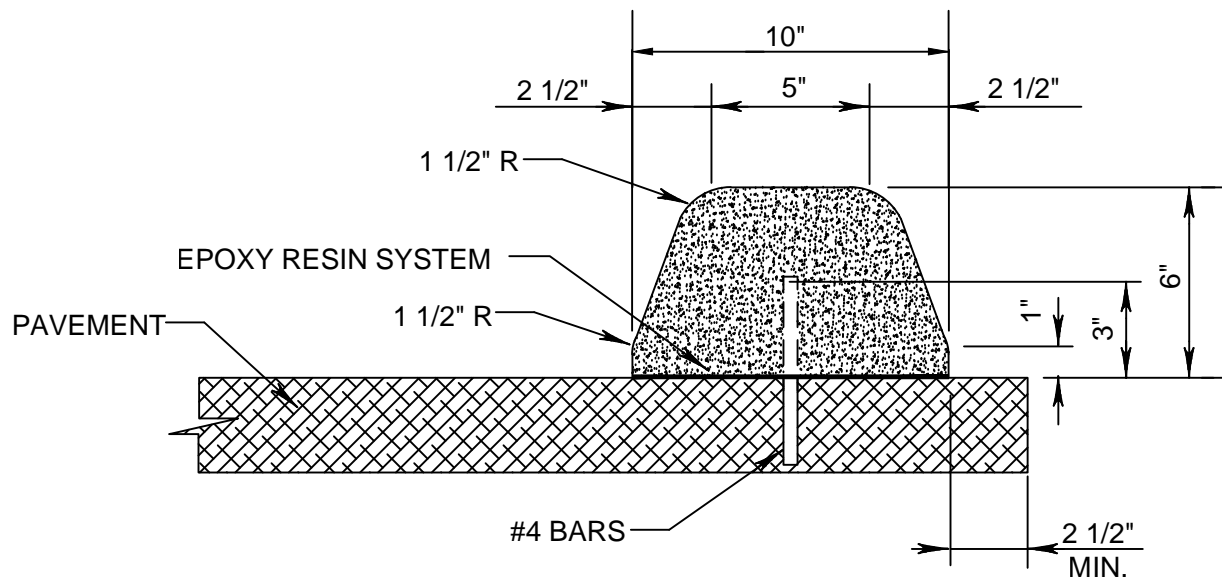
NOT TO SCALE

|   |               |   |                           |               |
|---|---------------|---|---------------------------|---------------|
| APPROVED BY   | DATE          |  | CONCRETE VALLEY<br>GUTTER | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                           |               |
| TOWN ENGINEER   |               |   |                           | ST-212        |

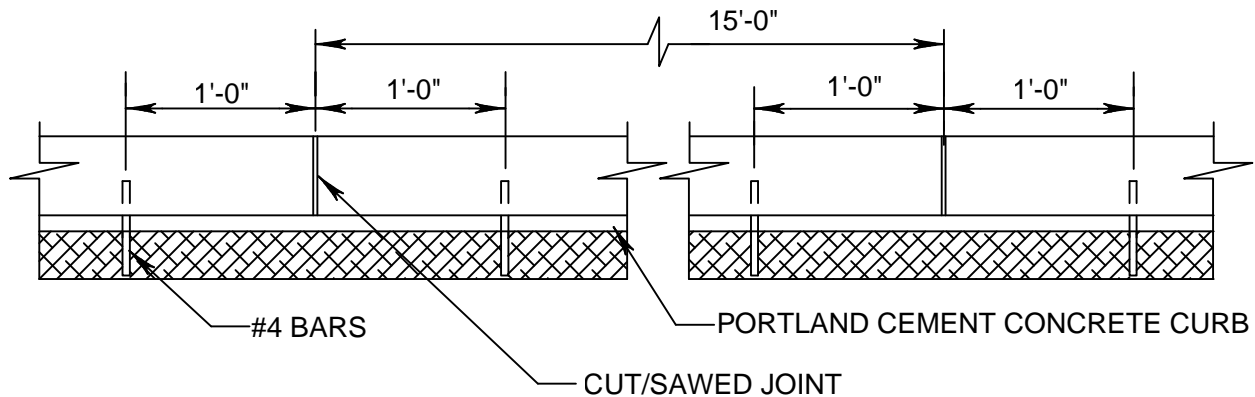


NOT TO SCALE

|   |               |   |                        |               |
|---|---------------|---|------------------------|---------------|
| APPROVED BY   | DATE          |  | CONCRETE CURB<br>TAPER | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                        | ST-213        |
| TOWN ENGINEER   |               |   |                        |               |



### EXTRUDED CONCRETE CURB



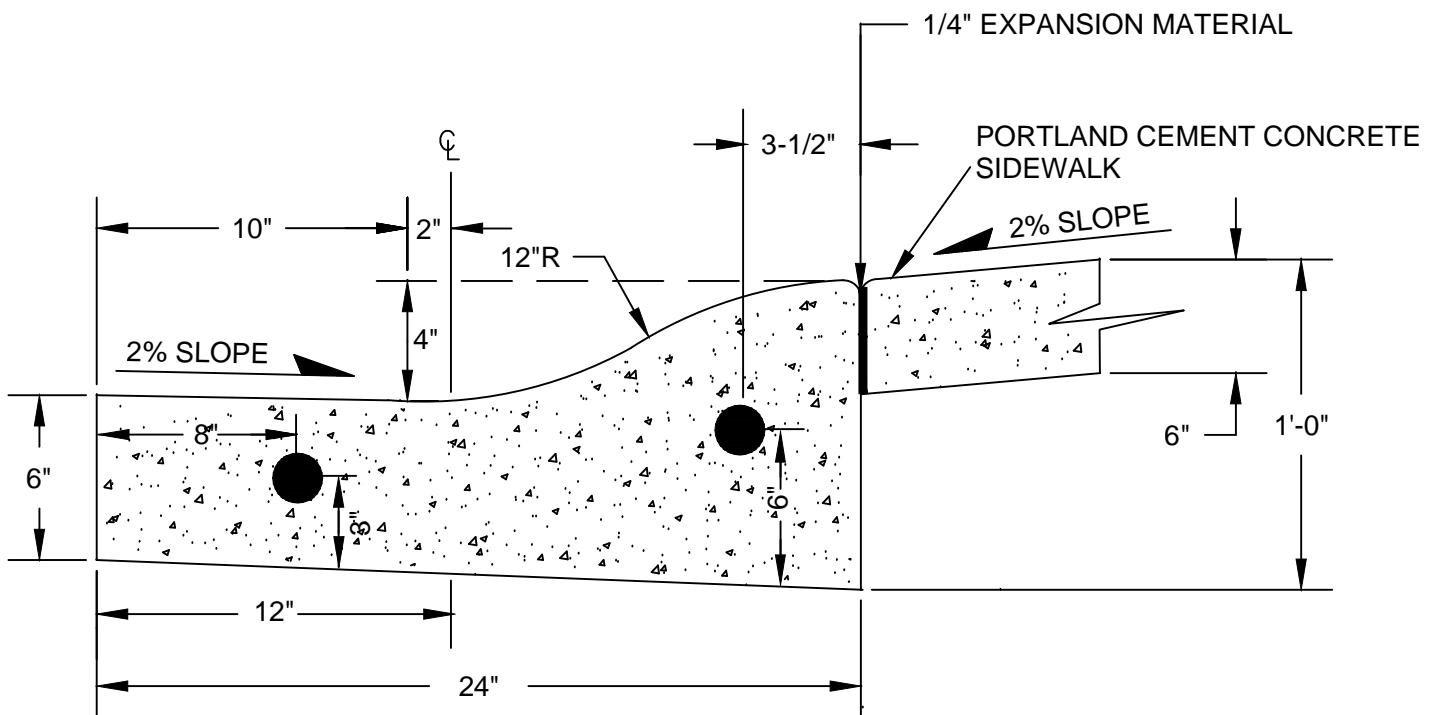
### SPACING OF ANCHOR BARS

#### NOTES:

1. DUMMY JOINTS SHALL BE PLACED NOT TO EXCEED 15 FT ON CENTER. THRU JOINTS SHALL BE PLACED ONLY AT POINTS OF TANGENCY ON STREET, ALLEY, AND DRIVEWAY RETURNS AND WHERE THRU JOINTS OCCUR IN THE PAVEMENT SLAB.
2. AT THE CONTRACTOR'S OPTION CONCRETE CURBS MAY BE ANCHORED TO THE EXISTING PAVEMENT EITHER BY PLACING STEEL TIE BARS 1 FOOT ON EACH SIDE OF EVERY JOINT, OR BY USING AN ADHESIVE.

NOT TO SCALE


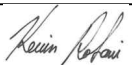
|   |               |   |                        |               |
|---|---------------|---|------------------------|---------------|
| APPROVED BY   | DATE          |  | CONCRETE EXTRUDED CURB | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                        | ST-214        |
| TOWN ENGINEER   |               |   |                        |               |



## NOTES:

1. CONTRACTION JOINTS OF ONE OF THESE TYPES SHOWN ABOVE TO BE PLACED 10' C/C. COMPLETELY SEVER THE STRUCTURE TO THE POINTS SHOWN. JOINTS MAY BE MADE BY INSERTING MIN. 3/16" BITUMINOUS FILLER DUMMY JOINTS. JOINTS SHALL BE CLEANED AND EDGED.
2. FINISHED WORK SHALL NOT VARY MORE THAN 1/8 " IN GRADE AND 1/4" IN ALIGNMENT.
3. EXPOSED SURFACES SHALL BE LIGHT BROOM FINISH.
4. SIDEWALKS BEHIND ROLLED CURBS SHALL BE A MINIMUM OF 6" THICK.
5. CONCRETE SHALL INCLUDE ONE (1) POUND OF LAMP BLACK PER CUBIC YARD OF CONCRETE.
6. #4 REBAR SHALL BE EXTENDED ALONG LENGTH OF GUTTER.

NOT TO SCALE

|   |               |   |                      |               |
|---|---------------|---|----------------------|---------------|
| APPROVED BY   | DATE          |  | CONCRETE ROLLED CURB | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                      | ST-215        |
| TOWN ENGINEER   |               |   |                      |               |

1/2" FULL DEPTH  
EXPANSION JOINT EVERY  
30'. MATCH CURB.

SCORE MARK  
1/4" DEEP, 1/8" WIDE  
5' SECTIONS

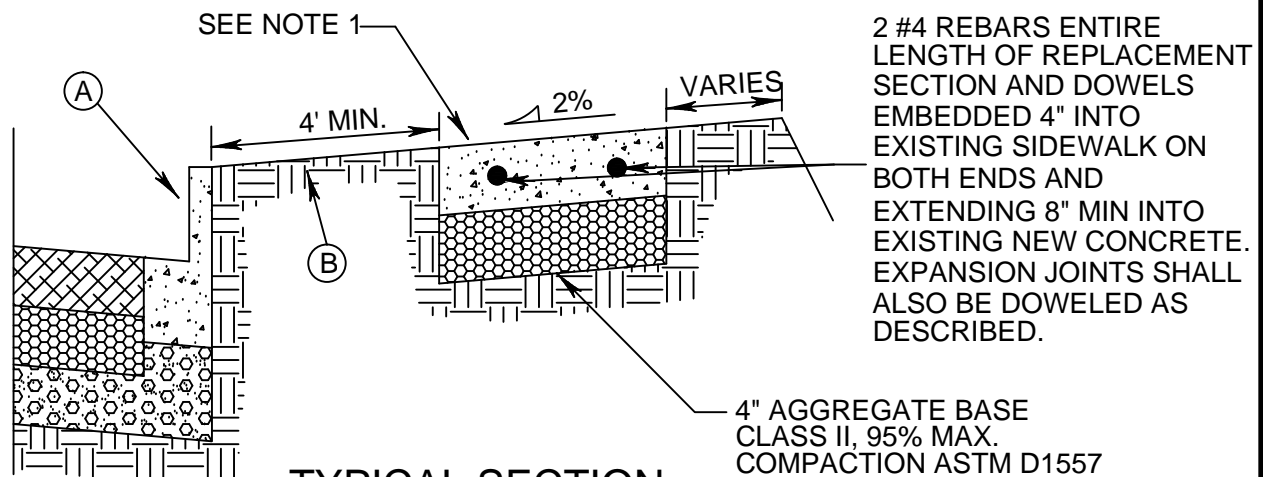
VARIES  
5' TO 8'

PLANTING STRIP

(A) CONCRETE CURB AND GUTTER  
SEE STD PLAN 210.

(B) BACK OF CURB PLANTER

### PLAN VIEWS

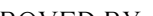


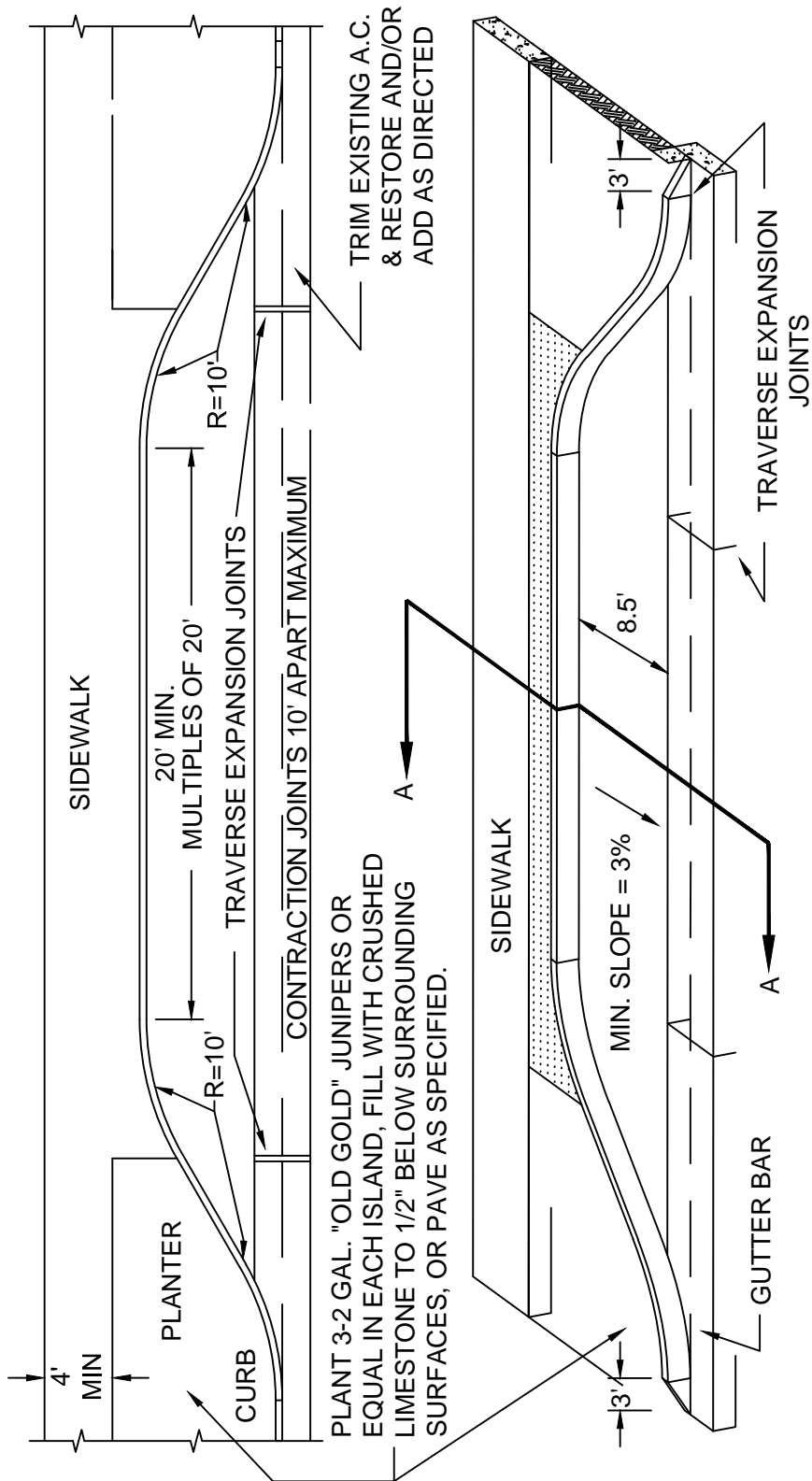
### NOTES:

### TYPICAL SECTION

1. SIDEWALKS SHALL BE A MINIMUM OF 4" THICK, AND SHALL BE CLASS A PORTLAND CEMENT CONCRETE.
2. FULL EXPANSION JOINTS SHALL BE PLACED TO MATCH THOSE PLACED IN ADJACENT CURB & GUTTER, WITH MAXIMUM SPACING OF 30 FEET.
3. SUBGRADE SHALL HAVE 95% MAXIMUM COMPACTION ASTM D1557
4. SIDEWALK SHALL BE AT LEAST 6" THICK BEHIND RESIDENTIAL DRIVEWAYS AND BEHIND ROLL-CURB AND 8" THICK BEHIND COMMERCIAL DRIVEWAYS.
5. THE FINISHED SIDEWALK SHALL BE SPRAYED WITH A TRANSPARENT CURING COMPOUND COVERED BY WATERPROOF PAPER OR PLASTIC SHEETING IN THE EVENT OF RAIN OR OTHER INCLEMENT WEATHER. CURING TIME SHALL BE FOR A MINIMUM OF 72 HOURS.
6. ALL JOINTS SHALL BE CLEANED AND EDGED WITH AN EDGER HAVING A 1/4" RADIUS.
7. SIDEWALK AND PLANTER STRIP WIDTHS SHALL CONFORM TO DIMENSIONS SHOWN IN APPROPRIATE STREET CROSS SECTION DETAIL.
8. THE WIDTH OF SIDEWALKS DIRECTLY BEHIND CURB WITHOUT PLANTER SHALL BE A MIN. OF 5' FROM BACK OF CURB.
9. CONCRETE SHALL INCLUDE ONE (1) POUND OF LAMP BLACK PER CUBIC YARD OF CONCRETE.
10. EXPOSED SURFACES SHALL BE A LIGHT BROOM FINISH.

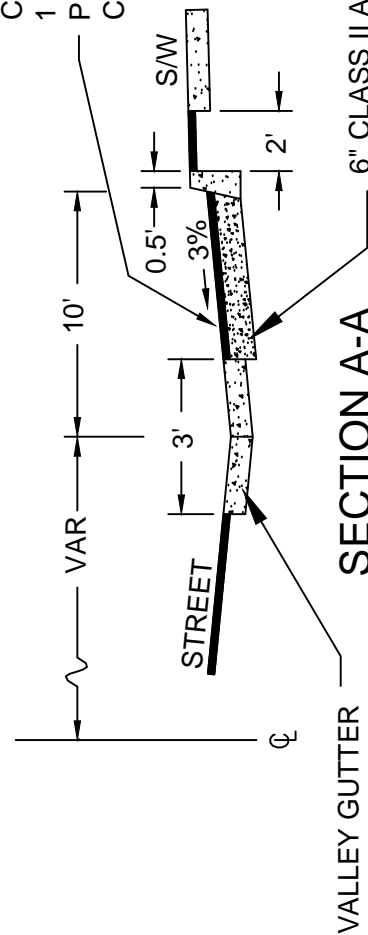
NOT TO SCALE


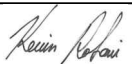
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| APPROVED BY   | DATE          |  | NOT TO SCALE      |
|  | NOVEMBER 2010 |   | STD. PLAN NO.     |
| TOWN ENGINEER   |               |   | CONCRETE SIDEWALK |
|   |               |   | ST-216            |

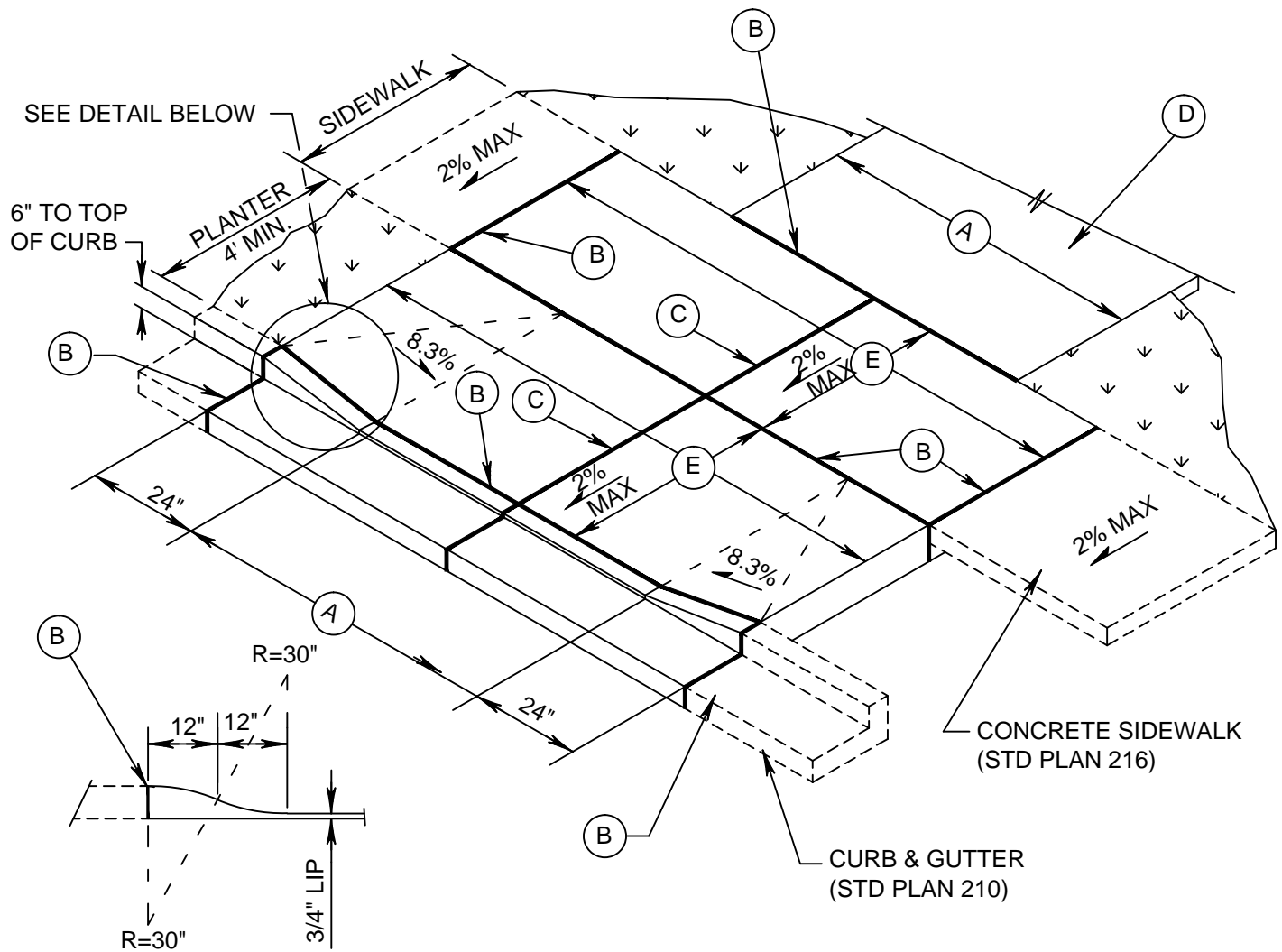


PLANT 3-2 GAL. "OLD GOLD" JUNIPERS OR EQUAL IN EACH ISLAND, FILL WITH CRUSHED LIMESTONE TO 1/2" BELOW SURROUNDING SURFACES, OR PAVE AS SPECIFIED.

6" PORTLAND CEMENT CONCRETE CLASS "A" 1 LB LAMP BLACK PER CUBIC YARD OF CONCRETE




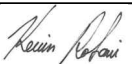
|   |               |   |                       |               |
|---|---------------|---|-----------------------|---------------|
| APPROVED BY   | DATE          |  | PARKING BAY<br>DETAIL | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                       | ST-217        |
| TOWN ENGINEER   |               |   |                       |               |



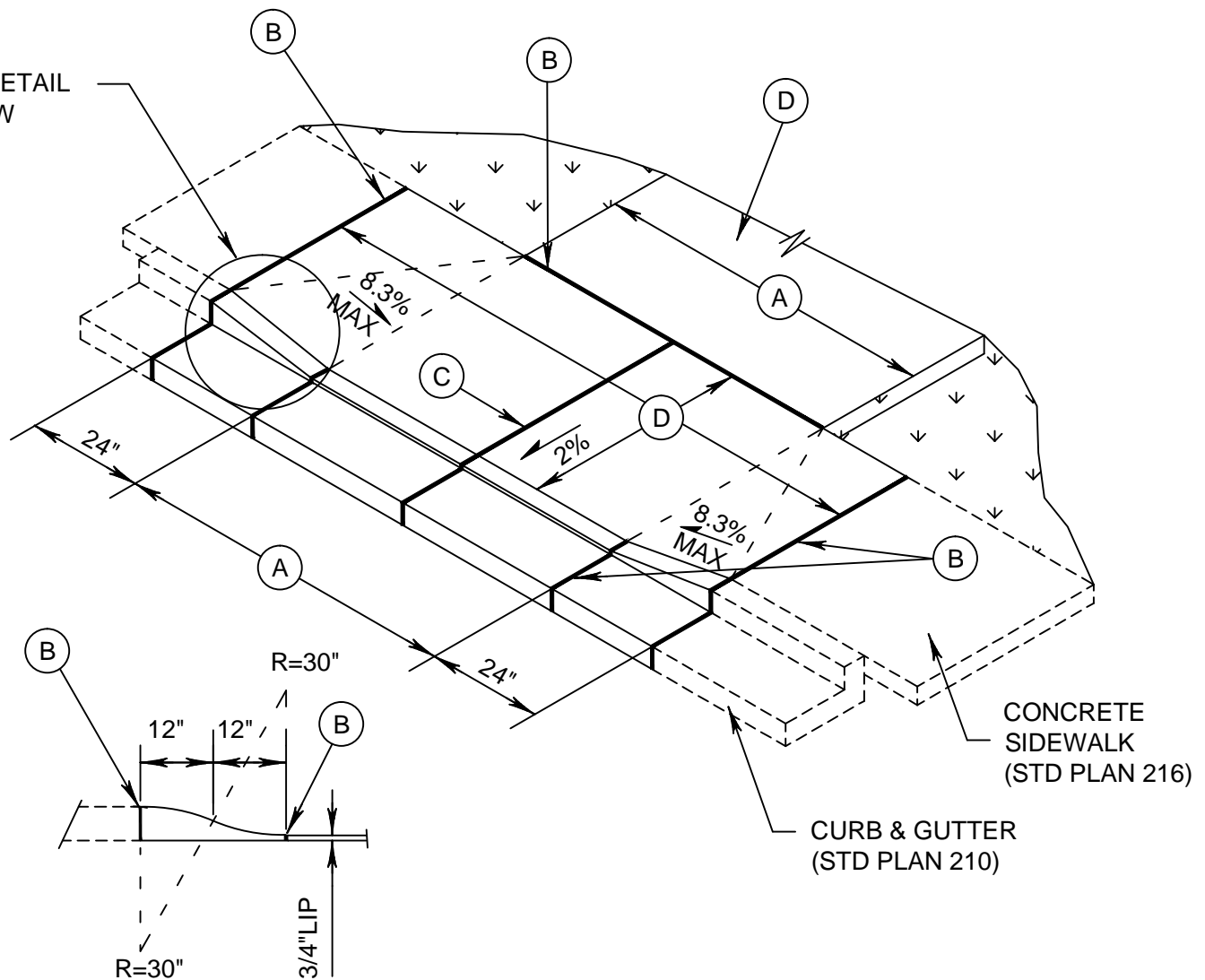
## CURB TRANSITION DETAIL

- (A) EQUALS WIDTH OF DRIVEWAY AT PROPERTY LINE, (14' MIN. - 30' MAX. RESIDENTIAL & 25' MIN.-30' MAX. COMMERCIAL)
- (B) 1/2" WIDE FULL DEPTH EXPANSION JOINT.
- (C) FULL DEPTH EXPANSION JOINT IF (A) IS 15' OR GREATER.
- (D) DRIVEWAY TO BE SURFACED WITH ASPHALT OR CONCRETE.
- (E) DRIVEWAY CONCRETE SHALL BE A MIN. OF 6" THICK FOR RESIDENTIAL & 8" THICK FOR COMMERCIAL & IS TO BE PLACED ON A MIN. OF 4" CLASS II AGGREGATE BASE 95% MAX. COMPACTION ASTM D1557, OVER COMPACTED SUBGRADE.
- (F) ALL CONCRETE SHALL BE CLASS A, PER CALTRANS SPECIFICATIONS, WITH 1 LB. (MIN.) LAMP BLACK PER CUBIC YARD.
- (G) SAWCUT & REMOVE 20 FT. (MIN.) STREET SECTION FOR DRIVEWAY INSTALLATION IN EXISTING STREETS.
- (H) ALL WORK SHALL CONFORM TO CURRENT ADA REQUIREMENTS.

NOT TO SCALE

|   |               |   |   |               |
|---|---------------|---|---|---------------|
| APPROVED BY   | DATE          |  | <b>CONCRETE<br/>DRIVEWAY WITH<br/>PLANTER</b> | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |   | <b>ST-218</b> |
| TOWN ENGINEER   |               |   |   |               |


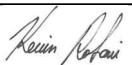
SEE DETAIL  
BELOW



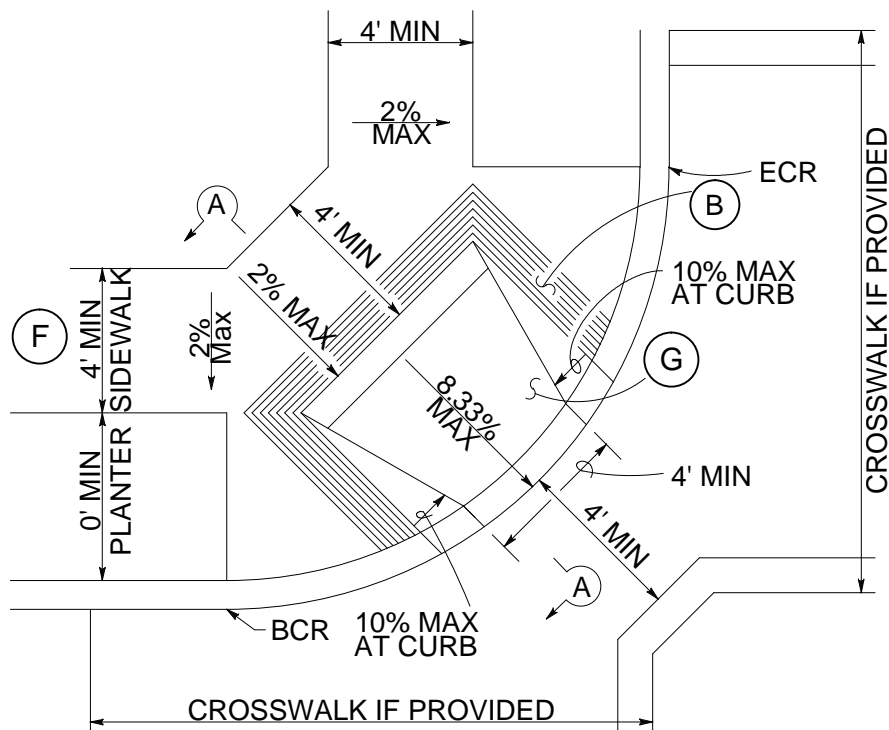
## CURB TRANSITION DETAIL

- (A) EQUALS WIDTH OF DRIVEWAY AT PROPERTY LINE. MINIMUM WIDTH = 14'.
- (B) 1/2" WIDE FULL DEPTH EXPANSION JOINT.
- (C) FULL DEPTH EXPANSION JOINT IF (A) IS 15' OR GREATER.
- (D) DRIVEWAY TO BE SURFACED WITH ASPHALT OR CONCRETE.
- (E) DRIVEWAY CONCRETE SHALL BE A MIN. OF 6" THICK FOR RESIDENTIAL AND 8" THICK FOR COMMERCIAL AND IS TO BE PLACED ON A MINIMUM OF 6" CLASS II AGGREGATE BASE 95% MAXIMUM COMPACTION ASTM D1557, OVER COMPACTED SUBGRADE.
- (F) ALL CONCRETE SHALL BE CLASS A, PER CALTRANS SPECS, WITH 1 LB. (MIN.) LAMP BLACK PER CUBIC YARD.
- (G) ALL WORK SHALL COMFORM TO CURRENT ADA REQUIREMENTS.

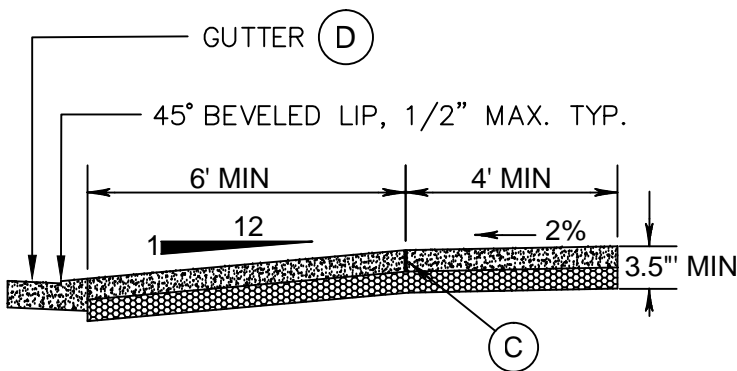
NOT TO SCALE

|   |               |   |  |               |
|---|---------------|---|--|---------------|
| APPROVED BY   | DATE          |  | <b>CONCRETE<br/>DRIVEWAY WITHOUT<br/>PLANTER</b> | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |  | <b>ST-219</b> |
| TOWN ENGINEER   |               |   |  |               |

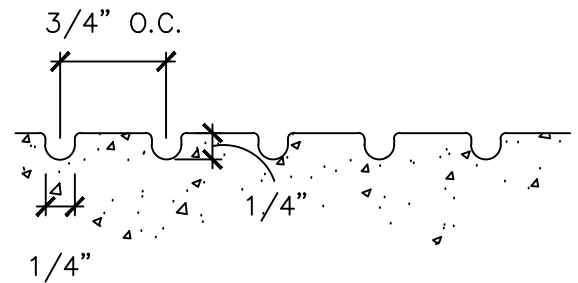




**PLAN**




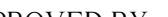
**SECTION A-A**

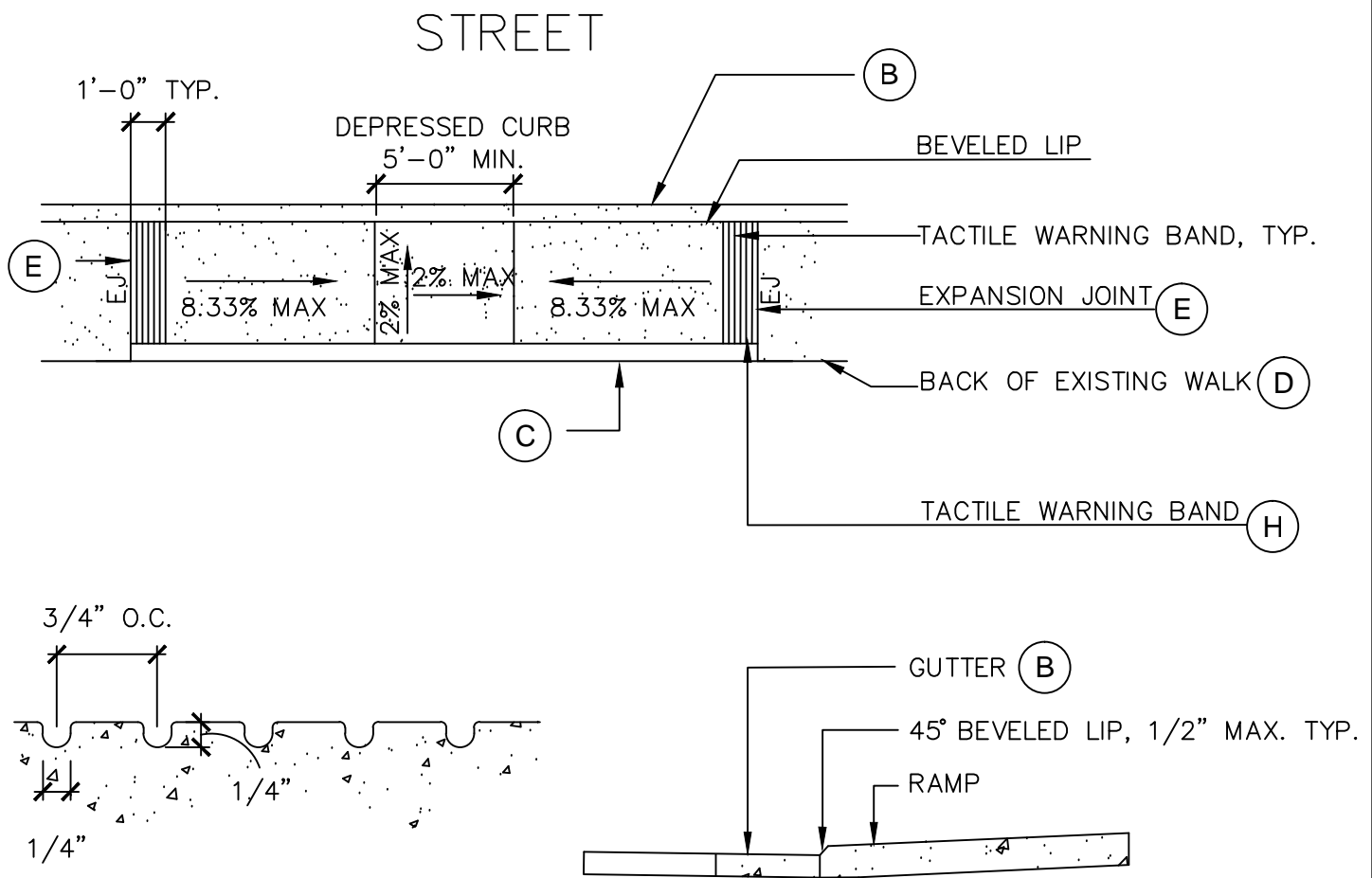


**TACTILE WARNING BAND (SECTION)**  
N.T.S.

- (A) ALL CURB RAMPS SHALL COMPLY WITH THE CURRENT AMERICAN DISABILITIES ACT.
- (B) INSTALL 12" TACTILE WARNING BAND AROUND THE RAMP PERIMETER.
- (C) 3/8" EXPANSION JOINT.
- (D) CONCRETE CURB AND GUTTER, SEE STD. DETAIL 210.
- (E) CURB RAMPS SHALL NOT BE POURED INTEGRAL WITH SIDEWALK AND SHALL BE ISOLATED BY EXPANSION JOINT MATERIAL ON ALL SIDES, BUT NOT AT END OF RAMP ADJACENT TO ROADWAY. CURB & GUTTER ARE TO BE INTEGRAL WITH RAMP.
- (F) CONCRETE SIDEWALK, SEE STD. PLAN 216.
- (G) EXPOSED SURFACES SHALL BE A MEDIUM BROOM FINISH. CURB RAMPS EXHIBITING A RUNNING SURFACE SLOPE FROM 5% TO 6.67% ARE REQUIRED TO HAVE A TRUNCATED DOME DETECTABLE WARNING SURFACE OVER THE FULL WIDTH AND DEPTH OF THE RAMP.
- (H) MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP AND CONTINUOUS PASSAGE TO THE CURB RAMP SHALL NOT EXCEED 5% WITHIN 4' OF THE TOP OR BOTTOM OF THE CURB RAMP.

NOT TO SCALE

|   |               |   |                    |               |
|---|---------------|---|--------------------|---------------|
| APPROVED BY   | DATE          |  | CURB RAMP "CASE E" | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                    | ST-220        |
| TOWN ENGINEER   |               |   |                    |               |


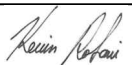


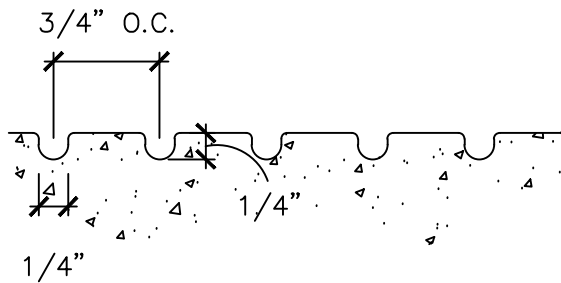
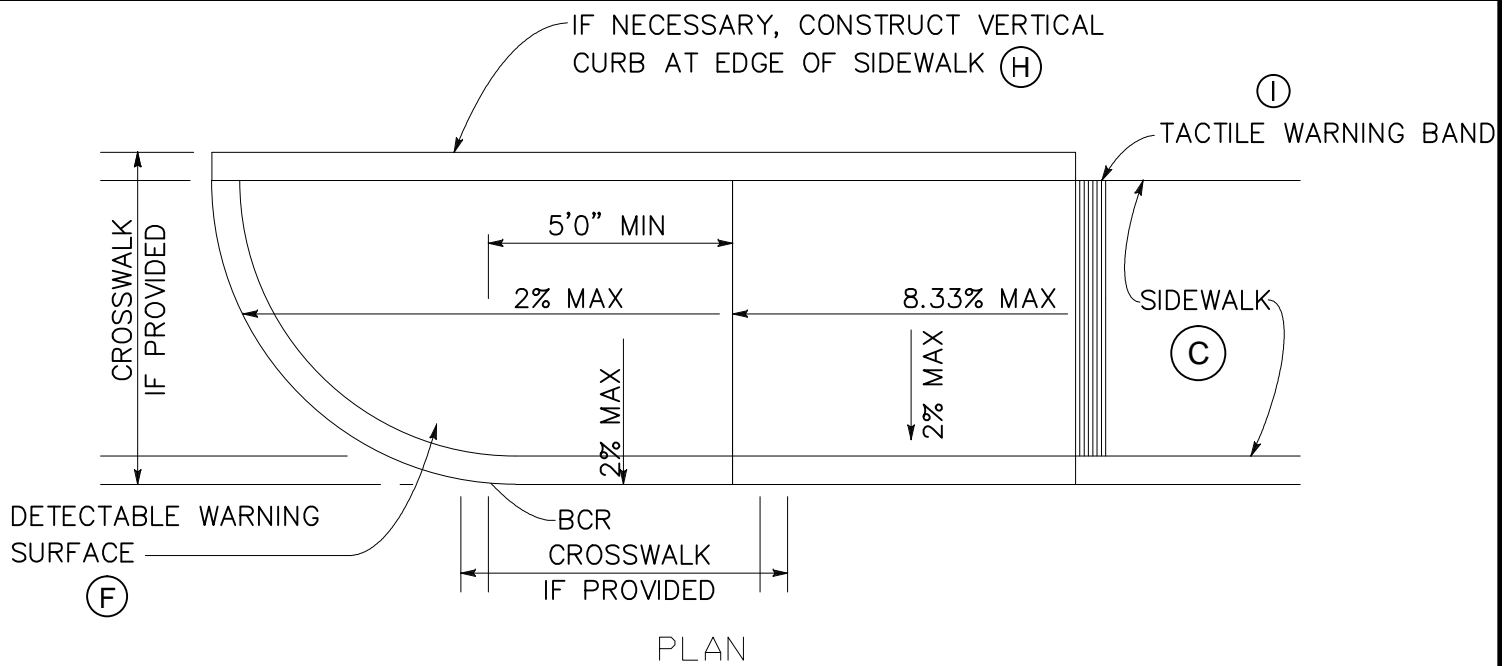
TACTILE WARNING BAND (SECTION)  
N.T.S.

BEVELED LIP (SECTION)  
N.T.S.

- (A) ALL CURB RAMPS SHALL COMPLY WITH THE AMERICAN DISABILITIES ACT.
- (B) CONCRETE CURB AND GUTTER, SEE STD. DETAIL 210.
- (C) CONCRETE VERTICAL CURB, SEE STD. DETAIL 211, IF NECESSARY.
- (D) CONCRETE SIDEWALK, SEE STD. DETAIL 216.
- (E) 3/8" EXPANSION JOINTS.
- (F) CURB RAMPS WILL NOT BE POURED INTEGRAL WITH SIDEWALK AND SHALL BE ISOLATED BY EXPANSION JOINT MATERIAL ON ALL SIDES, BUT NOT AT END OF RAMP ADJACENT TO ROADWAY.
- (G) EXPOSED SURFACES SHALL BE A MEDIUM BROOM FINISH. CURB RAMPS EXHIBITING A RUNNING SURFACE SLOPE FROM 5% TO 6.67% ARE REQUIRED TO HAVE A TRUNCATED DOME DETECTABLE WARNING SURFACE OVER THE FULL WIDTH AND DEPTH OF THE RAMP.
- (H) INSTALL 12" TACTILE WARNING BAND AROUND THE RAMP PERIMETER.
- (I) MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP AND CONTINUOUS PASSAGE TO THE CURB RAMP SHALL NOT EXCEED 5% WITHIN 4' OF THE TOP OR BOTTOM OF THE CURB RAMP.

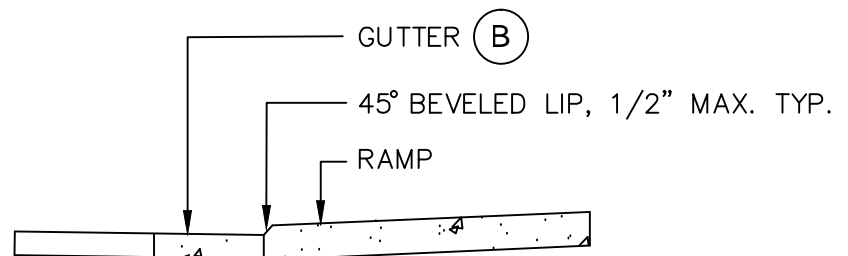
NOT TO SCALE

|   |               |   |               |
|---|---------------|---|---------------|
| APPROVED BY   | DATE          |  | STD. PLAN NO. |
|  | NOVEMBER 2010 |   | ST-221        |
| TOWN ENGINEER   |               |   |               |
|   |               | CURB RAMP "CASE C"  |               |



TACTILE WARNING BAND (SECTION)

N.T.S.





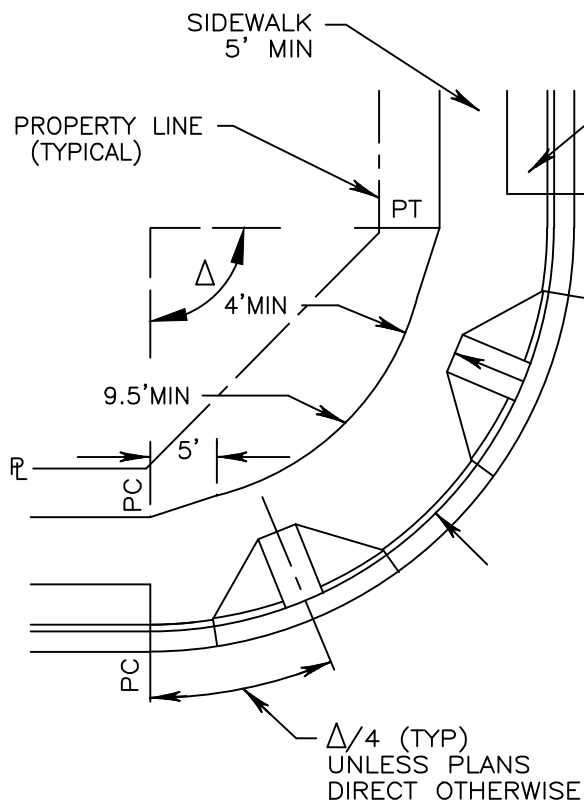
BEVELED LIP (SECTION)

N.T.S.

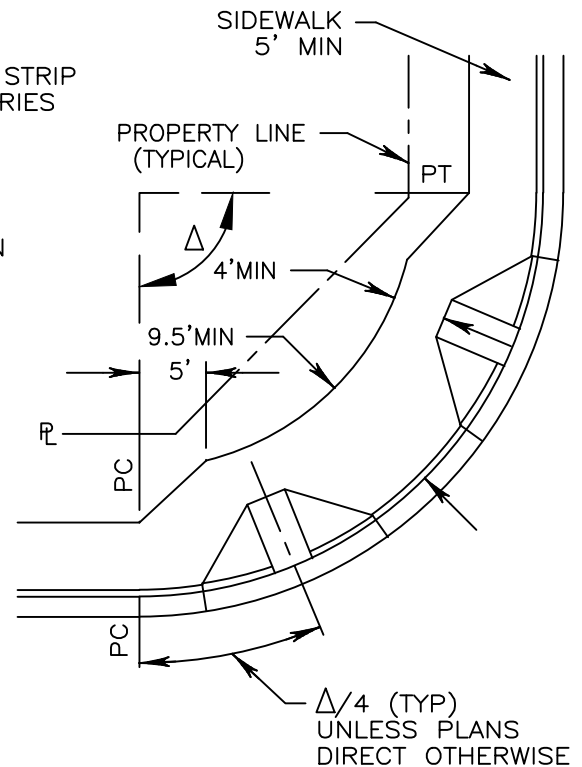
- (A) ALL CURB RAMPS SHALL COMPLY WITH THE AMERICAN DISABILITIES ACT.
- (B) CONCRETE CURB AND GUTTER, SEE STD. DETAIL 210.
- (C) CONCRETE SIDEWALK, SEE STD. DETAIL 216. 4'0" MIN LANDING WITH A 2% MAX SLOPE.
- (D) 3/8" EXPANSION JOINTS.
- (E) CURB RAMPS WILL NOT BE POURED INTEGRAL WITH SIDEWALK AND SHALL BE ISOLATED BY EXPANSION JOINT MATERIAL ON ALL SIDES, BUT NOT AT END OF RAMP ADJACENT TO ROADWAY.
- (F) EXPOSED SURFACES SHALL BE A MEDIUM BROOM FINISH. CURB RAMPS EXHIBITING A RUNNING SURFACE SLOPE FROM 5% TO 6.67% ARE REQUIRED TO HAVE A TRUNCATED DOME DETECTABLE WARNING SURFACE OVER THE FULL WIDTH AND DEPTH OF THE RAMP.
- (G) SAWCUT AND REMOVE 18 IN. (MIN.) STREET SECTION FOR RAMP INSTALLATION.
- (H) CONCRETE VERTICAL CURB, SEE STD. DETAIL 211, IF NECESSARY.
- (I) INSTALL 12" TACTILE WARNING BAND AROUND THE RAMP PERIMETER.
- (J) MAXIMUM SLOPES OF ADJOINING GUTTERS, THE ROAD SURFACE IMMEDIATELY ADJACENT TO THE CURB RAMP AND CONTINUOUS PASSAGE TO THE CURB RAMP SHALL NOT EXCEED 5% WITHIN 4' OF THE TOP OR BOTTOM OF THE CURB RAMP.

NOT TO SCALE

|   |               |   |                     |               |
|---|---------------|---|---------------------|---------------|
| APPROVED BY   | DATE          |  | CURB RAMP "CASE CM" | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                     | ST-222        |
| TOWN ENGINEER   |               |   |                     |               |



ALTERNATE "A"


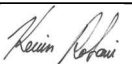


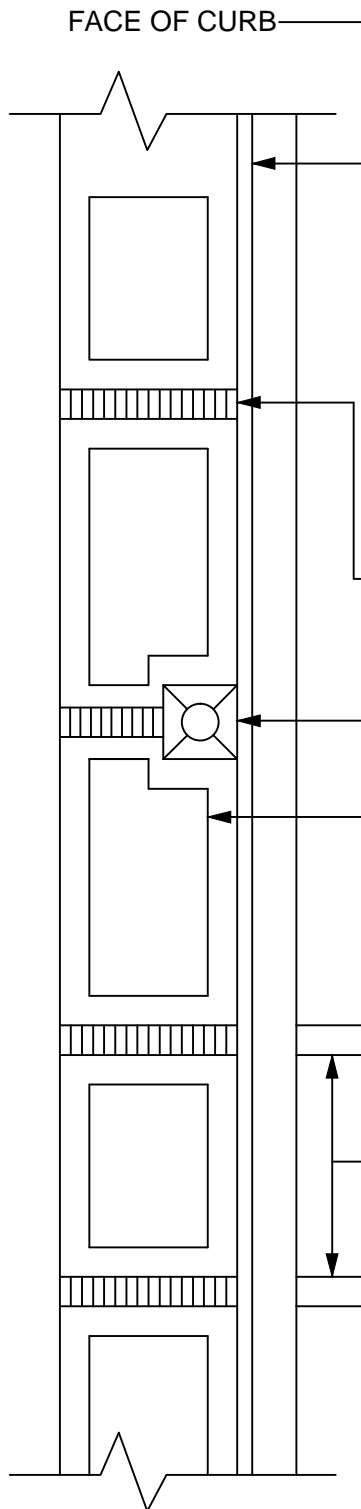
ALTERNATE "B"

NOTES:

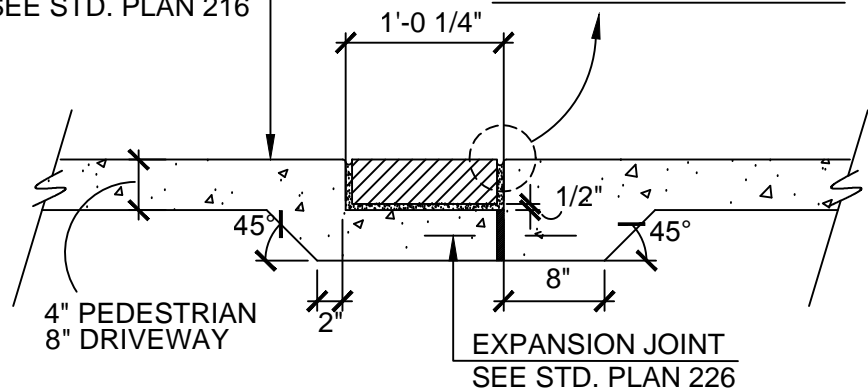
- 1 ALL CURB RAMPS SHALL COMPLY WITH THE AMERICAN DISABILITIES ACT.
- 2 SEE STANDARD PLAN 220-222 FOR CURB RAMP TYPE

NOT TO SCALE

|   |               |   |                                |               |
|---|---------------|---|--------------------------------|---------------|
| APPROVED BY   | DATE          |  | CURB RAMP TYPICAL<br>LOCATIONS | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                                |               |
| TOWN ENGINEER   |               |   |                                | ST-223        |



CONCRETE SIDEWALK  
SEE STD. PLAN 216



NOTES:

1. Mortar joints between bricks to be 3/8".
2. Expansion joints as shown on plans.

"Villa Hermosa" theme: Depress concrete slab to receive brick strips  
12" ± d . M r r r . Gr  
C r r r r d d (10'±).

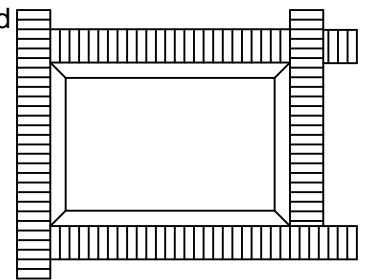
Install tree grates.

Install tooled score line 12 inches from panel edges.

NOTE:

All new paving to be "Villa Hermosa" as shown in this detail with the following exceptions:

- A. Additional score lines at 45 degrees to be added as shown in detail below.



SCORE JOINT DETAIL- TYPICAL

NOTES:

1. See Std. Detail 225 for Villa Hermosa sidewalk areas.
2. All concrete shall be Class "A", per Caltrans specifications, with 1 lb. (min.) lamp black per cubic yard.
3. ALL WORK SHALL CONFORM TO CURRENT A.D.A. REQUIREMENTS.

APPROVED BY

*Kevin R. Ruff*

TOWN ENGINEER

DATE

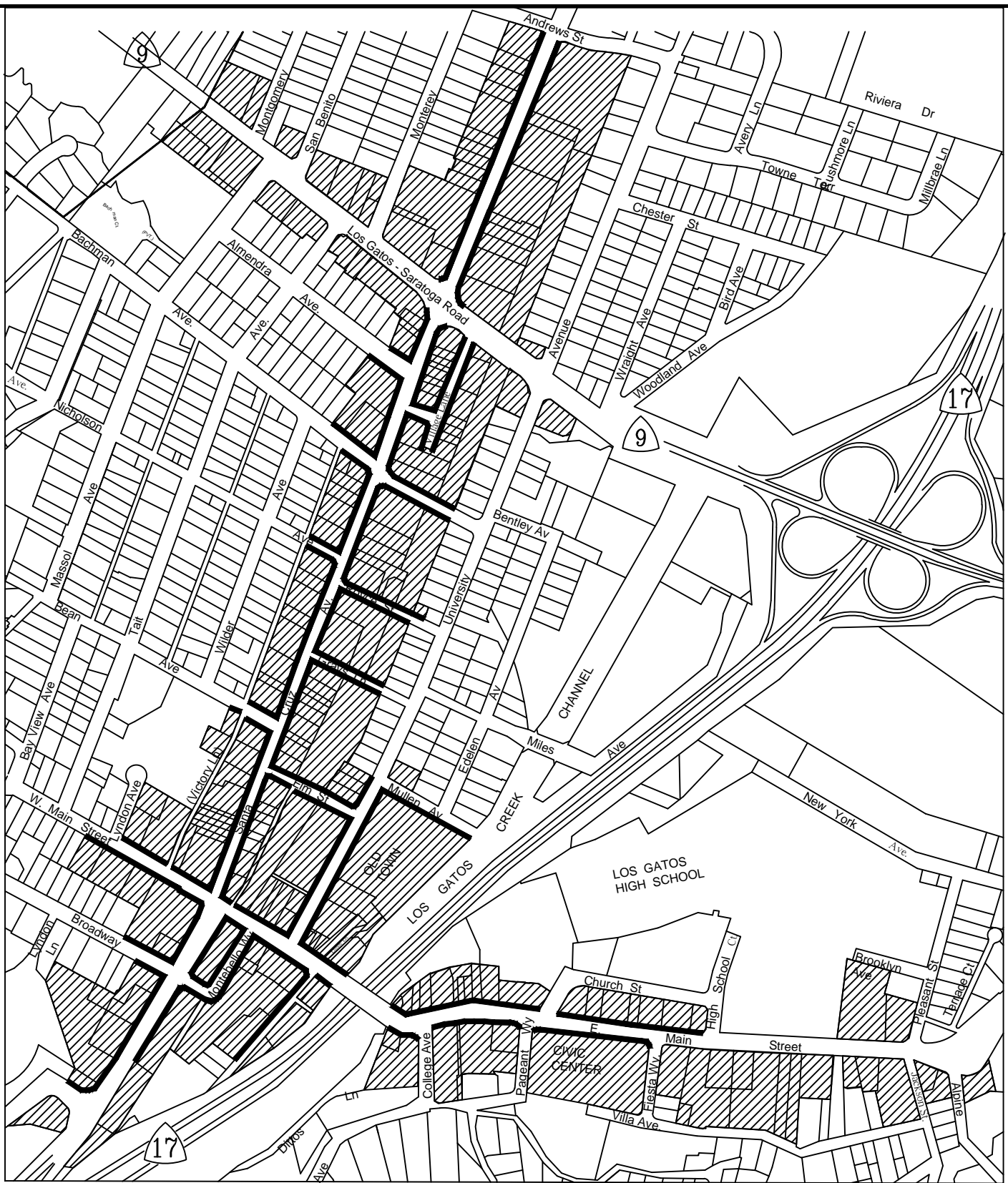
NOVEMBER 2010



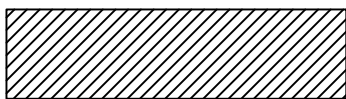
VILLA  
HERMOSA  
SIDEWALK

STD. PLAN NO.

ST-224


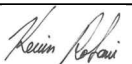


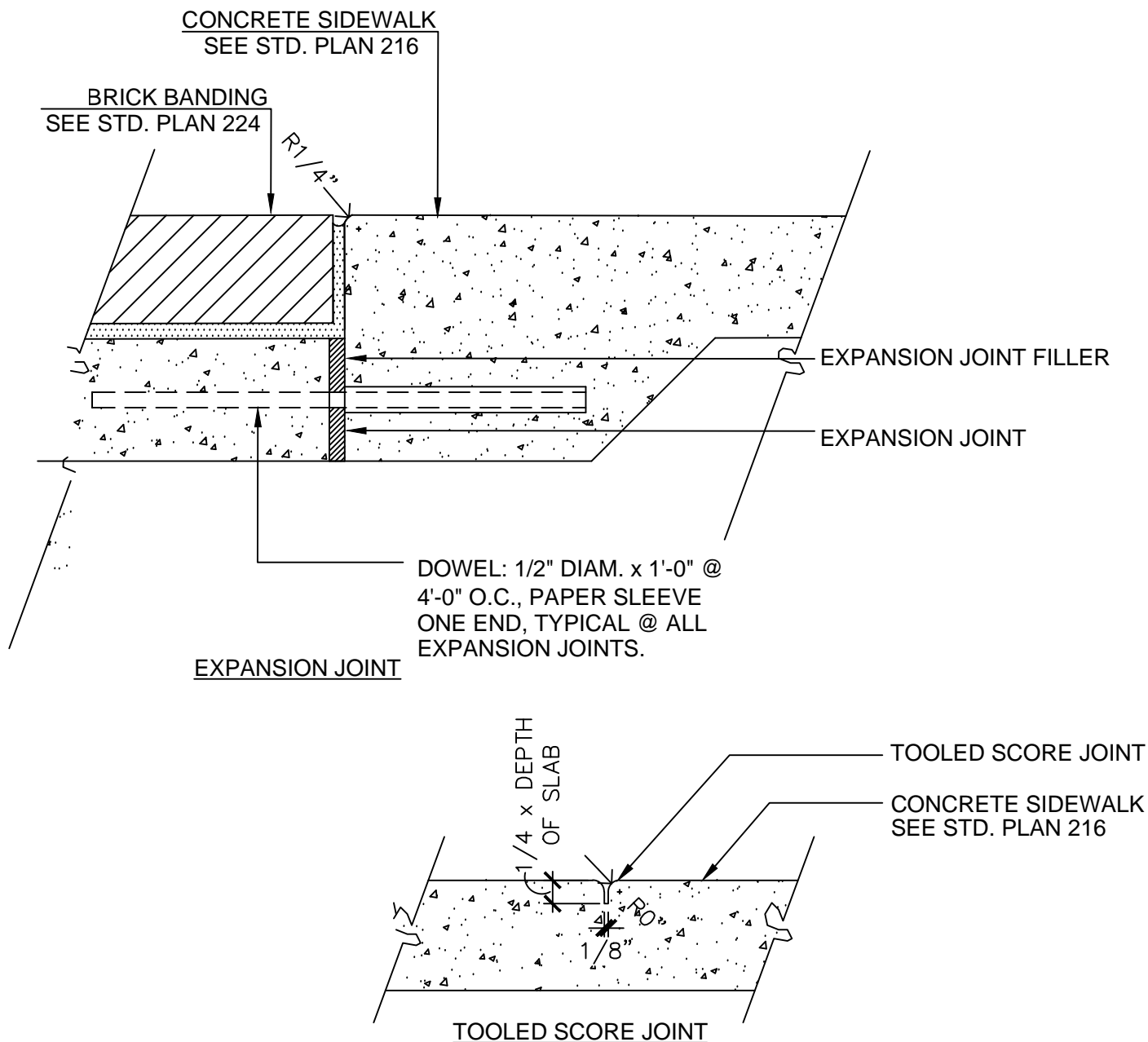
## LEGEND



Downtown Commercial Areas

Villa Hermosa Sidewalk Required


|   |               |   |                       |               |
|---|---------------|---|-----------------------|---------------|
| APPROVED BY   | DATE          |  | VILLA HERMOSA<br>AREA | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                       | ST-225        |
| TOWN ENGINEER   |               |   |                       |               |

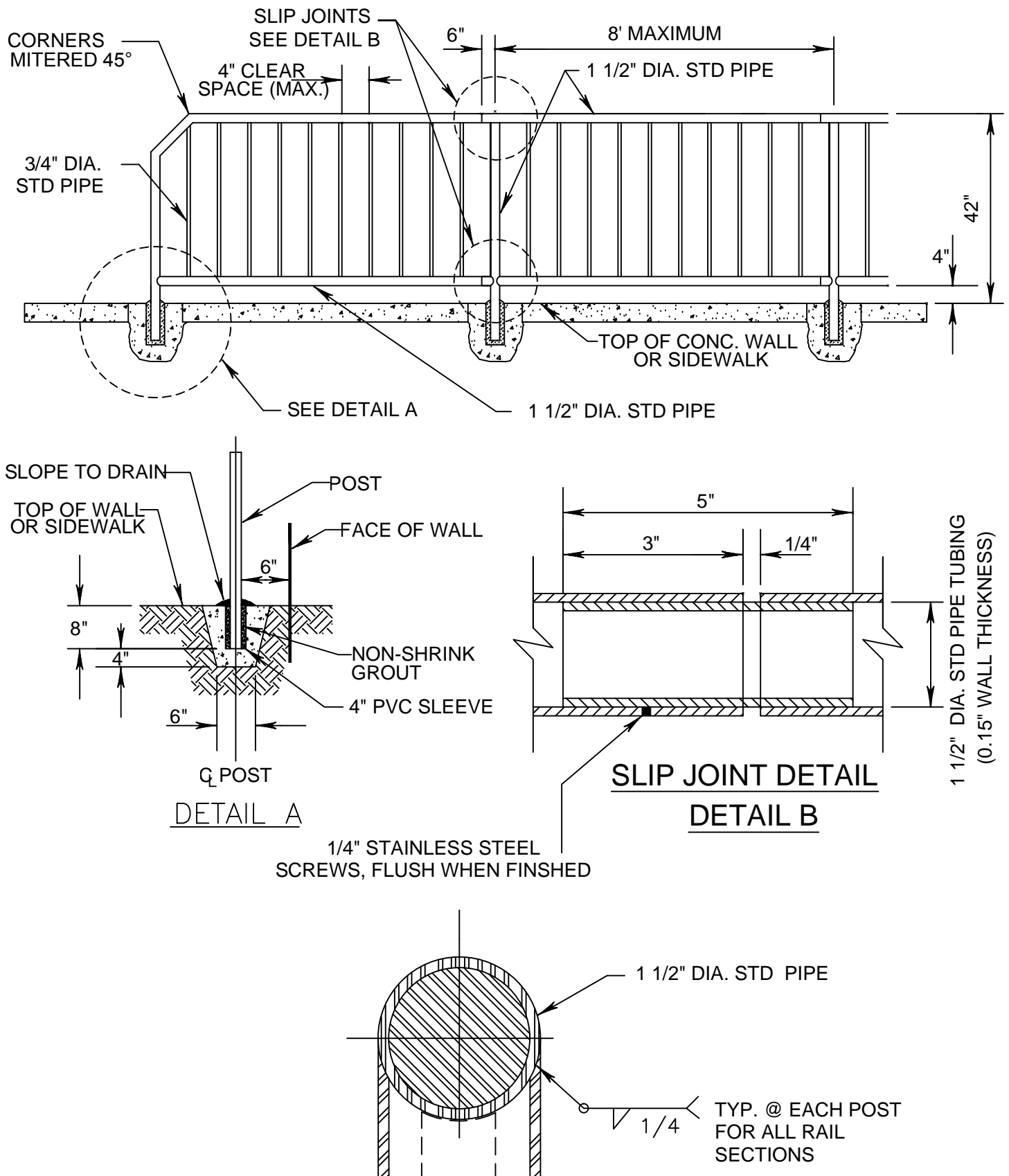


#### NOTES:

- BRICKS FOR VILLA HERMOSA PATTERN CONCRETE SIDEWALK SHALL BE MCNEAR WIRE-CUT RED SOLID JUMBO BRICK (3 1/2" x 3 1/2" x 11 1/2") OR AS APPROVED BY THE ENGINEER. BULLNOSE BRICKS FOR PLANTERS SHALL BE MCNEAR WIRE-CUT RED CORED BULLNOSE JUMBO BRICK (2 7/16" x 3 7/8" x 11 1/2").
- MORTAR SHALL CONFORM TO ASTM C270, TYPE "M" PROPERTY SPECIFICATION, WITH 2500 PSI MIN. AT 28 DAYS. OMIT LIME PUTTY IF PLASTIC TYPE CEMENT IS USED. COLOR OF MORTAR SHALL BE MEDIUM BROWN #641, TRUE TONE CEMENT COLORS BY DAVIS COLORS, (800) 356-4848. MORTAR AGGREGATE SHALL CONFORM TO ASTM C144. GROUT AGGREGATE SHALL CONFORM TO ASTM C404. HYDRATED LIME SHALL CONFORM TO ASTM C207.
- CONTRACTOR SHALL SUBMIT BRICK, BULLNOSE BRICK, AND GROUT SAMPLES TO ENGINEER FOR APPROVAL.

NOT TO SCALE


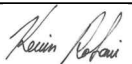
|   |               |   |                 |               |
|---|---------------|---|-----------------|---------------|
| APPROVED BY   | DATE          |  | CONCRETE JOINTS | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                 | ST-226        |
| TOWN ENGINEER   |               |   |                 |               |



## NOTES:

1. MATERIAL FOR PEDESTRIAN HANDRAIL SHALL BE ALUMINUM (ASTM B 429).

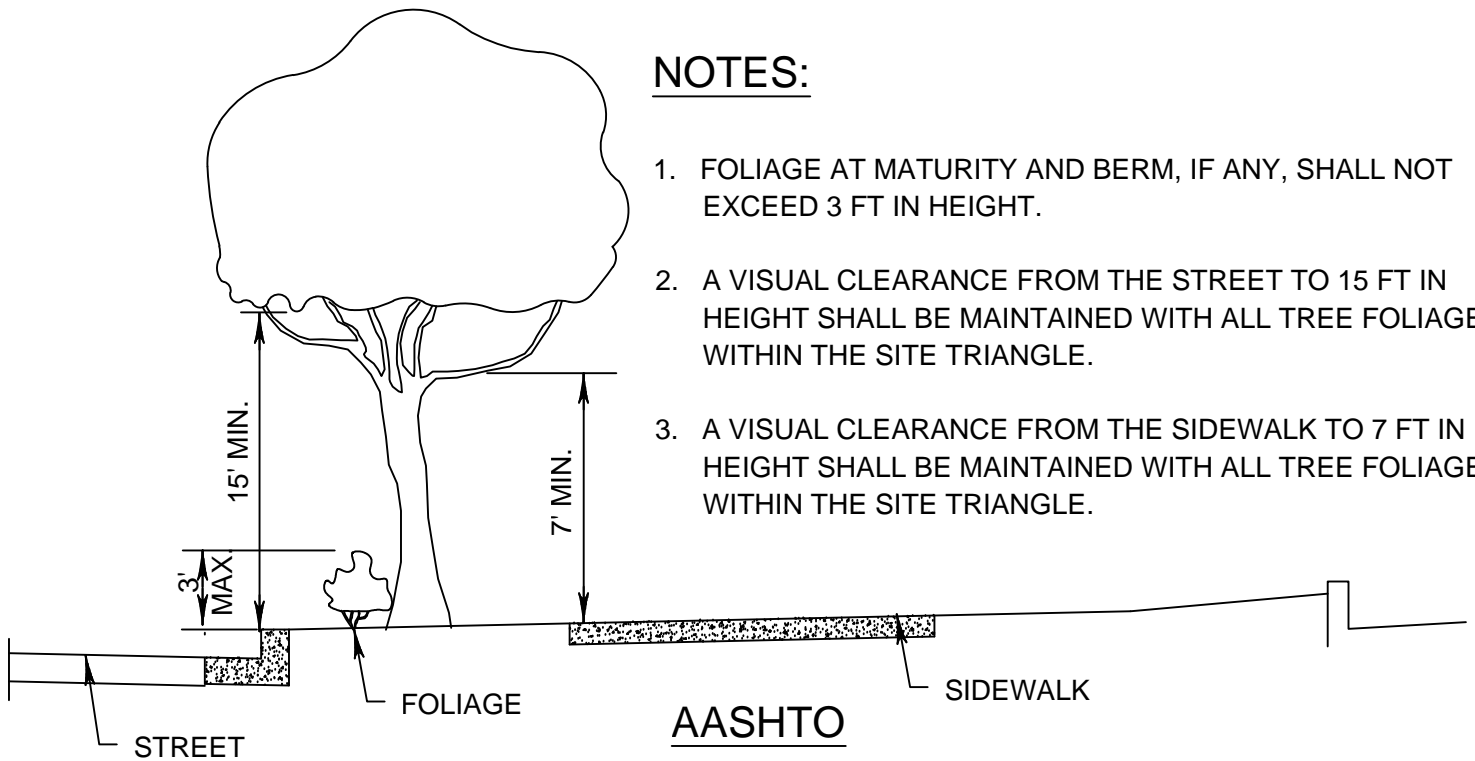
NOT TO SCALE

|   |               |   |                        |               |
|---|---------------|---|------------------------|---------------|
| APPROVED BY   | DATE          |  | PEDESTRIAN<br>HANDRAIL | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                        | ST-230        |
| TOWN ENGINEER   |               |   |                        |               |



## NOTES:

1. FOLIAGE AT MATURITY AND BERM, IF ANY, SHALL NOT EXCEED 3 FT IN HEIGHT.
2. A VISUAL CLEARANCE FROM THE STREET TO 15 FT IN HEIGHT SHALL BE MAINTAINED WITH ALL TREE FOLIAGE WITHIN THE SITE TRIANGLE.
3. A VISUAL CLEARANCE FROM THE SIDEWALK TO 7 FT IN HEIGHT SHALL BE MAINTAINED WITH ALL TREE FOLIAGE WITHIN THE SITE TRIANGLE.



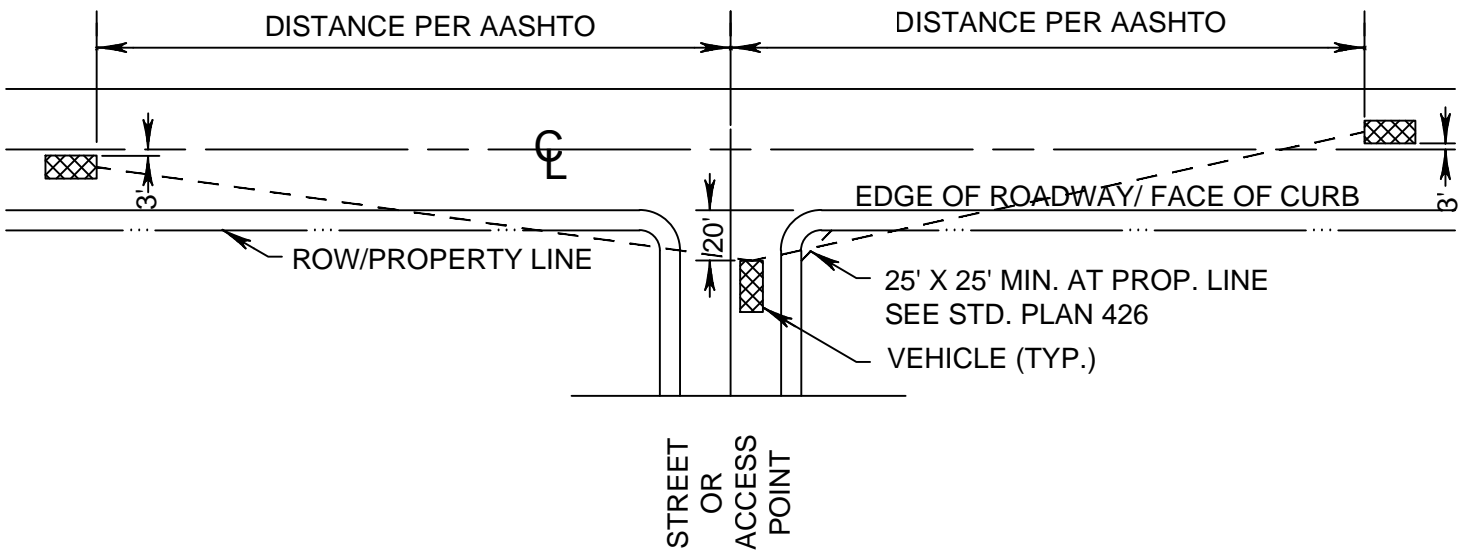
### PUBLIC STREET POSTED SPEED LIMIT (MPH)

25  
30  
35  
40



### MINIMUM DISTANCE (FT)

200  
250  
325  
400

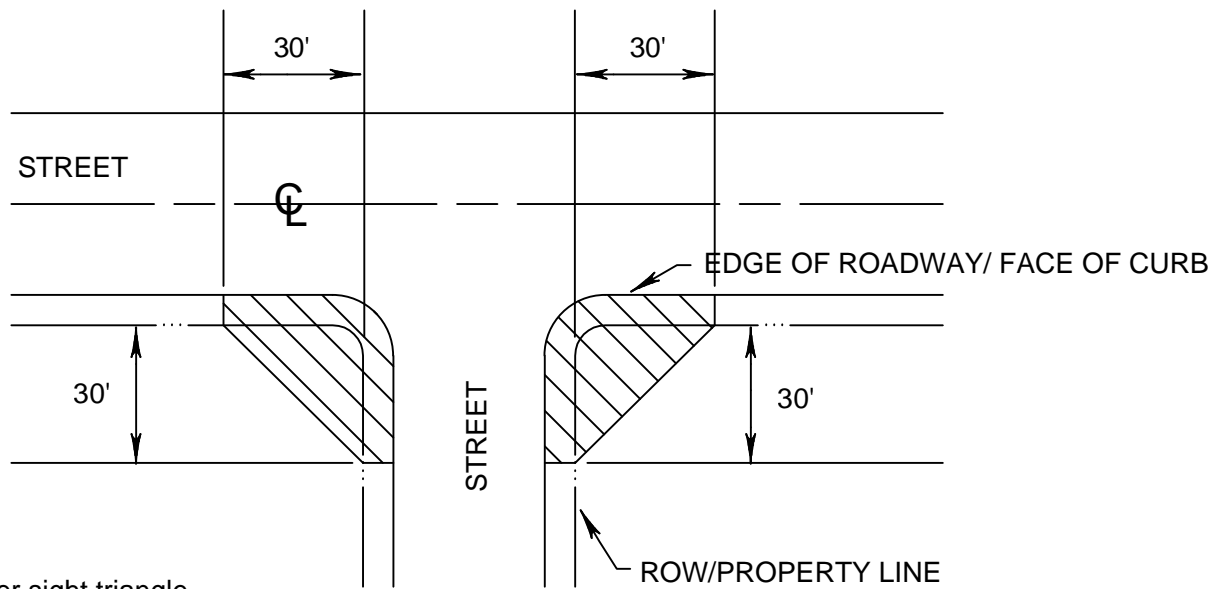
## PUBLIC STREET



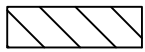
NOT TO SCALE

|   |               |   |  |               |
|---|---------------|---|--|---------------|
| APPROVED BY   | DATE          |  | DRIVEWAY AND<br>INTERSECTION SITE<br>TRIANGLES | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |  | ST-231        |
| TOWN ENGINEER   |               |   |  |               |

## CORNER SIGHT TRIANGLE



### NOTES:

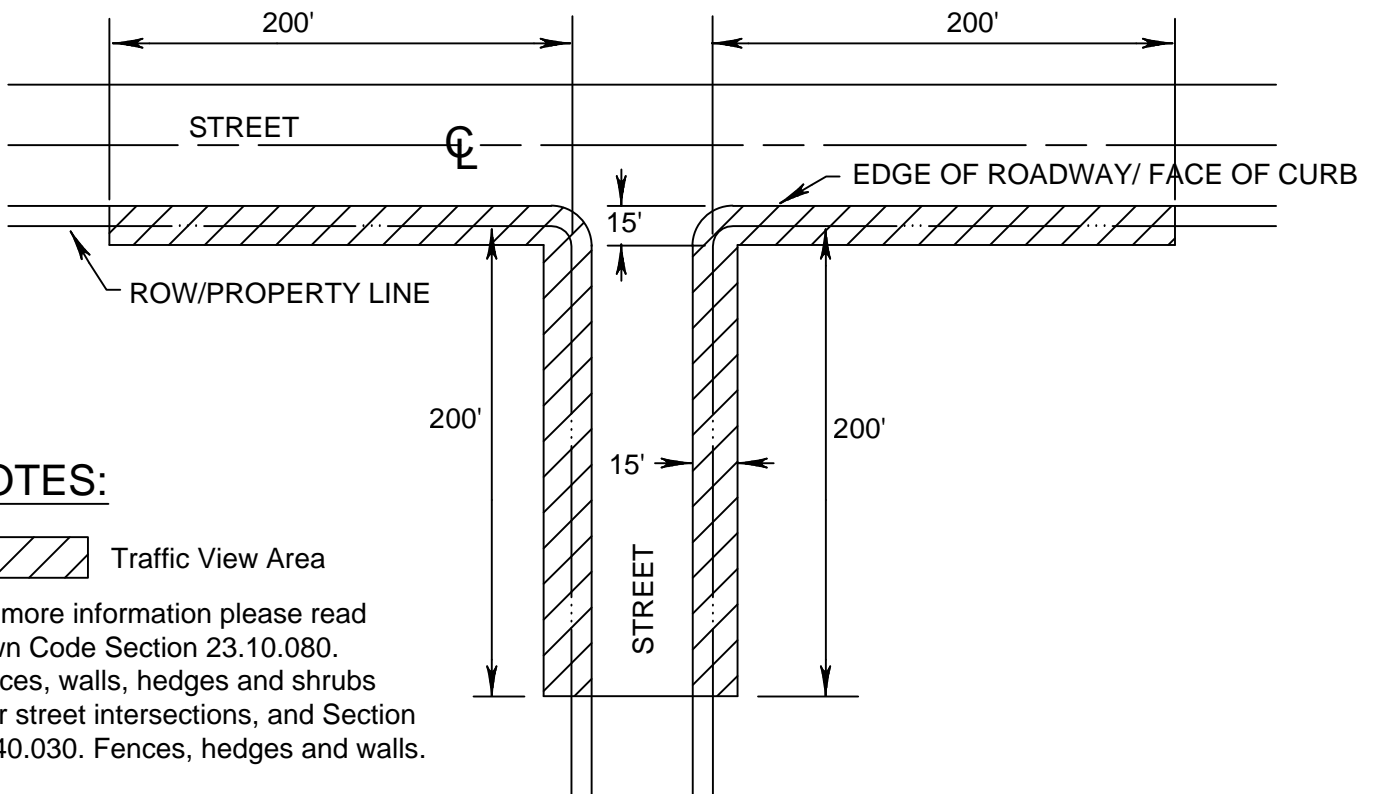


Corner sight triangle

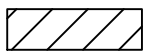
For more information please read Town Code Section 26.10.065. Obstruction at corners of intersecting streets.

NOT TO SCALE

## TRAFFIC VIEW AREA



### NOTES:



Traffic View Area

For more information please read Town Code Section 23.10.080. Fences, walls, hedges and shrubs near street intersections, and Section 29.40.030. Fences, hedges and walls.

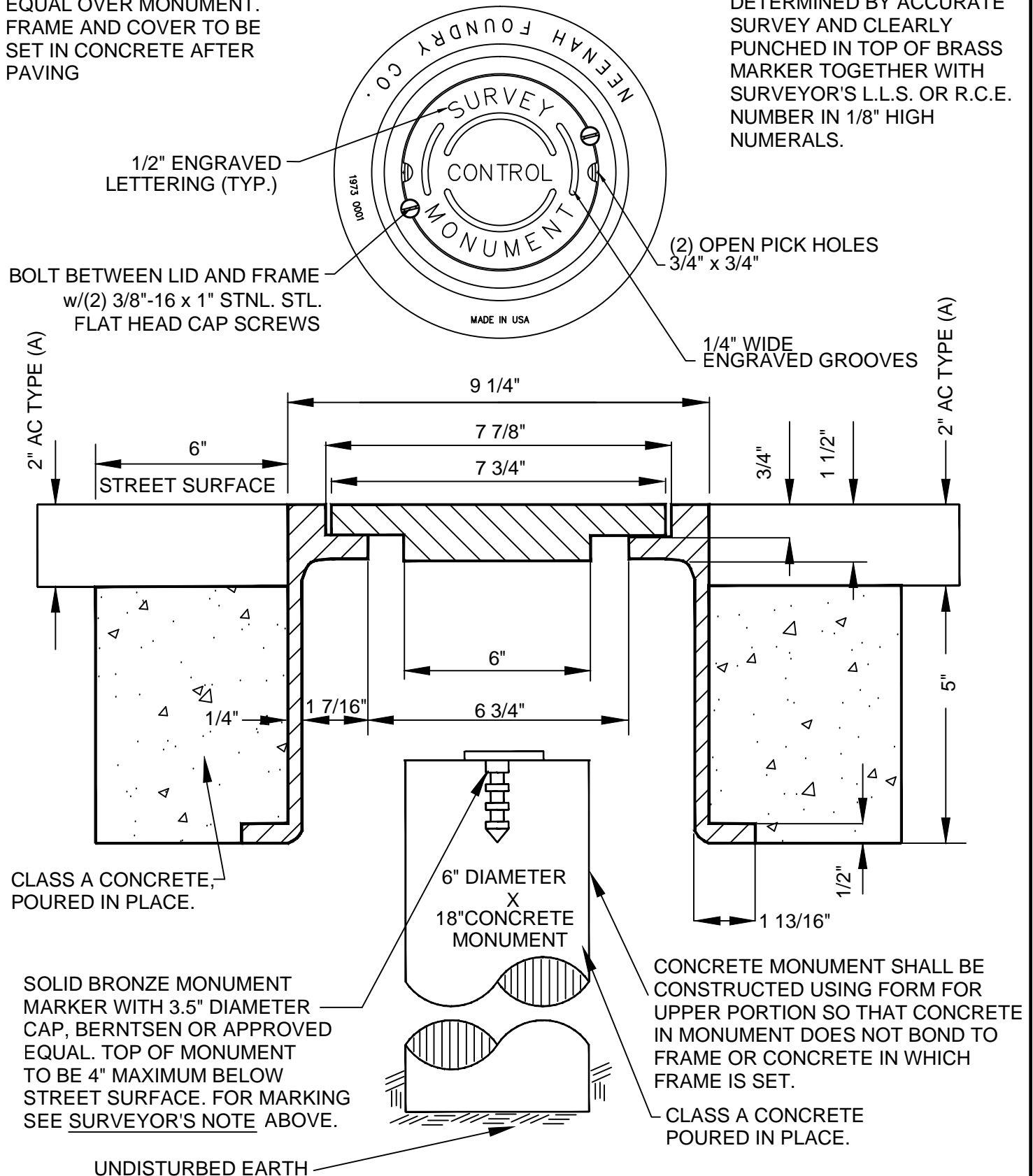
NOT TO SCALE


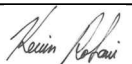
|               |               |   |                                      |               |
|---------------|---------------|---|--------------------------------------|---------------|
| APPROVED BY   | DATE          |  | SIGHT TRIANGLE AND TRAFFIC VIEW AREA | STD. PLAN NO. |
|               | NOVEMBER 2010 |   |                                      | ST-232        |
| TOWN ENGINEER |               |   |                                      |               |

FRAME AND COVER  
NEENAH FOUNDRY CO.  
R-1973-1 OR APPROVED  
EQUAL OVER MONUMENT.  
FRAME AND COVER TO BE  
SET IN CONCRETE AFTER  
PAVING

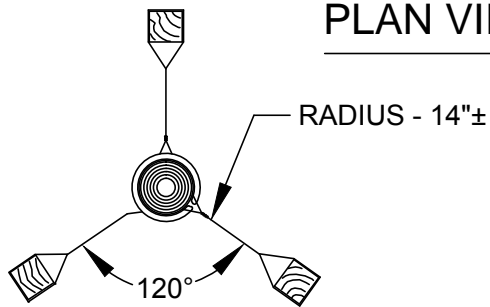
# SURVEYOR'S NOTE

EXACT POINT TO BE  
DETERMINED BY ACCURATE  
SURVEY AND CLEARLY  
PUNCHED IN TOP OF BRASS  
MARKER TOGETHER WITH  
SURVEYOR'S L.L.S. OR R.C.E.  
NUMBER IN 1/8" HIGH  
NUMERALS.



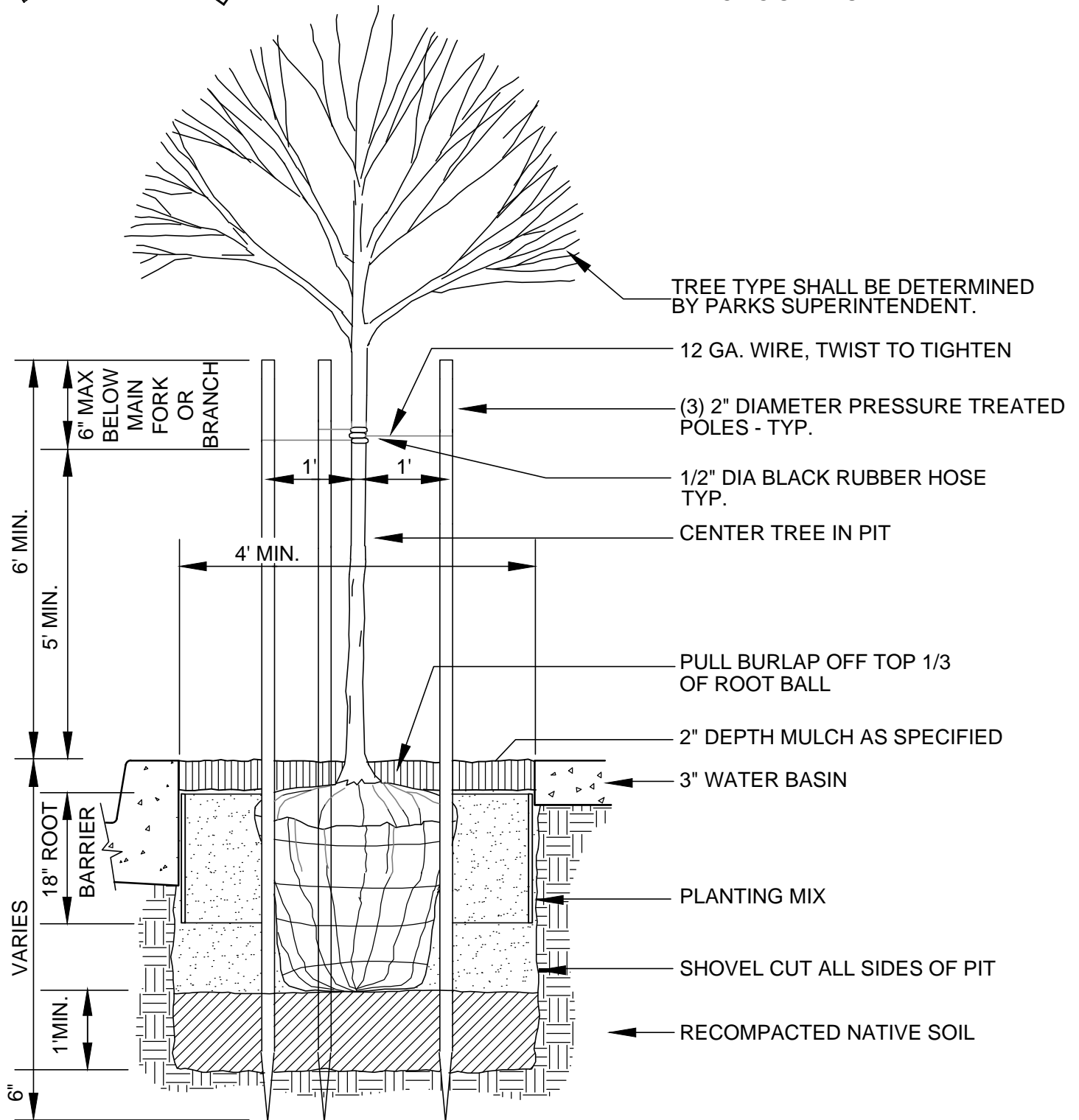
|   |               |   |  |               |
|---|---------------|---|--|---------------|
| APPROVED BY   | DATE          |  | <b>STREET CENTERLINE<br/>STANDARD<br/>MONUMENT</b> | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |  | <b>ST-233</b> |
| TOWN ENGINEER   |               |   |  |               |

# PLAN VIEW


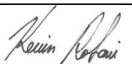


## NOTES

PLANT TREES 4" HIGHER THAN DEPTH AT WHICH GROWN IN NURSERY. AVOID DAMAGE TO ROOTS. AVOID ROOTBALL WHEN PLACING STAKES.



NOT TO SCALE

|   |               |   |                         |               |
|---|---------------|---|-------------------------|---------------|
| APPROVED BY   | DATE          |  | TREE PLANTING<br>DETAIL | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                         | ST-234        |
| TOWN ENGINEER   |               |   |                         |               |

## TREE SPECIFICATIONS

All 15 gal. trees must meet the following minimum specifications:


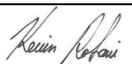
1. HEIGHT: 7 - 8 feet high planted in the ground.
2. CALIPER: 1-1/2 inches, measured 6 inches from the base.
3. BRANCHING NEED: Minimum spread of 2 - 3 feet.

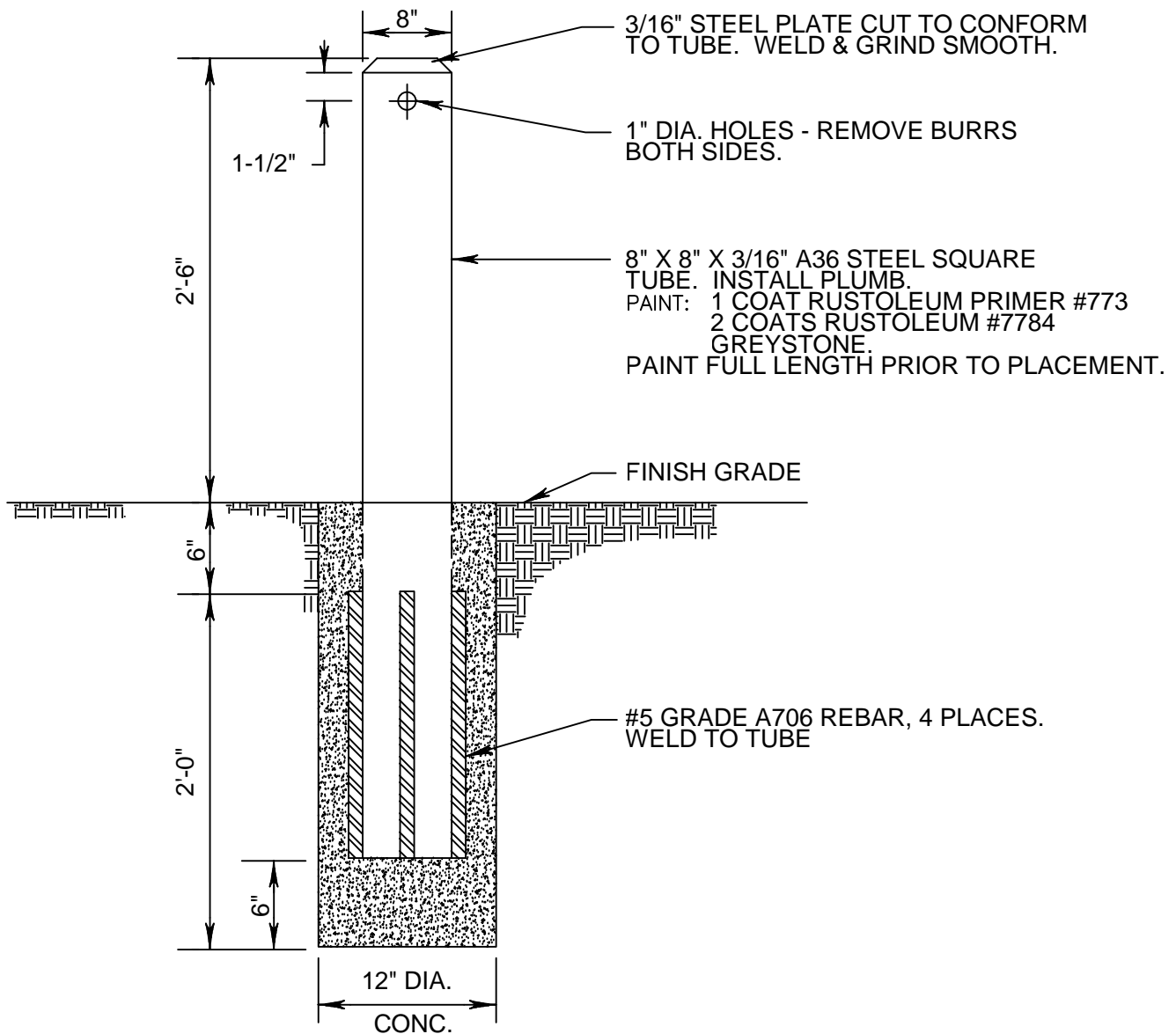
Any exception to the above must be approved by the Town Arborist.

All planting stock must must have the approval of the Town Arborist.


## PLANTING SEQUENCE

1. Dig the hole twice as large in diameter and 1-1/2 times as deep as the container in which the plant was delivered.  
Provide a 6 inch minimum clearance all around the rootball.
2. The existing soil area is to be removed to a depth of 2 feet and replaced with U.C. Ag. mix or approved equivalent. U.C. Ag. mix shall be combined with existing soil, 1/3 mix, 2/3 native soil.
3. Fill hole with the backfill mix to a level 1 inch below the curb.
4. Place 3 Agriform Planting Tablets per tree at equidistant spacing. Tablets shall be 21 grams each with a guaranteed test analysis of 20-10-5.
5. Remove the rootball carefully from the container by supporting it from below. Sever any circling roots (3/16 inch or greater) with sharp shears or knife. If the rootball is dense or compacted, carefully loosen the roots at the side and bottom of the rootball. Do not pull the rootball apart. The severing of large roots will encourage new roots initiating at the cuts.
6. Fill around the rootball with backfill and pack the soil with the shovel handle as you fill. Be careful not to disturb the rootball itself.
7. Use the remaining native soil to create a basin appropriate to the site.

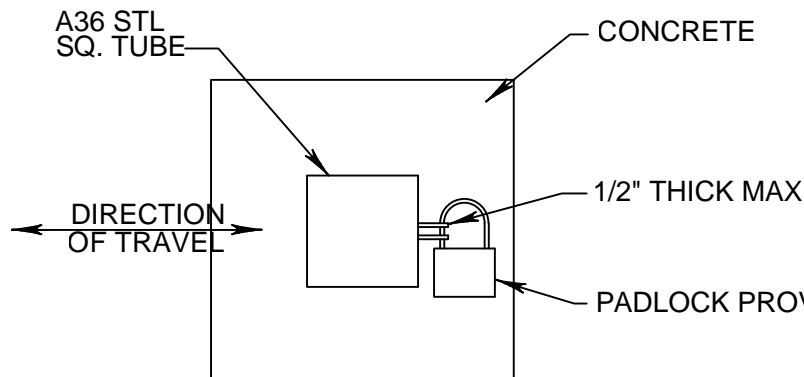
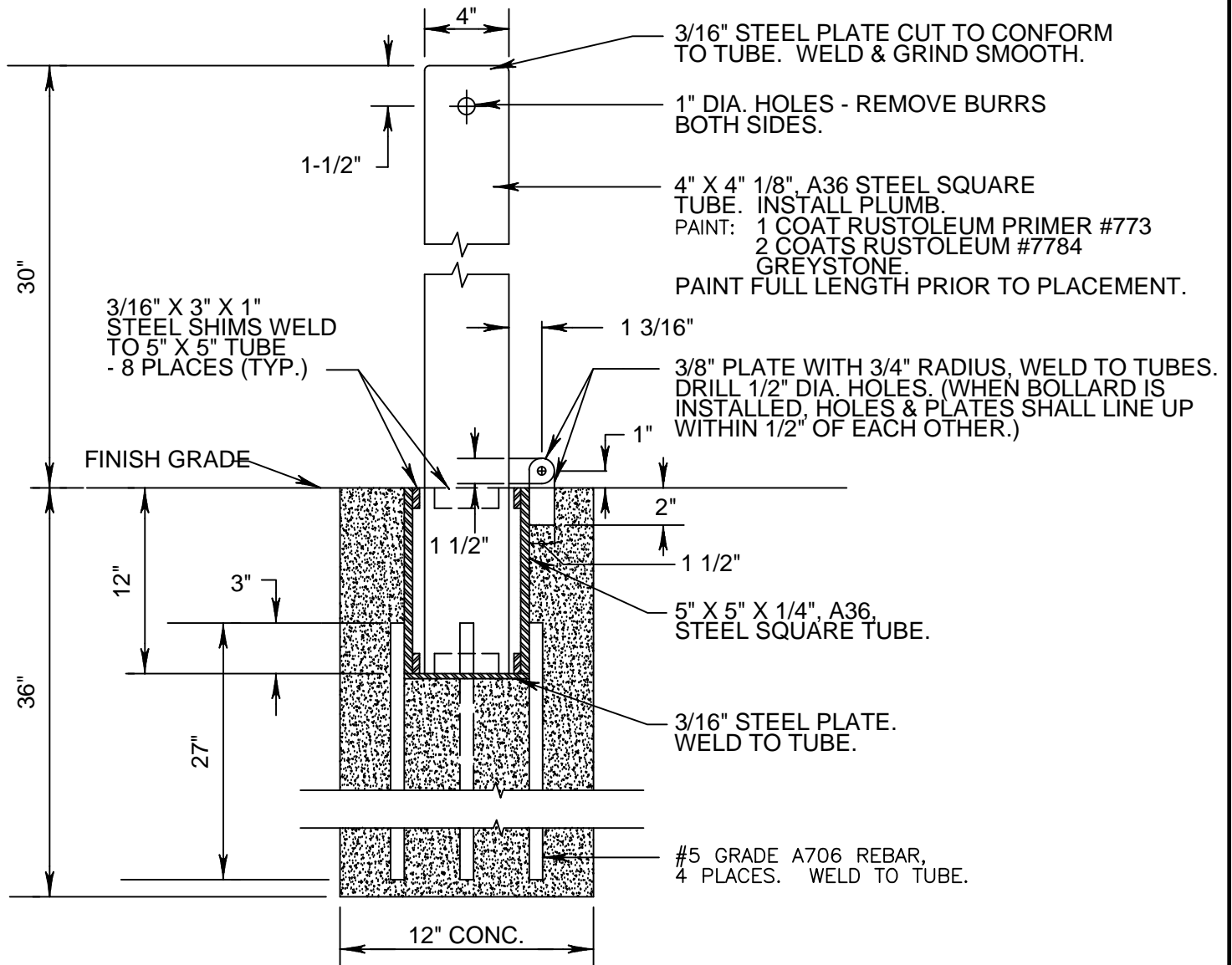
|   |               |   |                                 |               |
|---|---------------|---|---------------------------------|---------------|
| APPROVED BY   | DATE          |  | TREE PLANTING<br>SPECIFICATIONS | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                                 | ST-235        |
| TOWN ENGINEER   |               |   |                                 |               |



NOT TO SCALE

|                         |               |   |               |
|-------------------------|---------------|---|---------------|
| APPROVED BY             | DATE          |  | STD. PLAN NO. |
| <i>Kevin R. Ruffini</i> | NOVEMBER 2010 |   | ST-236        |
| TOWN ENGINEER           |               |   |               |


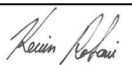
FIXED BOLLARD

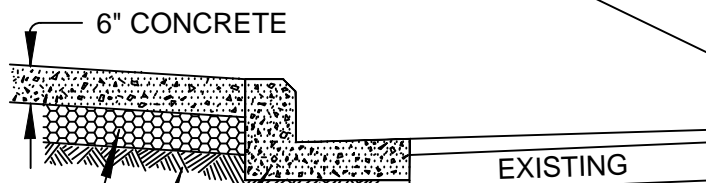
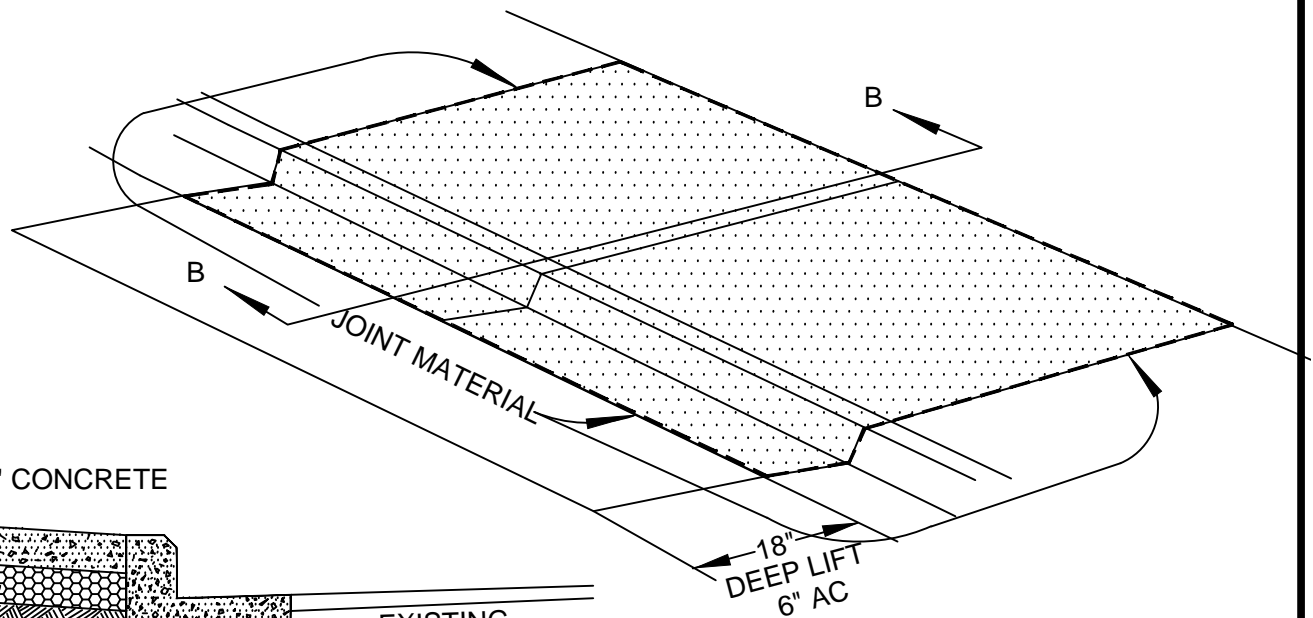
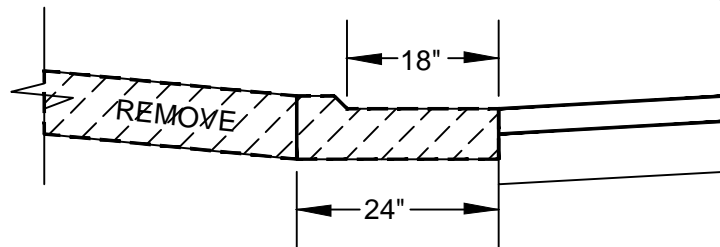
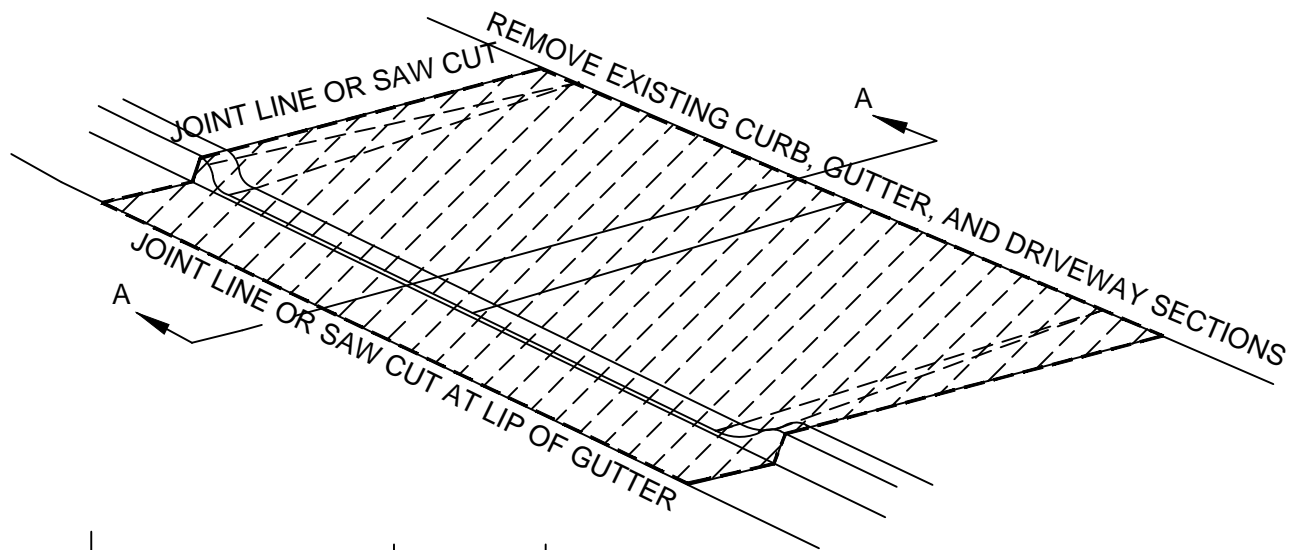


## NOTES:

- DO NOT INSTALL 4" X 4" POST UNTIL CONCRETE IS COMPLETELY CURED.

NOT TO SCALE

|   |               |   |                      |               |
|---|---------------|---|----------------------|---------------|
| APPROVED BY   | DATE          |  | REMOVABLE<br>BOLLARD | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                      | ST-237        |
| TOWN ENGINEER   |               |   |                      |               |



### SECTION B-B

CONCRETE CURB & GUTTER, SEE STD. PLAN 210.

UNDISTURBED SUBGRADE OR APPROVED MATERIAL 95% MAX.  
COMPACTION ASTM D1557

4" CLASS II AGGREGATE BASE 95% MAX. COMPACTION ASTM D1557

NOT TO SCALE

APPROVED BY

DATE



DRIVEWAY  
RECONSTRUCTION

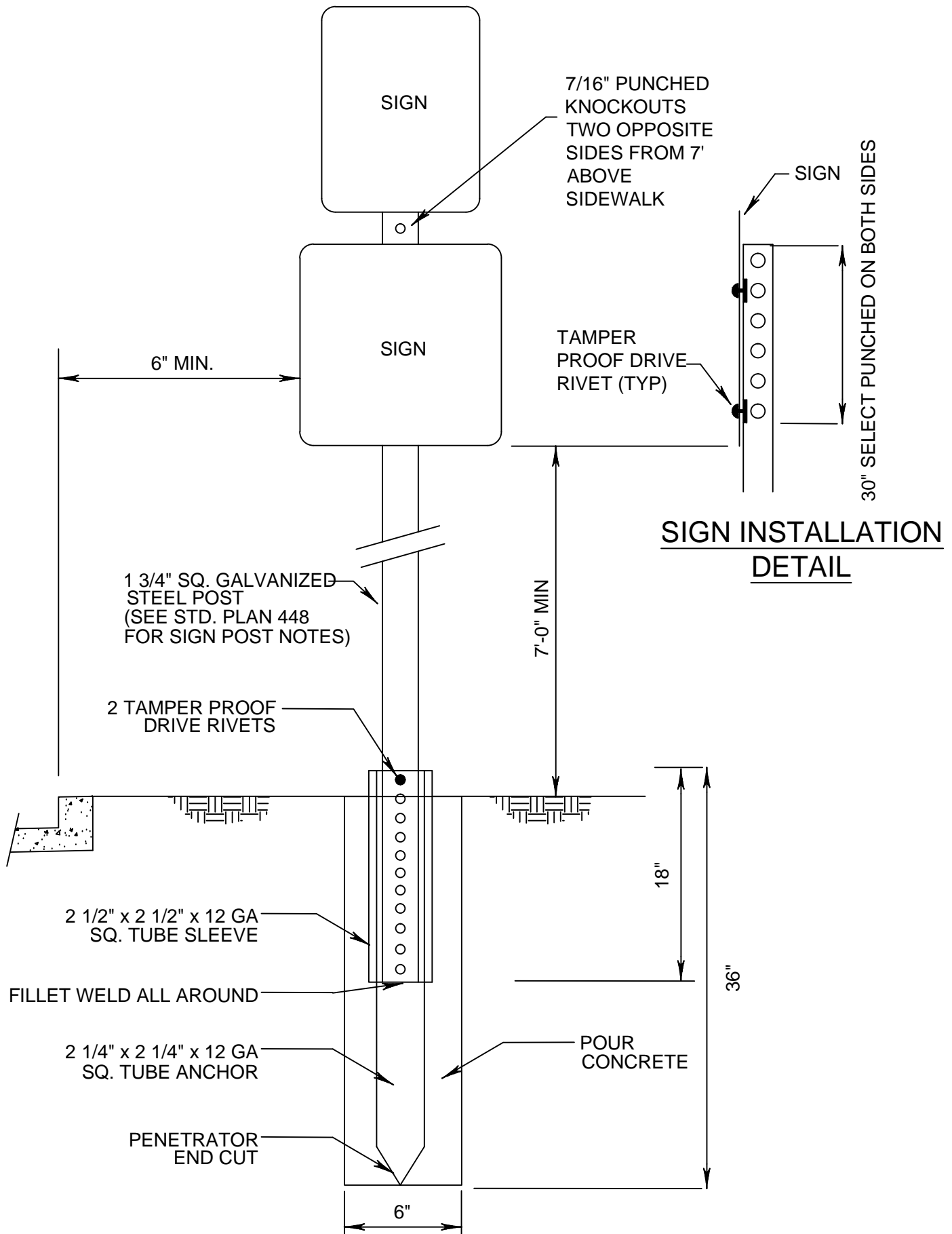
STD. PLAN NO.


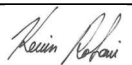
ST-238

TOWN ENGINEER

NOVEMBER 2010






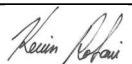
|   |               |   |                                  |               |
|---|---------------|---|----------------------------------|---------------|
| APPROVED BY   | DATE          |  | SIGN MOUNTING<br>DETAIL          | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                                  |               |
| TOWN ENGINEER   |               |   | PLEASE SEE ST-240 FOR SIGN NOTES | ST-239        |

## NOTES:

- 1 SIDEWALKS AND PAVED AREAS SHALL BE CORE DRILLED BEFORE ATTEMPTING SIGN INSTALLATION.
- 2 SIGNS SHALL HAVE A MIN. HEIGHT OF 7' FROM THE NEAR EDGE OF SIGN TO THE SIDEWALK GRADE, OR TOP OF CURB, AND A 2' LATERAL CLEARANCE FROM THE FACE OF CURB TO THE NEAR EDGE OF SIGN. SIGN LOCATION SHALL BE AS SHOWN ON THE PLANS AND PER M.U.T.C.D.
- 3 REFLECTIVE SHEETING SHALL BE MANUFACTURED BY 3M TRAFFIC CONTROL MATERIALS DIVISION.
  - a. REGULATORY AND WARNING SIGNS SHEETING SHALL BE 3M DIAMOND GRADE VIP TYPE MATERIAL OR EQUIVALENT. SIZE OF SIGNS SHALL BE NO LESS THAN 30x30 UNLESS SPECIFIED BY THE TOWN ENGINEER.

## SIGN POST NOTES:

- 4 ALL TUBING MATERIAL SHALL BE "ULTI-MATE" SELECT PUNCH TYPE GALVANIZED STEEL (ASTM A70 GRADE 33) OR APPROVED EQUIVALENT. POST SHALL BE POWDER-COATED BLACK.
- 5 TUBING SHALL BE ROLL FORMED FROM STEEL CONFORMING TO STANDARD SPECIFICATIONS FOR STEEL SHEET, A.S.T.M. DESIGNATION A653-94, STRUCTURAL QUALITY, GRADE 50 MODIFIED TO GRADE 55.
- 6 MATERIAL SHALL BE HOT-DIP GALVANIZED (ZINC COATED), COATING DESIGNATION G-90, WITH ADDED CHEMICAL TREATMENT FOR ENHANCED CORROSION PROTECTION.
- 7 THE CROSS SECTION OF THE POST SHALL BE SQUARE TUBING, CAREFULLY FORMED FROM 14 GA. STEEL SHEET AND WELDED SO AS THE WELD FLASH DOES NOT INTERFERE WITH THE TELESCOPING PROPERTIES. SIZE OF POST SHALL BE 1.75" x 1.75".
- 8 HOLE DIAMETER SHALL BE 7/16" (PLUS OR MINUS 1/64") ON 1" CENTERS ON TWO OPPOSITE SIDES. HOLES SHALL BE ON CENTERLINE OF EACH SIDE IN TRUE ALIGNMENT AND OPPOSITE TO EACH OTHER. TOLERANCE ON THE HOLE SPACING IS PLUS OR MINUS 1/8" IN 20'. FIRST SET OF HOLES SHALL BE 1/2" FROM THE TOP OF THE ANCHOR. ANCHOR SHALL HAVE EITHER 6 OR 12 SETS OF HOLES. THE BOTTOM OF THE ANCHOR SHALL HAVE A PENETRATOR POINT.
- 9 CONCRETE SHALL BE POURED AROUND POST.

|   |               |   |            |               |
|---|---------------|---|------------|---------------|
| APPROVED BY   | DATE          |  | SIGN NOTES | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |            | ST-240        |
| TOWN ENGINEER   |               |   |            |               |

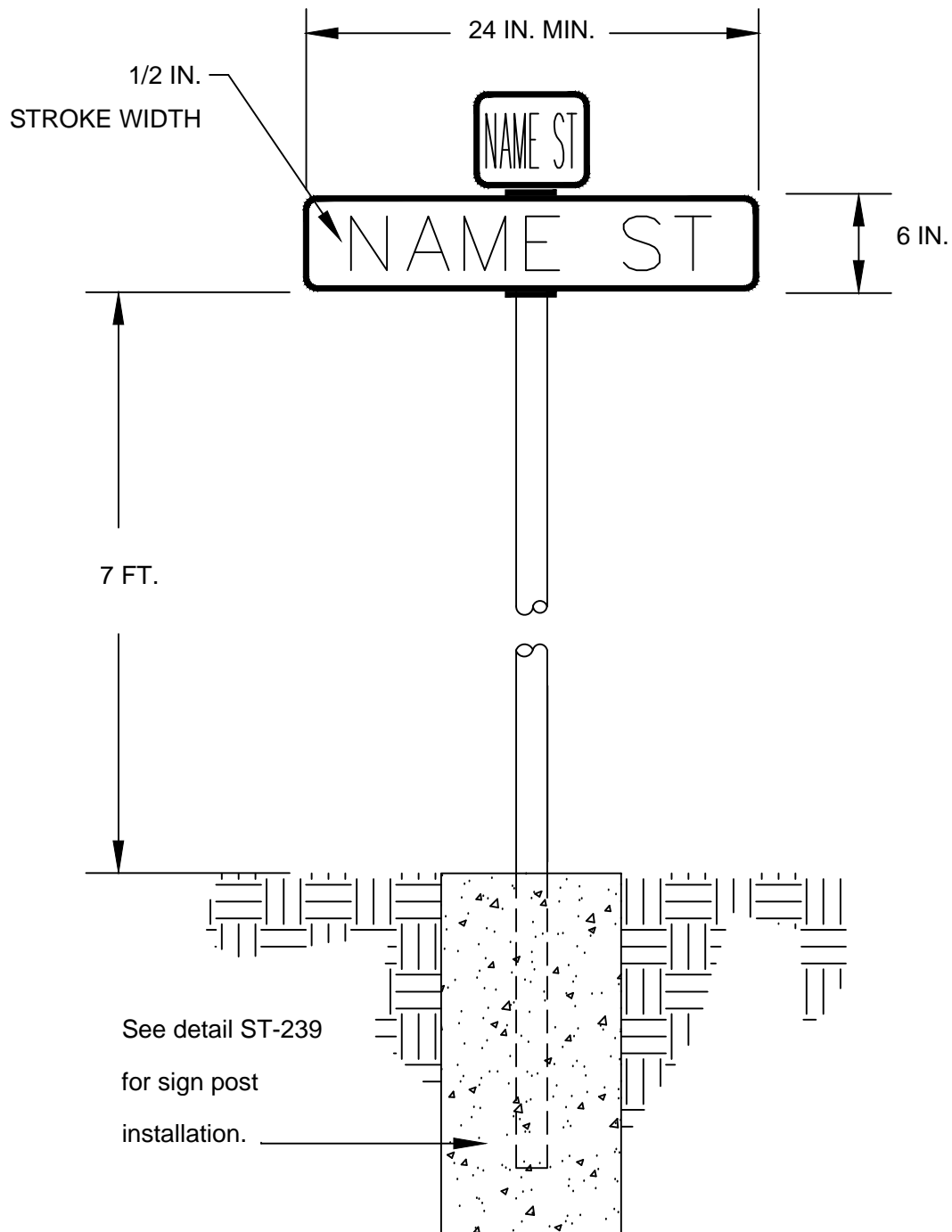

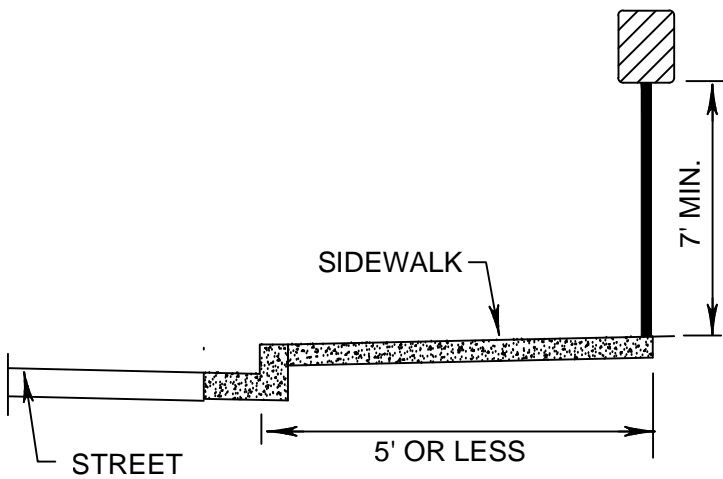
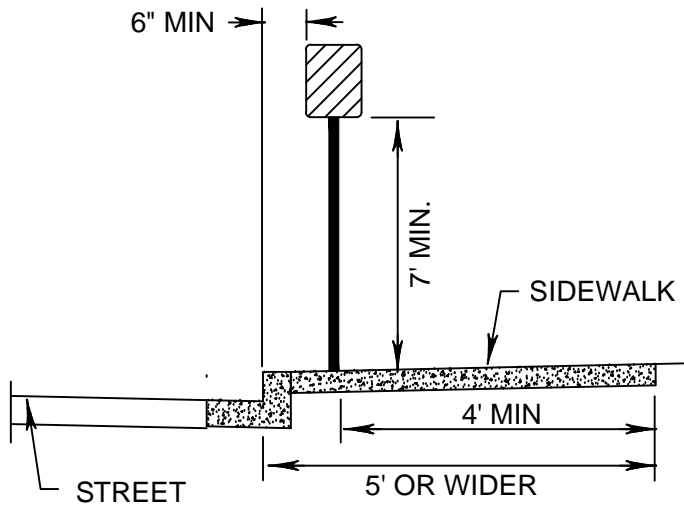
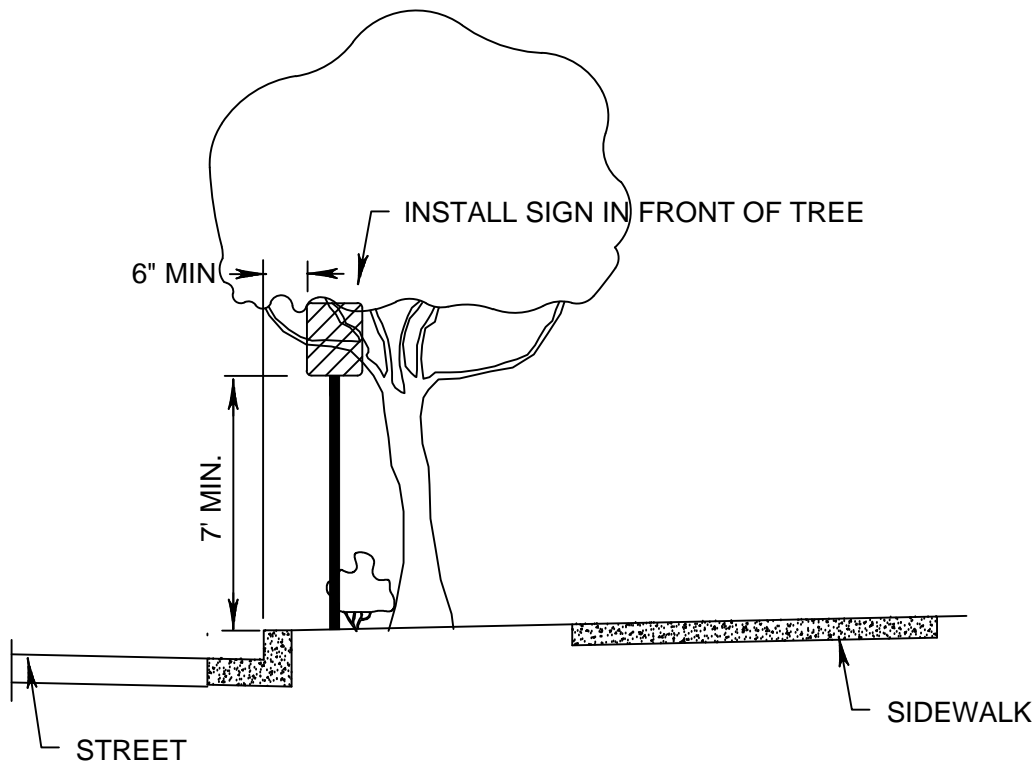


Plate: .050 in. (min.) flat aluminum  
 Color: Brown with white border  
 Letters: 4 in. high, reflective white;  
         Helvetica, all capitals  
 Mounting Hardware: Center rod style;  
         2 plates per street name


|               |               |   |                            |               |
|---------------|---------------|---|----------------------------|---------------|
| APPROVED BY   | DATE          |  | PUBLIC STREET<br>NAME SIGN | STD. PLAN NO. |
|               | NOVEMBER 2010 |   |                            | ST-241        |
| TOWN ENGINEER |               |   |                            |               |



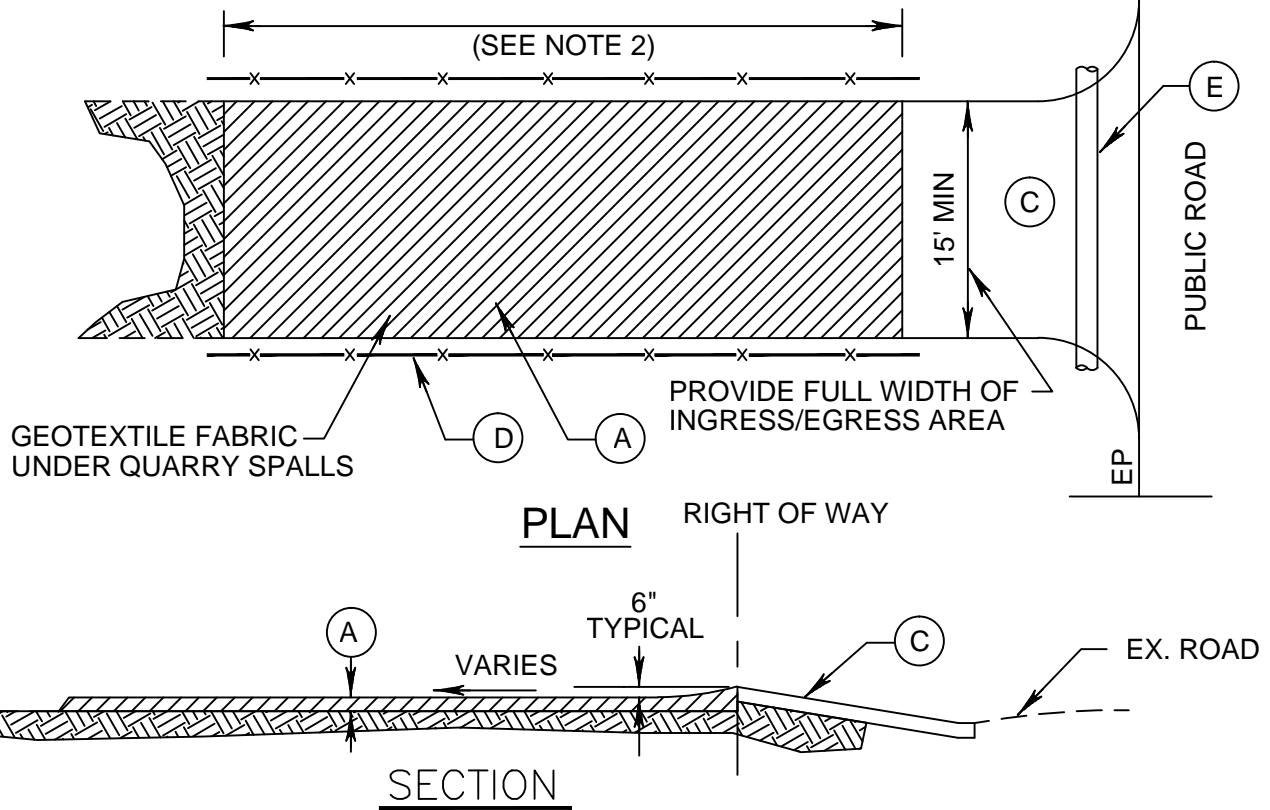
### NOTES:

1. THE LOCATIONS OF SIGNS SHOWN ARE A GUIDELINE AND DEPEND ON FIELD CONDITIONS. VISIBILITY, OBSTRUCTION, UTILITIES, ETC. SHOULD BE CONSIDERED AT ALL TIME.

NOT TO SCALE

|                         |               |   |               |
|-------------------------|---------------|---|---------------|
| APPROVED BY             | DATE          |  | STD. PLAN NO. |
| <i>Kevin R. Ruffini</i> | NOVEMBER 2010 |   | ST-242        |
| TOWN ENGINEER           |               |   |               |
|                         |               | SIGN LOCATION   |               |

| PROJECT SIZE | LENGTH OF    |     |
|--------------|--------------|-----|
|              | CRUSHED ROCK | ATB |
| ≤ 1/4 ACRE   | 30           | 0   |
| ≤ 1 ACRE     | 50           | 0   |
| < 3 ACRE     | 100          | 0   |
| > 3 ACRE     | 100          | 50  |


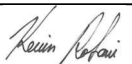


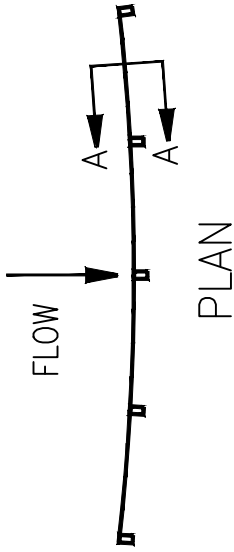
- (A) 4" CRUSHED ROCK WITH GEOTEXTILE MATERIAL UNDERNEATH.
- (B) THE MINIMUM LENGTH SHALL BE LENGTHENED AS NECESSARY TO ENSURE MATERIAL IS NOT TRACKED INTO THE PUBLIC RIGHT-OF-WAY. ALTERNATE CONSTRUCTION ENTRANCES WILL BE ALLOWED WITH APPROVAL OF THE CITY ENGINEER ON A CASE BY CASE BASIS, WHERE PHYSICAL SITE CONDITIONS AND SIZE DICTATE
- (C) ATB DRIVEWAY RAMP, OR SITE ACCESS ROAD 20' WIDE MIN. SEE TABLE ABOVE FOR REQUIRED LENGTH.
- (D) INSTALL ORANGE BARRIER FENCE TO DIRECT TRAFFIC ONTO CONSTRUCTION ENTRANCE
- (E) INSTALL 12" MIN. DIA. CULVERT IF A ROADSIDE DITCH IS PRESENT.

## NOTES:

- 1 SURFACE WATER - ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
- 2 MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED IMMEDIATELY.
- 3 WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS USED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
- 4 PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

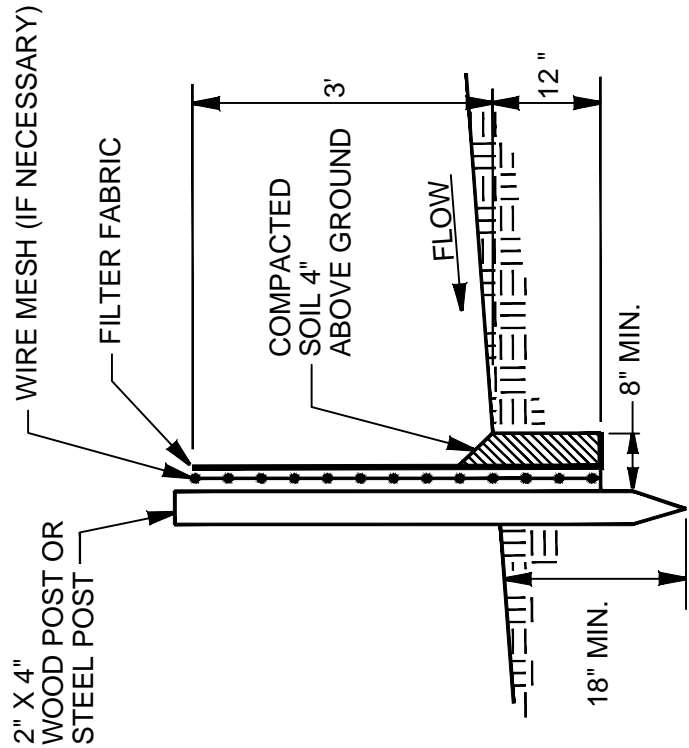
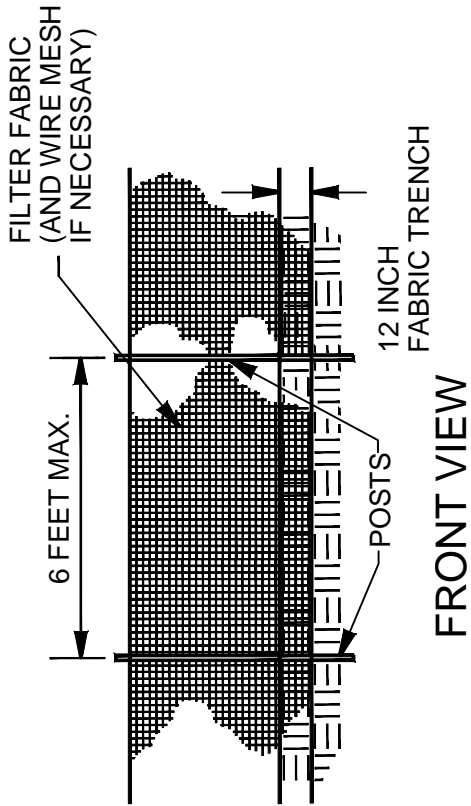
NOT TO SCALE

|   |               |   |  |               |
|---|---------------|---|--|---------------|
| APPROVED BY   | DATE          |  | STABILIZED<br>CONSTRUCTION<br>ENTRANCE | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |  | ST-250        |
| TOWN ENGINEER   |               |   |  |               |


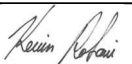


NOTES:

1. SILT FENCE SHALL BE CONSTRUCTED LONG ENOUGH TO EXTEND ACROSS THE EXPECTED FLOW PATH.
2. FILTER FABRIC SHALL BE PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN WITH A MINIMUM TENSILE STRENGTH OF 50 LBS. PER LINEAR FOOT AT 20 PERCENT MAXIMUM ELONGATION AND CONTAINING ULTRAVIOLET INHIBITORS. FILTER FABRIC SHALL RETAIN A MINIMUM OF 85% OF THE SOIL, BY WEIGHT, BASED ON SIEVE ANALYSIS, BUT IS NOT FINER THAN AN EQUIVALENT OPENING SIZE OF 70. WHEN STANDARD STRENGTH FABRIC IS USED, A WIRE MESH SUPPORT SHALL BE SECURELY FASTENED TO THE UPSLOPE SIDE OF POSTS.
3. SUPPORT POSTS SHALL BE A MINIMUM 4.5' LONG 2" X 4" WOOD POSTS OR 'T' SECTION FENCE POSTS DRIVEN A MINIMUM OF 18 INCHES INTO THE GROUND. POSTS SHALL BE SPACED A MAXIMUM OF 6 FEET APART. FABRIC SHALL BE SECURELY FASTENED TO POSTS WITH 1 INCH STAPLES OR 16 GAUGE WIRE TIES SPACED A MAXIMUM OF 6 INCHES APART.
4. A 12 INCH FABRIC TRENCH SHALL BE EXCAVATED ALONG THE UPHILL SIDE OF SILT FENCE POSTS. THE BOTTOM EDGE OF THE FABRIC SHALL EXTEND TO AND ACROSS THE BOTTOM OF THE TRENCH. THE TRENCH SHALL BE BACKFILLED TO 4 INCHES ABOVE GROUND AND COMPACTED TO BURY AND SECURE THE BOTTOM OF THE FILTER FABRIC.
5. CONTRACTOR SHALL MAKE INSPECTIONS WEEKLY DURING THE WET SEASON, MONTHLY DURING THE DRY SEASON AND IMMEDIATELY AFTER EACH RAINFALL TO DETERMINE IF REPAIRS AND SEDIMENT REMOVAL IS REQUIRED. SEDIMENT SHALL BE REMOVED BEFORE IT HAS REACHED ONE THIRD THE HEIGHT OF THE FILTER FABRIC.



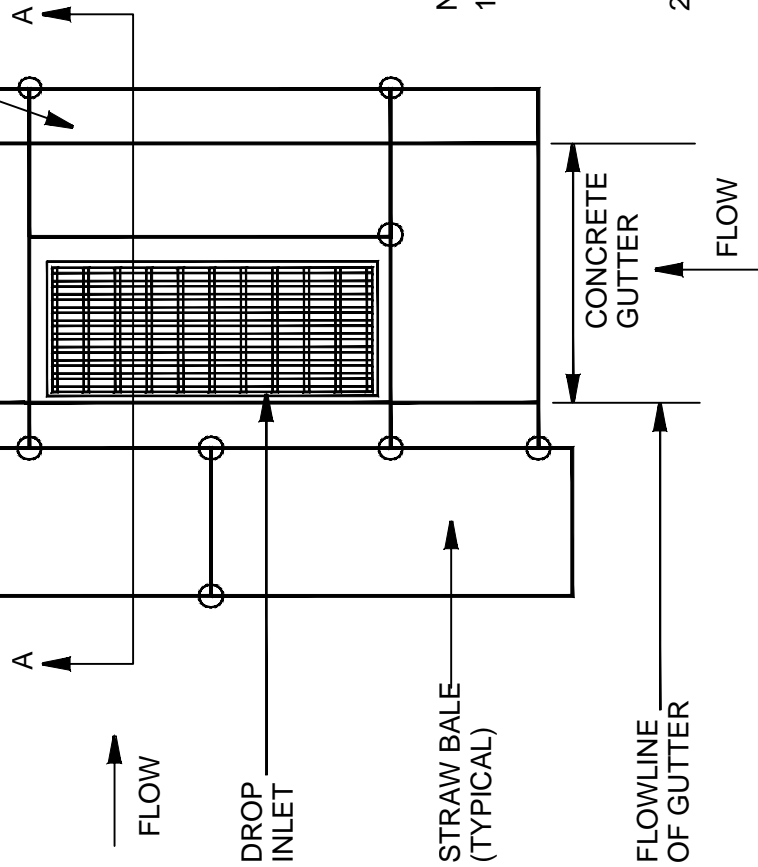
NOT TO SCALE

|   |               |   |            |               |
|---|---------------|---|------------|---------------|
| APPROVED BY   | DATE          |  | SILT FENCE | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |            | ST-251        |
| TOWN ENGINEER   |               |   |            |               |

THIS BALE IS OPTIONAL  
(OMIT WHEN INSTALLED  
AT SAG POINTS)

TIE BINDINGS  
TOGETHER WITH  
16 GA. (MIN.) WIRE  
OR TIE WRAPS.  
(TYPICAL)

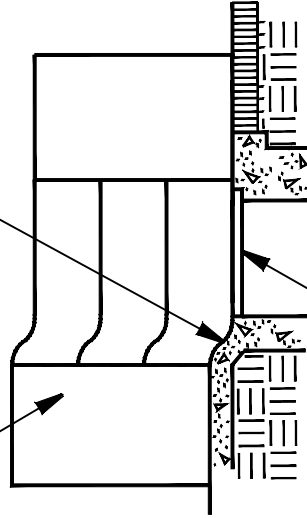
PLACE BALES  
TIGHTLY  
TOGETHER



**PLAN VIEW**

STRAW BALE  
(TYPICAL)

FORCE BALE  
TIGHTLY AGAINST  
CURB



DROP  
INLET

**SECTION A-A**

**NOTES:**

1. BALES SHALL BE PLACED WITH BINDINGS IN A HORIZONTAL POSITION. BALES SHALL BE TIGHTLY BOUND TOGETHER USING A MINIMUM OF 16 GA. WIRE OR TIE WRAPS TO TIE BINDINGS BETWEEN BALES. USE THE MINIMUM NUMBER OF BALES THAT PROVIDE PERIMETER COVERAGE WITHOUT COVERING ANY PORTION OF THE GRATE INLETS.
2. CONTRACTOR SHALL INSPECT BALES WEEKLY AND AFTER EACH RAINFALL TO DETERMINE IF REPAIR OR SEDIMENT REMOVAL IS REQUIRED. SEDIMENT SHALL BE REMOVED ON A REGULAR BASIS.
3. CONTRACTOR SHALL INSPECT BALES DAILY FOR PROPER PLACEMENT AROUND THE DRAIN INLETS.
4. BALES SHALL BE REPLACED WHEN THEY HAVE BEEN DAMAGED, COLLAPSED OR DECOMPOSED.

NOT TO SCALE

APPROVED BY

*Kevin R. Rios*

TOWN ENGINEER

DATE

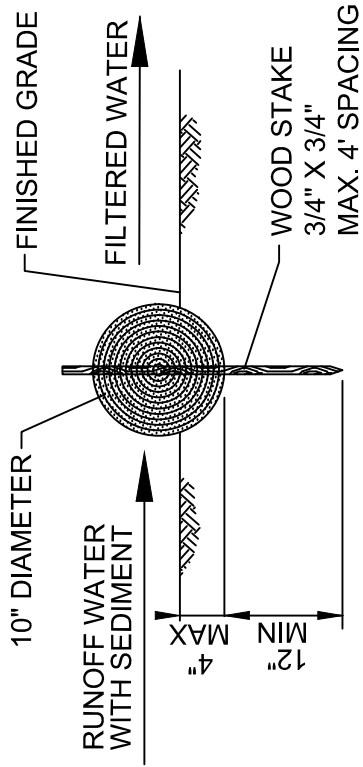
NOVEMBER 2010



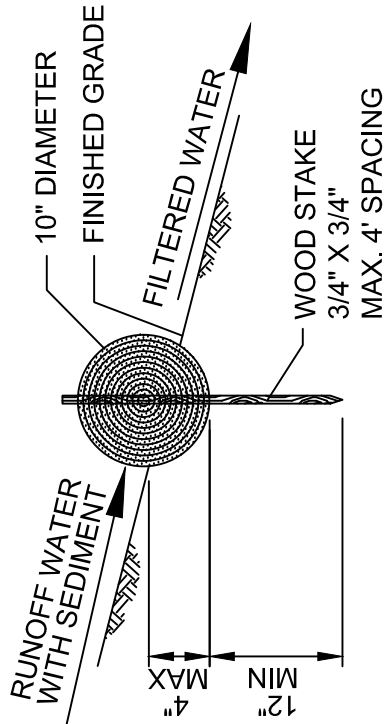
STRAW BALE INLET  
FILTER WITH GUTTER

STD. PLAN NO.

ST-252



**ENTRENCHMENT DETAIL  
IN FLAT AREA**


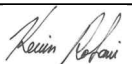


**ENTRENCHMENT DETAIL  
IN SLOPE AREA**

**NOTES:**



1. STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3" TO 4" DEEP.
2. ADJACENT ROLLS SHALL TIGHTLY ABUT.
3. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND STRAW ROLL.
4. STRAW ROLLS SHALL BE PLACED ON SLOPES @ MAX. 25' SPACING.

NOT TO SCALE

|   |               |   |               |
|---|---------------|---|---------------|
| APPROVED BY   | DATE          |  | STD. PLAN NO. |
|  | NOVEMBER 2010 |   | ST-253        |
| TOWN ENGINEER   |               |   |               |





|   |               |   |                      |               |
|---|---------------|---|----------------------|---------------|
| APPROVED BY   | DATE          |  | ENERGY<br>DISSIPATOR | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                      | ST-254        |
| TOWN ENGINEER   |               |   |                      |               |

# INTERIM EROSION CONTROL MEASURES

(USE AS APPLICABLE TO YOUR PROJECT.)

## NOTES:

1. IT IS THE RESPONSIBILITY OF THE OWNER/CONTRACTOR TO INSURE THAT NO MUD OR SILTATION LEAVES THE PROJECT SITE.
2. INTERIM EROSION CONTROL MEASURES MUST BE COMPLETED AND IN PLACE BY OCTOBER 1.
3. ALL INTERIM EROSION CONTROL MEASURES MUST BE CONTINUOUSLY MAINTAINED THROUGHOUT THE OCTOBER 1 TO APRIL 15 RAINY SEASON.
4. CALL THE INSPECTION LINE AT (408) 399-5760 BY SEPTEMBER 15 FOR INSPECTION OF EROSION CONTROL DEVICES. CALL 24 HOURS IN ADVANCE. INCLUDE GRADING PERMIT NUMBER.
5. IF EROSION CONTROL MEASURES ARE NOT IN PLACE AS REQUIRED OR NOT MAINTAINED, ALL WORK SHALL CEASE UNTIL EROSION CONTROL MEASURES ARE REMEDIED.

## MEASURES:


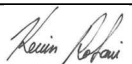
1. INSTALL SILT FENCE. PROVIDE DETAIL, SHOW LOCATION ON PLANS AND ADD NOTES AS NEEDED.
2. SEED EXPOSED AREAS PER TOWN SPECIFICATIONS. SEE BELOW.
3. INSTALL DRAINAGE MEASURES INCLUDING CATCH BASINS, ENERGY DISSIPATORS, ETC. PROVIDE DETAIL, SHOW LOCATIONS ON PLANS, AND ADD NOTES AS NEEDED.
4. INSTALL CHECK DAMS, SEDIMENT TRAPS AND BASINS, TEMPORARY SWALES.
5. INSTALL JUTE NETTING OVER SEEDED AND MULCHED SLOPES.
6. COVER BARE SLOPES WITH STRAW BLANKETS.

## SEEDING SPECIFICATIONS:

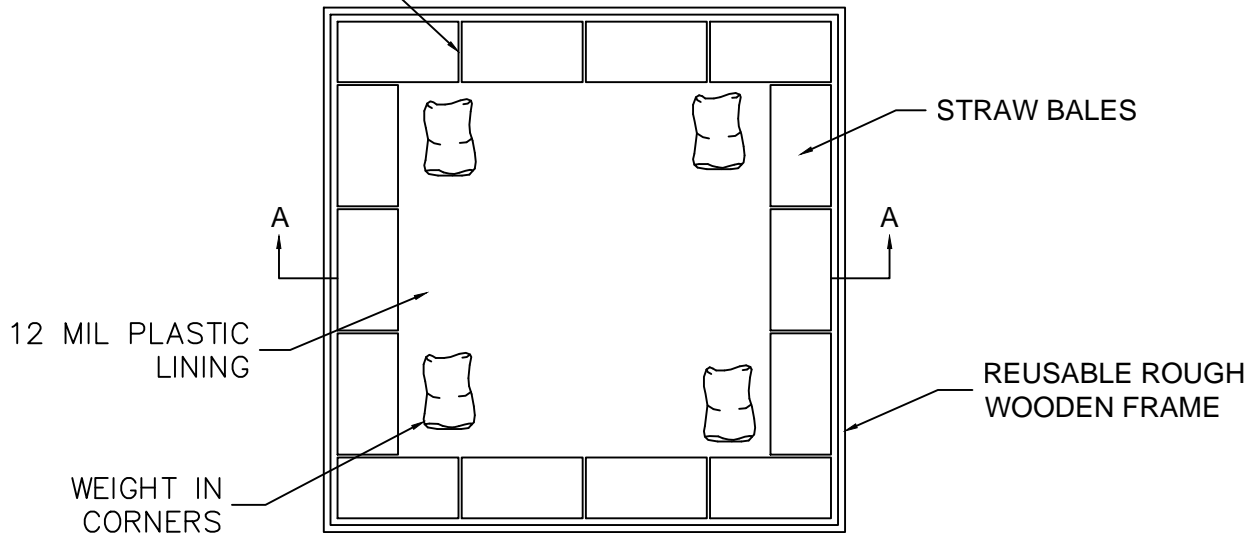
1. SEED AND MULCH WILL BE APPLIED BY OCT 1 TO ALL DISTURBED SLOPES AND TO ALL CUTS AND FILL SLOPES WITHIN OR ADJACENT TO PUBLIC RIGHTS-OF-WAY AS DIRECTED BY TOWN ENGINEER.
2. SEED AND FERTILIZER WILL BE APPLIED HYDRAULICALLY OR BY HAND AT THE RATES SPECIFIED BELOW. ON SLOPES, STRAW WILL BE APPLIED BY BLOWER OR BY HAND AND ANCHORED IN PLACE BY PUNCHING OR WITH JUTE NETTING.

| ITEM                              | POUNDS/ACRE |
|-----------------------------------|-------------|
| "Blando" brome                    | 30          |
| Annual rye grass                  | 20          |
| Fertilizer (16-20-0 & 15% sulfur) | 500         |
| Straw                             | 4,000       |

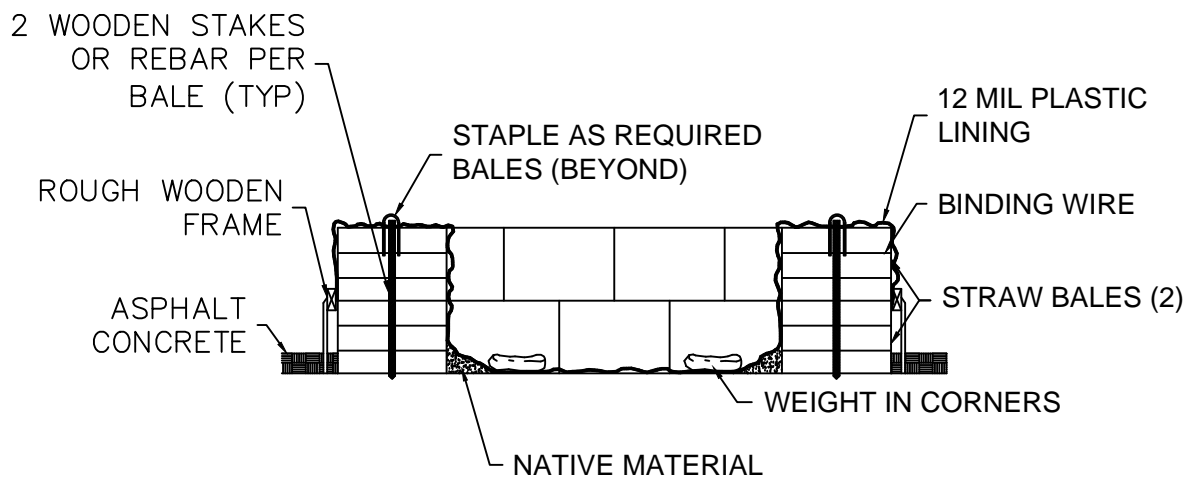
3. SEEDED AREAS WILL BE REPAIRED, RESEEDED AND MULCHED, IF DAMAGED.

|   |               |   |                                  |               |
|---|---------------|---|----------------------------------|---------------|
| APPROVED BY   | DATE          |  | INTERIM EROSION<br>CONTROL NOTES | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                                  | ST-255        |
| TOWN ENGINEER   |               |   |                                  |               |

WEDGE LOOSE STRAW  
BETWEEN BALES

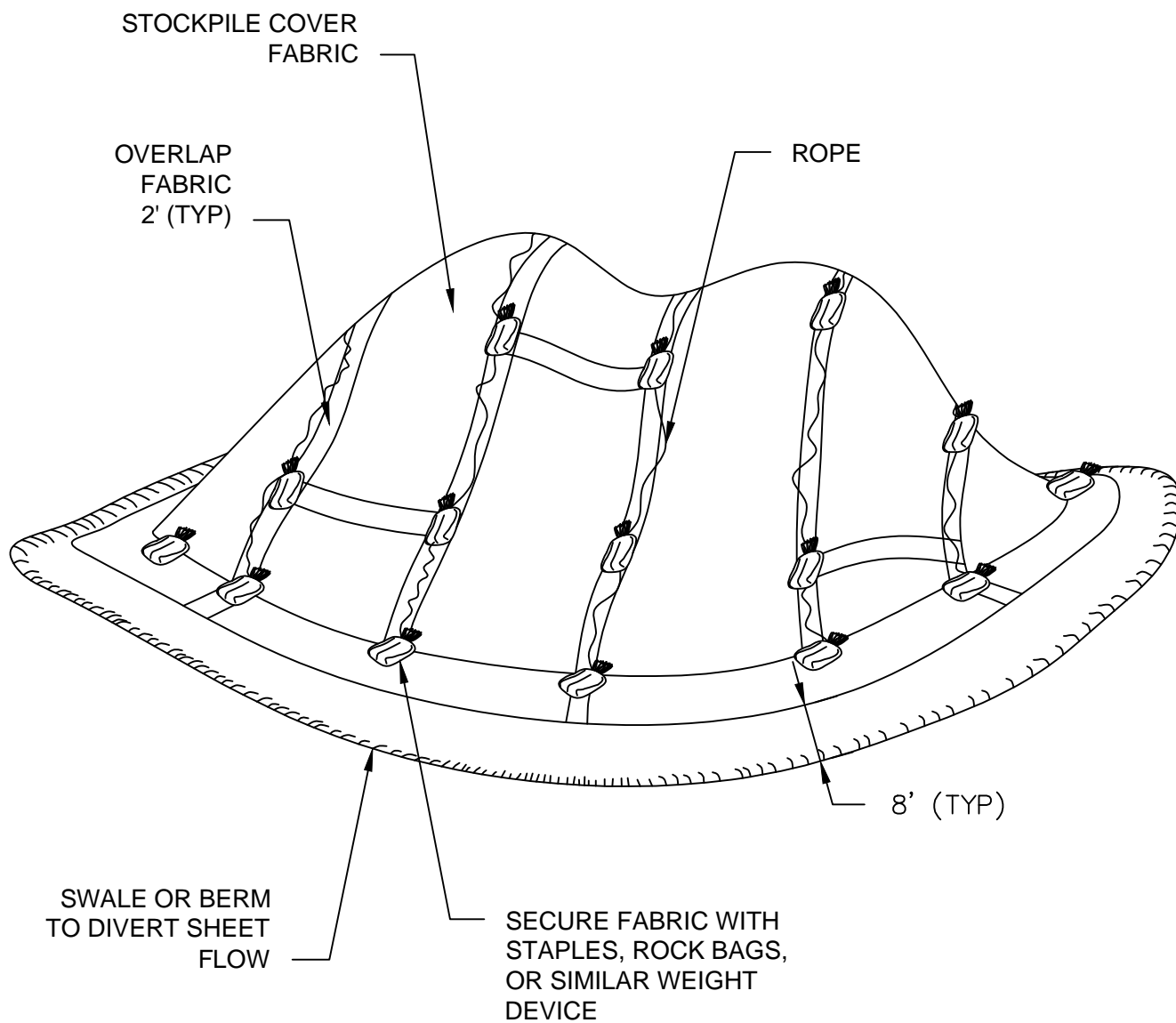


PLAN




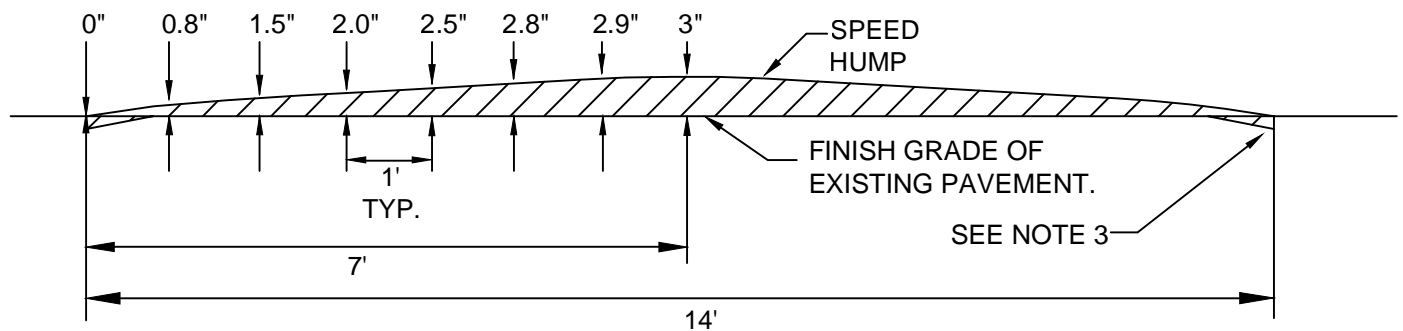
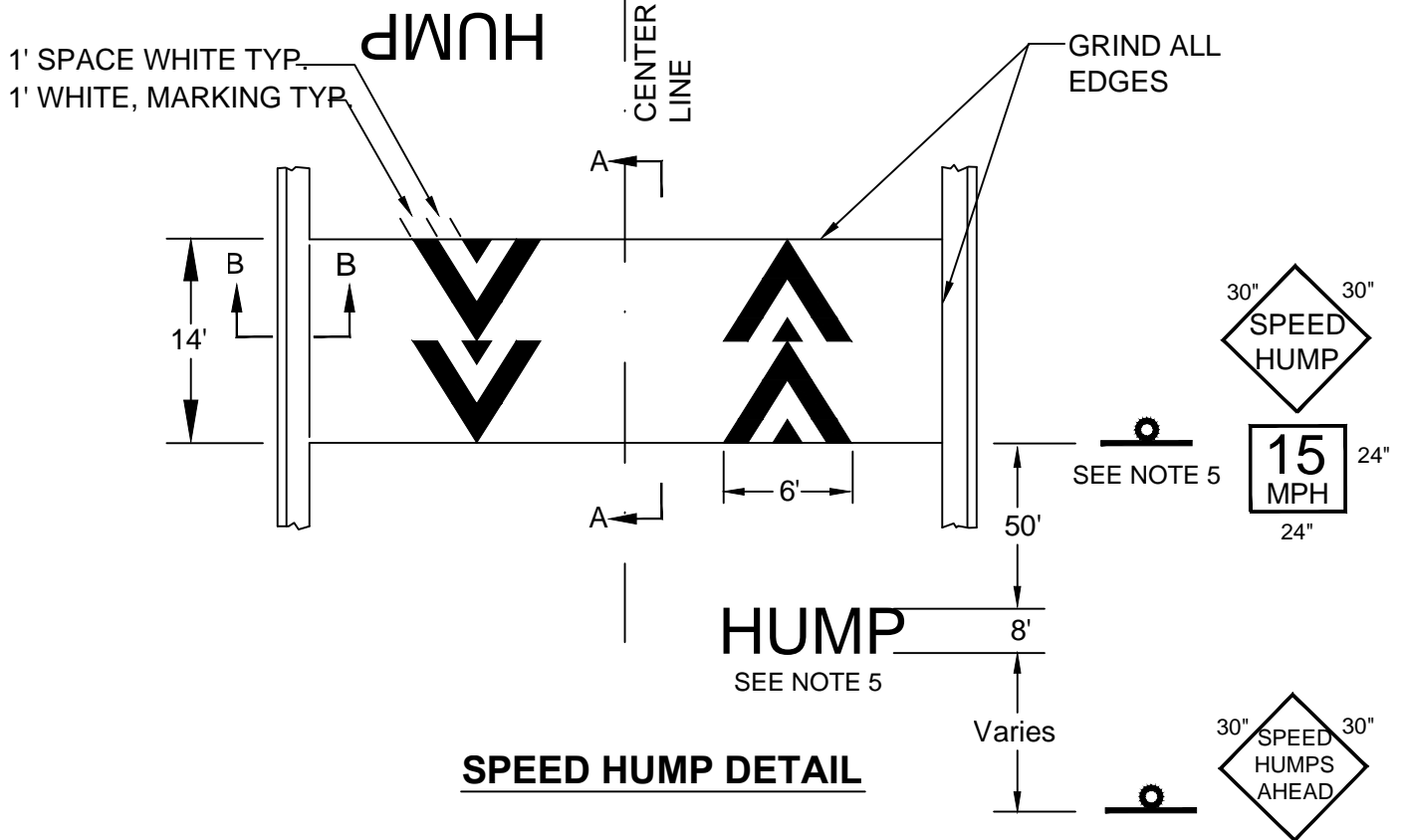
SECTION A-A

|   |               |   |  |               |
|---|---------------|---|--|---------------|
| APPROVED BY   | DATE          |  | <b>TEMPORARY<br/>CONCRETE WASHOUT<br/>FACILITY</b> | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |  | <b>ST-256</b> |
| TOWN ENGINEER   |               |   |  |               |

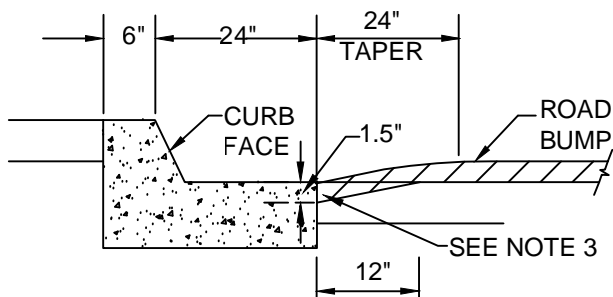


PERSPECTIVE

|                           |               |   |               |
|---------------------------|---------------|---|---------------|
| APPROVED BY               | DATE          |  | STD. PLAN NO. |
| <i>Kevin R. Ruffini</i>   | NOVEMBER 2010 |   | ST-257        |
| TOWN ENGINEER             |               |   |               |
| TEMPORARY STOCKPILE COVER |               |   |               |




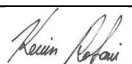
**SECTION A-A**



**SECTION B-B**

**NOTES:**

1. PLACE IN TWO LIFTS.
2. TYPE A A.C. AR-4000, MAXIMUM AGGREGATE SIZE 1/2".
3. GRIND TO KEY IN ALL EDGES (1.5" BY 12").
4. SIGNS SHOWN TYPICAL IN BOTH DIRECTIONS.
5. OPTIONAL FOR HUMPS WITHIN A SERIES.
6. SIGNS SHALL BE 3M DIAMOND GRADE.


|   |               |   |                      |               |
|---|---------------|---|----------------------|---------------|
| APPROVED BY   | DATE          |  | SPEED HUMP<br>DETAIL | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                      | ST-260        |
| TOWN ENGINEER   |               |   |                      |               |

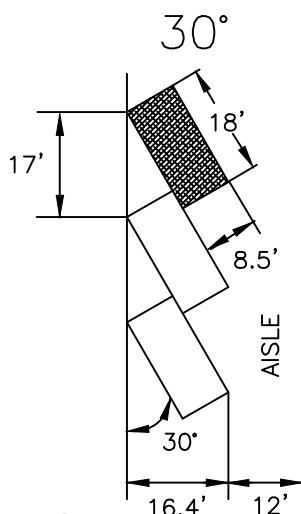
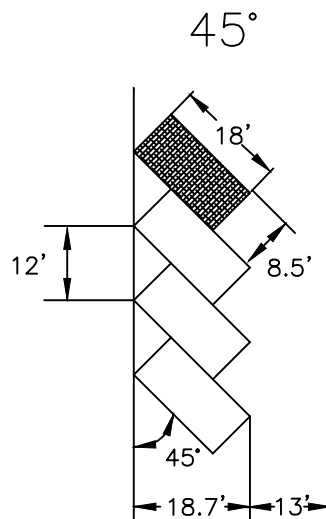
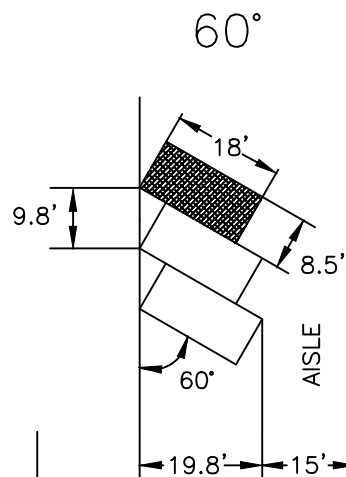
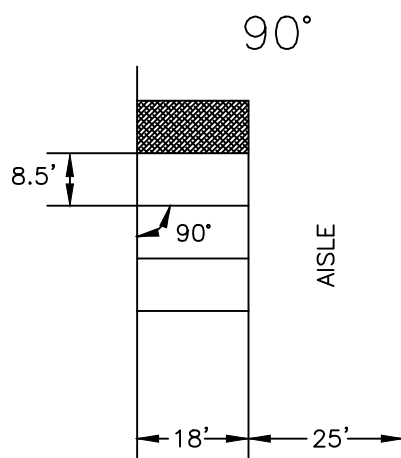
[illegible]

CENTER BARS ON  
CENTER OF LANE AND  
LANE DIVIDER STRIPE.

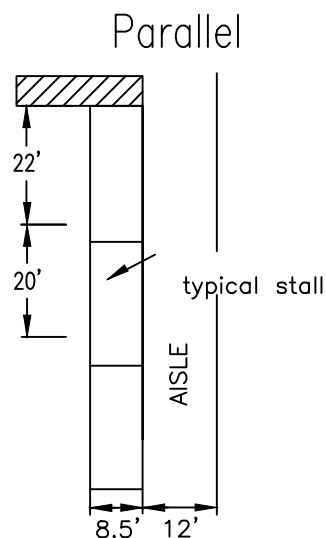
LEADING EDGE OF CROSSWALK  
EVEN WITH LINE BETWEEN  
MIDPOINTS AT GUTTER LINE OF  
ASSOCIATED CURB RETURNS.

NOT TO SCALE

|                     |               |   |                      |               |
|---------------------|---------------|---|----------------------|---------------|
| APPROVED BY         | DATE          |  | CROSSWALK<br>MARKING | STD. PLAN NO. |
| <i>Kevin Pofari</i> | NOVEMBER 2010 |   |                      | ST-261        |
| TOWN ENGINEER       |               |   |                      |               |



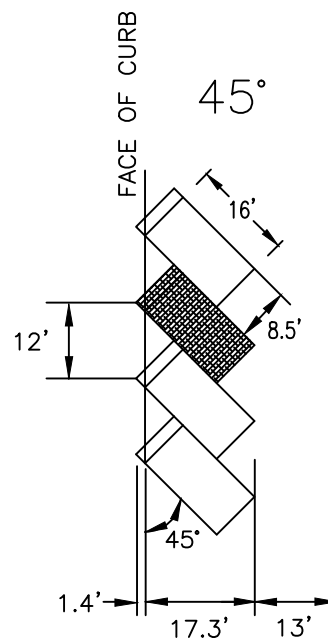
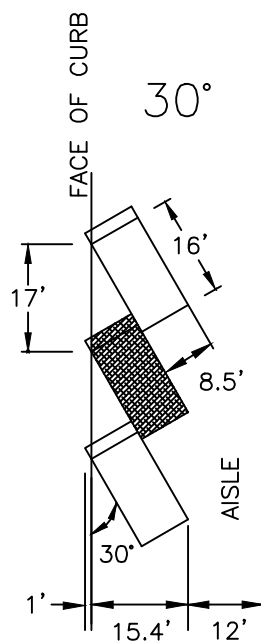
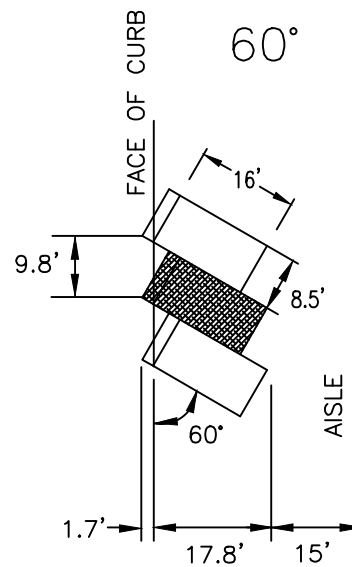
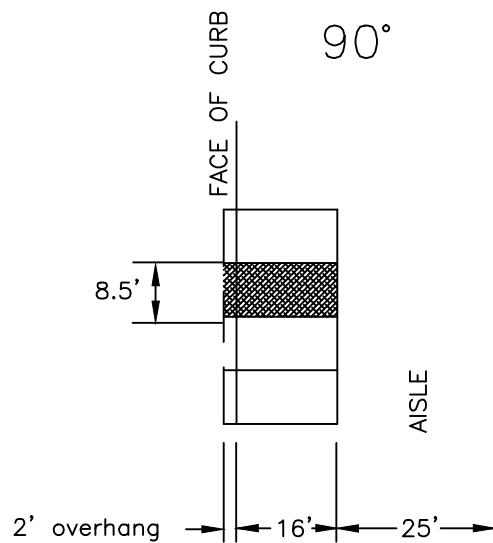
end stall against  
an obstruction



## NOTES:

1. THESE DIMENSIONS SHALL BE USED WHEN OVERHANG FROM FRONT VEHICLE WHEEL IS NOT PRESENT.
2. ALL STRIPING SHALL COMPLY WITH "OFF-STREET PARKING DOUBLE STRIPE" DETAIL 264 AND "ACCESSIBLE PARKING" DETAIL 265.
3. ALL OFF-STREET PARKING SHALL COMPLY WITH SECTION 29.10.155 OF THE LOS GATOS TOWN CODE.
4. WHEEL STOPS ARE NOT PERMITTED. CONTINUOUS CURBING MAY BE USED. NOT TO SCALE


|   |               |   |  |               |
|---|---------------|---|--|---------------|
| APPROVED BY   | DATE          |  | OFF-STREET PARKING<br>WITHOUT OVERHANG | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |  | ST-262        |
| TOWN ENGINEER   |               |   |  |               |



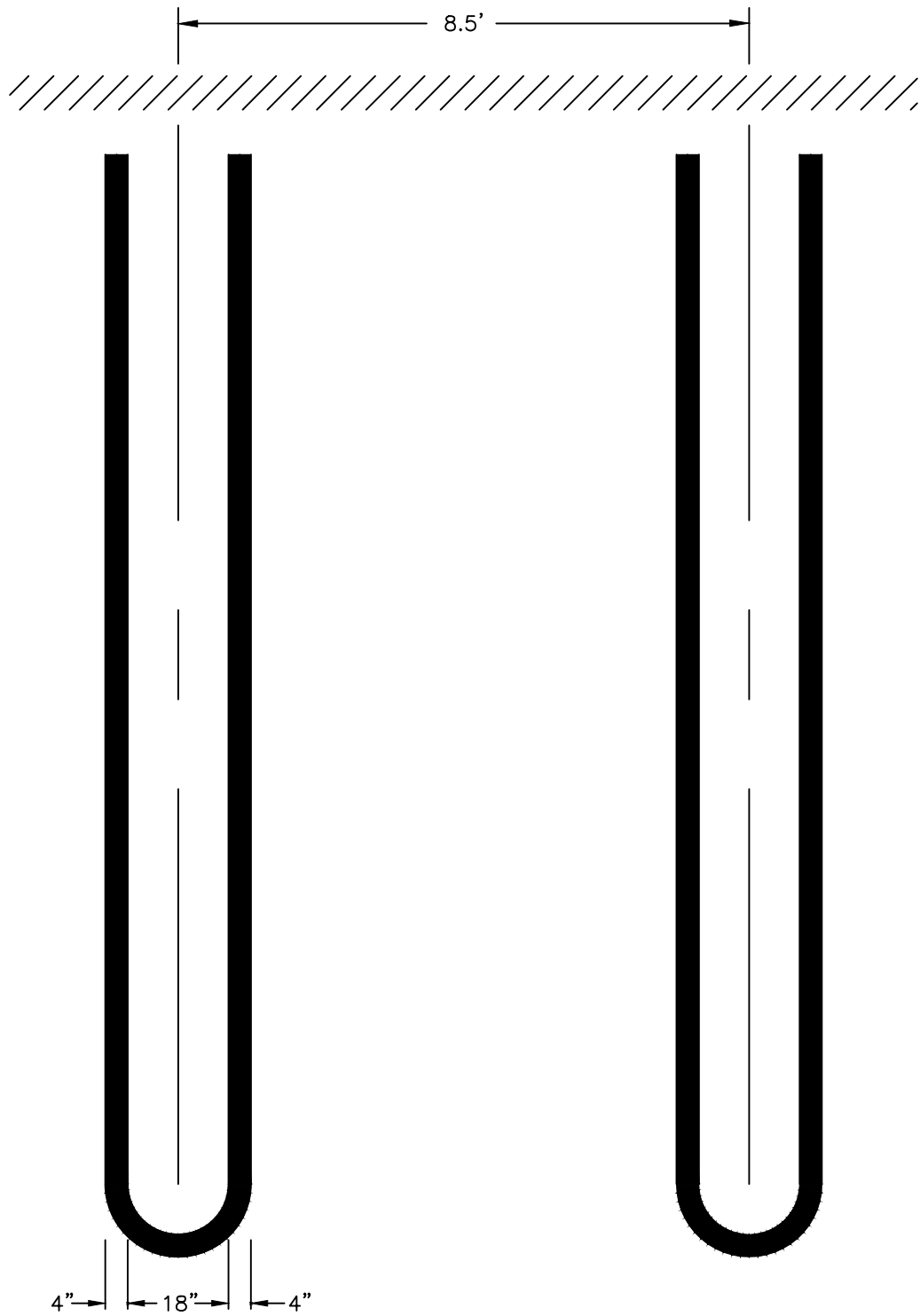
## NOTES:

1. THESE DIMENSIONS SHALL BE USED WHEN OVERHANG FROM FRONT VEHICLE WHEEL IS PRESENT.
2. ALL STRIPING SHALL COMPLY WITH "OFF-STREET PARKING DOUBLE STRIPE" DETAIL 264 AND "ACCESSIBLE PARKING" DETAIL 265.
3. ALL OFF-STREET PARKING SHALL COMPLY WITH SECTION 29.10.155 OF THE LOS GATOS TOWN CODE.
4. WHEEL STOPS ARE NOT PERMITTED. CONTINUOUS CURBING MAY BE USED.

NOT TO SCALE

|                      |               |   |               |
|----------------------|---------------|---|---------------|
| APPROVED BY          | DATE          |  | STD. PLAN NO. |
| <i>Kevin R. Ruff</i> | NOVEMBER 2010 |   |               |
| TOWN ENGINEER        |               |   | ST-263        |







### NOTES:

1. ALL OFF-STREET PARKING SHALL COMPLY WITH SECTION 29.10.155 OF THE LOS GATOS TOWN CODE.

NOT TO SCALE

|   |               |   |                                     |               |
|---|---------------|---|-------------------------------------|---------------|
| APPROVED BY   | DATE          |  | OFF-STREET PARKING<br>DOUBLE STRIPE | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                                     | ST-264        |
| TOWN ENGINEER   |               |   |                                     |               |

SINGLE PARKING SPACE

## DOUBLE PARKING SPACES

## DIAGONAL PARKING SPACES

VAN ACCESSIBLE SIGN (R99A)  
STANDARD 12" X 8"  
SEE NOTES 2 AND 6

ISA PARKING SIGN (R99)  
STANDARD 12" X 18"  
SEE NOTE 6

SIGN (R100B)  
STANDARD 18" X 24"  
SEE NOTE 10

**ISA MARKING FOR ACCESSIBLE  
PARKING SPACE OR STALL**

### DETAIL A

ISA = INTERNATIONAL SYMBOL OF ACCESSIBILITY



## Number of Accessible Parking:

| TOTAL NUMBER OF PARKING SPACES OR STALLS | MINIMUM NUMBER OF DISABLED ACCESSIBLE PARKING SPACES OR STALLS |
|--|--|
| 1-25                                     | 1  |
| 26-50                                    | 2  |
| 51-75                                    | 3  |
| 76-100                                   | 4  |
| 101-150                                  | 5  |
| 151-200                                  | 6  |
| 201-300                                  | 7  |
| 301-400                                  | 8  |
| 401-500                                  | 9  |
| 501-1000                                 | 2% OF TOTAL  |
| >1000                                    | 20 + 1 FOR EACH 100 OR FRACTION THEREOF OVER 100               |

TABLE A


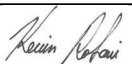


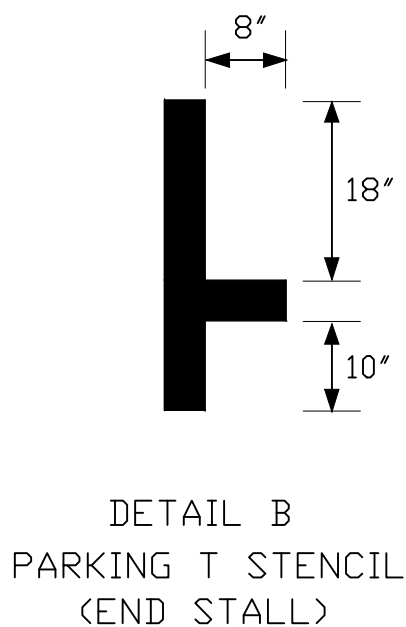
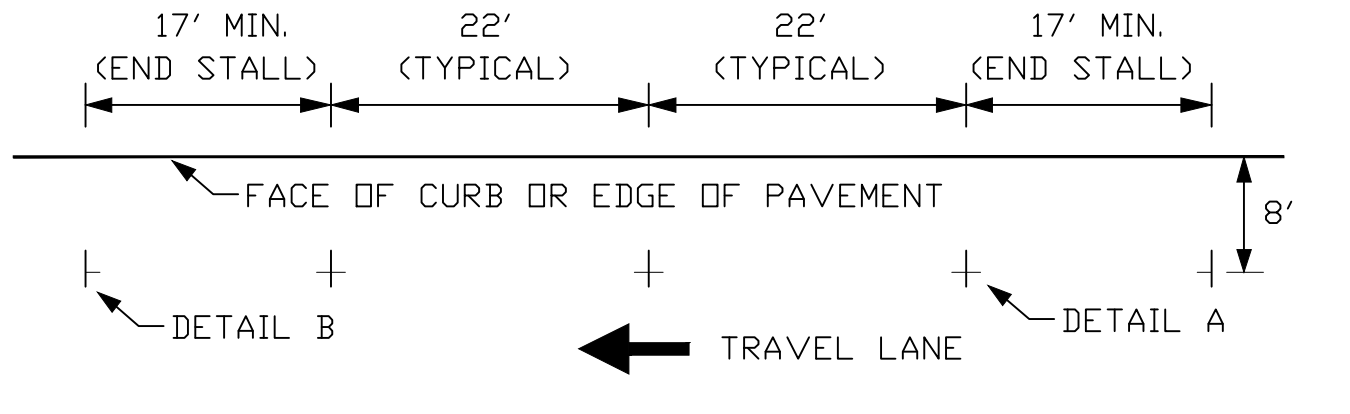
PAVEMENT MARKING DETAIL  
SEE NOTE 7

|   |               |   |  |               |
|---|---------------|---|--|---------------|
| APPROVED BY   | DATE          |  | <p>ACCESSIBLE<br/>PARKING<br/>(CBC Section 1129B)</p> <p>PLEASE REFER TO NOTES ON ST-266</p> | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |  | ST-265        |
| TOWN ENGINEER   |               |   |  |               |

**NOTES:**

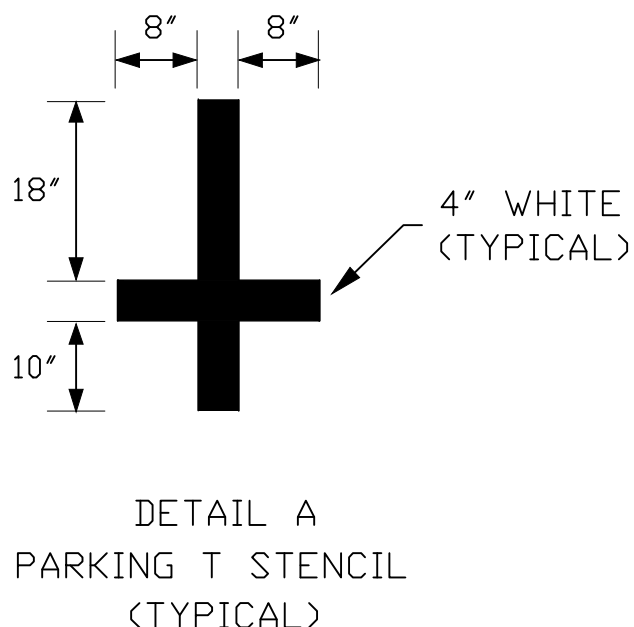
1. ACCESSIBLE PARKING SPACES SERVING A PARTICULAR BUILDING SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTE OF TRAVEL FROM ADJACENT PARKING TO AN ACCESSIBLE ENTRANCE. IN PARKING FACILITIES THAT DO NOT SERVE A PARTICULAR BUILDING, ACCESSIBLE PARKING SHALL BE LOCATED ON THE SHORTEST ACCESSIBLE ROUTE OF TRAVEL TO AN ACCESSIBLE PEDESTRIAN ENTRANCE OF THE PARKING FACILITY.
2. ONE IN EVERY EIGHT ACCESSIBLE OFF-STREET PARKING STALLS, BUT NOT LESS THAN ONE, SHALL BE SERVED BY AN ACCESSIBLE AISLE OF 8' MIN WIDTH AND SHALL BE SIGNED VAN ACCESSIBLE. THE R99A "VAN ACCESSIBLE" SIGN SHALL BE MOUNTED BELOW THE R99 "ISA PARKING" SIGN.
3. IN EACH PARKING STALL, A CURB OR BUMPER SHALL BE PROVIDED AND LOCATED TO PREVENT ENCROACHMENT OF VEHICLES OVER THE REQUIRED WIDTH OF WALKWAYS. PARKING STALLS SHALL BE SO LOCATED THAT PERSONS WITH DISABILITIES ARE NOT COMPELLED TO WHEEL OR WALK BEHIND PARKED VEHICLES OTHER THAN THEIR OWN.
4. SURFACE SLOPES OF ACCESSIBLE OFF-STREET PARKING STALLS SHALL BE THE MINIMUM POSSIBLE AND SHALL NOT EXCEED 2% IN ANY DIRECTION.
5. TABLE A SHALL BE USED TO DETERMINE THE REQUIRED NUMBER OF ACCESSIBLE PARKING STALLS IN ANY PARKING LOT OR GARAGE.
6. WHERE R99 "ISA PARKING" OR R99A "VAN ACCESSIBLE" SIGNS ARE INSTALLED ON SIDEWALKS OR OTHER PATHS OF TRAVEL, THE BOTTOM OF THE SIGN PANEL SHALL BE A MINIMUM OF 6'8" ABOVE THE SURFACE OF THE SIDEWALK OR PATH.
7. CURB RAMPS SHALL CONFORM TO THE STANDARD DETAIL 220-222.
8. BUILDING PERMIT(S) REQUIRED FOR NEW AND RESTRIPIING OF EXISTING PARKING LOTS.
9. THE WORDS "NO PARKING" SHALL BE PAINTED IN WHITE LETTERS NO LESS THAN 12" HIGH AND LOCATED SO THAT IT IS VISIBLE TO TRAFFIC ENFORCEMENT OFFICIALS.
10. A R100B SIGN SHALL BE POSTED IN A CONSPICUOUS PLACE AT EACH ENTRANCE TO OFF-STREET PARKING FACILITIES OR IMMEDIATELY ADJACENT TO AND VISIBLE FROM EACH STALL. THE SIGN SHALL INCLUDE THE ADDRESS WHERE THE TOWED VEHICLE MAY BE RECLAIMED AND THE TELEPHONE NUMBER OF THE LOCAL TRAFFIC LAW ENFORCEMENT AGENCY.
11. WHERE A SINGLE (NON-VAN) ACCESSIBLE PARKING SPACE IS PROVIDED, THE LOADING AND UNLOADING ACCESS AISLE SHALL BE ON THE PASSENGER SIDE OF THE VEHICLE AS THE VEHICLE IS GOING FORWARD INTO THE PARKING SPACE.
12. WHERE A VAN ACCESSIBLE PARKING SPACE IS PROVIDED, THE LOADING AND UNLOADING ACCESS AISLE SHALL BE 8' WIDE MINIMUM, AND SHALL ONLY BE ON THE PASSENGER SIDE OF THE VEHICLE AS THE VEHICLE IS GOING FORWARD INTO THE PARKING SPACE.

|   |               |   |  |               |
|---|---------------|---|--|---------------|
| APPROVED BY   | DATE          |  | ACCESSIBLE<br>PARKING NOTES<br>(CBC Section 1129B) | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |  | ST-266        |
| TOWN ENGINEER   |               |   |  |               |



PARKING  
SIDE



TRAVEL  
LANE  
SIDE

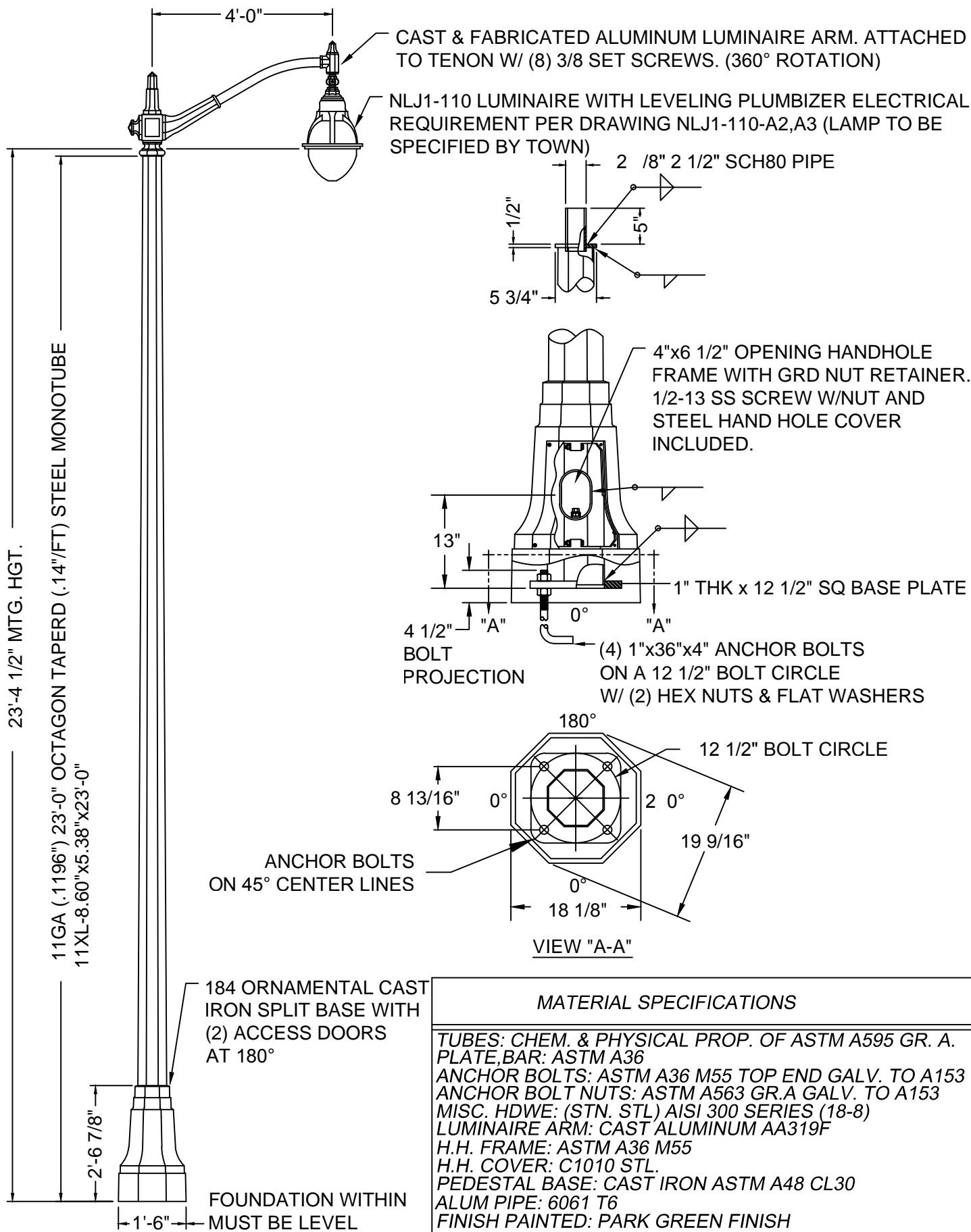


## NOTES:



1. TYPICAL PARALLEL PARKING STALL IS 8'-WIDE 22'-LONG. END PARKING STALL LENGTH MAY BE REDUCED TO 17' MINIMUM.
2. PARKING STALL WIDTH, IF APPROVED BY ENGINEER, MAY BE REDUCED TO 7' MINIMUM FOR NARROW LOW VOLUME MINOR STREETS TO MAINTAIN DESIRED TRAVEL LANE WIDTH.

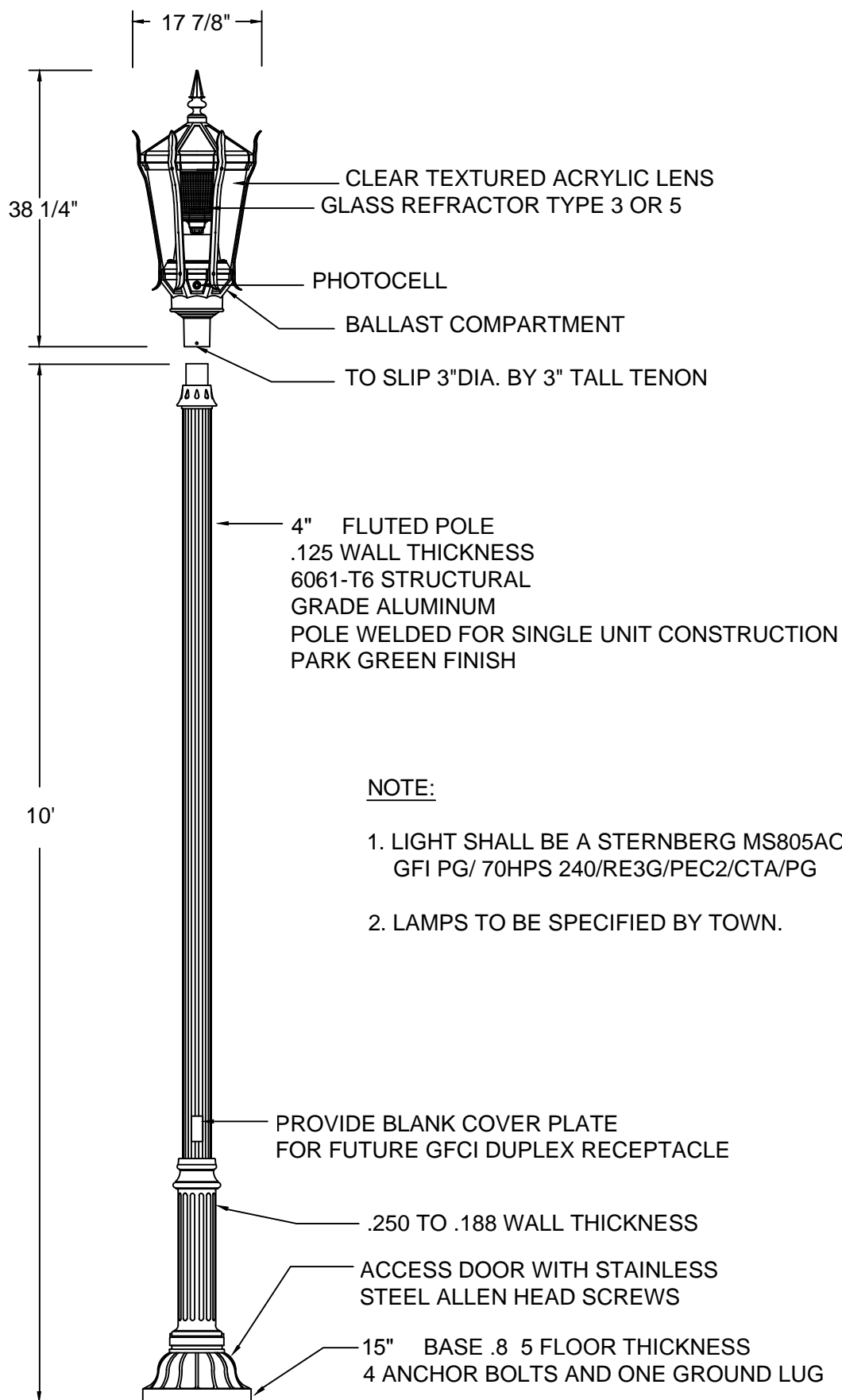
NOT TO  
SCALE

|   |               |   |  |               |
|---|---------------|---|--|---------------|
| APPROVED BY   | DATE          |  | <b>ON-STREET<br/>PARKING T<br/>STRIPING DETAIL</b> | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |  | <b>ST-267</b> |
| TOWN ENGINEER   |               |   |  |               |



NOT TO SCALE

|   |               |   |                   |               |
|---|---------------|---|-------------------|---------------|
| APPROVED BY   | DATE          |  | TEARDROP LIGHTING | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                   | ST-270        |
| TOWN ENGINEER   |               |   |                   |               |



NOT TO SCALE

|   |               |   |                    |               |
|---|---------------|---|--------------------|---------------|
| APPROVED BY   | DATE          |  | STERNBERG LIGHTING | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                    | ST-271        |
| TOWN ENGINEER   |               |   |                    |               |

2" x 3/16" RETICULINE  
BARS (TYPICAL)



9"

1'-6"

NO.4

HOOK  
SIDWAYS

VARIES TO MATCH  
ADJACENT CURB TYPE

CONFORM TO GUTTER OR  
ROADWAY SECTION UNLESS  
DEPRESSION IS CALLED FOR.

12"

6"

1 1/2" CLEAR.

CONCRETE

HEIGHT VARIES

1 1/2" CLEAR.

#4 @ 10" o.c.  
BOTH WAYS  
(TYPICAL)

1 1/2" CLEAR.

#4 @ 10" o.c.  
BOTH WAYS  
(TYPICAL)

1" MINIMUM

6" MAXIMUM


6"

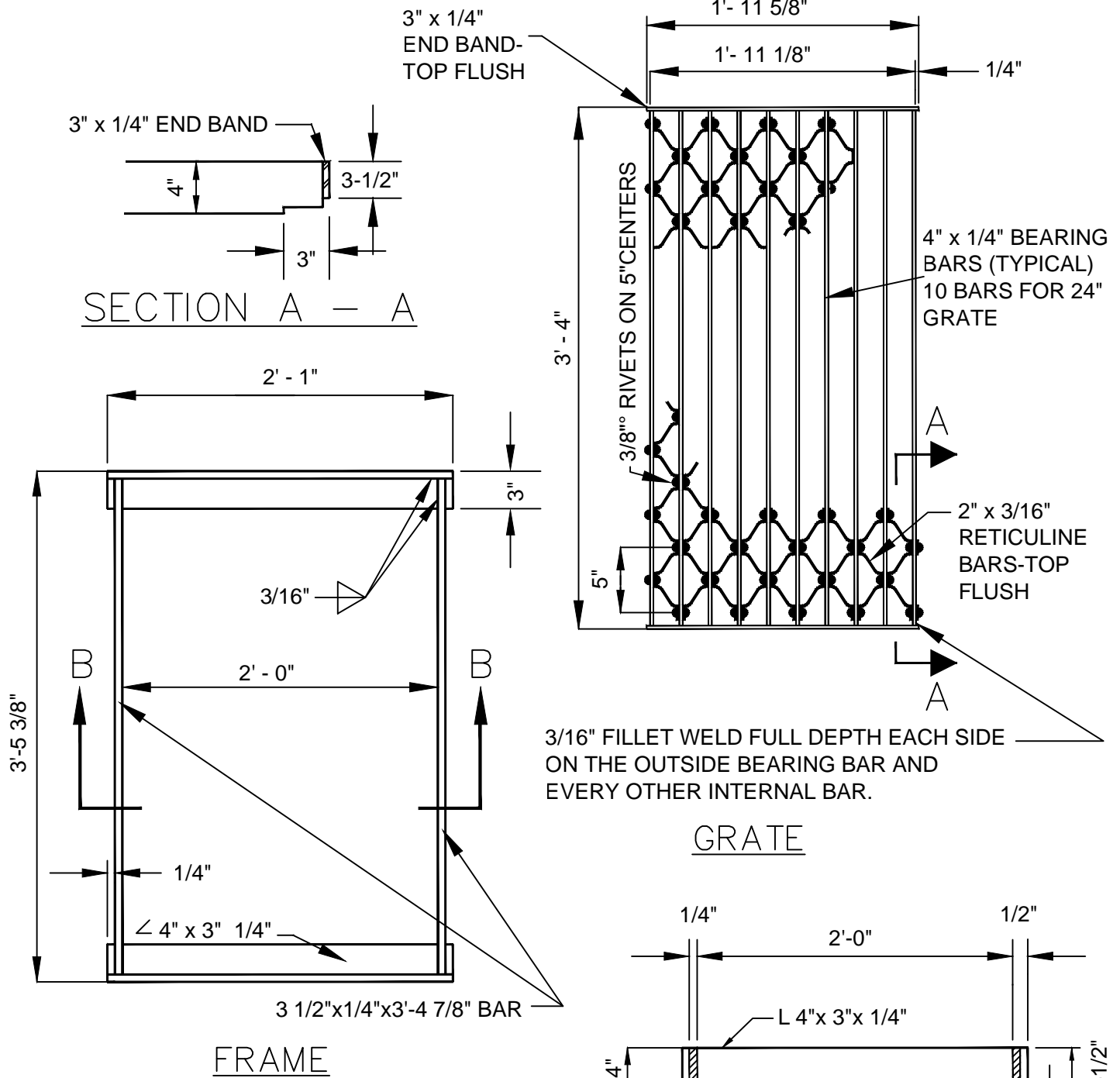
3'-0"

6"

SECTION B — B


SECTION A — A

|                    |               |   |                        |               |
|--------------------|---------------|---|------------------------|---------------|
| APPROVED BY        | DATE          |  | STANDARD CURB<br>INLET | STD. PLAN NO. |
| <i>Kevin Afari</i> | NOVEMBER 2010 |   |                        | SD-301        |
| TOWN ENGINEER      |               |   |                        |               |

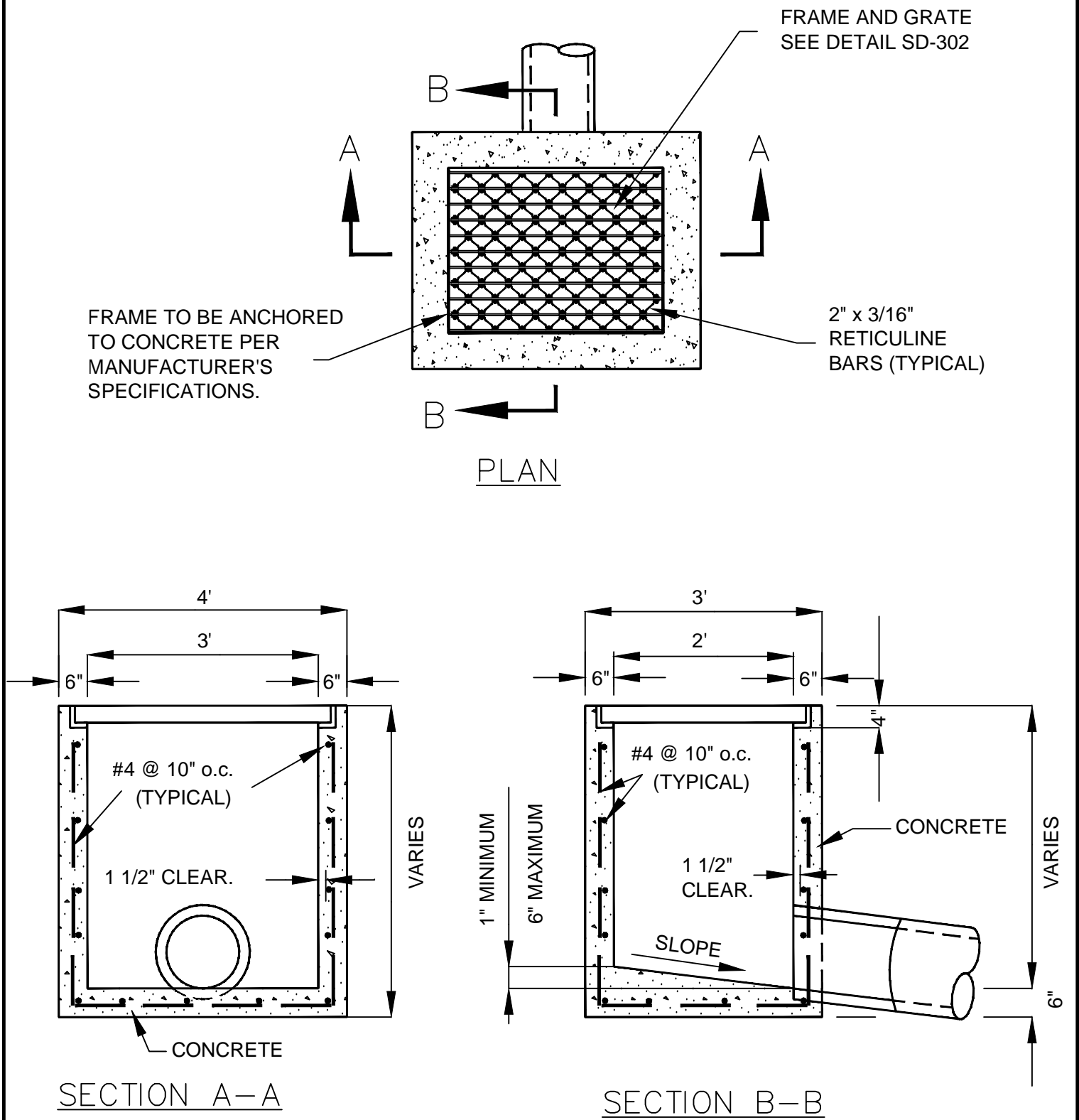



**NOTE:**

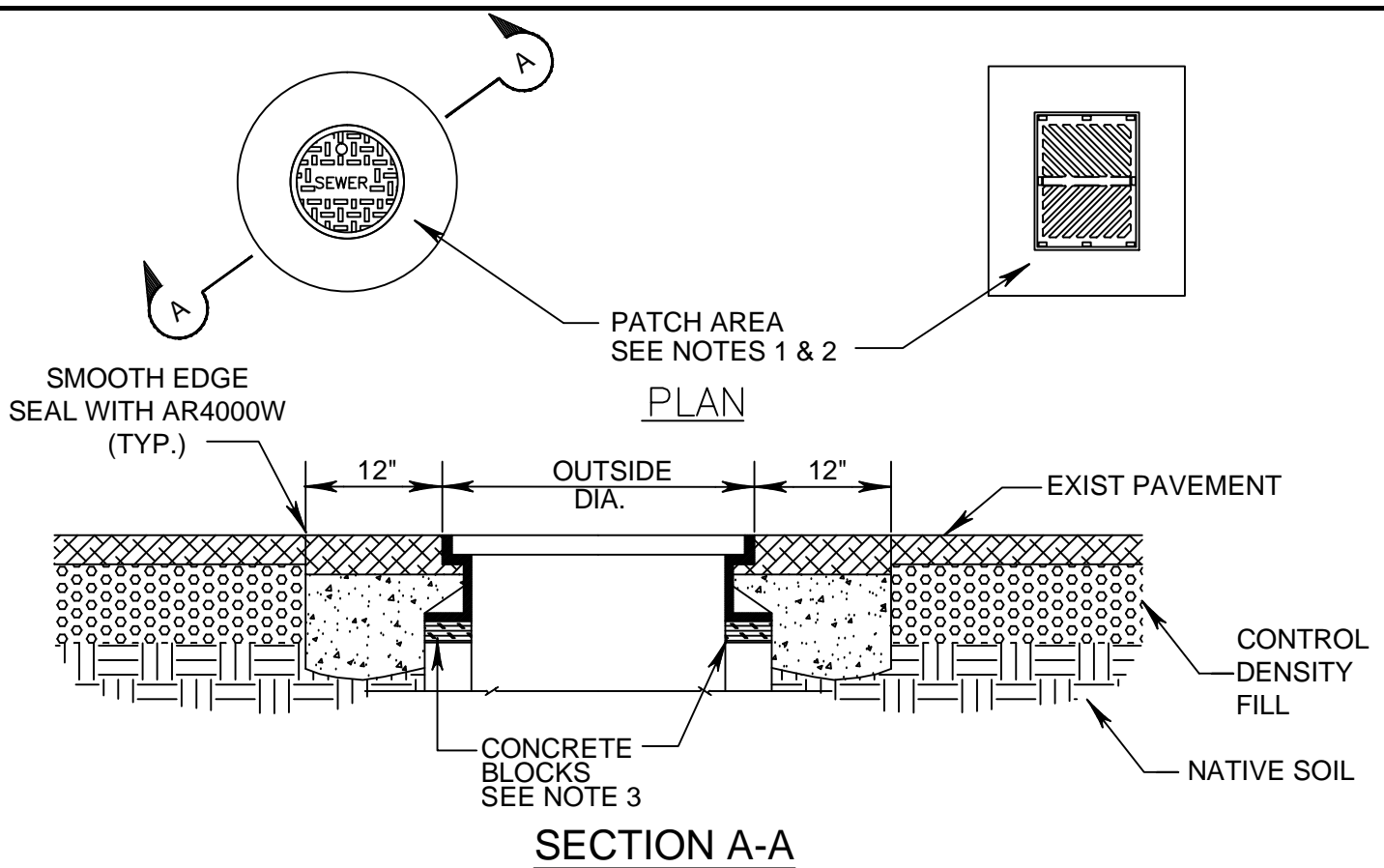
1. HINGED GRATE ONLY WHEN SPECIFIED.
2. PLACE GRATE BARS PARALLEL TO FLOW.
3. FRAME, GRATE AND ANCHORS SHALL BE GALVANIZED AFTER FABRICATION.
4. FRAME AND GRATE TO BE WELDED STEEL OR WRITTEN APPROVED ALTERNATIVE.

|                         |               |   |               |
|-------------------------|---------------|---|---------------|
| APPROVED BY             | DATE          |  | STD. PLAN NO. |
| <i>Kevin R. Ruffini</i> | NOVEMBER 2010 |   | SD-302        |
| TOWN ENGINEER           |               |   |               |
|                         |               | RETICULINE FRAME & GRATE  |               |

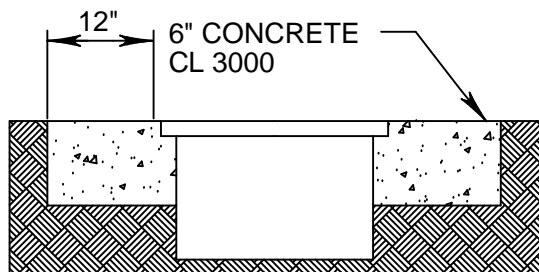




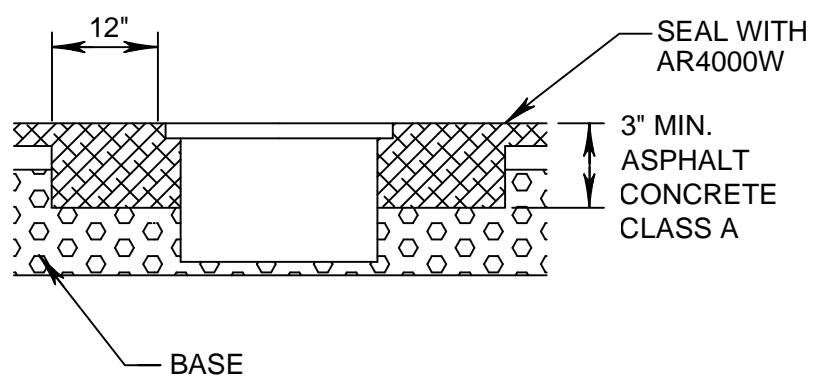
|                    |               |   |               |
|--------------------|---------------|---|---------------|
| APPROVED BY        | DATE          |  | STD. PLAN NO. |
| <i>Kevin Refai</i> | NOVEMBER 2010 |   | SD-303        |
| TOWN ENGINEER      |               |   |               |
|                    |               | CATCH BASIN   |               |



## MANHOLE & CATCHBASIN ADJUSTMENT



OUTSIDE PAVED AREA




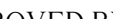
INSIDE PAVED AREA

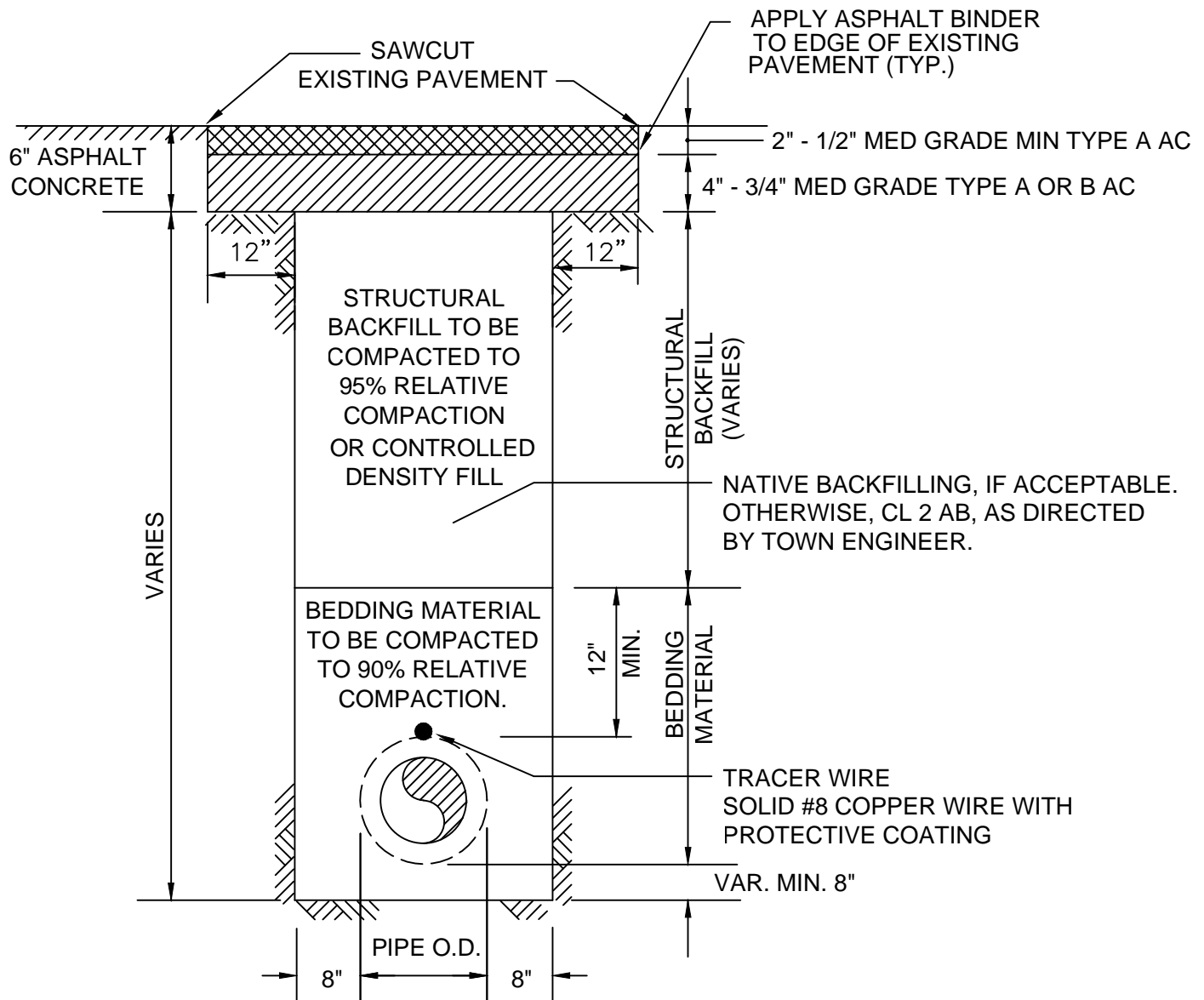
## VALVE BOX ADJUSTMENT


### NOTES:

NOT TO SCALE

1. REMOVE PAVEMENT AND BASE MATERIALS FOR A DISTANCE WHICH IS EQUAL TO THE DIAMETER OF THE FRAME PLUS TWO FEET. ADJUST CASTING FRAME TO NEW PAVEMENT SURFACE USING CONCRETE BLOCKS.
2. ASPHALT CONCRETE CLASS "B" (3" MIN.) REPLACEMENT PATCH TO BE 1" THICKER THAN PREVIOUSLY EXISTED. THE REST OF THE BACKFILL TO BE CONTROLLED DENSITY FILL.
3. 2"x4"x8" SOLID BRICK USED FOR FINAL ADJUSTMENT TO GRADE. 6" HIGH MAX.

|   |               |   |  |               |
|---|---------------|---|--|---------------|
| APPROVED BY   | DATE          |  | MANHOLE/CATCH<br>BASIN & VALVE BOX<br>ADJUSTMENT | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |  | SD-304        |
| TOWN ENGINEER   |               |   |  |               |



|                    |               |   |               |
|--------------------|---------------|---|---------------|
| APPROVED BY        | DATE          |  | STD. PLAN NO. |
| <i>Kevin Refai</i> | NOVEMBER 2010 |   | SD-305        |
| TOWN ENGINEER      |               |   |               |

## TRENCH DETAIL

**BEDDING MATERIAL****GRANULAR BEDDING MATERIAL REQUIREMENTS  
CALTRANS DURABILITY INDEX MINIMUM 30****SIEVE SIZES      PERCENTAGE PASSING**



|      |        |
|------|--------|
| 1"   | 100    |
| 3/4" | 90-100 |
| 3/8" | 20-55  |
| #4   | 0-10   |
| #8   | 0-5    |

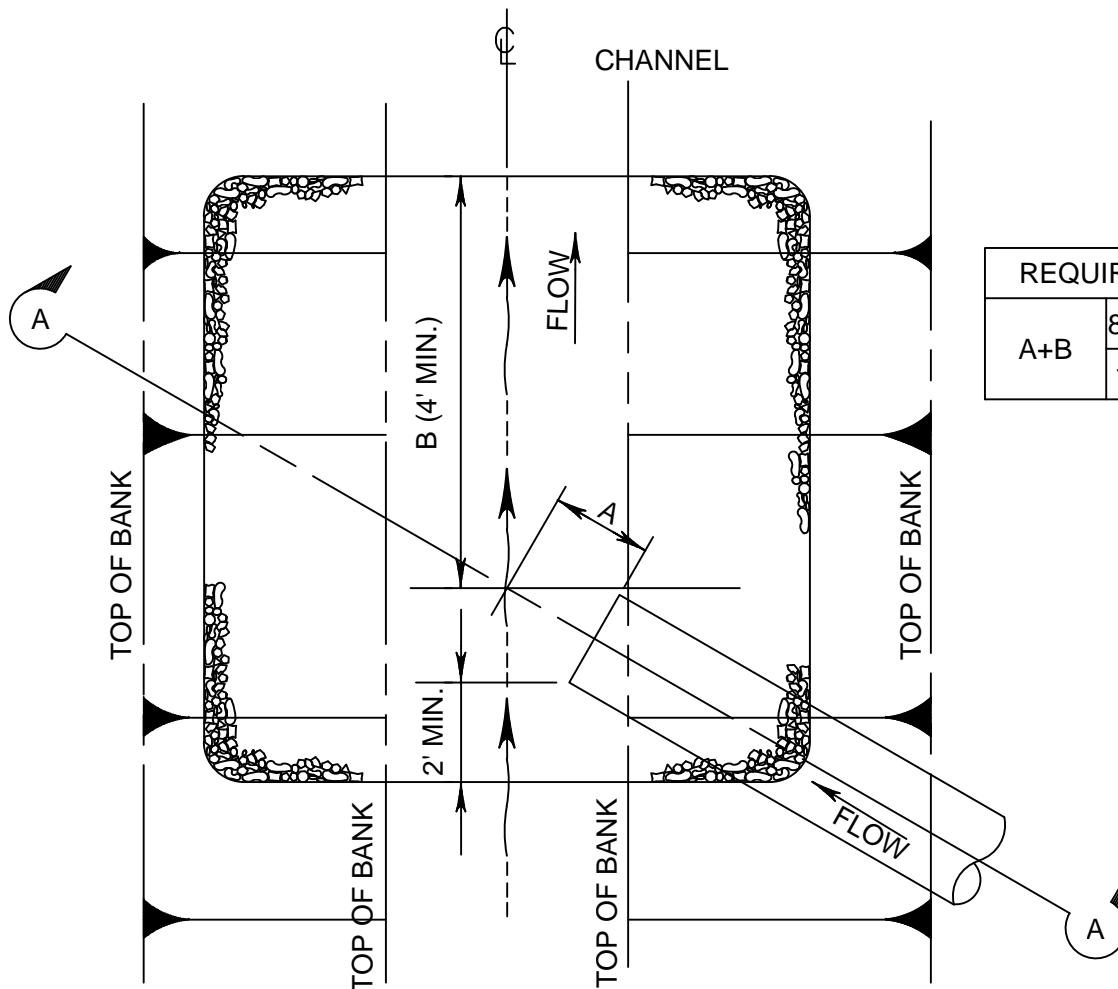
**STRUCTURAL BACKFILL****STRUCTURAL BACKFILL REQUIREMENTS PERCENT  
PASSING MINIMUM SAND EQUIVALENT OF 20****SIEVE SIZES      PERCENTAGE PASSING**

|        |        |
|--------|--------|
| 1-1/2" | 100    |
| 3/4"   | 80-100 |
| #4     | 30-60  |
| #30    | 5-35   |
| #200   | 0-12   |

**NOTES:**

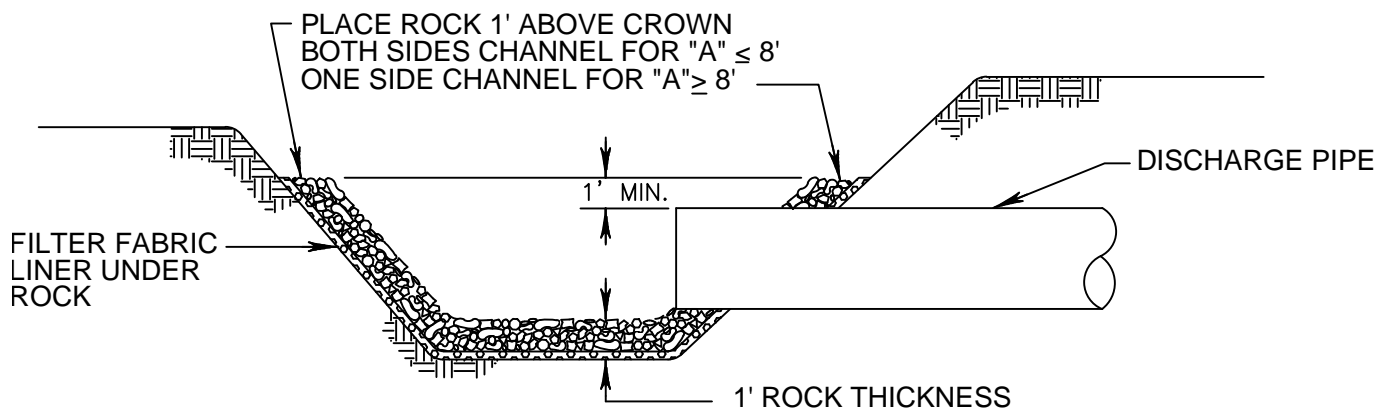
- 1 ALL BACKFILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 6 INCHES BEFORE COMPACTION UNLESS AUTHORIZED BY THE ENGINEER.
- 2 MECHANICAL COMPACTION OF BACKFILL MATERIAL SHALL NOT BEGIN UNTIL THE DEPTH OF COMPACTED BACKFILL MATERIAL IS 2 FEET ABOVE THE TOP OF PIPE.
- 3 EACH LIFT SHALL BE MECHANICALLY COMPACTED TO THE REQUIRED DENSITY PRIOR TO PLACING SUCCEEDING LIFTS OF BACKING MATERIAL.
- 4 COMPACTION TESTS SHALL BE AS REQUIRED BY THE TOWN CONSTRUCTION INSPECTOR, BUT IN NO CASE LESS THAN 2 TESTS EVERY 200 FT OF TRENCH. (ONE AT FINISH SUBGRADE AND ONE AT 50% OF TRENCH DEPTH).
- 5 IN-PLACE DENSITY WILL BE DETERMINED BY ONE OR MORE OF THE FOLLOWING METHODS.  
(A) ASTM D1557, TEST FOR DENSITY OF SOIL IN-PLACE BY THE SAND CONE METHOD.  
(B) ASTM D2922 - (NUCLEAR METHOD)
- 6 LABORATORY DENSITY WILL BE DETERMINED BY ASTM D1557, MOISTURE-DENSITY RELATIONS OF SOILS AND SOIL-AGGREGATE MIXTURES.
- 7 IF THE EDGE OF THE TRENCH FALLS WITHIN 3' OF THE GUTTER, THE ENTIRE PAVEMENT SHALL BE REMOVED TO THE GUTTER.
- 8 ON STEEP SLOPES, CONSTRUCT CLAY OR CONCRETE DAM THROUGH THE BEDDING MATERIAL AS DETERMINED BY TOWN ENGINEER.
- 9 FOR CONCRETE STREETS PLACE 6" CLASS A P.C.C. OVER 6" CLASS 2 A.B. FOR FINISHED SURFACE.
- 10 ALL TRENCH CONSTRUCTION SHALL BE IN COMPLIANCE WITH LATEST OSHA STANDARDS.
- 11 PLACE PERMANENT PAVEMENT WITHIN 30 DAYS AFTER BACKFILLING. INSTALL TEMPORARY AC TO FINISH GRADE UNTIL PERMANENT AC IS PLACED.
- 12 IF EXISTING AC SECTION IS LESS THAN 4", GRIND AC KEY TO FULL DEPTH OF EXISTING AC & REPLACE FULL DEPTH OF AC SECTION (3" MIN.)
- 13 IN PAVED STREETS, ALL CUTS SHALL BE SMOOTH & VERTICAL WITH THE AREA BEING GENERALLY RECTANGULAR. NATIVE MATERIAL MAY BE USED AS BACKFILL IF APPROVED BY TOWN ENGINEER. IF SAND BACKFILL IS USED, IT MUST BE WELL GRADED, TAMPED WITH VIBRATORY COMPACTOR & LIGHTLY JETTED, IF NECESSARY.
- 14 A SEMI-FINISHED SURFACE OF CUTBACK OR LOWERED CROSS-SECTION (MAX. LOWERED DEPTH, 1/2") OF ASPHALTIC CONCRETE WILL BE ALLOWED FOR A MAXIMUM OF 30 DAYS AFTER BACKFILLING TO ALLOW FOR SETTLING. CONTRACTOR SHALL PATCH ANY TIME THAT EXCESSIVE SETTLING OCCURS.
- 15 WITHIN 30 DAYS, CONTRACTOR SHALL RESTORE SURFACE TO ITS ORIGINAL CONDITION & BE RESPONSIBLE FOR ANY FURTHER SETTLING OR FAILURE FOR A MIN. OF 2 YEARS. IF CUTBACK IS USED AS A SEMI-FINISHED SURFACE, IT SHALL BE REMOVED BEFORE FINISHING. A 6" EDGE OF EXISTING AC SHALL BE REMOVED AROUND THE PERIMETER OF THE CUT BEFORE PLACEMENT OF ASPHALTIC CONCRETE.
- 16 A 6" COURSE OF CRUSHED ROCK BASE (1.5" MAX. AGGREGATE) & 3" ASPHALTIC CONCRETE IS MIN. SURFACING TO BE RESTORED. NO RESTORATION SHALL BE LESS SUBSTANTIAL THAN EXISTING COMPOSITION. IN CASES OF CONCRETE STREETS, A 6" THICKNESS OF CONCRETE ON A 6" ROCK CUSHION IS THE MINIMUM STANDARD.

|   |               |   |                                |               |
|---|---------------|---|--------------------------------|---------------|
| APPROVED BY   | DATE          |  | <b>TRENCH DETAIL<br/>NOTES</b> | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                                | SD-306        |
| TOWN ENGINEER   |               |   |                                |               |




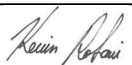
| REQUIRED DIMENSIONS |                    |
|---------------------|--------------------|
| A+B                 | 8' FOR ROCK LINING |
|                     | 12' FOR RIP RAP    |

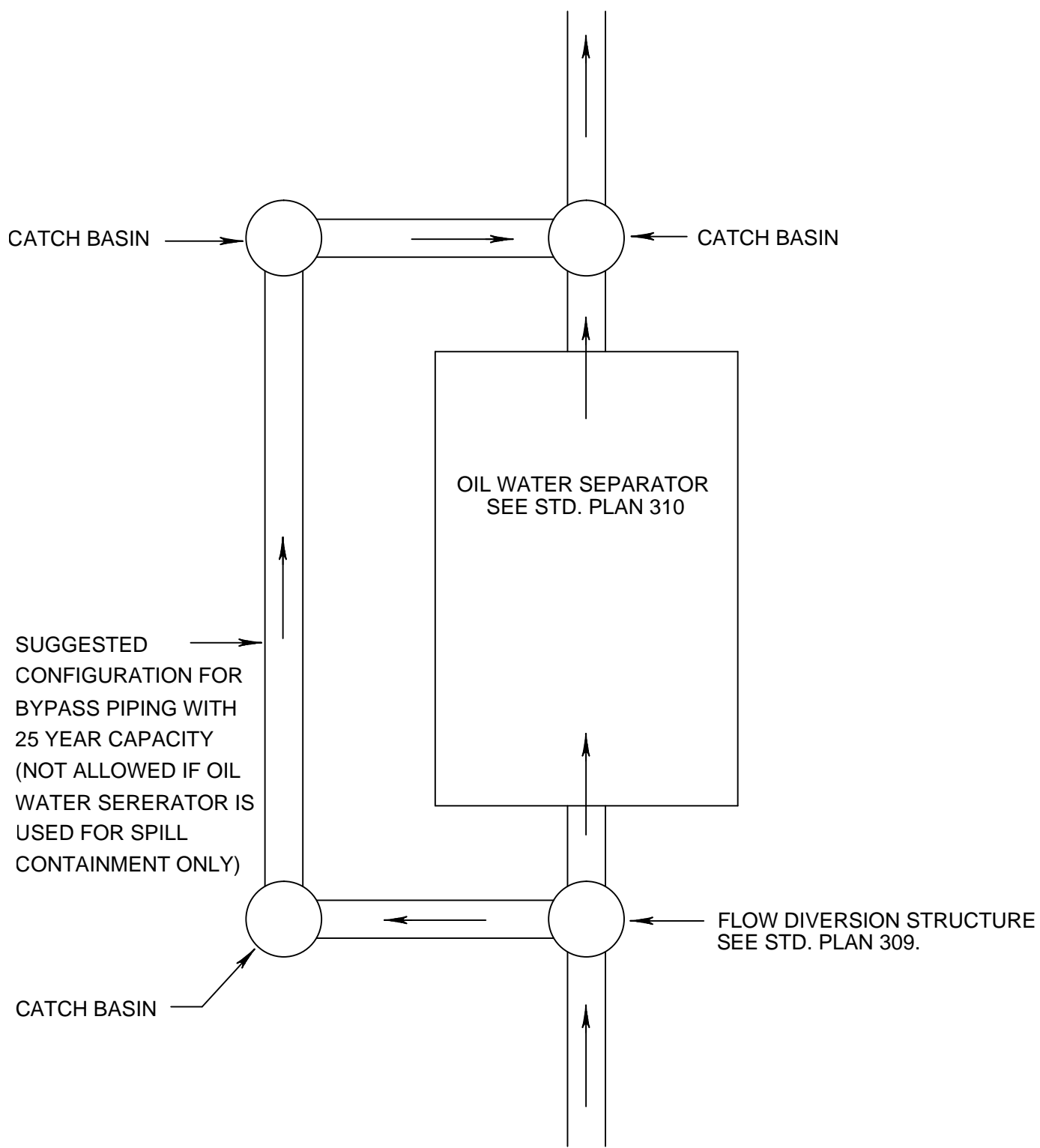
**PLAN**



**SECTION A-A**

NOT TO SCALE


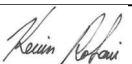
|   |               |   |                         |               |
|---|---------------|---|-------------------------|---------------|
| APPROVED BY   | DATE          |  | PIPE OUT FALL<br>DETAIL | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                         |               |
| TOWN ENGINEER   |               |   |                         | SD-307        |

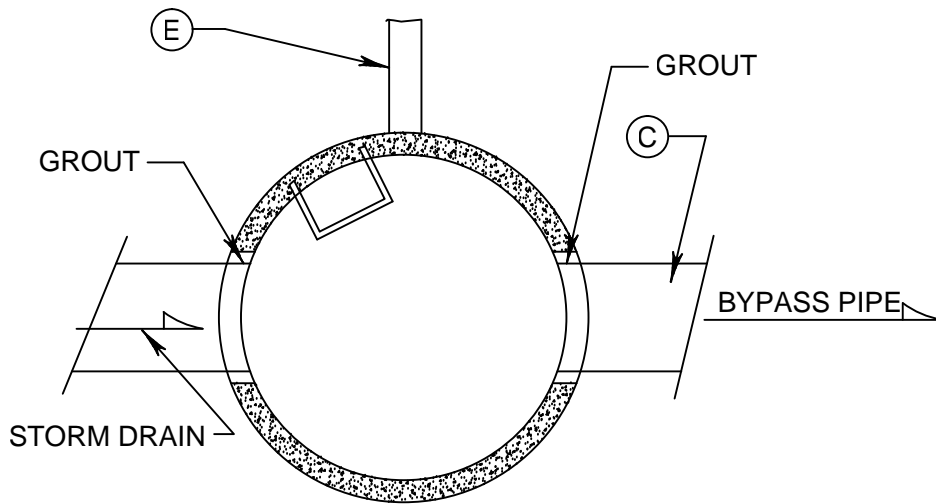


SUGGESTED  
CONFIGURATION FOR  
BYPASS PIPING WITH  
25 YEAR CAPACITY  
(NOT ALLOWED IF OIL  
WATER SERERATOR IS  
USED FOR SPILL  
CONTAINMENT ONLY)

PLAN VIEW

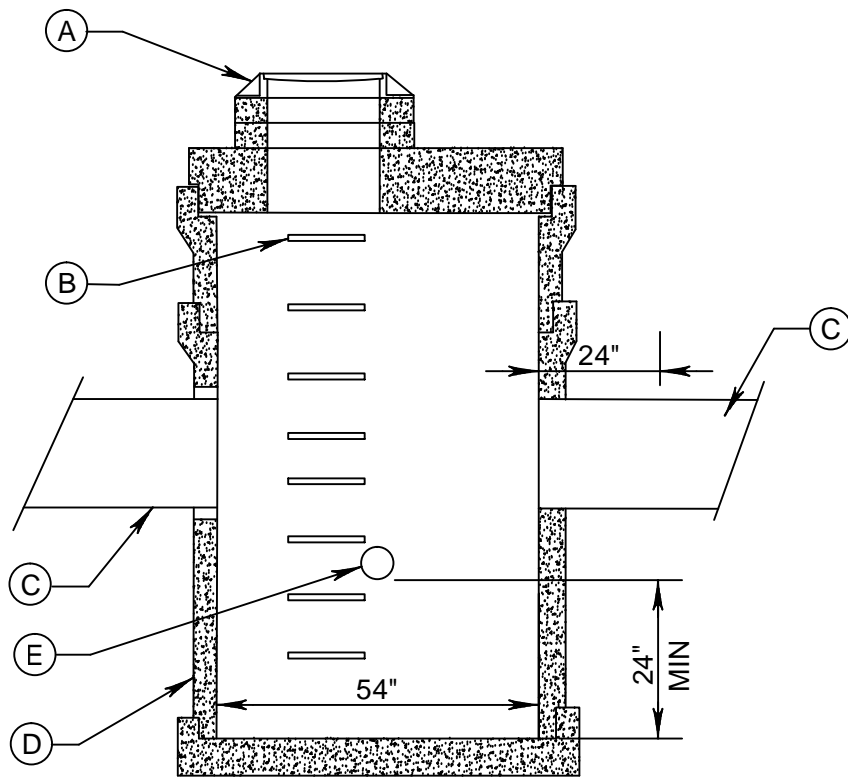
NOT TO SCALE

|   |               |   |                               |               |
|---|---------------|---|-------------------------------|---------------|
| APPROVED BY   | DATE          |  | OIL WATER<br>SEPARATOR LAYOUT | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                               | SD-308        |
| TOWN ENGINEER   |               |   |                               |               |



**PLAN**

- (A) INSTALL MANHOLE FRAME AND COVER, SEE STD. PLAN 302
- (B) STEPS.
- (C) SEE PLAN AND SPECIFICATIONS FOR SIZE AND TYPE OF PIPE ENTERING AND EXITING CB. AND INVERT ELEVATIONS.
- (D) 54" TYPE II CB. OR LARGER. 72" MIN. FOR WET PONDS.
- (E) WET POND/VAULT INLET WITH SHEAR GATE OR A FLAP GATE.




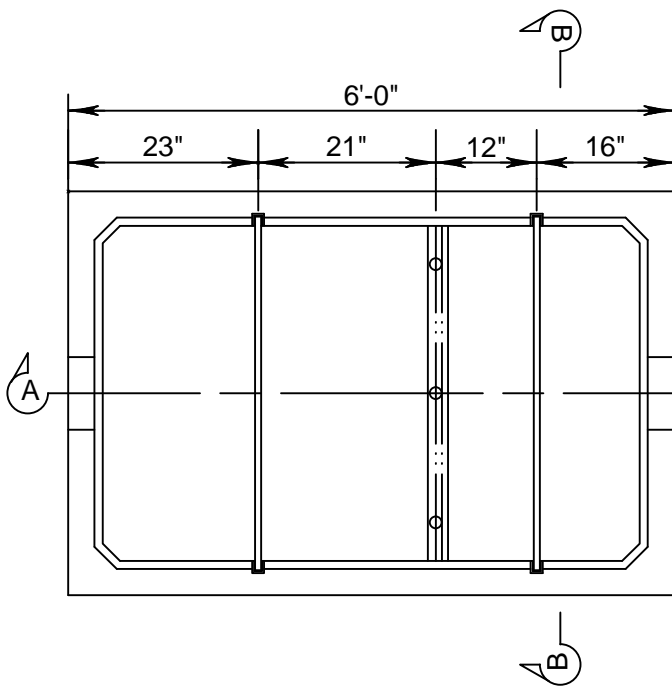
**ELEVATION**

**NOTES:**

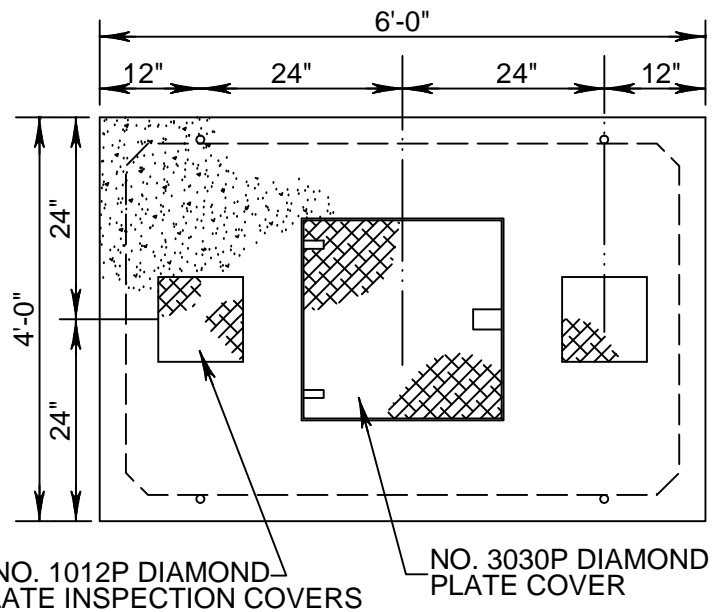
1. THE CROWN OF THE VAULT INLET SHALL BE AT OR BELOW THE INVERT ELEVATION OF THE BYPASS PIPE.
2. THIS DETAIL IS A SCHEMATIC REPRESENTATION ONLY. ACTUAL CONFIGURATION WILL VARY DEPENDING ON SPECIFIC SITE CONSTRAINTS AND APPLICABLE DESIGN CRITERIA.

NOT TO SCALE

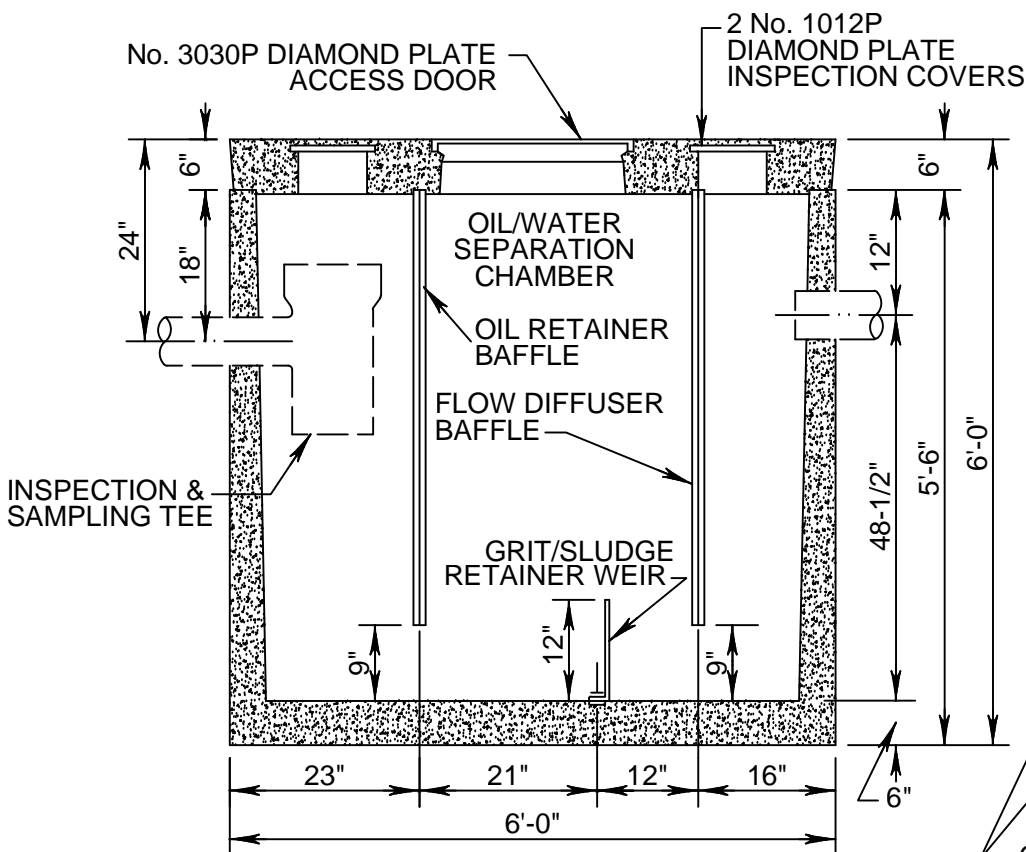
|                    |               |   |                             |               |
|--------------------|---------------|---|-----------------------------|---------------|
| APPROVED BY        | DATE          |  | FLOW DIVERSION<br>STRUCTURE | STD. PLAN NO. |
| <i>Kevin Refai</i> | NOVEMBER 2010 |   |                             |               |
| TOWN ENGINEER      |               |   |                             | SD-309        |



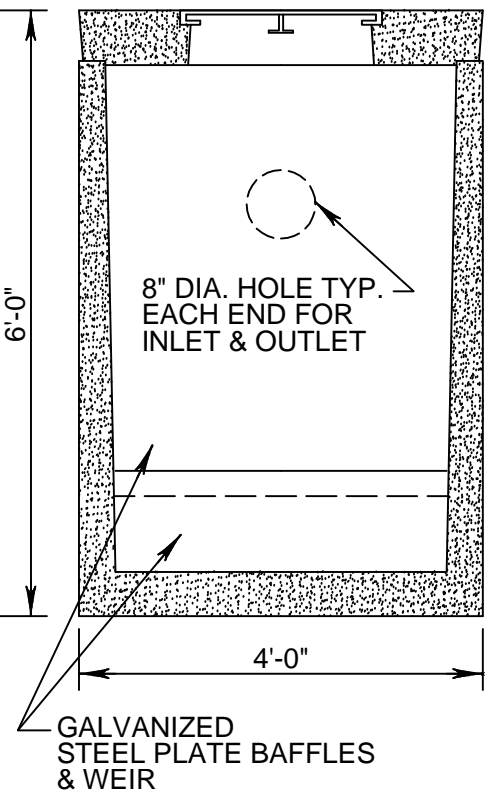
**PLAN-BASE**



**PLAN-COVER**




**SECTION A-A**

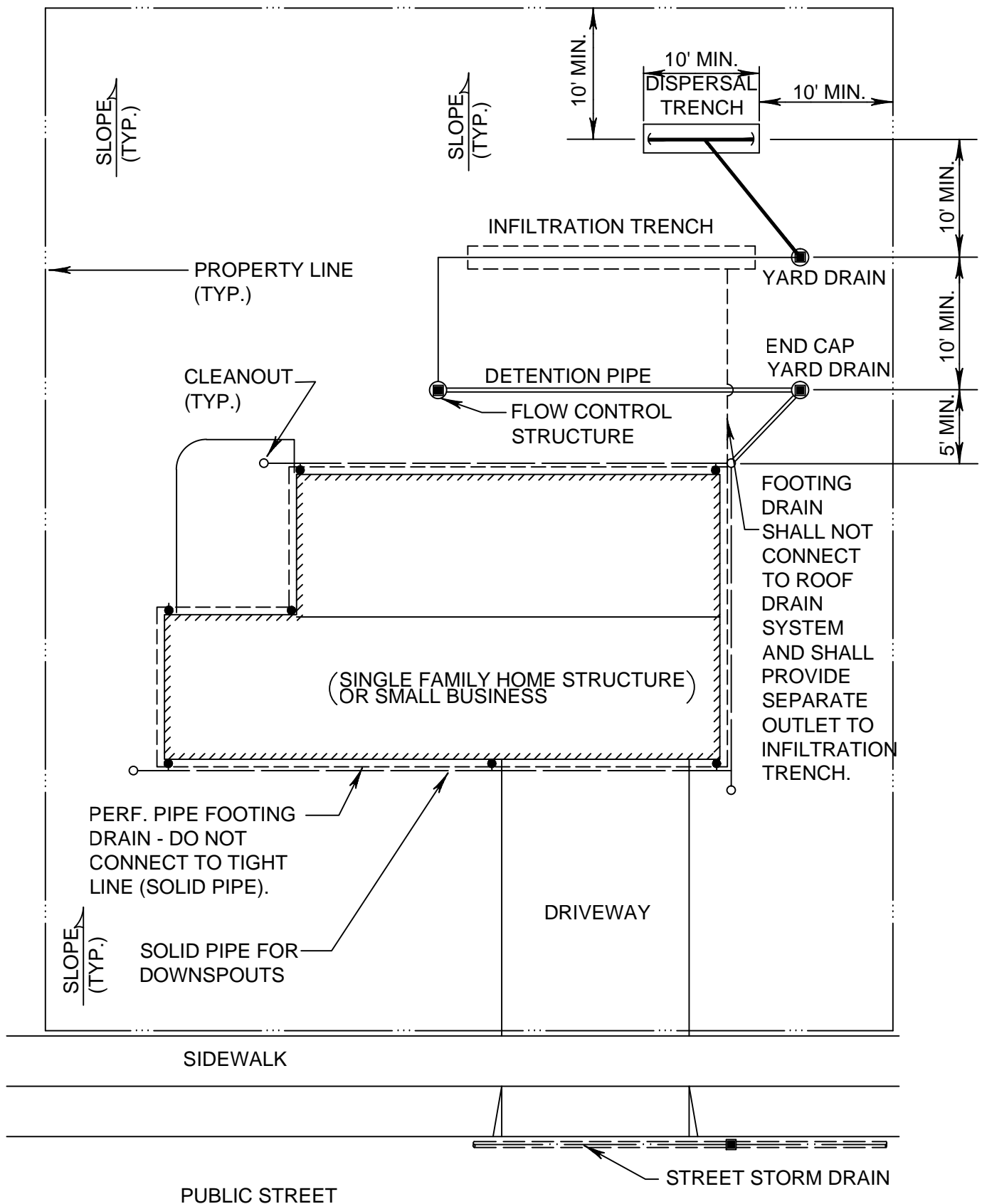


**SECTION B-B**

NOT TO SCALE


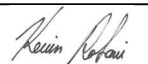
|               |               |   |                             |               |
|---------------|---------------|---|-----------------------------|---------------|
| APPROVED BY   | DATE          |  | TYPICAL OIL/WATER SEPARATOR | STD. PLAN NO. |
|               | NOVEMBER 2010 |   |                             |               |
| TOWN ENGINEER |               |   |                             | SD-310        |

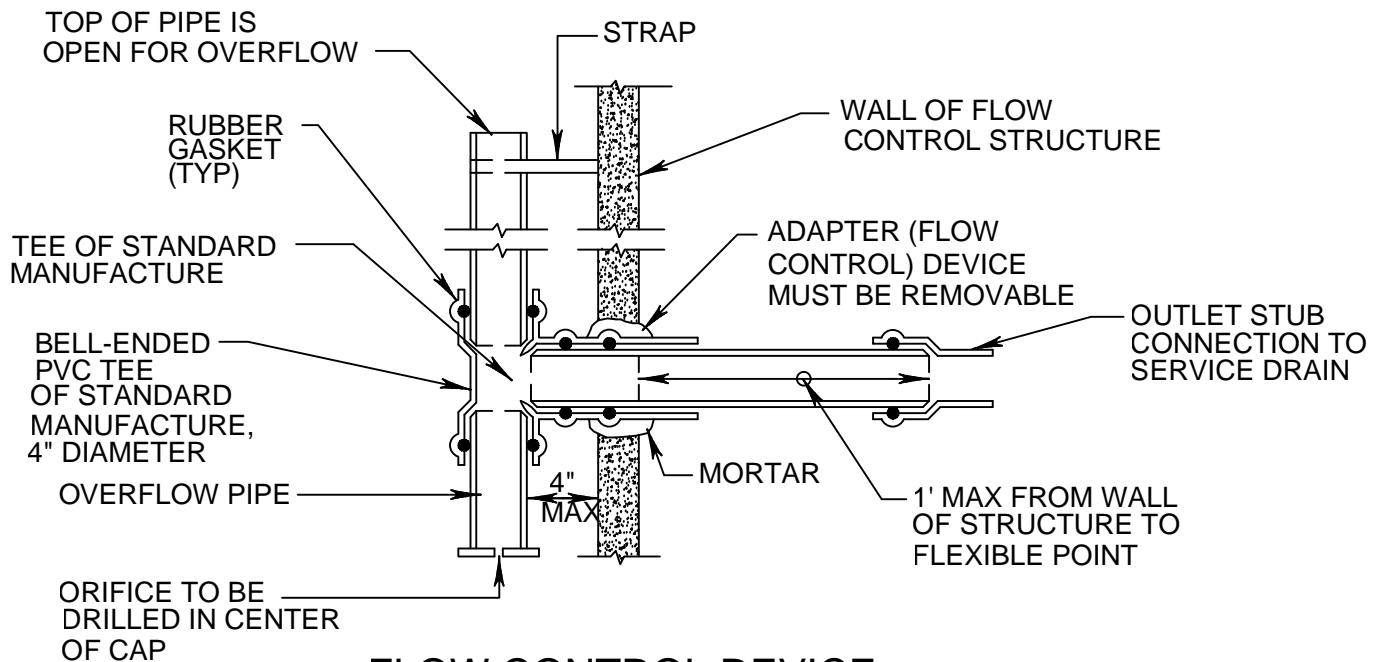




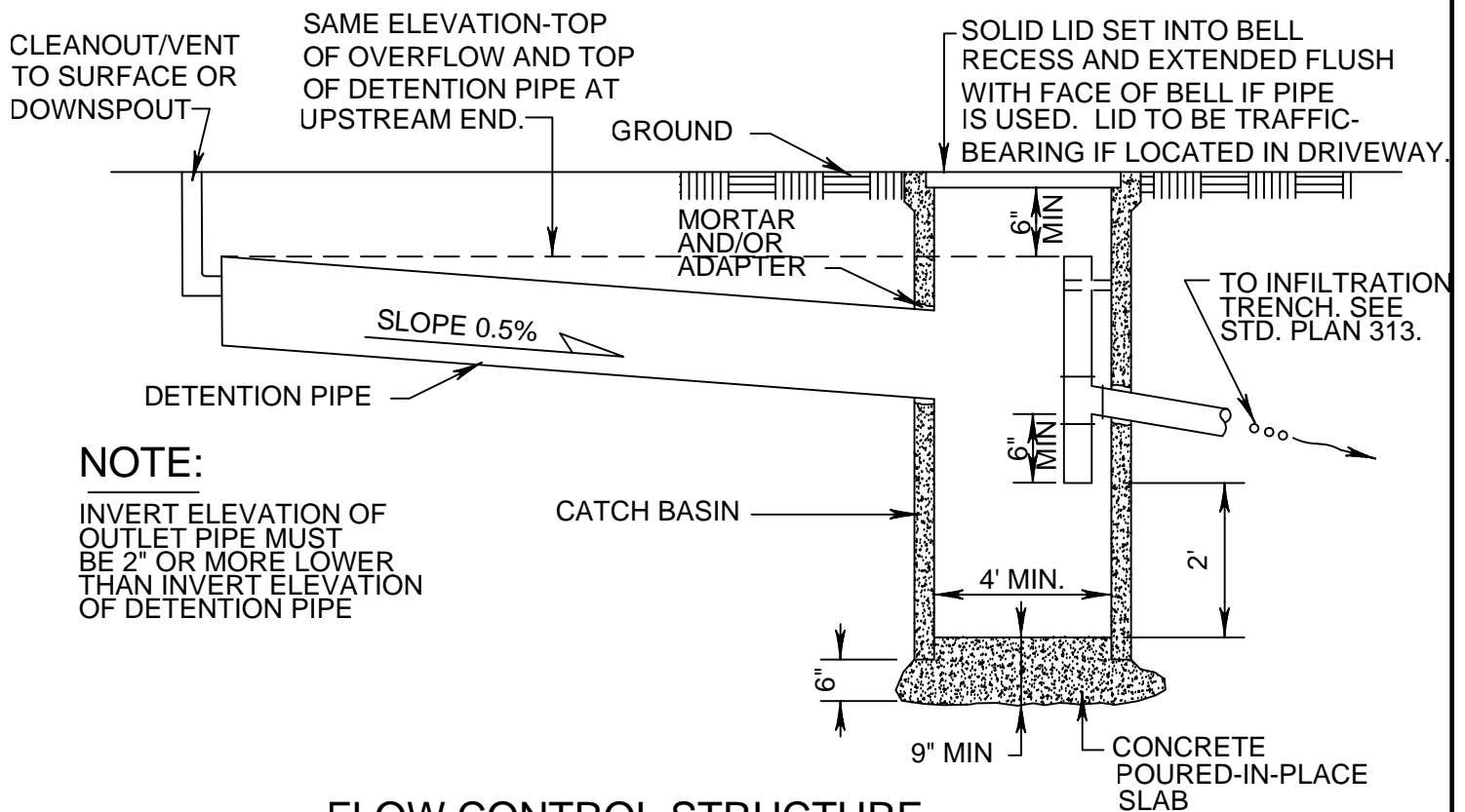
NOT TO SCALE

THIS SHOWS A TYPICAL DETENTION SYSTEM ON A SITE, ACCEPTABLE LOCATIONS FOR THE DETENTION PIPE, CONNECTIONS OF DOWNSPOUTS, CATCHBASINS AND DISCHARGE OF THE WATER ONTO A NATURAL LOCATION MUST BE APPROVED BY THE TOWN ENGINEER.

|   |               |   |  |               |
|---|---------------|---|--|---------------|
| APPROVED BY   | DATE          |  | DETENTION/<br>INFILTRATION<br>SYSTEM FOR<br>SMALL PROJECTS | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |  | SD-311        |
| TOWN ENGINEER   |               |   |  |               |



### FLOW CONTROL DEVICE



#### NOTE:

INVERT ELEVATION OF  
OUTLET PIPE MUST  
BE 2" OR MORE LOWER  
THAN INVERT ELEVATION  
OF DETENTION PIPE

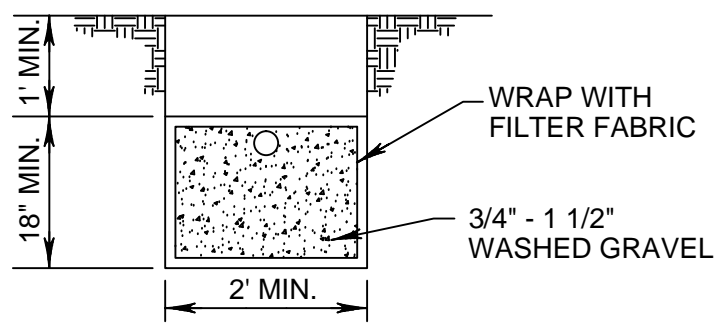
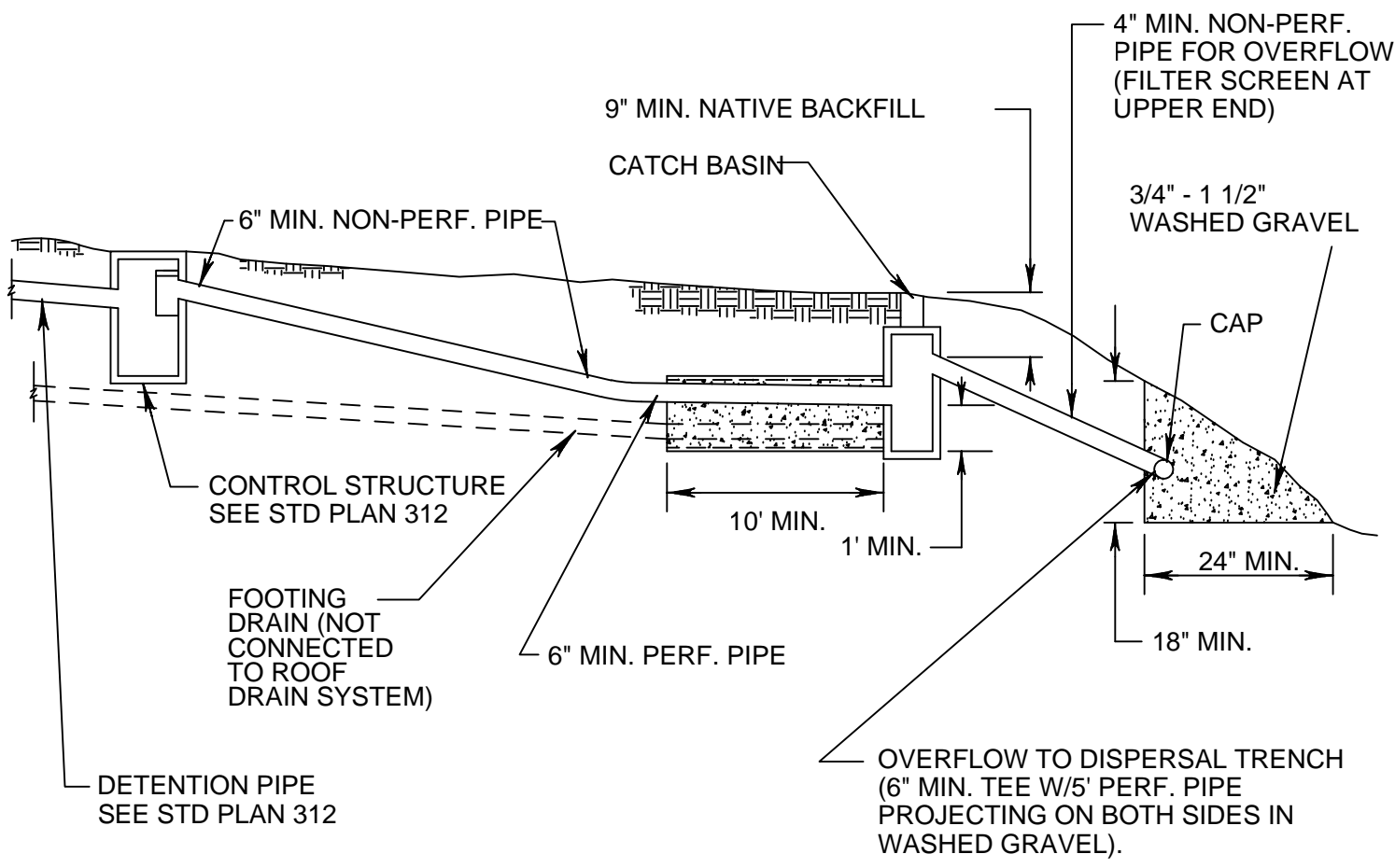
### FLOW CONTROL STRUCTURE

#### NOTES:

- 1 OVERFLOW AND OUTLET PIPES HAVE SAME DIAMETER, 4" MIN.
- 2 THIS DESIGN IS ONLY APPROVED FOR PROPERTY WITH LESS THAN 5,000 SQUARE FEET OF IMPERVIOUS SURFACE.


NOT TO SCALE

|   |               |   |   |               |
|---|---------------|---|---|---------------|
| APPROVED BY   | DATE          |  | CONTROL STRUCTURE<br>FOR SMALL PROJECTS | STD. PLAN NO. |
|  | NOVEMBER 2010 |   | SD-312                                  |               |
| TOWN ENGINEER   |               |   |   |               |

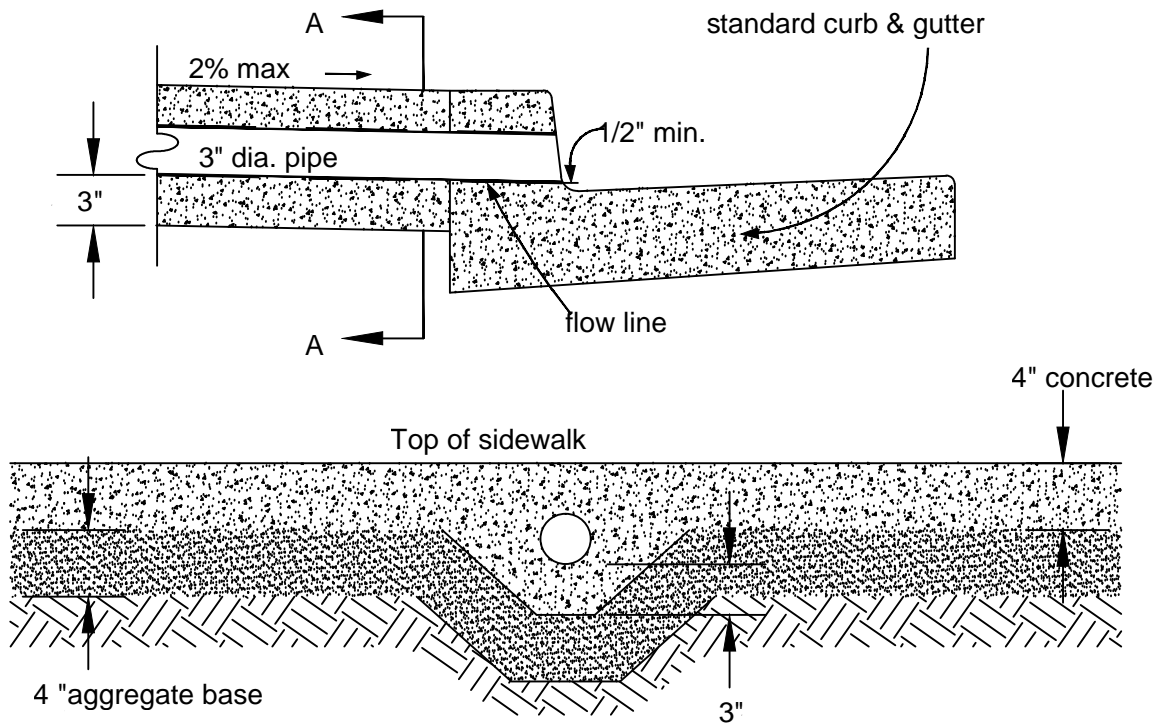


**TYPICAL TRENCH SECTION**

NOT TO SCALE

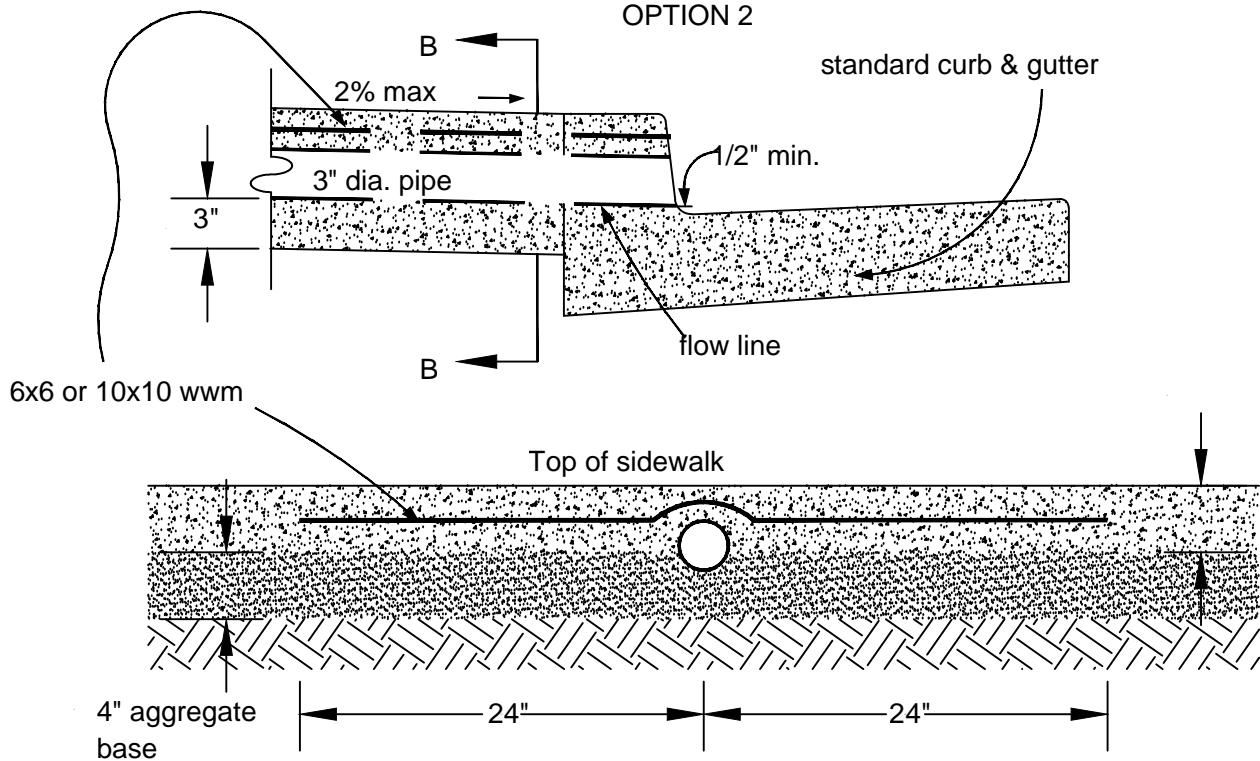
|                    |               |   |  |               |
|--------------------|---------------|---|--|---------------|
| APPROVED BY        | DATE          |  | INFILTRATION<br>SYSTEM FOR SMALL<br>PROJECTS | STD. PLAN NO. |
| <i>Kevin Refai</i> | NOVEMBER 2010 |   |  |               |
| TOWN ENGINEER      |               |   |  | SD-313        |

# OPTION 1





SECTION A-A

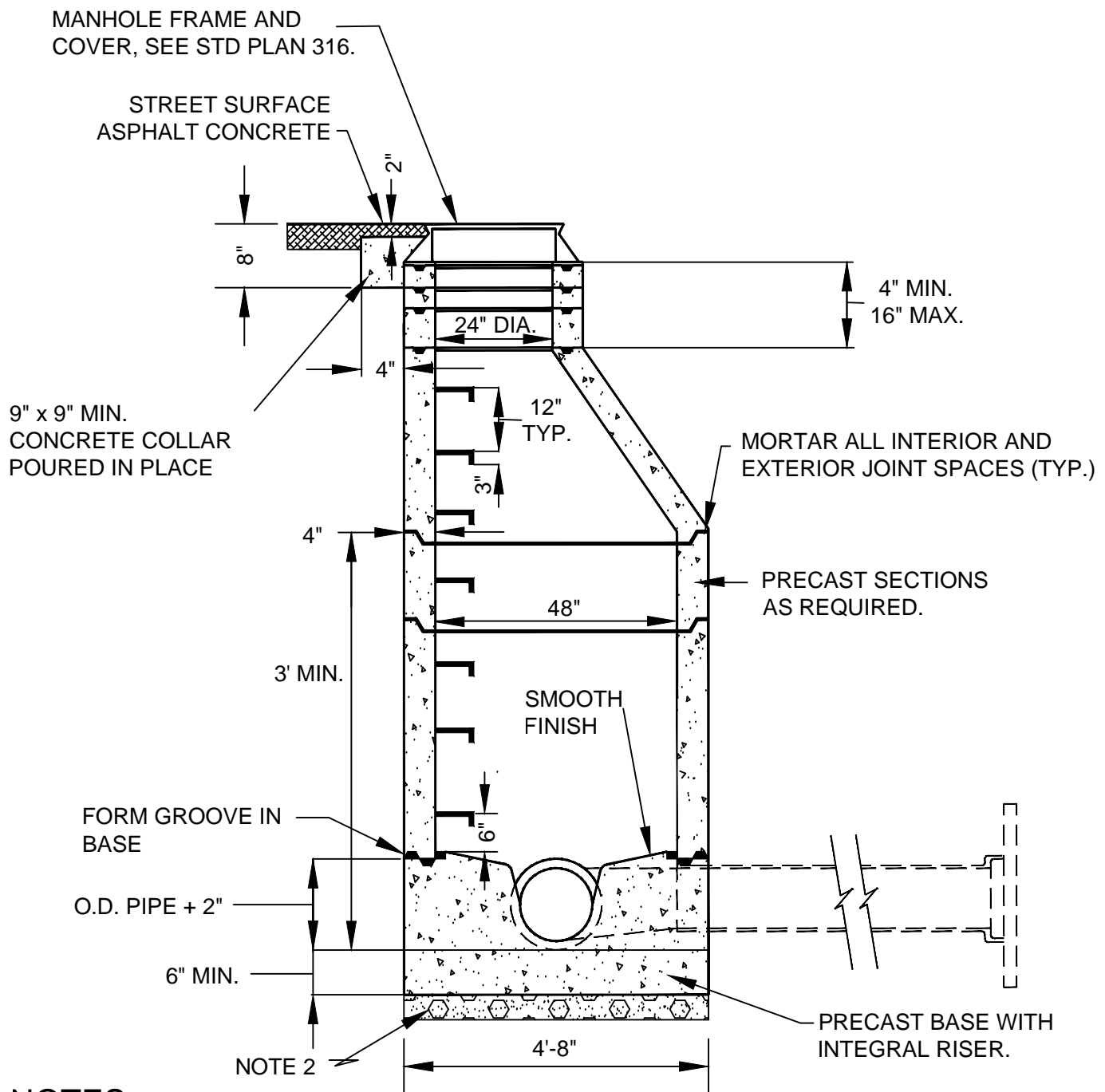
# OPTION 2



SECTION B-B

NOT TO SCALE



|   |               |   |                               |               |
|---|---------------|---|-------------------------------|---------------|
| APPROVED BY   | DATE          |  | BUILDING/YARD<br>DRAIN DETAIL | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                               | SD-314        |
| TOWN ENGINEER   |               |   |                               |               |

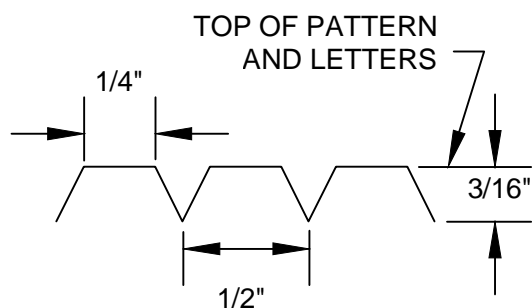


## NOTES:

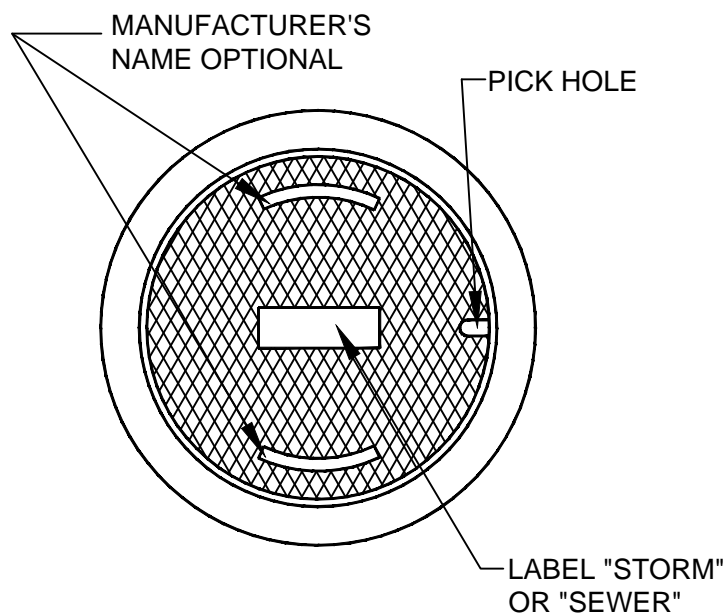
1. PRECAST M.H. SECTIONS SHALL CONFORM TO APPLICABLE PROVISIONS OF ASTM C478.
2. 9" CLASS II FOR AGGREGATE BASE BEDDING COMPACTED TO 95% MAX. ASTM D1557.
3. STEPS SHALL BE GALV. STEEL 3/4" DIA., INSERTED 3" MIN.
4. ALL JOINTS WITH FLEXIBLE PLASTIC JOINT COMPOUND (RAM-NECK, QUICK SEAL, OR EQUAL). TWO LAYERS MAY BE REQUIRED TO SEAL BASE. PLASTER WITH MORTAR THEREAFTER.
5. MANHOLE BASE MUST BE POURED AGAINST UNDISTURBED SOIL. IF EXCAVATED TOO DEEP, FILL WITH CONCRETE.

NOT TO SCALE

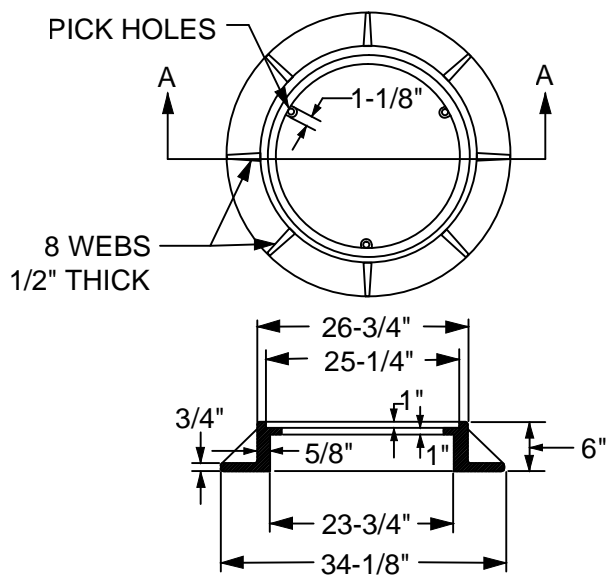
|   |               |   |                     |               |
|---|---------------|---|---------------------|---------------|
| APPROVED BY   | DATE          |  | STANDARD<br>MANHOLE | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                     | SD-315        |
| TOWN ENGINEER   |               |   |                     |               |



COVER  
DIAMOND DETAIL PATTERN


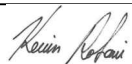


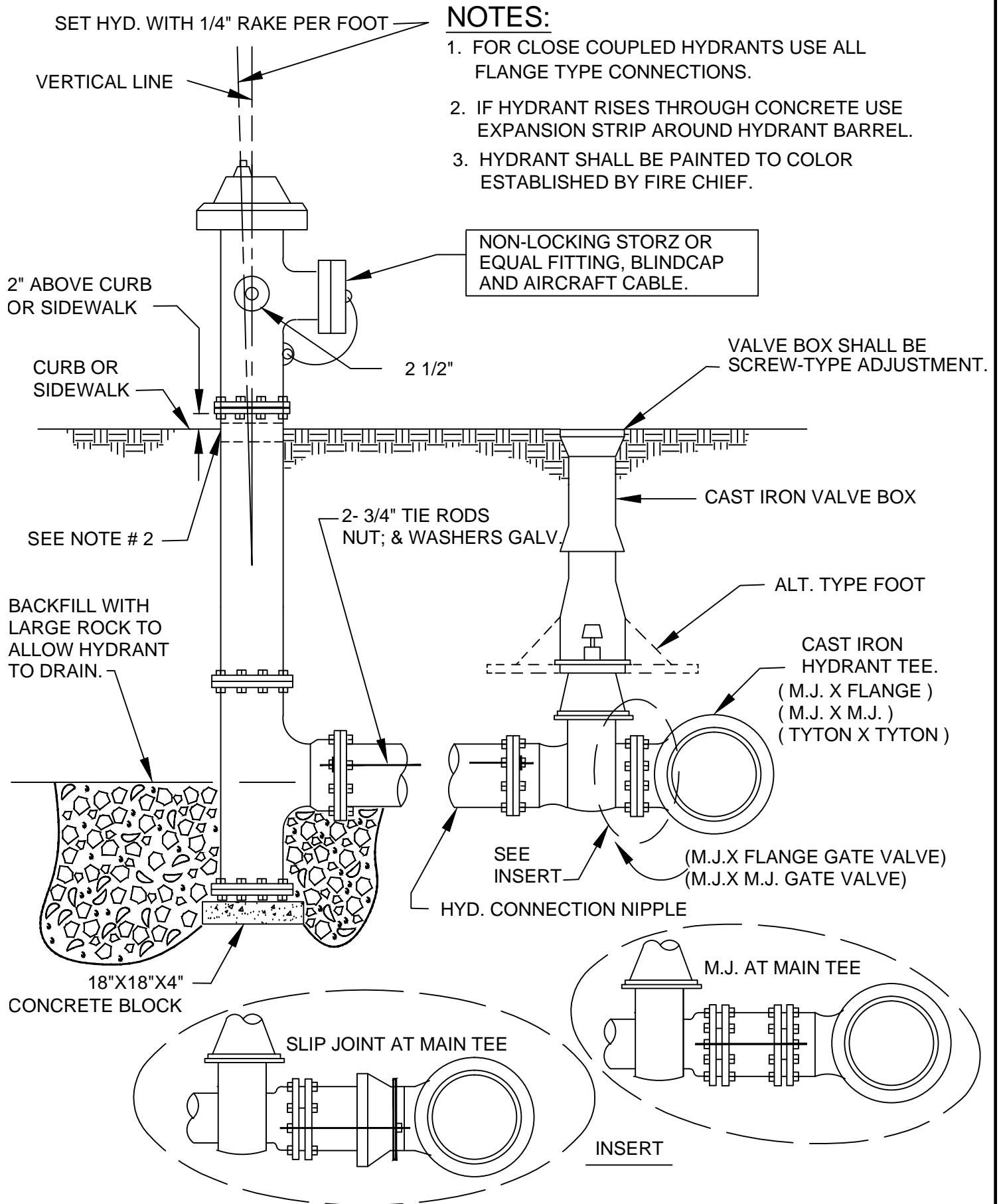
PLAN



SECTION A-A


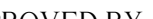
NOT TO SCALE

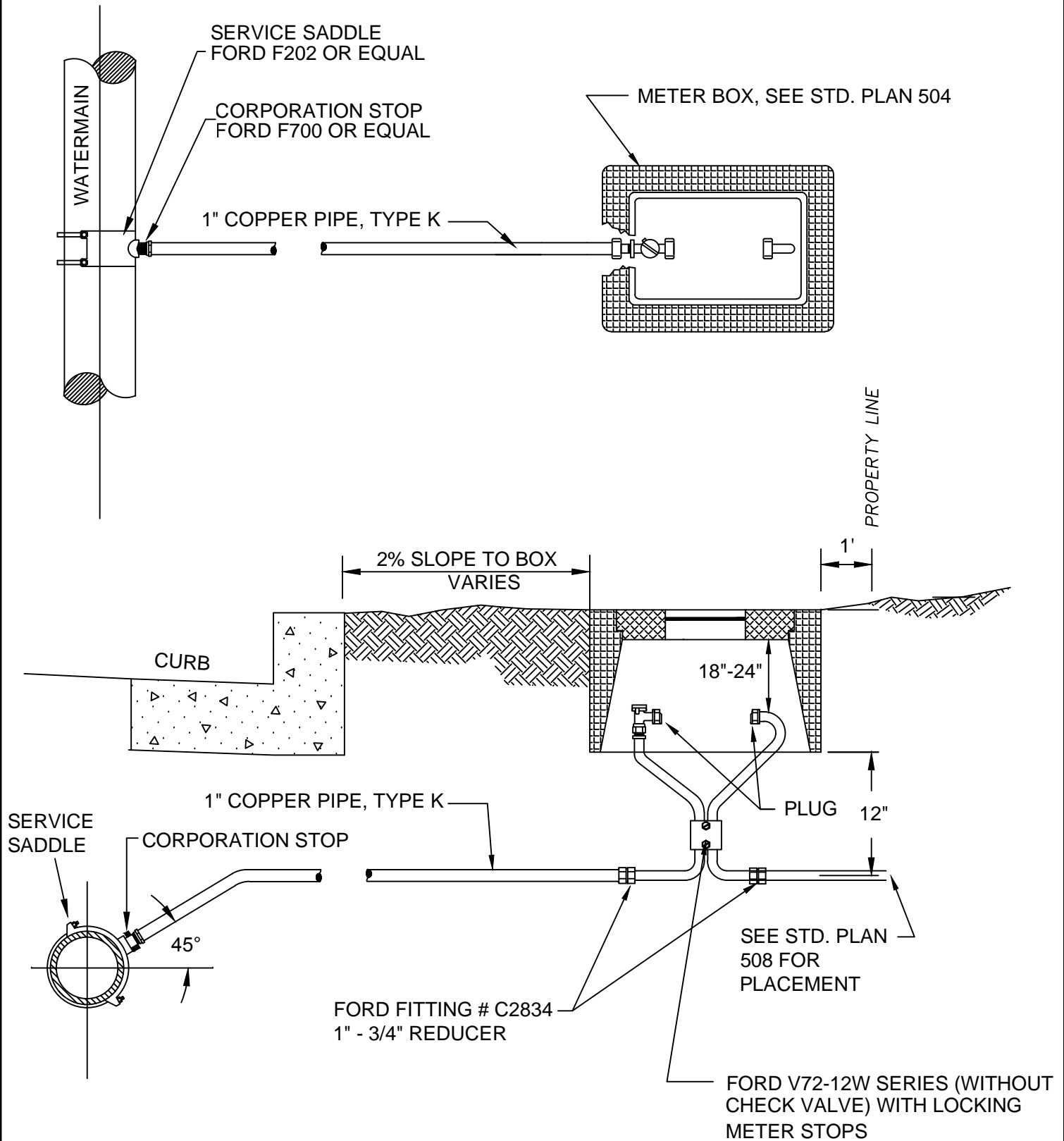
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|---|---------------|---|----------------------------|---------------|
| APPROVED BY   | DATE          |  | MANHOLE FRAME<br>AND COVER | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                            | SD-316        |
| TOWN ENGINEER   |               |   |                            |               |



## NOTES:

1. FOR CLOSE COUPLED HYDRANTS USE ALL FLANGE TYPE CONNECTIONS.
2. IF HYDRANT RISES THROUGH CONCRETE USE EXPANSION STRIP AROUND HYDRANT BARREL.
3. HYDRANT SHALL BE PAINTED TO COLOR ESTABLISHED BY FIRE CHIEF.


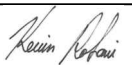
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|---|---------------|---|--------------|---------------|
| APPROVED BY   | DATE          |  | FIRE HYDRANT | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |              | WA-500        |
| TOWN ENGINEER   |               |   |              |               |



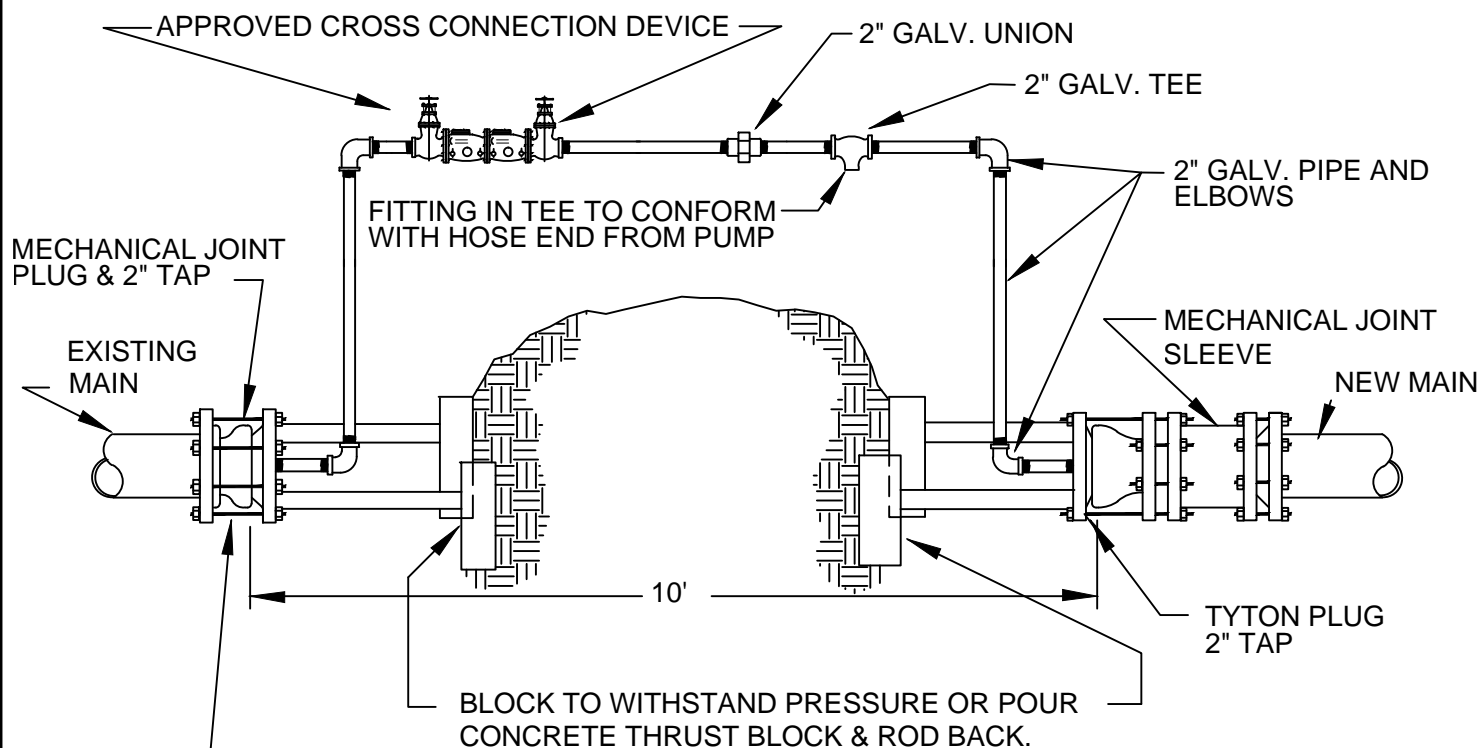
# NOTES:

- CORPORATION STOPS SHALL BE FORD F700 , 1 INCH OR EQUAL
- WATER SERVICE SHALL BE 5' FROM LOT CORNERS

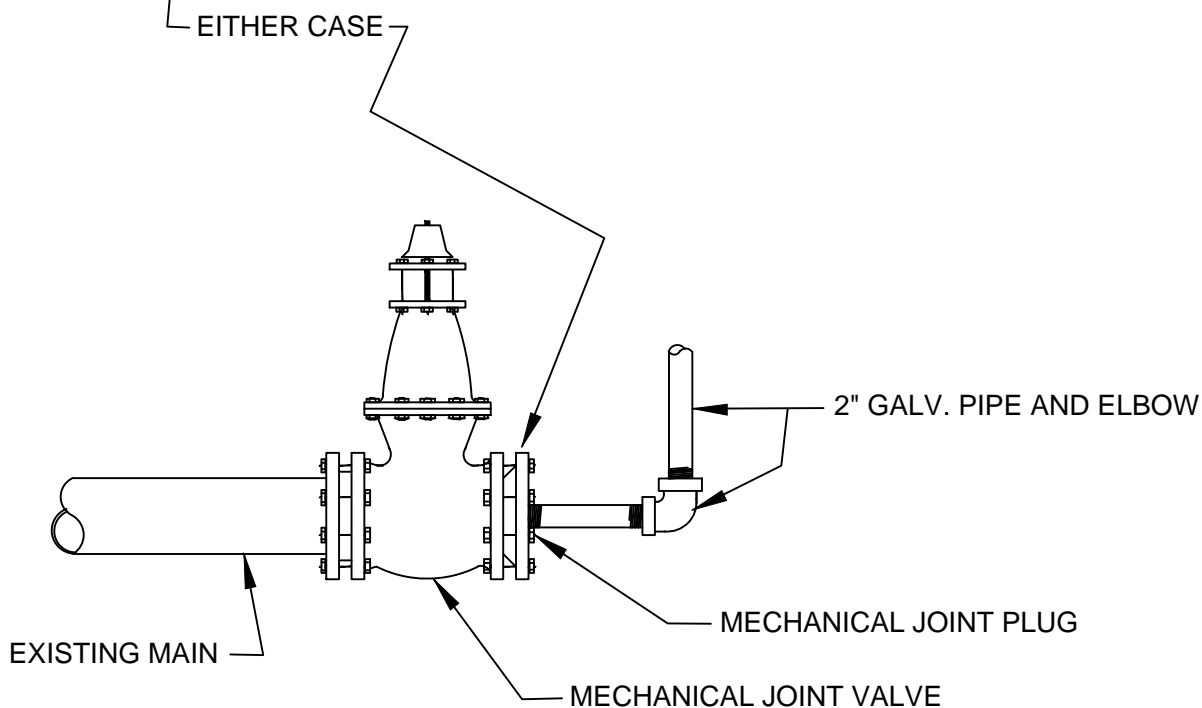
NOT TO SCALE

|   |               |   |                        |               |
|---|---------------|---|------------------------|---------------|
| APPROVED BY   | DATE          |  | NEW 3/4" WATER SERVICE | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                        | WA-501        |
| TOWN ENGINEER   |               |   |                        |               |






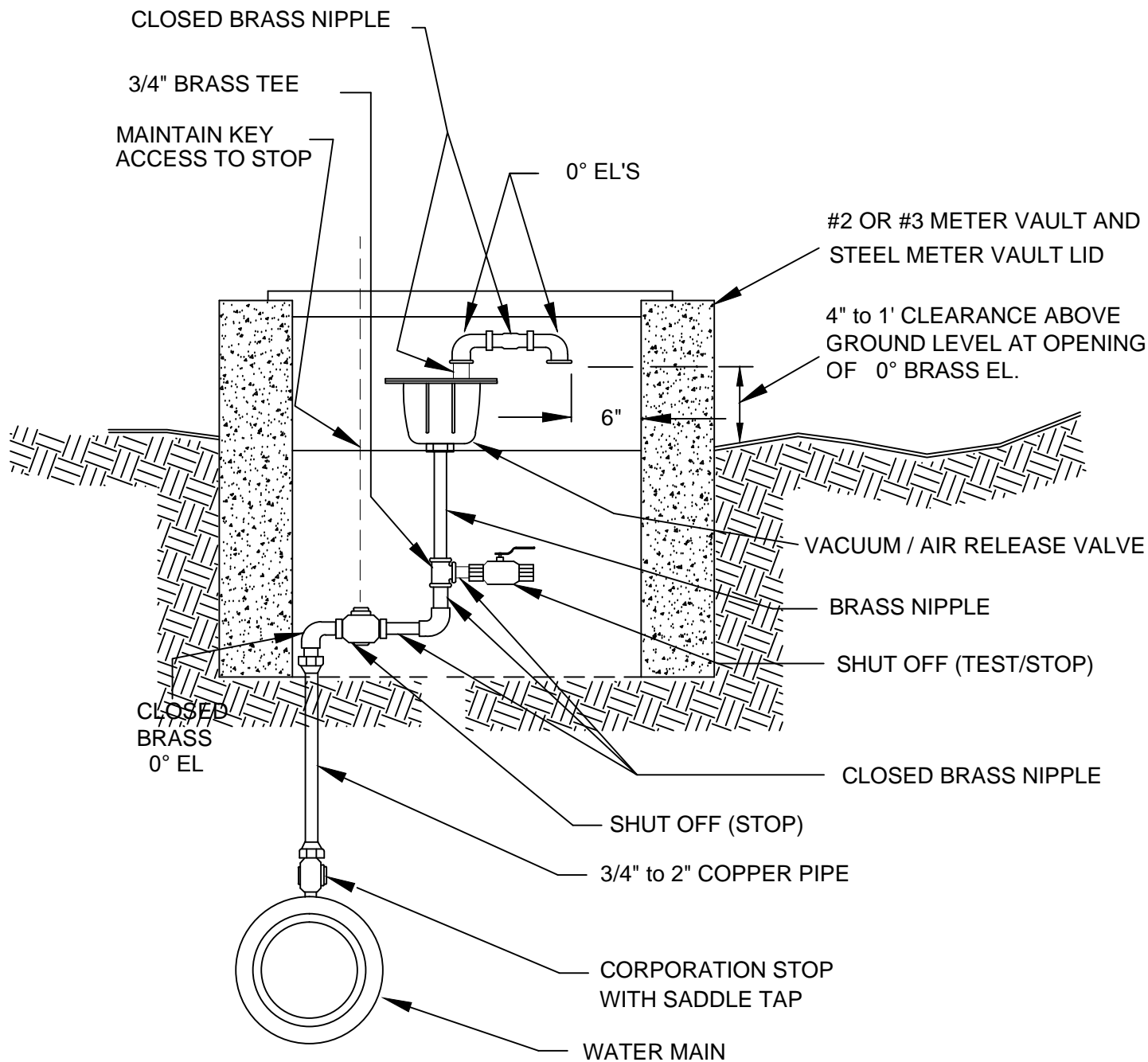
### CASE "A" HOOK UP TO OPEN BELL





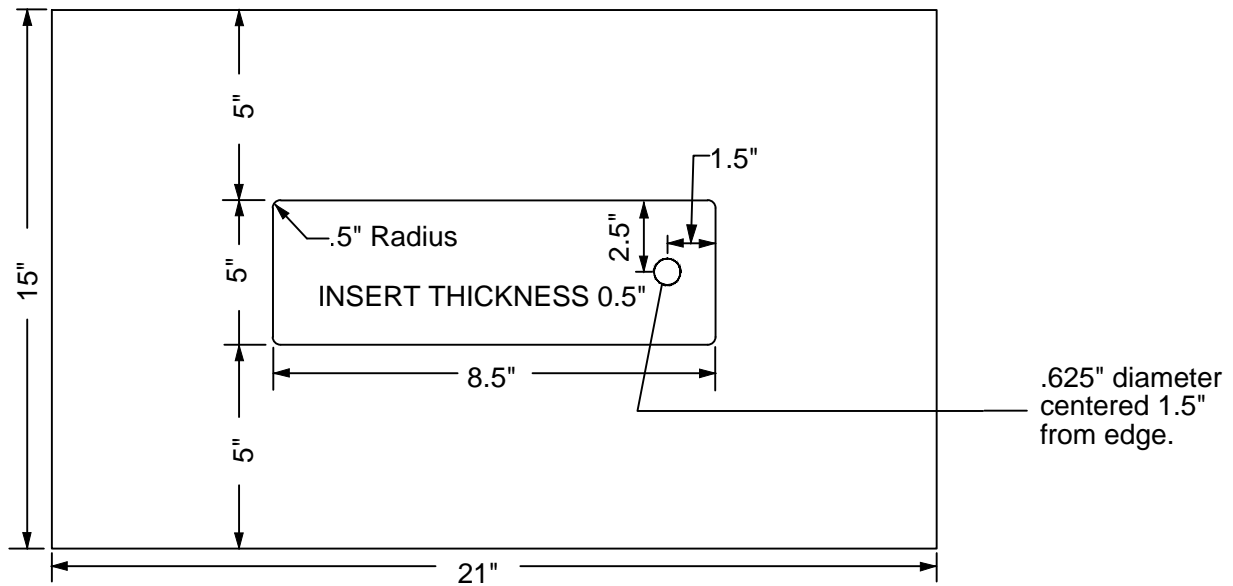
### CASE "B" HOOK UP TO FLANGE OF MAIN VALVE

NOT TO SCALE

|                      |               |   |                                 |               |
|----------------------|---------------|---|---------------------------------|---------------|
| APPROVED BY          | DATE          |  | <b>PRESSURE TEST<br/>DETAIL</b> | STD. PLAN NO. |
| <i>Kevin R. Ravi</i> | NOVEMBER 2010 |   |                                 | <b>WA-502</b> |
| TOWN ENGINEER        |               |   |                                 |               |

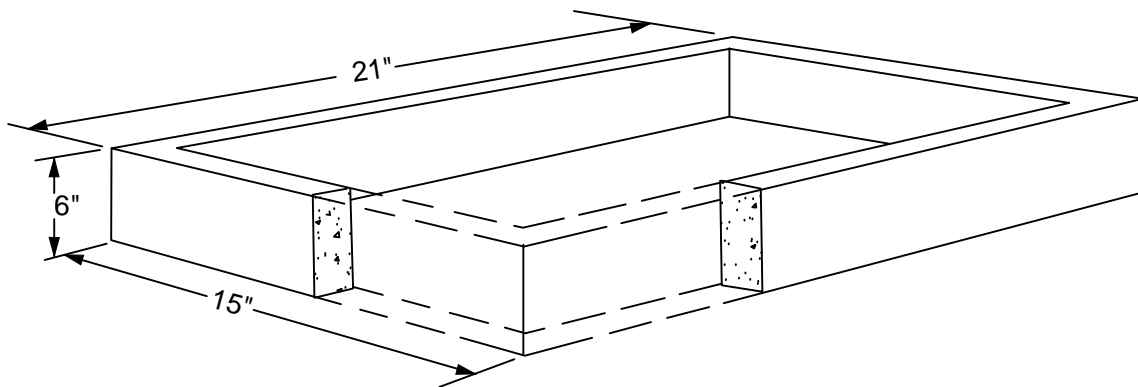


|   |               |   |  |               |
|---|---------------|---|--|---------------|
| APPROVED BY   | DATE          |  | TYPICAL<br>VACUUM/AIR<br>RELEASE VALVE | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |  |               |
| TOWN ENGINEER   |               |   |  | WA-503        |





HEIGHT OF BOX SHALL BE 12"

### PLAN VIEW

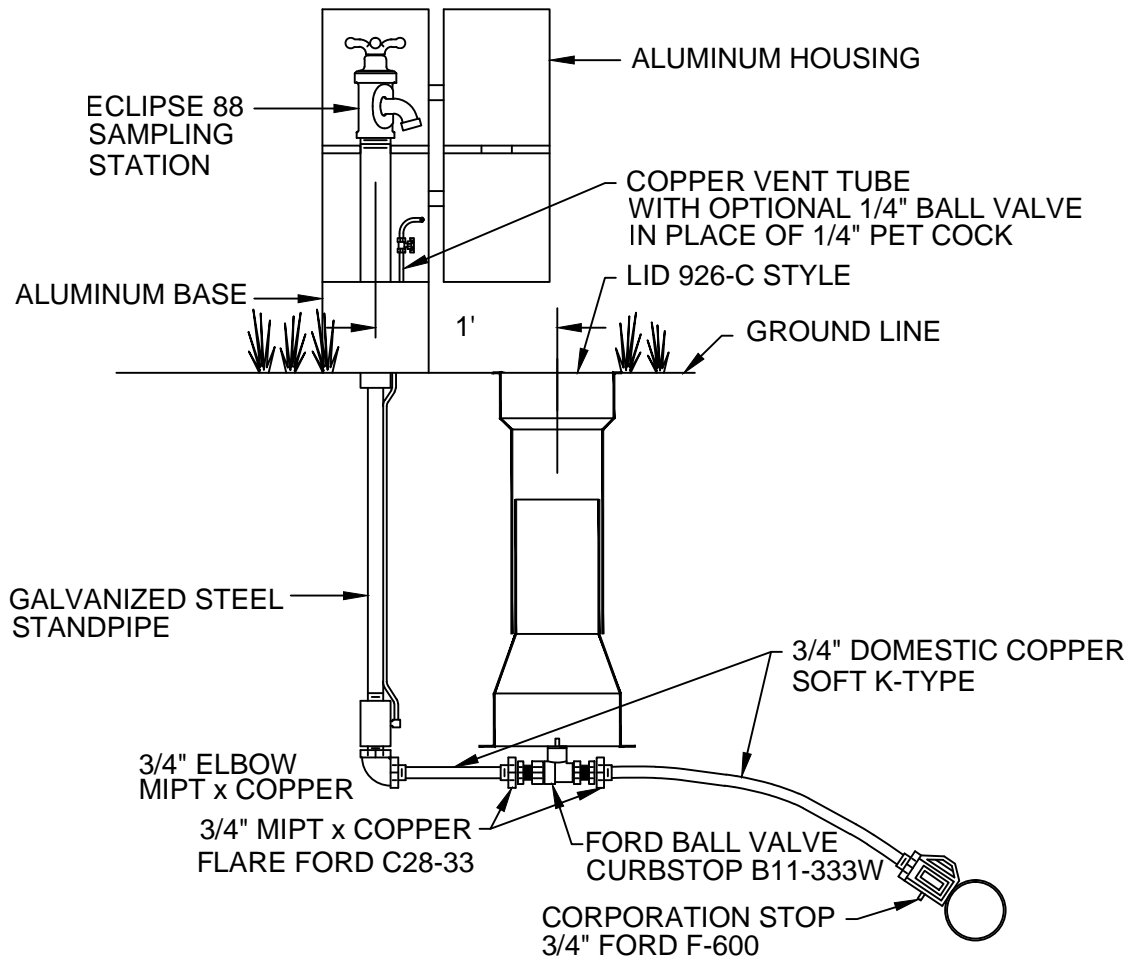


### RISER BOX

NOT TO SCALE


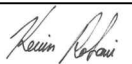
|   |               |   |                 |               |
|---|---------------|---|-----------------|---------------|
| APPROVED BY   | DATE          |  | WATER METER BOX | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                 | WA-504        |
| TOWN ENGINEER   |               |   |                 |               |

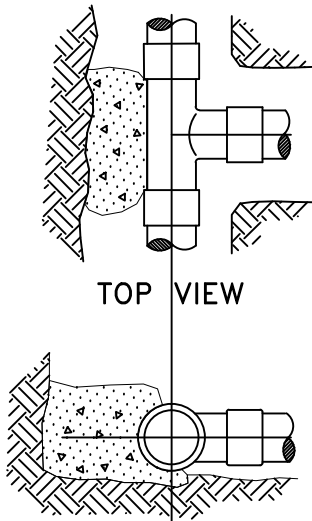
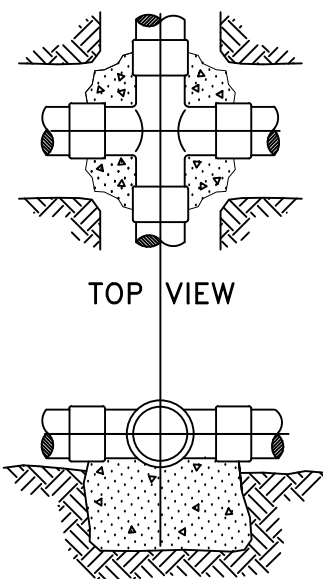
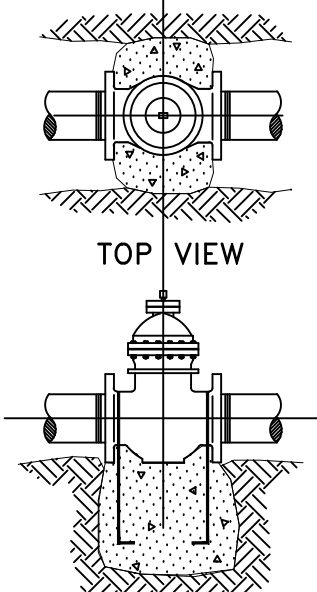
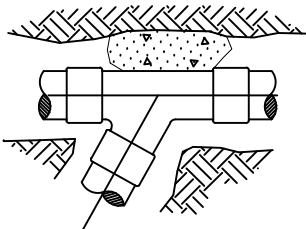
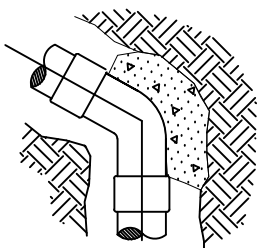
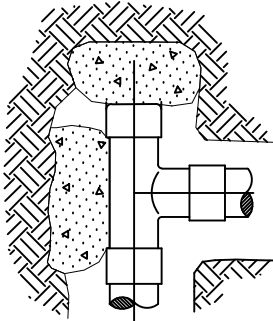
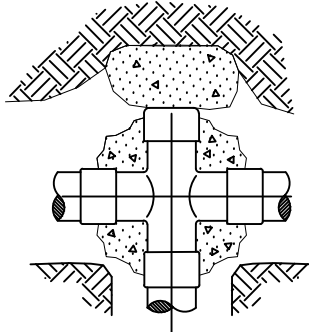
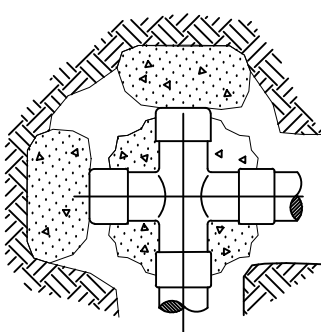
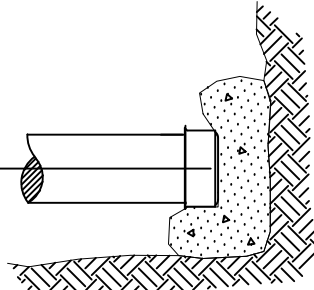
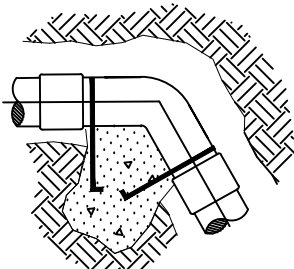
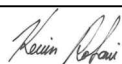

# ECLIPSE NO. 88 SAMPLING STATION

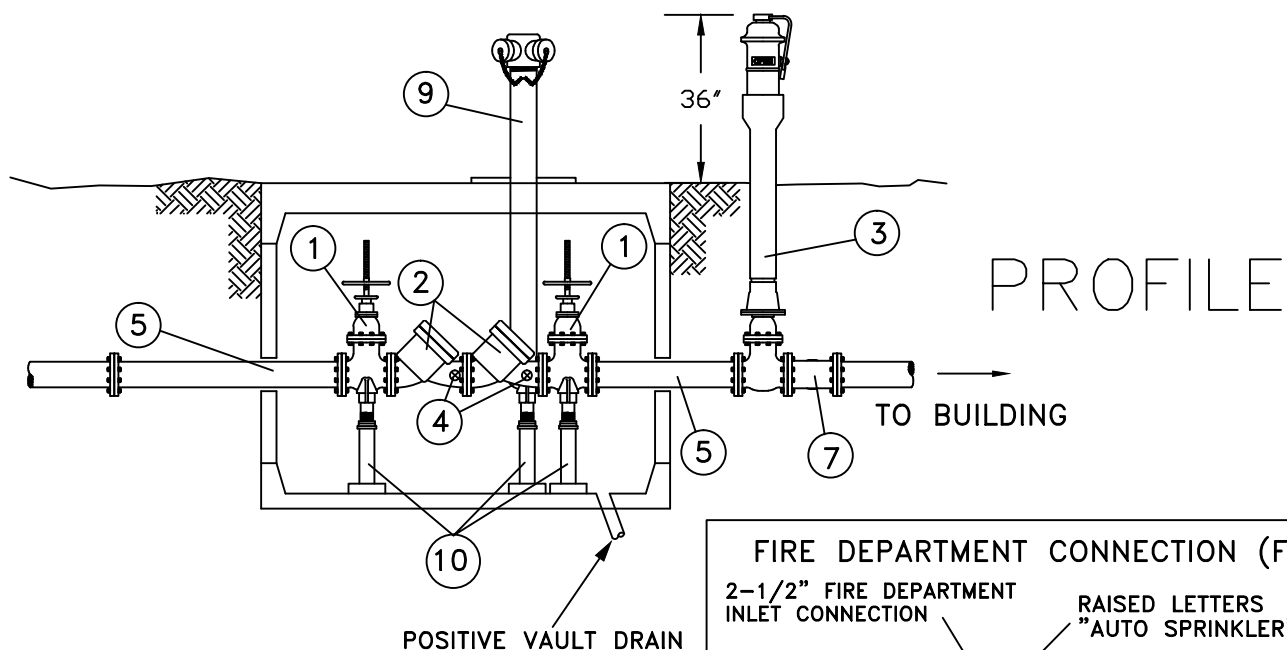
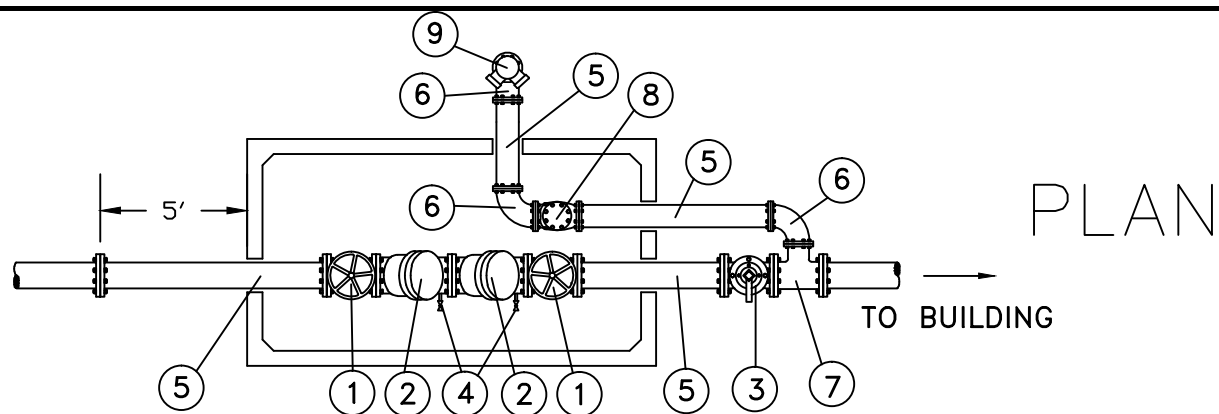


## NOTES:

1. SAMPLING STATIONS SHALL HAVE A 3/4" FIP INLET, AND A (3/4" HOSE OR UNTHREADED) NOZZLE.
2. ALL STATIONS SHALL BE ENCLOSED IN A LOCKABLE, NONREMOVABLE, ALUMINUM-CAST HOUSING.
3. WHEN OPENED, THE STATION SHALL REQUIRE NO KEY FOR OPERATION, AND THE WATER WILL FLOW IN AN ALL BRASS WATERWAY.
4. ALL WORKING PARTS WILL ALSO BE OF BRASS AND BE REMOVABLE FROM ABOVE GROUND WITH NO DIGGING. EXTERIOR PIPING SHALL BE GALVANIZED STEEL (BRASS PIPES ALSO AVAILABLE).
5. A COPPER VENT TUBE WILL ENABLE EACH STATION TO BE PUMPED FREE OF STANDING WATER TO PREVENT FREEZING AND TO MINIMIZE BACTERIA GROWTH.
6. ECLIPSE NO. 88 SAMPLING STATION SHALL BE MANUFACTURED BY KUPFERLE FOUNDRY, ST. LOUIS, MO 63102 OR EQUAL.

|   |               |   |                  |               |
|---|---------------|---|------------------|---------------|
| APPROVED BY   | DATE          |  | SAMPLING STATION | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                  | WA-505        |
| TOWN ENGINEER   |               |   |                  |               |

|  |  |  |  |                         |
|--|--|--|--|-------------------------|
|  <p>TOP VIEW</p> <p>SIDE VIEW</p> <p>TEE</p> |  <p>TOP VIEW</p> <p>SIDE VIEW</p> <p>CROSS</p>   |  <p>TOP VIEW</p> <p>SIDE VIEW</p> <p>GATE VALVE</p> |  <p>WYE</p>  <p>HORIZ. BEND</p> |                         |
|  <p>TEE WITH PLUG</p>                      |  <p>CROSS WITH PLUG</p>  |  <p>CROSS WITH PLUGS</p>                          |  <p>PLUG OR CAP</p>  |                         |
|  <p>45° – 90°<br/>VERTICAL BEND</p>       | <p>NOTES:</p> <ol style="list-style-type: none"><li>1. CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.</li><li>2. PLASTIC BARRIER SHALL BE PLACED BETWEEN ALL THRUST BLOCKS &amp; FITTINGS.</li><li>3. ANCHOR REBAR SHALL BE #5 ON 12" DIA. AND LESS WITH 30" IMBEDMENT, #5 ON 16"-24" DIAMETER WITH 36" IMBEDMENT.</li><li>4. PLUGS TO BE MINIMUM OF 5' FROM TEE, WYE, CROSS ON VALVE.</li></ol> |  |  |                         |
| APPROVED BY<br><br>TOWN ENGINEER          | DATE<br>NOVEMBER 2010  |   | THRUST BLOCK   | STD. PLAN NO.<br>WA-506 |

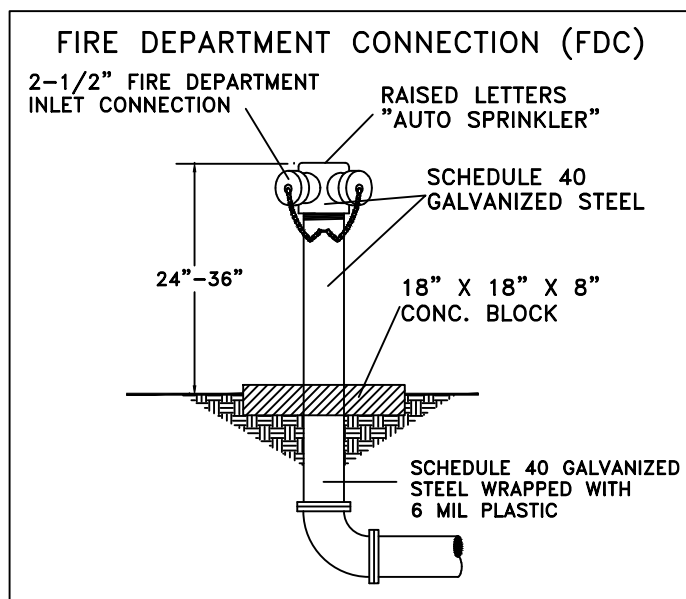




#### MATERIAL LIST:

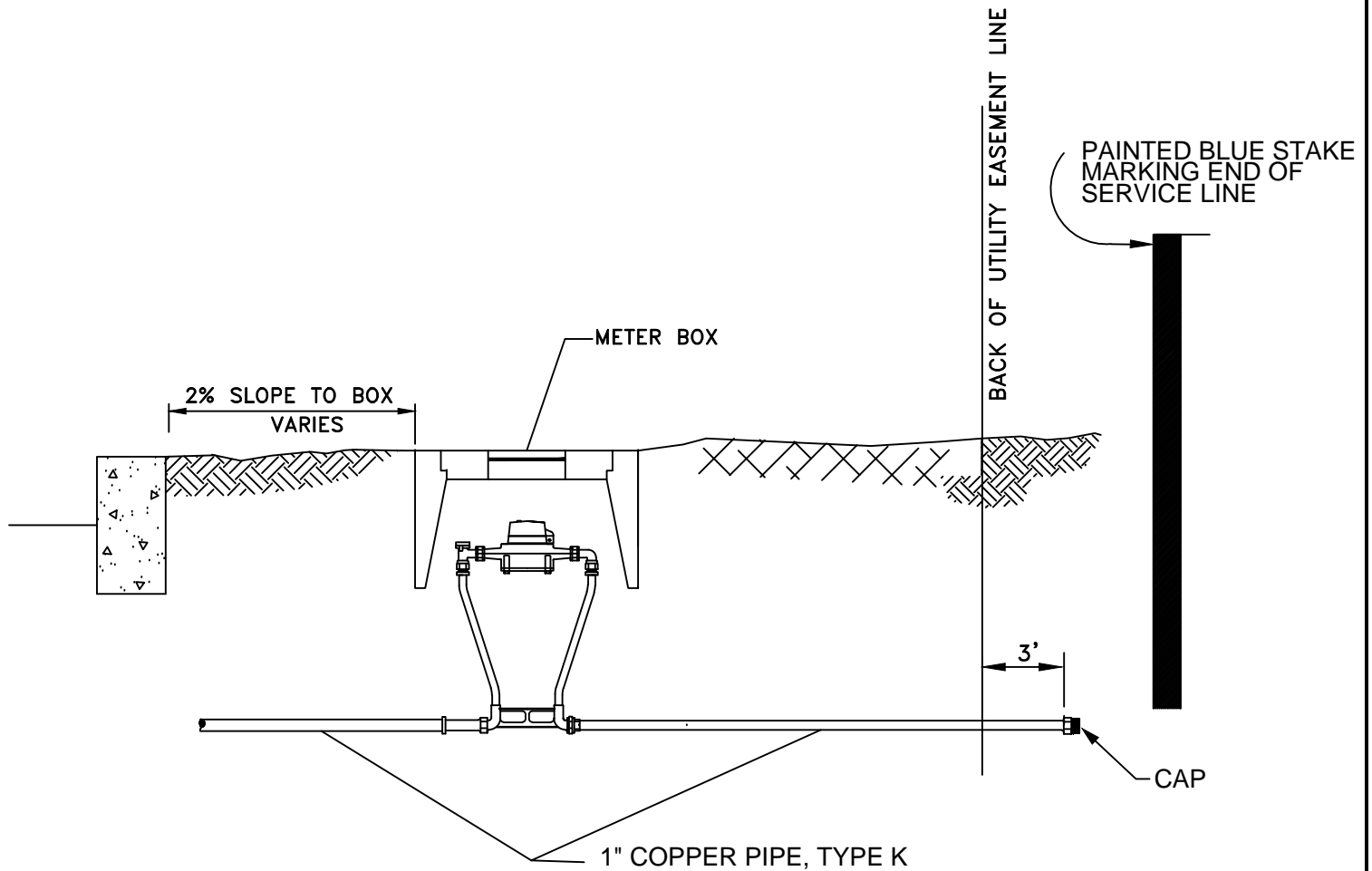
1. OS&Y GATE VALVE W/HANDWHEEL FL X FL
2. DOUBLE (DSHS APPROVED) CHECK DETECTOR CHECK VALVE FL X FL
3. POST INDICATOR VALVE
4. 3/4" BALL VALVE (TEST COCK)
5. CLASS 52 DI WALL PIPE FL X FL
6. CLASS 52 DI 90° BEND FL X FL
7. CLASS 52 DI TEE FL X FL
8. SWING CHECK VALVE W/BALL DRIP ASSEMBLY
9. FIRE DEPARTMENT CONNECTION
10. VALVE STANDS
11. WHERE PIPING PASSES THROUGH CONCRETE WALL PROVIDE 2" CLEARANCE W/ WATERPROOF MASTIC OR FLEXIBLE SEALANT

#### GENERAL NOTES:

- A. PIPE FROM VAULT TO BUILDING SHALL BE CLASS 50 DI.
- B. TAMPER SWITCHES SHALL BE INSTALLED ON 1 AND 3 CONNECTED TO BUILDING FIRE ALARM SYSTEM.
- C. INSTALL PLUGS ON ALL TEST COCKS. FINGER TIGHTEN.
- D. ALL PIPING SHALL BE A MINIMUM OF 4" DIA. AS PER NFPA13.





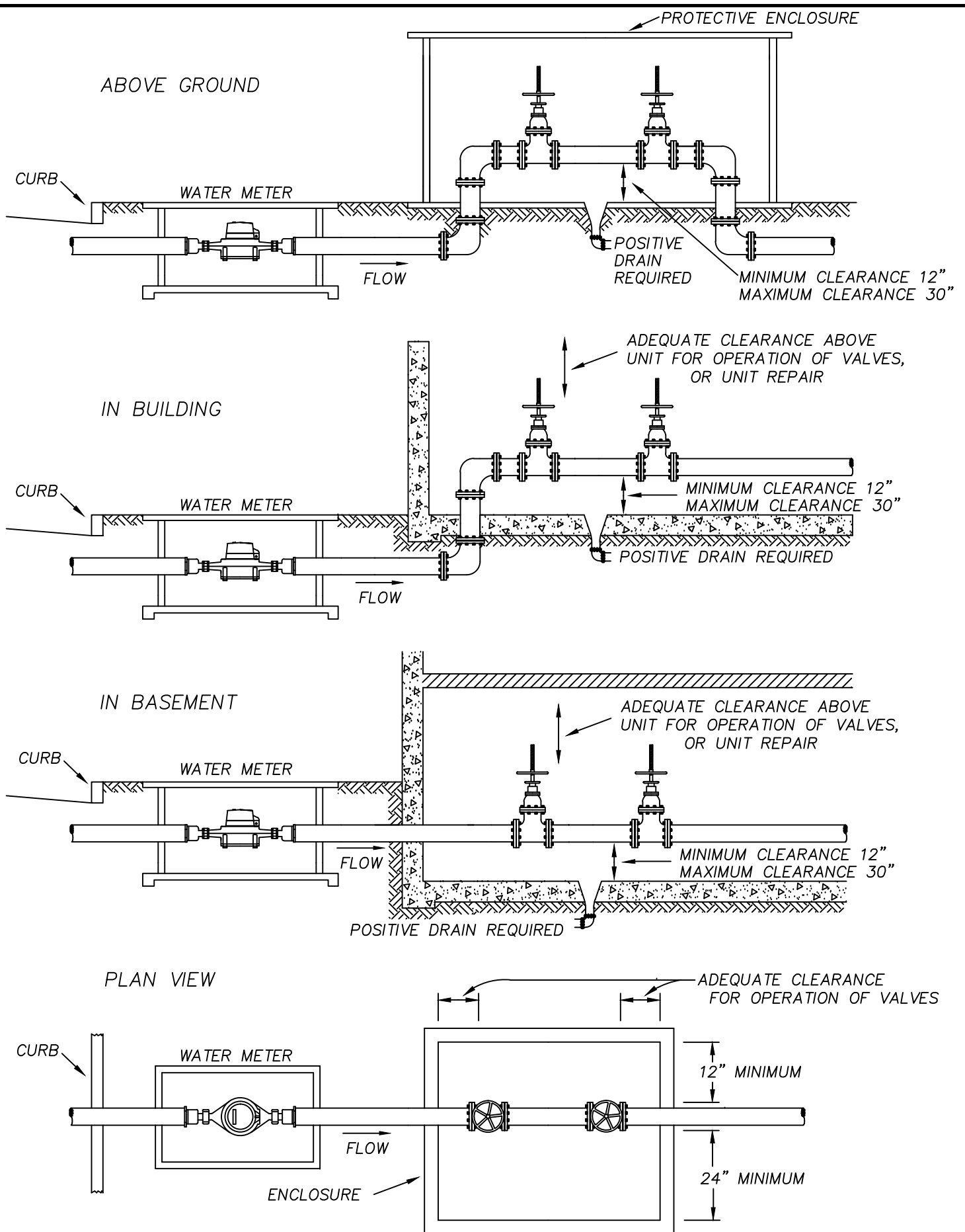
|   |               |   |   |               |
|---|---------------|---|---|---------------|
| APPROVED BY   | DATE          |  | <b>DOUBLE CHECK<br/>VALVE ASSEMBLY<br/>WITH/FDC</b> | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |   | <b>WA-507</b> |
| TOWN ENGINEER   |               |   |   |               |





SEE STD. PLAN 501 FOR DETAILS

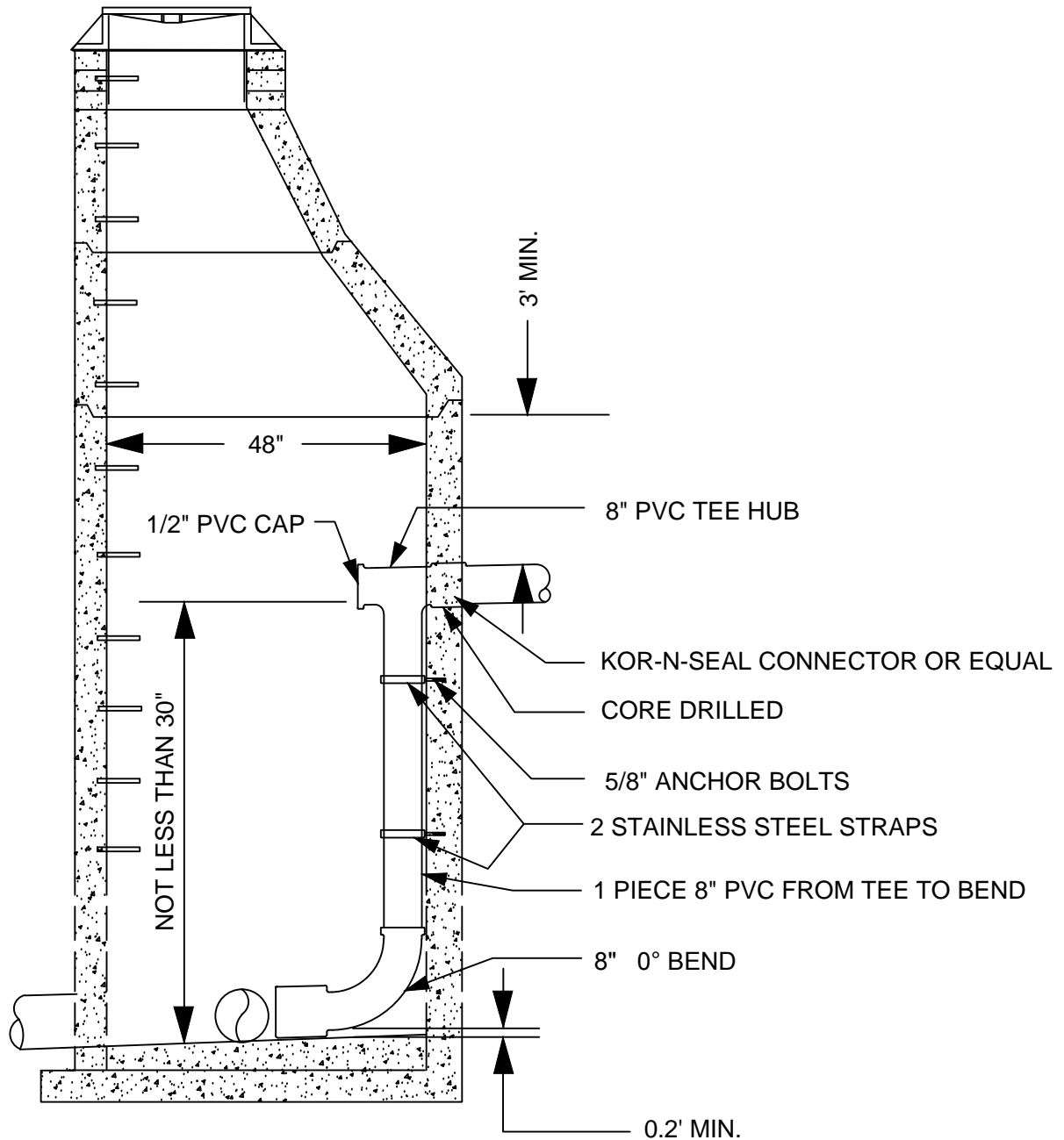
NOT TO SCALE

|   |               |   |                         |               |
|---|---------------|---|-------------------------|---------------|
| APPROVED BY   | DATE          |  | TYPICAL METER PLACEMENT | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                         | WA-508        |
| TOWN ENGINEER   |               |   |                         |               |



|   |               |   |  |               |
|---|---------------|---|--|---------------|
| APPROVED BY   | DATE          |  | <b>TYP. INSTALLATION<br/>OF BACKFLOW<br/>PREVENTION<br/>ASSEMBLY</b> | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |  | <b>WA-509</b> |
| TOWN ENGINEER   |               |   |  |               |




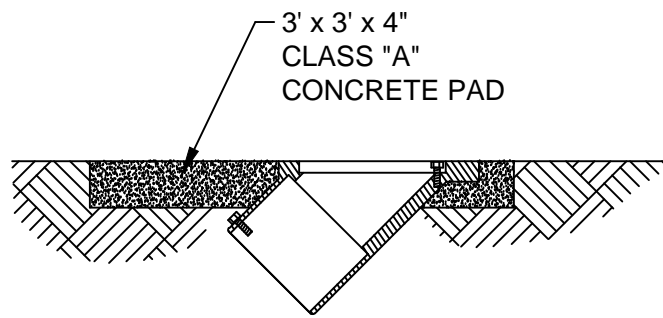
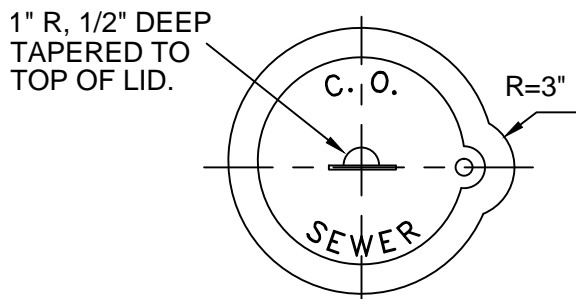


## NOTES:

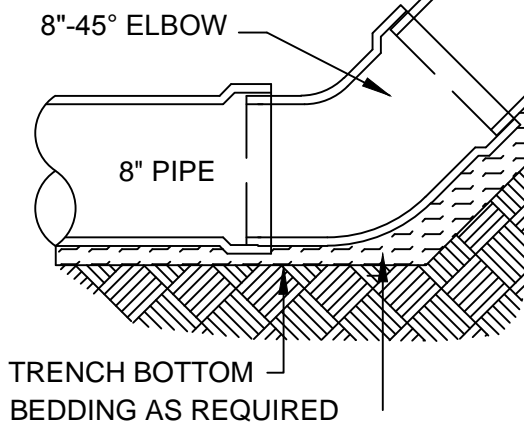
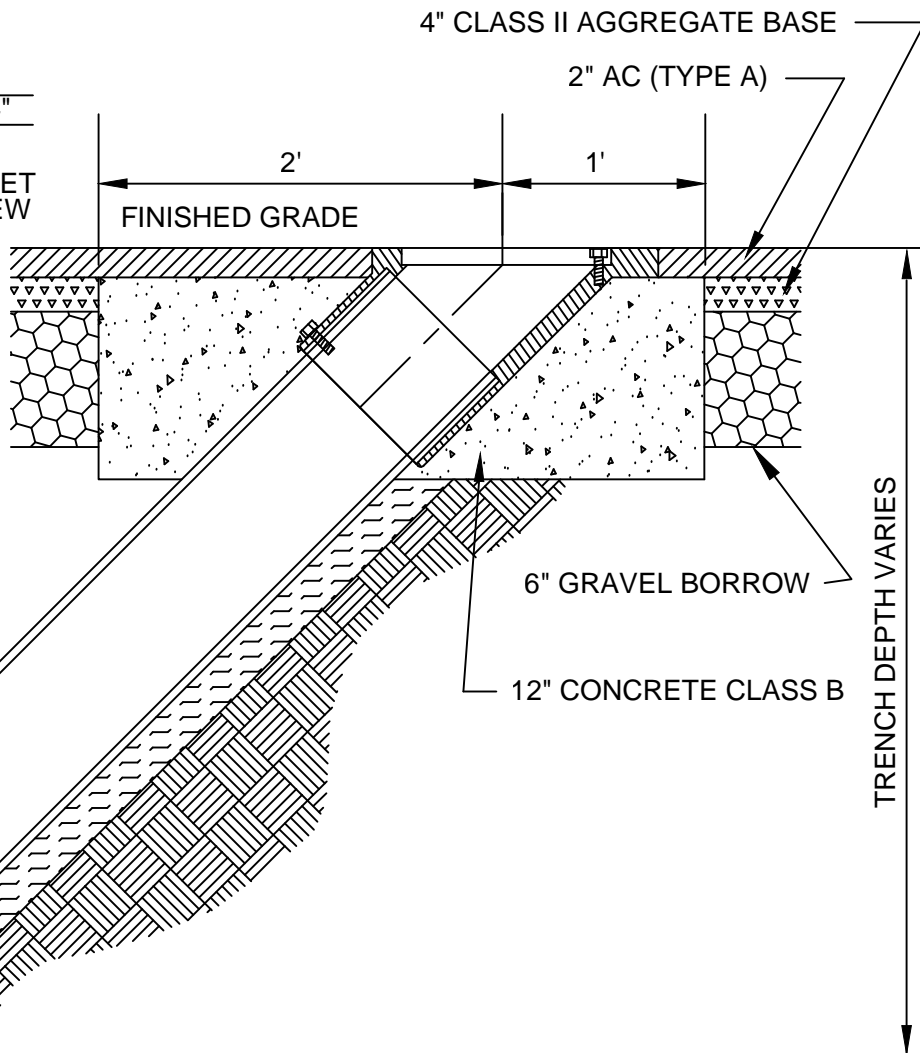
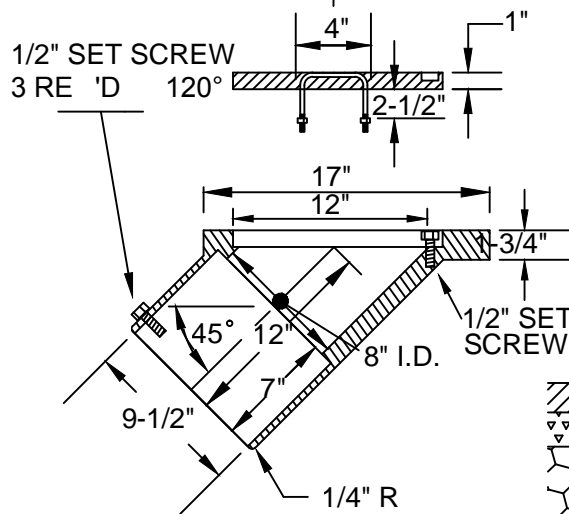
1. DROP TEE TO BE INSTALLED MINIMUM OF 3' BELOW CONE SECTION.
2. INSIDE DROP MANHOLE SHALL BE INSTALLED ONLY WHERE APPROVED BY THE TOWN ENGINEER.

NOT TO SCALE

|                    |               |   |   |               |
|--------------------|---------------|---|---|---------------|
| APPROVED BY        | DATE          |  | <b>INSIDE MANHOLE<br/>DROP CONNECTION</b> | STD. PLAN NO. |
| <i>Kevin Rofai</i> | NOVEMBER 2010 |   |   | <b>SS-603</b> |
| TOWN ENGINEER      |               |   |   |               |




## OUTSIDE PAVED AREA



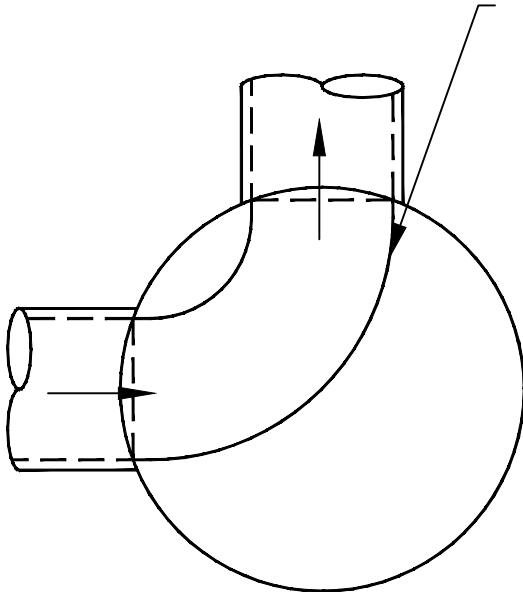
### NOTES:

1. ALL SEWER PIPE SHALL BE ASTM 3034 SDR 35.
2. THE COVER SHALL BE LOCKING TYPE.

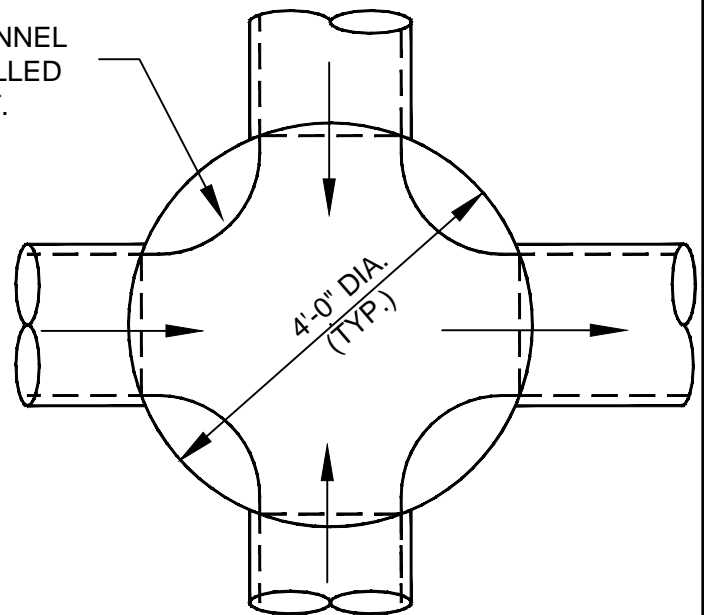
NOT TO SCALE

|                    |               |   |                |
|--------------------|---------------|---|----------------|
| APPROVED BY        | DATE          |  | STD. PLAN NO.  |
| <i>Kevin Rofai</i> | NOVEMBER 2010 |   | SEWER CLEANOUT |
| TOWN ENGINEER      |               |   | SS-604         |

CONCRETE  
U-SHAPED CHANNEL  
CURVE TROWELLED  
SMOOTH TO FIT.



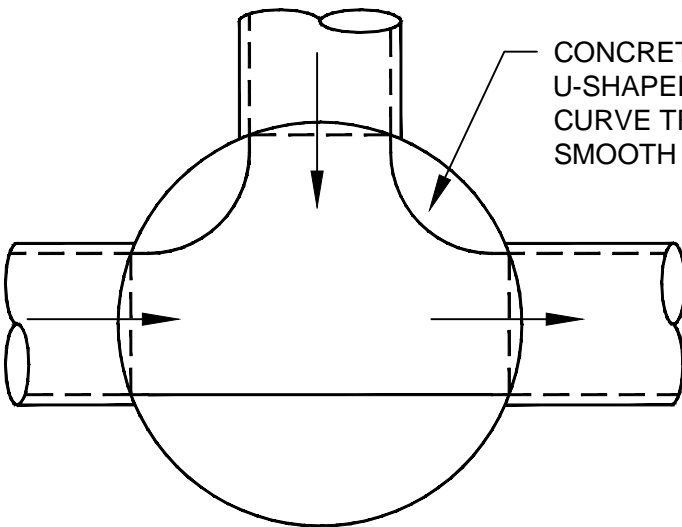
TYPICAL CURVED  
BASE



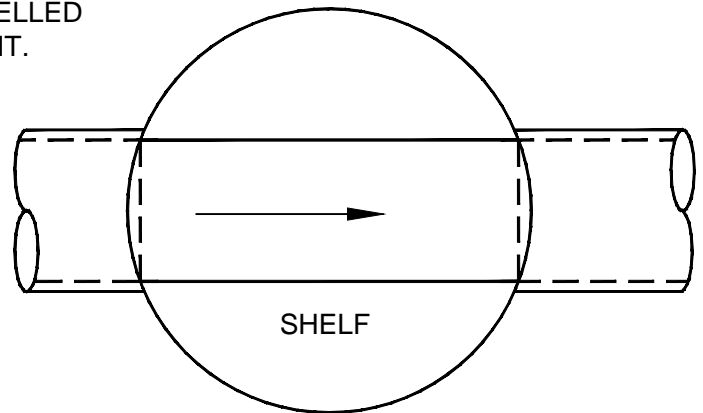
TYPICAL BASE  
WITH 2  
BRANCHES

**NOTE:**

"U" SHAPED CHANNEL MAY BE FORMED IN MANHOLE BASE  
OR CONSTRUCTED BY LAYING PIPE THROUGH THE BASE AND  
BREAKING OUT THE TOP HALF OF PIPE AND FORMING  
REMAINDER OF "U" SHAPED CHANNEL IN CONCRETE.




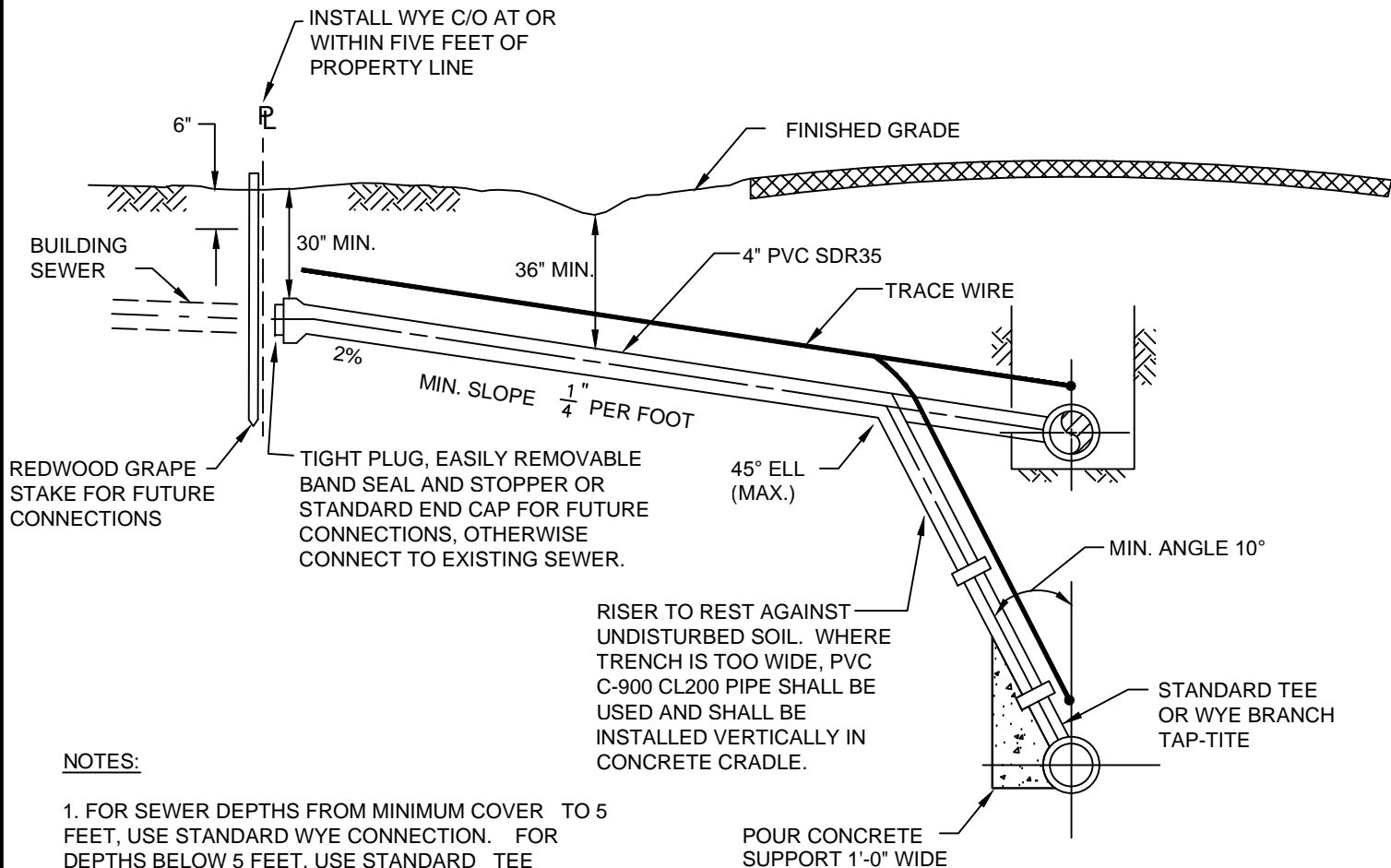
TYPICAL BASE  
WITH 1 BRANCH



TYPICAL STRAIGHT  
THROUGH BASE

NOT TO SCALE

|                    |               |   |                          |               |
|--------------------|---------------|---|--------------------------|---------------|
| APPROVED BY        | DATE          |  | MANHOLE BASE<br>SECTIONS | STD. PLAN NO. |
| <i>Kevin Refai</i> | NOVEMBER 2010 |   |                          | SS-605        |
| TOWN ENGINEER      |               |   |                          |               |



#### NOTES:

1. FOR SEWER DEPTHS FROM MINIMUM COVER TO 5 FEET, USE STANDARD WYE CONNECTION. FOR DEPTHS BELOW 5 FEET, USE STANDARD TEE CONNECTION WITH SLOPING RISER AS SHOWN. TAP-TITE CONNECTIONS MAY BE USED WHERE APPLICABLE.

2. WHEN SEWER IS AT MINIMUM DEPTH, HOLD SERVICE LINE TO MINIMUM SLOPE AND LESSEN COVER AT PROPERTY LINE, OTHERWISE 3 FEET OF COVER TO OFFICIAL GRADE IS REQUIRED AT PROPERTY LINE.

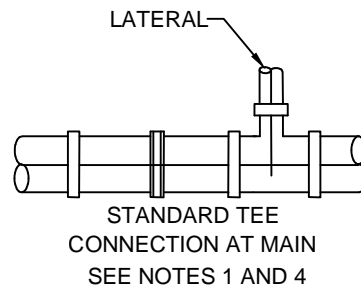
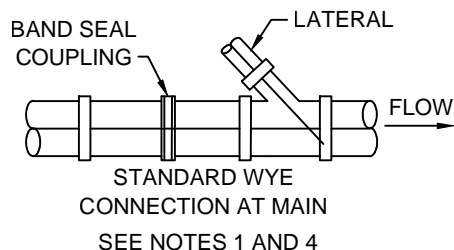
3. THE LOCATION OF ALL SEWER LATERALS SHALL BE MARKED WITH A LETTER "S" ON TOP OF CURB OR BACK OF WALK.


4. ALL SERVICE TEES OR WYES SHALL BE MANUFACTURER'S STANDARD FITTINGS. CONNECTION CLOSURE SHALL BE BY STANDARD BAND SEAL COUPLINGS ON SERVICE ADDITIONS. NO PIPE BREAKING AND CONCRETE PATCHING WILL BE PERMITTED, ONLY NEATLY SNAPPED OR SAWCUT LENGTHS WILL BE ALLOWED.

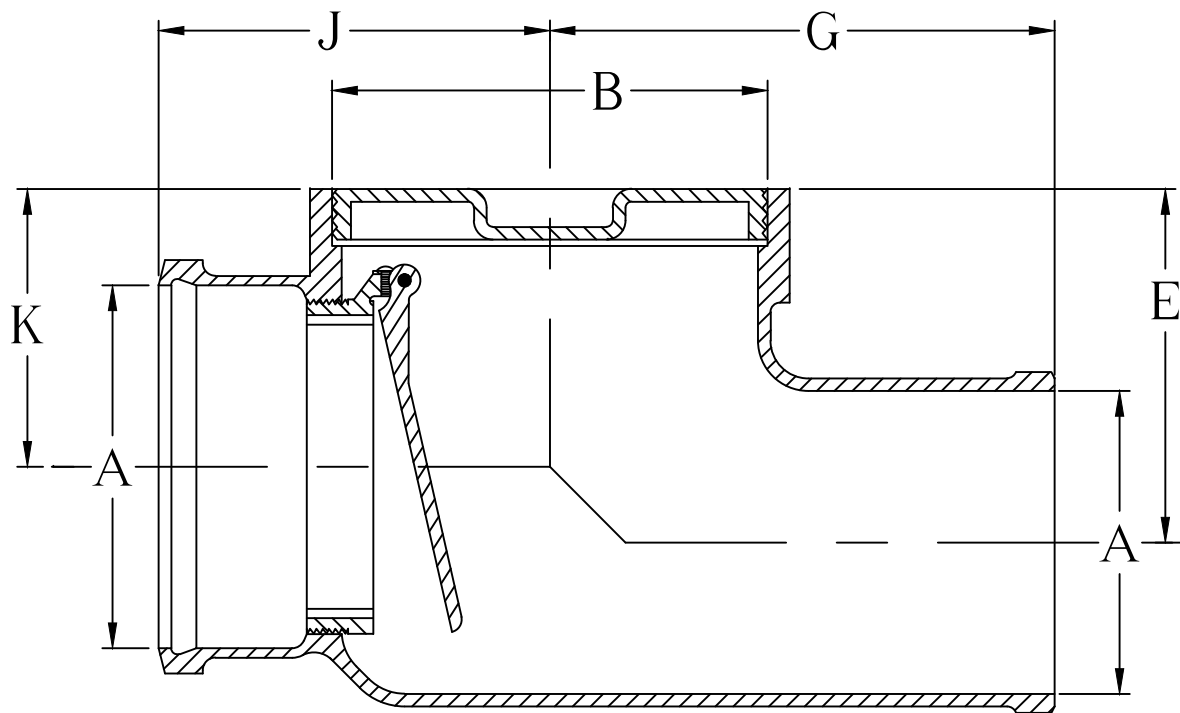
5. 8 GAUGE COPPER WIRE FOR TRACING PURPOSES SHALL BE PLACED ON ALL NEW LATERALS AND REPLACEMENT LATERALS WHEN EXCAVATION IS FROM MAIN LINE TO THE PROPERTY LINE CLEANOUT. WIRE TO BE BROUGHT TO RISER WITH TWO FEET COILED INSIDE BOX.

6. TAP-TITE AND TEE CONNECTIONS ARE NOT ALLOWED IN TERMINATING SEWER MAINS (MOST UPSTREAM LINE).

#### DEEP SEWER - GREATER THAN 10'



|   |               |   |   |               |
|---|---------------|---|---|---------------|
| APPROVED BY   | DATE          |  | <b>SANITARY SEWER<br/>LATERAL<br/>CONNECTIONS</b> | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |   | SS-606        |
| TOWN ENGINEER   |               |   |   |               |



ZURN Z-1095 Backflow Preventer with Flapper


Dimensions in inches

A = 4 , B = 6 , E = 5 5/8 , G = 8 1/2 ,  
J = 6 3/4 , K = 4 1/8

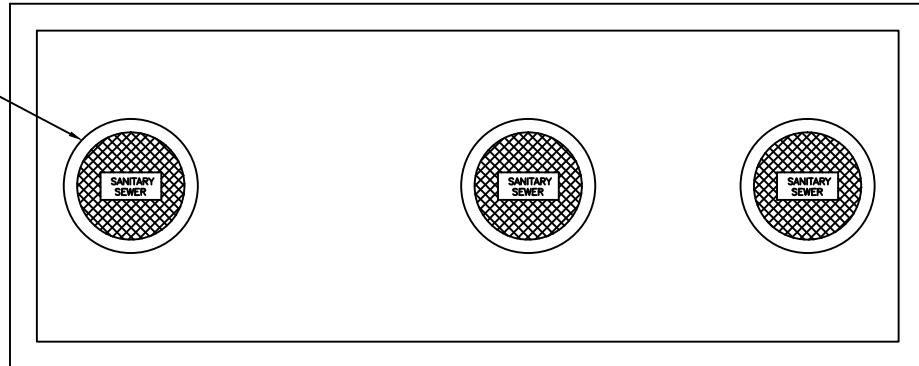
Note: The body shall be duracoated cast iron with Bronze threaded cover, automatic type valve seat and flapper which hangs closed during periods of non-operation.

All basements shall have a backflow preventor installed on their sewer line.

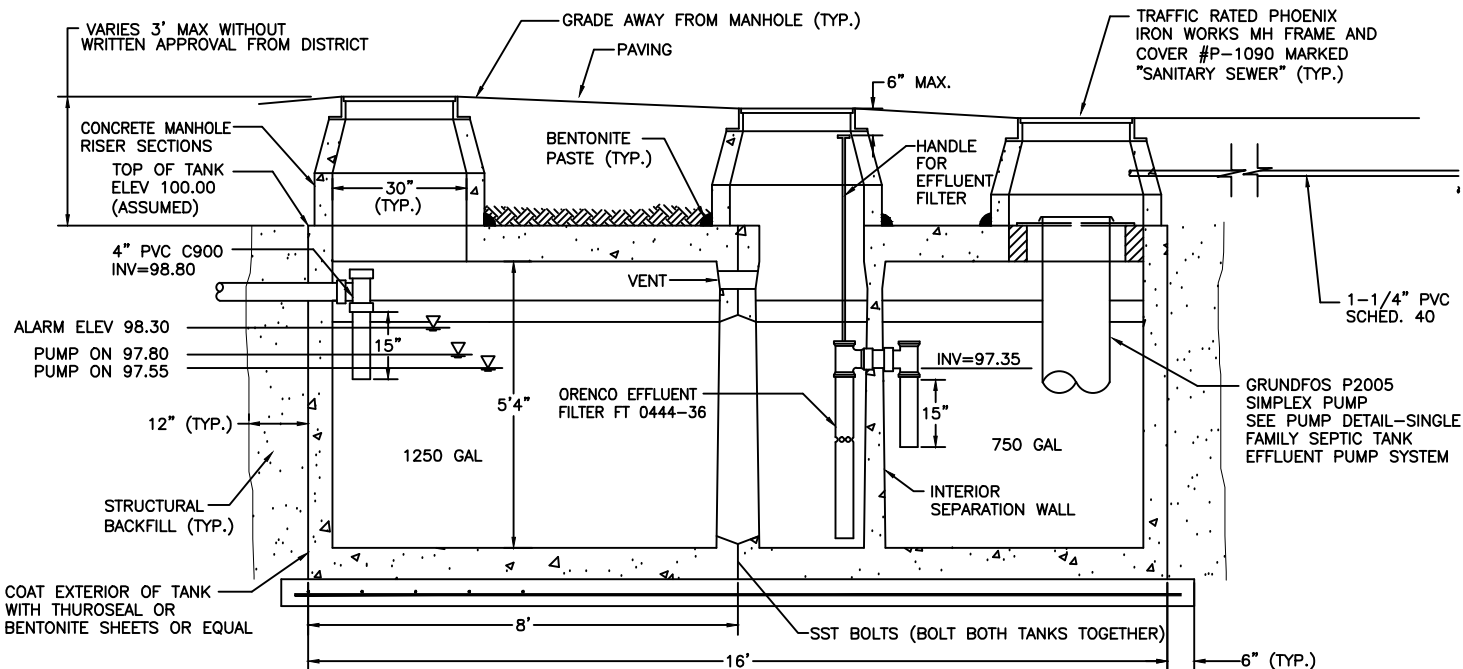
NOT TO SCALE

|                     |               |   |                       |               |
|---------------------|---------------|---|-----------------------|---------------|
| APPROVED BY         | DATE          |  | BACKFLOW<br>PREVENTOR | STD. PLAN NO. |
| <i>Kevin Nofari</i> | NOVEMBER 2010 |   |                       | SS-607        |
| TOWN ENGINEER       |               |   |                       |               |

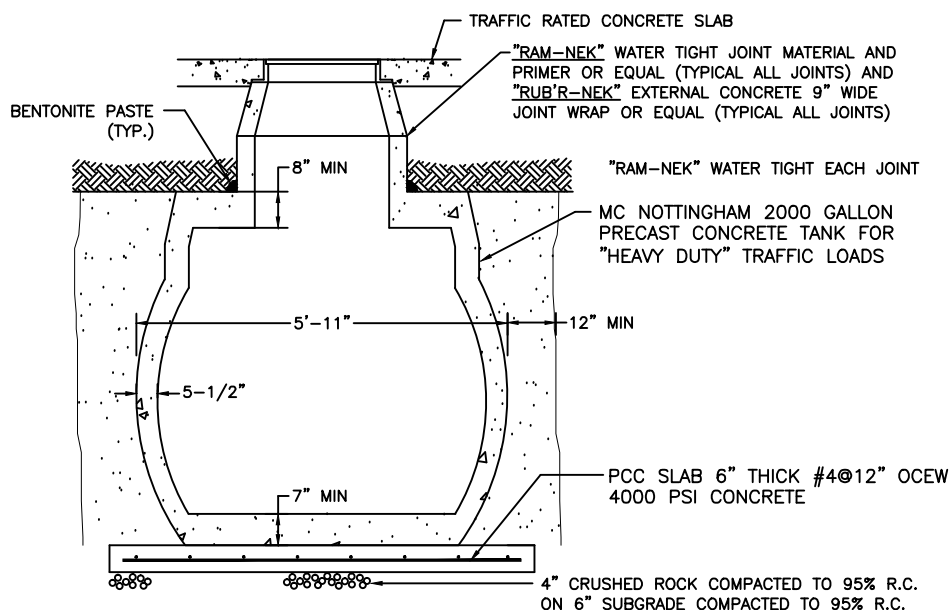
TRAFFIC RATED PHOENIX  
IRON WORKS MH FRAME AND  
COVER #P-1090 MARKED  
"SANITARY SEWER" (TYP.)



**PLAN VIEW**



**LONGITUDINAL TANK CROSS SECTION**



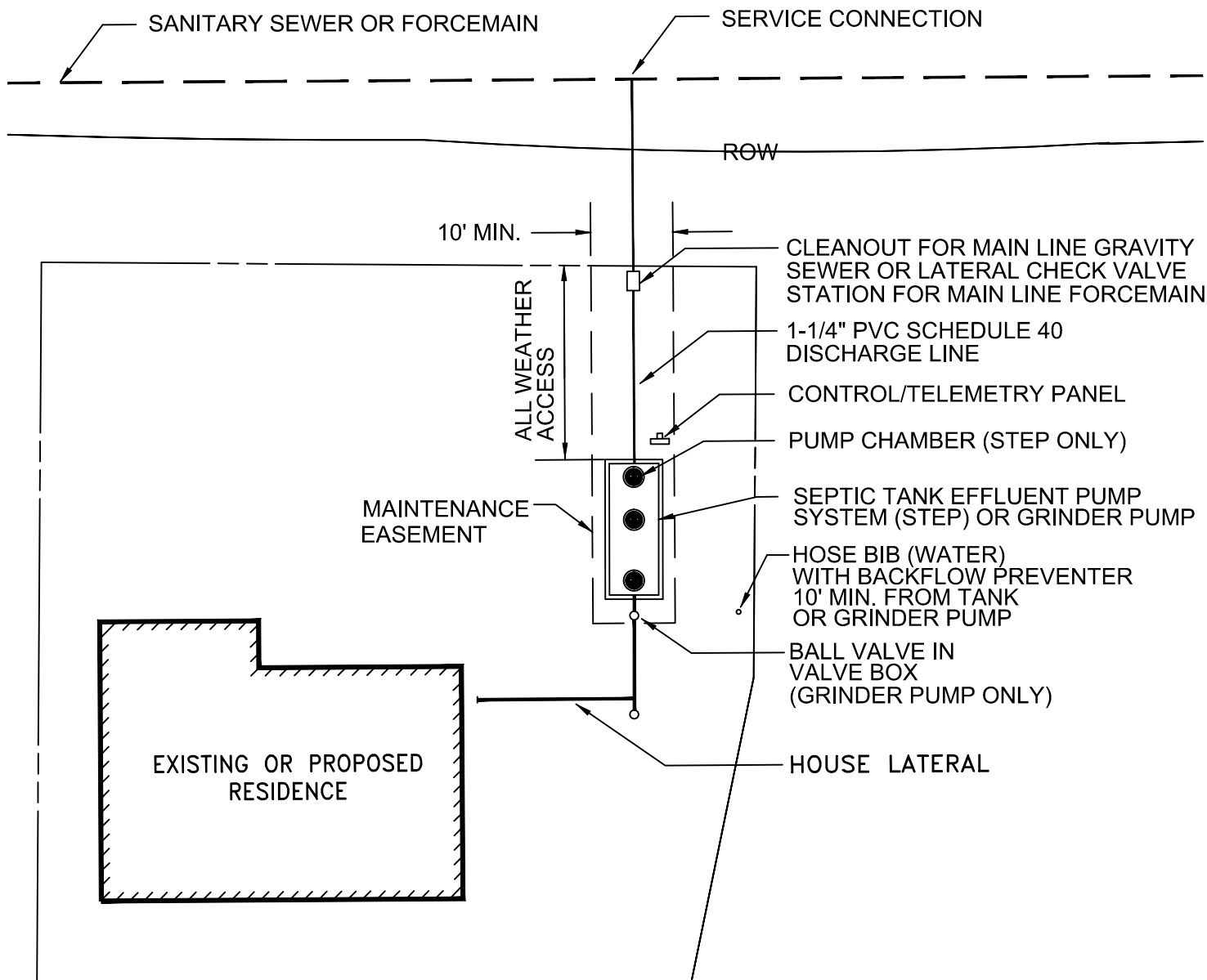
**TYPICAL TANK CROSS SECTION**

**NOTE:**

TANK SHALL BE A TWO COMPARTMENT PRECAST CONCRETE TANK WITH THREE MANHOLES AND GAS-TIGHT LIDS. THE SEDIMENT COMPARTMENT SHALL HAVE 1250 GAL. CAPACITY AND THE EFFLUENT COMPARTMENT SHALL HAVE 750 GAL. CAPACITY.



NOT TO SCALE

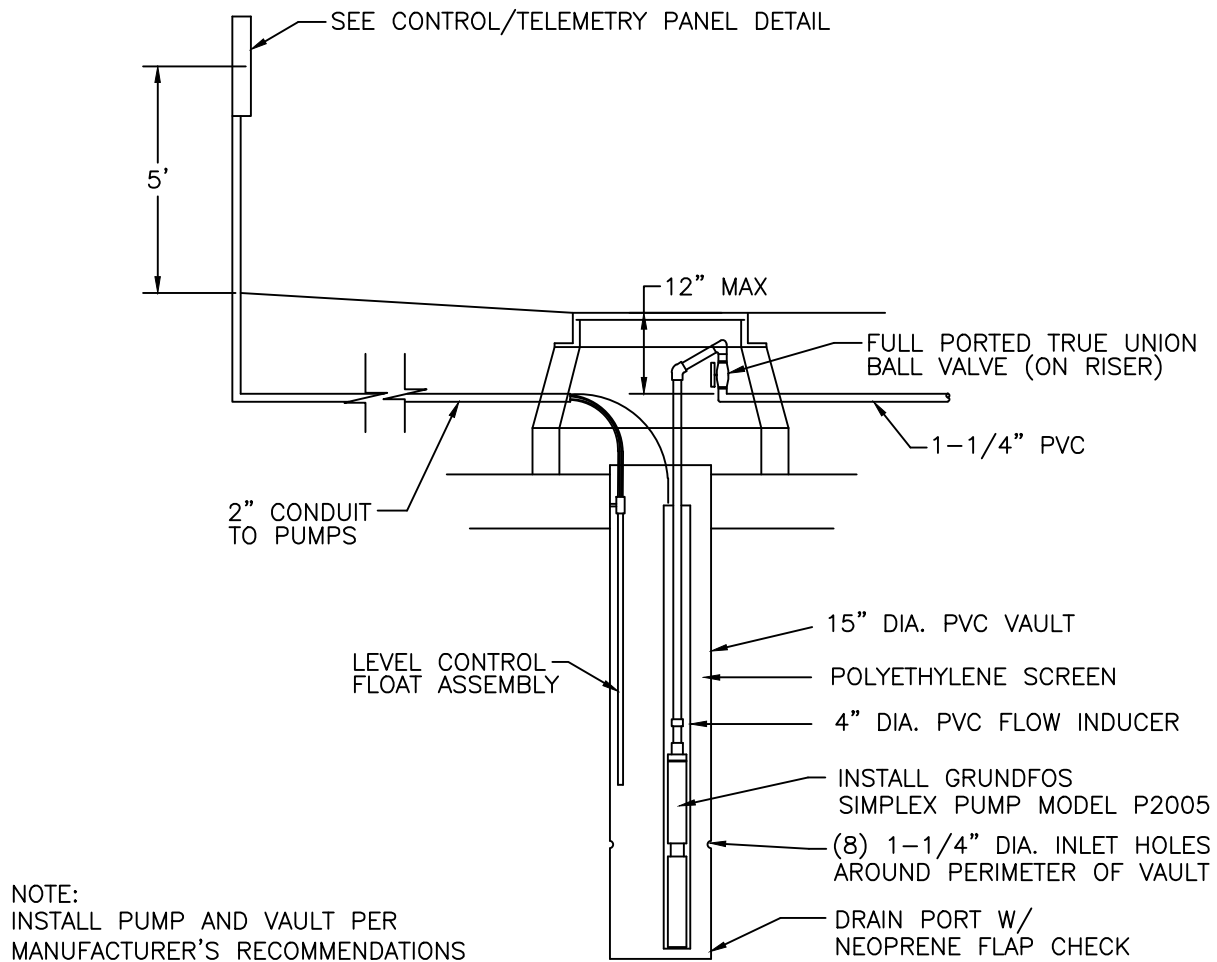
|               |               |  |   |               |
|---------------|---------------|--|---|---------------|
| APPROVED BY   | DATE          |  | <b>SINGLE FAMILY<br/>SEPTIC TANK<br/>EFFLUENT PUMPING<br/>(STEP) SYSTEM</b> | STD. PLAN NO. |
|               | NOVEMBER 2010 |  |   | <b>SS-608</b> |
| TOWN ENGINEER |               |  |   |               |



#### NOTES:

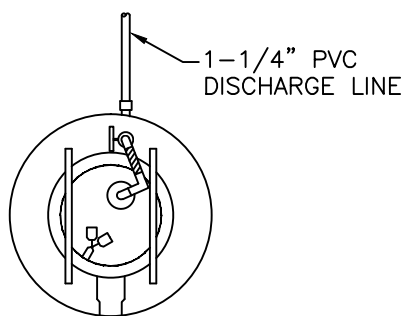
- 1) LOCATION OF ALL SANITARY FACILITIES SHALL BE SUBJECT TO DISTRICT APPROVAL.
- 2) PROVIDE VEHICLE ACCESS TO GRINDER PUMP/STEP SYSTEM.
- 3) AN EASEMENT SHALL BE GRANTED TO THE DISTRICT FOR VEHICULAR INGRESS/EGRESS AND FOR MAINTENANCE PURPOSES.
- 4) #8 GAUGE COPPER WIRE FOR TRACING PURPOSES SHALL BE PLACED ON ALL NEW LATERALS/DISCHARGE LINES.
- 5) CONTRACTOR SHALL SUBMIT PUMP INFORMATION PRIOR TO INSTALLATION.

|  |               |   |   |               |
|--|---------------|---|---|---------------|
| APPROVED BY  | DATE          |  | <b>TYPICAL<br/>STEP/GRINDER PUMP<br/>SYSTEM</b> | STD. PLAN NO. |
| <br>TOWN ENGINEER | NOVEMBER 2010 |   |   | SS-609        |



### **PUMP DETAIL**

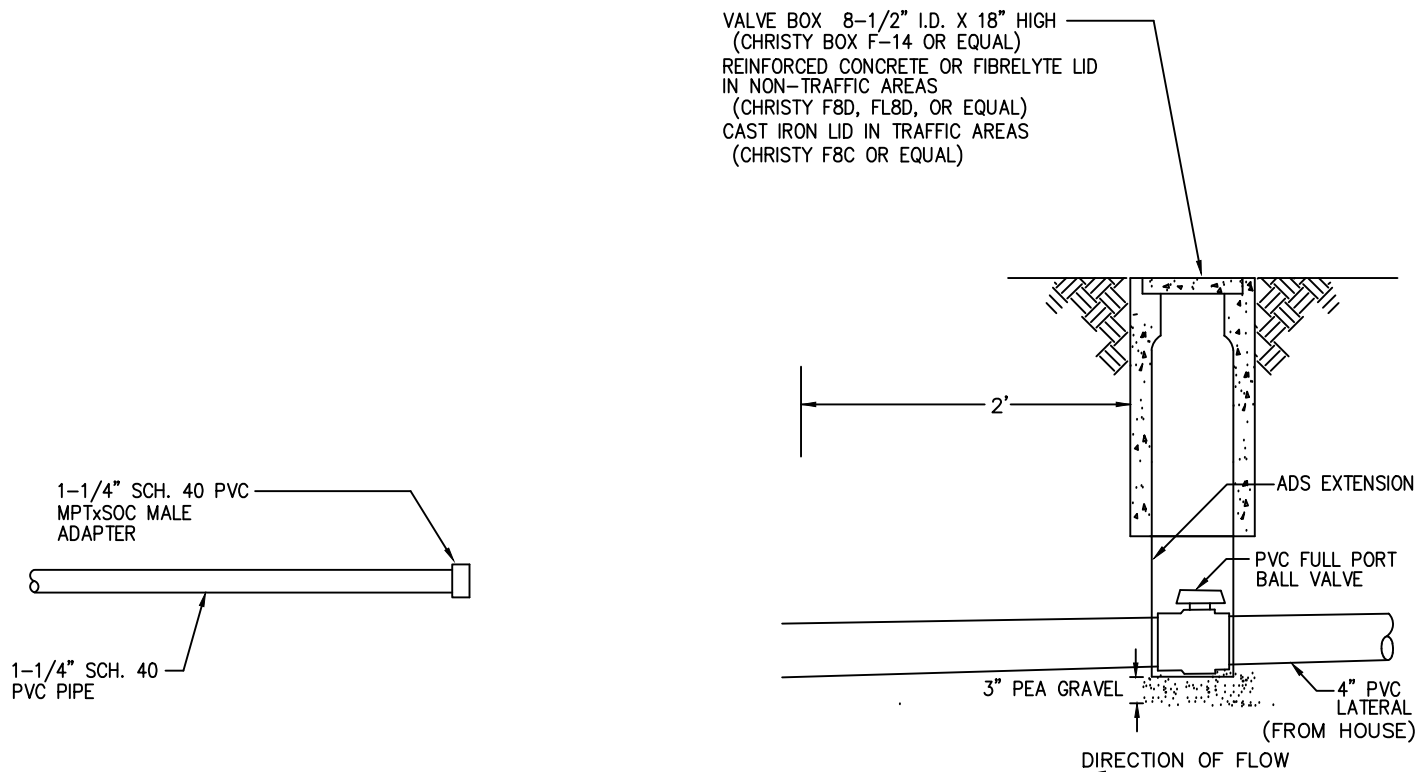
NOT TO SCALE



**TOP VIEW**  
**RISER ASSEMBLY**



|                     |               |  |  |               |
|---------------------|---------------|--|--|---------------|
| APPROVED BY         | DATE          |  | <b>PUMP DETAIL-SINGLE<br/>FAMILY SEPTIC TANK<br/>EFFLUENT PUMP<br/>(STEP) SYSTEM</b> | STD. PLAN NO. |
| <i>Kevin Nofari</i> | NOVEMBER 2010 |  |  | SS-610        |
| TOWN ENGINEER       |               |  |  |               |

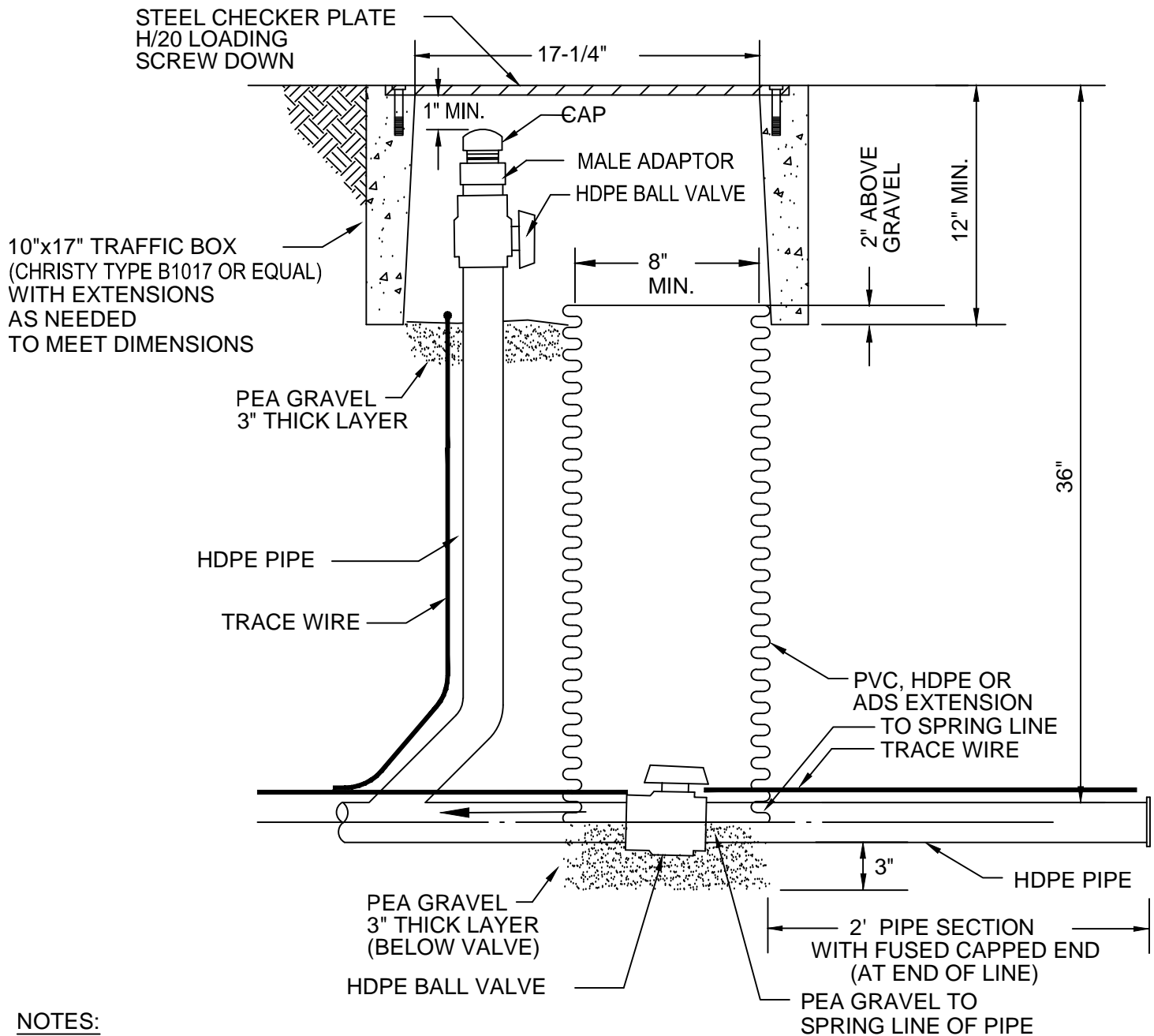




#### NOTES:


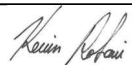
1. Pump shall be Environment One Model GP 2010-74 with poured-in-place concrete anchor. (2773 Balltown Road, Schenectady, NY 12309-1090. (518) 346-6161, Fax (518) 346-6188. SHAPE Inc. (925) 485-6085)
2. Pump shall be installed per manufacturer's recommendations.
3. See Single Family Grinder Pump Information Detail for pump anchor detail.
4. See 1-1/4 Inch Lateral Check Valve Station Detail for discharge line valve requirements.
5. Contractor shall supply District with handle to turn PVC ball valve.
6. Control Panel (supplied by ISAC (as per detail)).

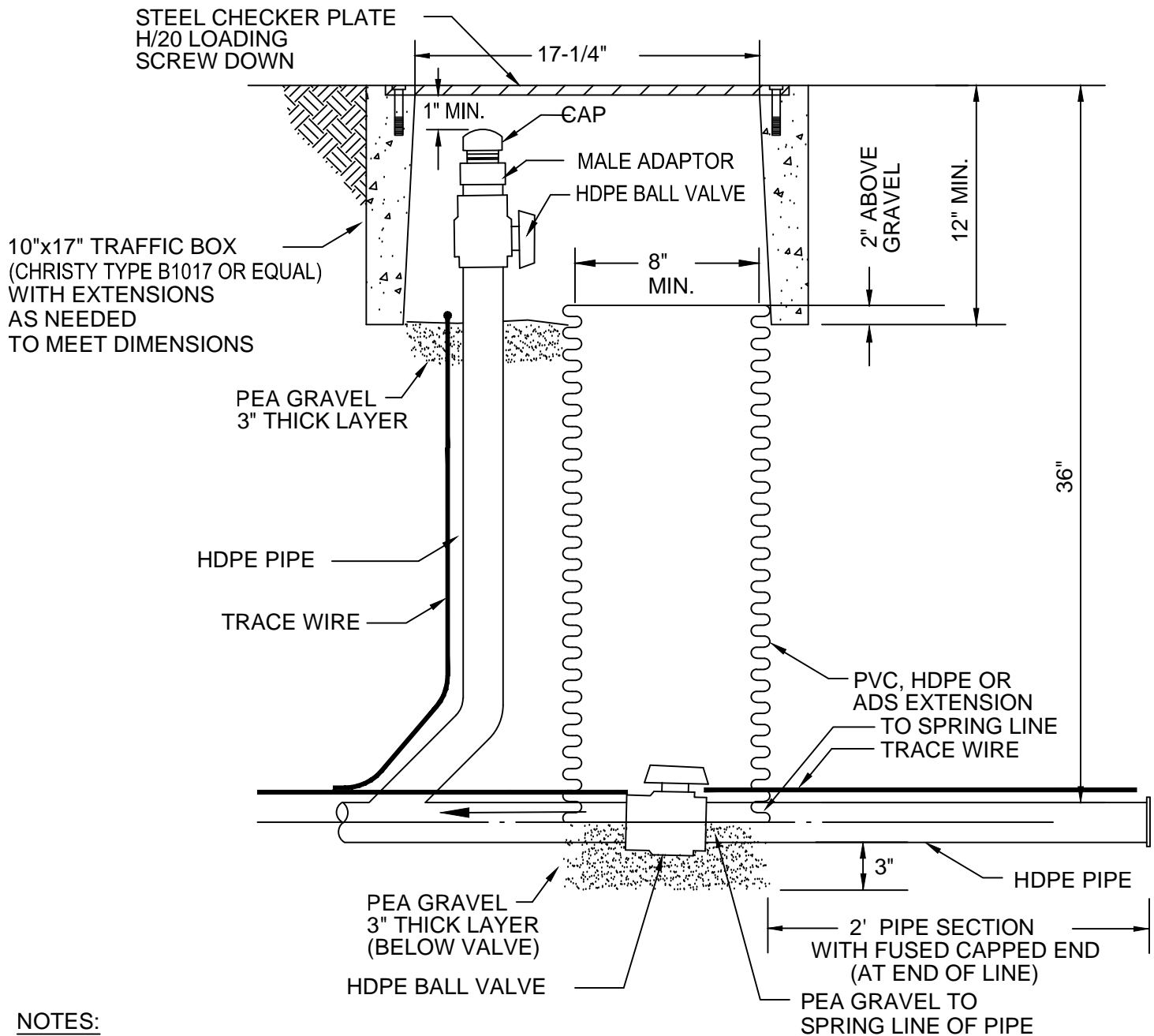
|   |               |   |   |               |
|---|---------------|---|---|---------------|
| APPROVED BY   | DATE          |  | <b>SINGLE FAMILY<br/>GRINDER PUMP<br/>INSTALLATION<br/>DETAIL</b> | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |   | <b>SS-611</b> |
| TOWN ENGINEER   |               |   |   |               |



**NOTES:**


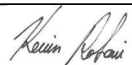
1. CONTRACTOR SHALL SUPPLY DISTRICT WITH 4'-5' VALVE ACTUATOR HANDLE TO TURN VALVE.
2. ALL HDPE JOINTS SHALL BE FUSED.
3. TRACE WIRE SHALL BE CONTINUOUS #8 COPPER WITH 2 FEET COILED IN BOX.
4. RISER SHALL BE SAME SIZE AS FORCEMAIN.

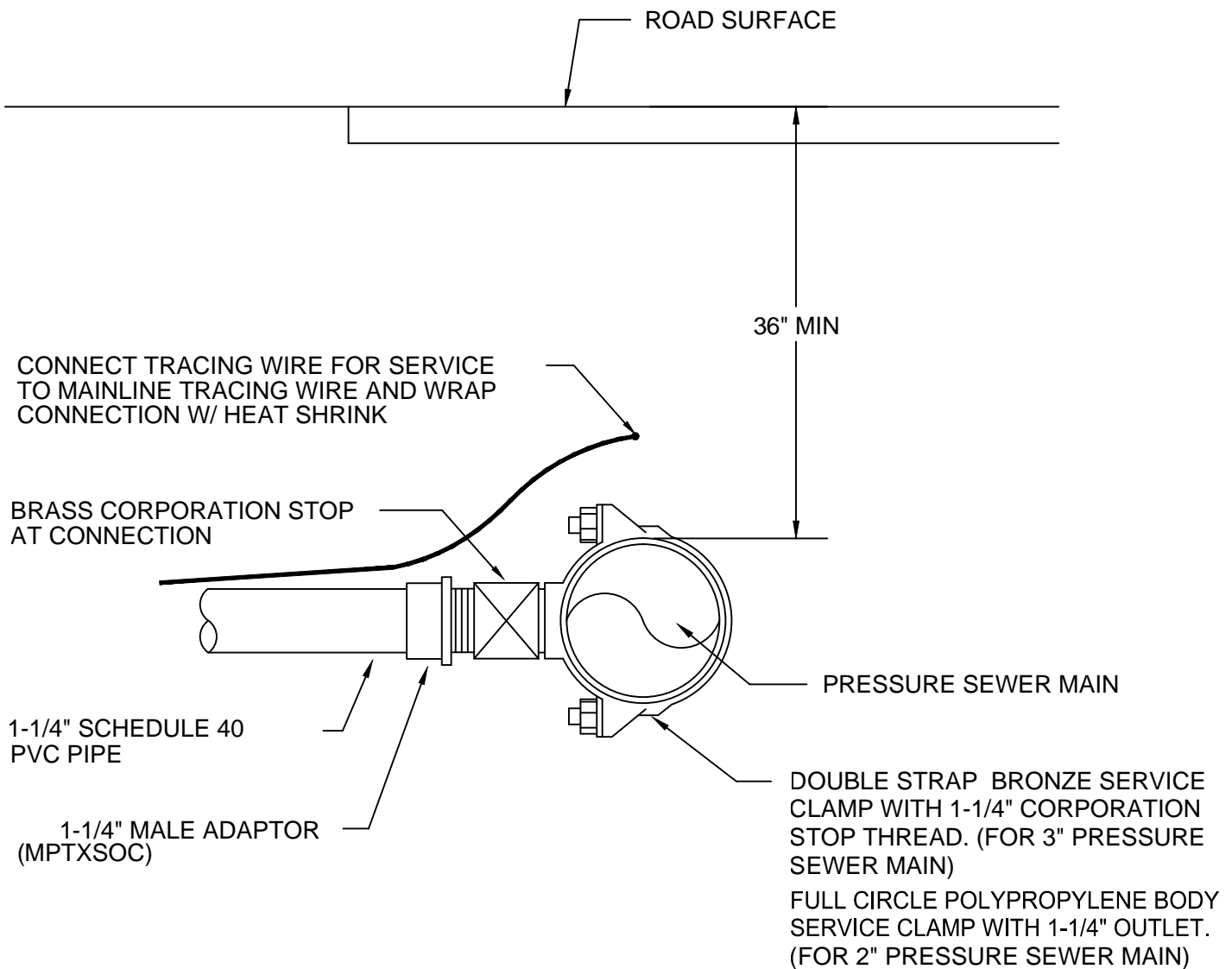
|   |               |   |   |               |
|---|---------------|---|---|---------------|
| APPROVED BY   | DATE          |  | <b>CLEANOUT 2"-3"<br/>FORCEMAIN (STEP &amp;<br/>GRINDER PUMP<br/>SYSTEMS)</b> | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |   | <b>SS-613</b> |
| TOWN ENGINEER   |               |   |   |               |



**NOTES:**


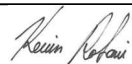
1. CONTRACTOR SHALL SUPPLY DISTRICT WITH 4'-5' VALVE ACTUATOR HANDLE TO TURN VALVE.
2. ALL HDPE JOINTS SHALL BE FUSED.
3. TRACE WIRE SHALL BE CONTINUOUS #8 COPPER WITH 2 FEET COILED IN BOX.
4. RISER SHALL BE SAME SIZE AS FORCEMAIN.

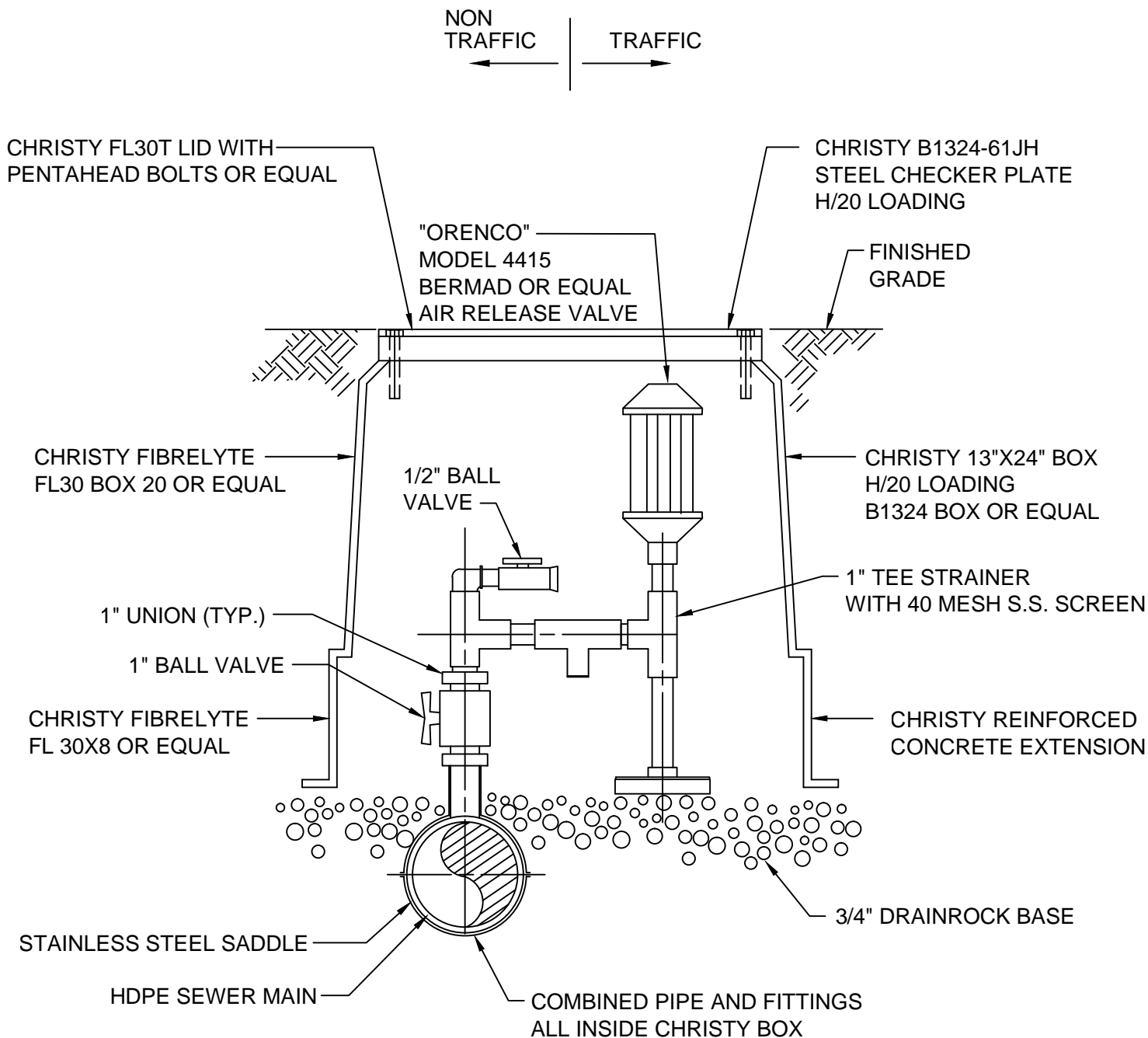
|   |               |   |   |               |
|---|---------------|---|---|---------------|
| APPROVED BY   | DATE          |  | <b>CLEANOUT 2'-3"<br/>FORCEMAIN (STEP &amp;<br/>GRINDER PUMP<br/>SYSTEMS)</b> | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |   | <b>SS-613</b> |
| TOWN ENGINEER   |               |   |   |               |



**NOTES:**

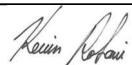
1. TRACE WIRE SHALL BE CONTINUOUS #8 COPPER WIRE.
2. THE CONTRACTOR SHALL EXCAVATE BY HAND EXPOSING THE EXISTING PRESSURE SEWER MAIN.

|   |               |   |                                     |               |
|---|---------------|---|-------------------------------------|---------------|
| APPROVED BY   | DATE          |  | <b>FORCEMAIN SERVICE CONNECTION</b> | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                                     | SS-614        |
| TOWN ENGINEER   |               |   |                                     |               |

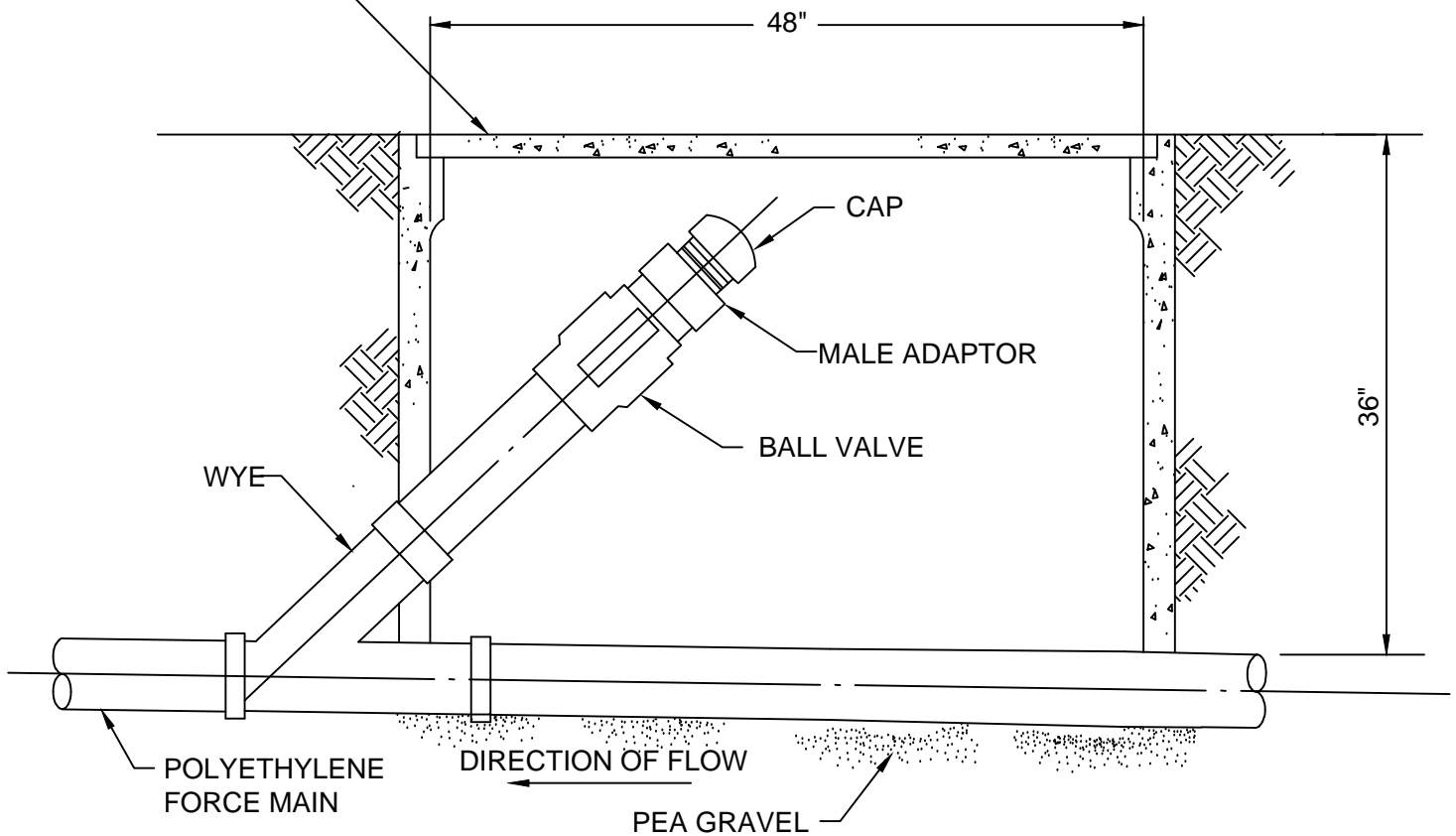


**NOTE:**

AIR RELEASE ASSEMBLY PIPE  
AND FITTINGS TO BE PVC.


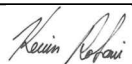
|   |               |   |   |               |
|---|---------------|---|---|---------------|
| APPROVED BY   | DATE          |  | <b>AIR RELEASE<br/>ASSEMBLY FOR STEP<br/>MAIN</b> | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |   | SS-615        |
| TOWN ENGINEER   |               |   |   |               |

CHRISTY CONCRETE PRODUCTS  
 U52 GRADE RING WITH VAULT  
 FRAME 36"x48"x3' DEEP  
 T52-51JH TRAFFIC COVER  
 OR EQUAL



NOTES:

PIPE, FITTINGS AND VALVES TO BE POLYETHYLENE

|   |               |   |                               |               |
|---|---------------|---|-------------------------------|---------------|
| APPROVED BY   | DATE          |  | CLEANOUT PIT AT<br>FORCE MAIN | STD. PLAN NO. |
|  | NOVEMBER 2010 |   |                               | SS-616        |
| TOWN ENGINEER   |               |   |                               |               |

TELEMETRY/CONTROL PANEL  
(BY INTEGRATED SYSTEMS  
AND CONTROL)

TELEMETRY/CONTROL  
PANEL ALARMS:

- HIGH WATER
- LOW WATER
- POWER FAIL
- ENTRY ACKNOWLEDGMENT
- BATTERY LOW

FEATURES:

- PUMP STARTS (METERS)
- PUMP RUN TIMES (METERS)
- RETENTION MANAGEMENT
- LEVEL MONITORING
- REMOTE OVERRIDE CAPABLE

4"x4" PRESSURE TREATED

2" CONDUIT

2-1" CONDUITS

3000 PSI CONCRETE

2" CONDUIT  
TO PUMPS

2-1" CONDUITS  
(1 FOR POWER, 1 FOR TELEPHONE)  
TO HOUSE

1'-6"  
DIAMETER

NOTES:

- 1) THE PANEL IS TO CONTROL THE PUMPS AND TO NOTIFY WEST BAY SANITARY DISTRICT SHOULD A MALFUNCTION OCCUR.
- 2) THE PROPERTY OWNER SHALL PROVIDE A PHONE LINE FOR THE PANEL. THE PHONE LINE'S SINGLE PURPOSE SHALL BE FOR TELEMETRY PANEL USE.
- 3) CONTROL/TELEMETRY PANEL SHALL BE SUPPLIED, APPROVED, AND CERTIFIED BY INTEGRATED SYSTEMS AND CONTROL (ISAC). (530) 878-9038.
- 4) LOCATION SUBJECT TO DISTRICT APPROVAL.
- 5) BURIED CONDUIT SHALL BE PVC SCHEDULE 40. EXPOSED CONDUIT SHALL BE GALVANIZED STEEL OR ALUMINUM.
- 6) CONTROL PANEL MUST BE SUPPLIED WITH HAND-OFF-AUTO SWITCH AND HOUR METERS. WITH HAND-OFF-AUTO SWITCH AND

APPROVED BY

DATE



CONTROL /  
TELEMETRY PANEL

STD. PLAN NO.

SS-617

TOWN ENGINEER

NOVEMBER 2010