

Section 2 – Streets and Transportation

2.01.000 GENERAL CONSIDERATIONS

The overall goal of this section is to encourage the uniform development of an integrated, fully accessible public transportation system that will facilitate present and future travel demand with minimal environmental impact to the community as a whole.

This section provides minimum development standards supplementing the applicable standards as set forth in Section 1.

2.02.000 STREETS

2.02.010 General

Street design must provide for the maximum loading conditions anticipated. The width and grade of the pavement must conform to specific standards set forth herein for safety and uniformity.

2.02.020 Design Standards

The design of streets and roads shall depend upon their type and usage. The design elements of City streets shall conform to City standards as set forth herein and current design practice as set forth Section 1. Standard design structures are shown on details at the end of this section. Alternate structures may be used based on the criteria as outlined in Section 2, Surfacing Requirements.

The layout of streets shall provide for the continuation of existing principal streets in adjoining subdivisions or of their proper projection when adjoining property is not subdivided. Minor streets, which serve primarily to provide access to abutting property, shall be designed to discourage through traffic. See the table of the Minimum Street Design Standards.

Alignment

Alignment of major arterials, minor arterials and collectors shall conform as nearly as possible with that shown in the Comprehensive Plan.

Grade

Street grade should conform closely to the natural contour of the land. In some cases a different grade may be required by the City Engineer. The minimum allowable grade shall be 0.5 percent. The maximum allowable grade shall be 14 percent, depending upon the street classification. The optimum grade is no more than 10% and shall not be exceeded unless in unusual cases.

Width

The pavement and right-of-way width depend upon the street classification. The table of Minimum Street Design Standards, Standard Drawings 2-3 and 2-4, show the minimum widths allowed. Street widths shall be measured from face of curb to face of curb on streets with cement concrete curb and gutter, or to the edge of pavement for non-curbed streets.

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General Notes

The General Notes on Standard Drawings No. 2-1 and 2-2 shall be included on any plans dealing with street design in addition to all applicable requirements in Section 1, Design Standards.

2.02.030 Functional Classification

City streets are divided into major (or principal) arterials, minor (or secondary) arterials, major or minor collectors and local access streets in accordance with regional transportation needs and the functional use. Function is the controlling element for classification and shall govern right-of-way, road width, and road geometrics. Figure 1-1 is provided to assist the developer in determining the classification of a particular street. New streets will be classified by the City Engineer.

2.02.040 Naming

Street and road names shall be approved by the City's Community and Economic Development Department. "Avenues" run east-west and are named. "Streets" run north-south and are numbered, the exception being certain long-standing historical names. "Drives" are irregular or diagonal streets over two grid blocks in length not conforming to the grid pattern. "Places" shall be a North-South Street, parallel to but between streets. "Ways" shall be an east-west street parallel to but between avenues. "Courts" shall be a north-south cul-de-sac street which cannot be extended. "Lanes" shall be an east-west cul-de-sac street which cannot be extended. "Places", "Ways", "Courts" and "Lanes" are to be named or numbered and carry the name or number of the preceding street or avenue. "Loops" shall be a street that loops back on its self and shall carry the name of the street or avenue from which it originates.

The developer must check with the Building Official regarding the naming of streets. This should be done at the time the preliminary plat is submitted and again upon approval of the final plat. The Building Official will insure that the name assigned to a new street is consistent with policies of the City.

An address number will be assigned to all new buildings at the time the building permit is issued. It is then the owner's responsibility to see that the house numbers are placed clearly and visibly at the main entrance to the property or at the principal place of ingress. (BMC 12.12.050)

2.02.050 Signing

The developer is responsible for providing all traffic control signs. Traffic control signing shall comply with the provisions as established by the U.S. Department of Transportation Manual on Uniform Traffic Control Devices (MUTCD).

Street designation signs, including poles and hardware, shall be furnished and installed by the developer and approved by the City to establish uniformity. Street designation signs shall display street names and grid numbers.

2.02.060 Right-of-Way

Right-of-way is determined by the functional classification of a street. Refer to "THE TABLE OF MINIMUM STREET DESIGN STANDARDS", Standard Drawings 2-3 and 2-4.

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Right-of-Way requirements may be increased if additional lanes, pockets, transit lanes, bus loading zones, operational speed, bike lanes, utilities, schools or other factors are required as determined by the City Engineer.

Right-of-Way shall be conveyed to the City on a recorded plat or by a right-of-way dedication deed.

2.02.065 Unopened Right of Way – Trail Permit

This section is intended to provide procedural guidance for progressive development of unopened street right of way by the abutting property owners who wish to develop residential building sites along the unopened street.

Illegal subdivision

A trail permit shall not be issued to provide access to a lot or parcel created in violation of the existing platting law

Permit - Required

Unopened and/or unmaintained city road right-of-way shall not be privately improved or used for access purposes, nor shall development approval necessitating such improvements or use be granted, unless a trail permit therefor has been issued by Public Works pursuant to this section.

Notification to Adjacent Landowners

A trail permit applicant shall provide certification that all owners of the property abutting on each side of the right-of-way have been contacted. Any objections of such property owners shall be stated along with the manner in which the applicant proposes to resolve the objections.

Permit - Contents

Upon filing of a complete application, payment of the fee and posting of a construction bond or approved letter of credit or dedication of additional right-of-way, if required, the Director of Public Works may issue a permit authorizing the construction of road improvements and permanent use thereof on unopened, unmaintained city road right-of-way for access to the applicant's property. Such permit shall contain the information required by this Section 2.02.065 of the Development Guidelines and Public Works Standards

Materials within right-of-way

The permit shall contain a statement regarding the use or disposition of timber, soil, rock, vegetation, or other materials found within the right-of-way. If not utilized in the construction of roadway improvements, such materials shall be disposed of in accordance with the direction of the abutting property owners and/or the Director of Public Works. Any affected fences located within the right-of-way shall be disposed of and/or relocated in accordance with the direction of the Director of Public Works.

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Covenants

The permit shall include a covenant running with the land and for the benefit of The City of Blaine which covenant shall be filed with the Whatcom County auditor and contain:

- A. A legal description of the lot or parcel to be served by the trail permit;
- B. A statement regarding the nature of access to such parcel;
- C. A statement that the owners of the parcel will not oppose participation in a city road improvement district if formation of such a district is deemed necessary by the city council;
- D. A statement that the responsibility for the maintenance of the road rests jointly and equally upon all permit holders;
- E. A prohibition against subdividing such parcels without obtaining either plat or short plat approval therefor or, if exempt from platting, a trail permit for the additional lots being created;
- F. A statement that the covenant is binding on the successors and assigns of the owners;
- G. The acknowledged signatures of the owners of record of such parcel.

Required road and utility improvements

The permit shall specify minimum improvements required by the Director of Public Works. Minimum improvements could include water and sewer main extensions, storm drain improvements and electrical system improvements constructed in accordance with the standards of the department of public works. Construction of such improvements to the satisfaction of the director shall be completed prior to issuance of an occupancy permit. The permittee shall be responsible for proper notice to the Director of Public Works requesting the necessary inspection.

Required Improvement Standards

Minimum road improvements authorized by trail permit are described below and detailed in Standard Drawings 4-4a. These standards describe a progressive improvement of the right-of-way with each successive permit applicant until the road is eventually improved to minimum City street standards.

Detailed engineering plans and/or a drainage study may be required when considered necessary by the Director of Public Works. Costs for the development of such plan and conduct of required studies shall be borne by the permit applicant. When required, such plans and study shall be in accordance with the requirements for plat development.

When considered necessary by the Director of Public Works to adequately define the limits of right-of-way, the permit applicant shall cause the right-of-way to be surveyed by a licensed land surveyor. Such survey shall be recorded in accordance with the Survey Recording Act.

Applicants may be required to deed additional right-of-way across their property under his authority when necessary to fulfill the minimum street right-of-way width.

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Progressive Trail Development

- First Permit. (The first request submitted to use a previously unopened, unimproved right-of-way). The applicant shall clear and grub the right-of-way, grade, drain, and surface a minimum 14 foot roadway per Standard drawing 4-4a. The width of clearing and grubbing shall conform to the width required for build out of the future public road improvement. The improvement shall extend across the total frontage of the permit holders' property.
- Second Permit. The applicant shall remove any built-up sod from the existing roadway, re-grade ditches and drainage ways, and provide a minimum of six inches of gravel base, Class B, across the center 20 feet of the entire roadway.
- Third Permit. The applicant shall remove any built-up sod from existing roadway, re-grade ditches and drainage ways, re-grade existing roadway and provide a minimum of two inches of crushed surfacing top course across the center 20 feet of the entire roadway.
- Additional Permits. Subsequent applicants shall be required to add additional crushed surfacing top course, re-grade ditches and roadway and make such further improvements as may be necessary in the opinion of the Director of Public Works. If considered appropriate, the Director of Public Works may recommend to City Council formation of a local street improvement district or LID.

Upon completion of the improvements, the applicant shall notify Public Works to request an inspection. Public Works must inspect and approve the improvements prior to issuance of a building permit.

Signs

"Privately Maintained Road" and/or "End of City Maintained Road" signs shall be posted at the entrance to the road. Required signs are provided by the city, maintained by the city and paid for by the permittee.

Approvals

Upon completion of the required improvements, the Director of Public Works shall indicate his approval on the permit and make the appropriate notice thereof upon official city road right-of-way records.

Other permits

It shall be the responsibility of the permit applicant to obtain all other required permits and approvals.

Environmental review

The permit process prescribed in this section may be subject to the city environmental policy ordinance (see Section 16 of the Blaine Municipal Code).

Fees

A fee of \$50.00 shall be paid to the public works department at the time of the application. Such fee is nonrefundable and must accompany each application for a trail permit. For an

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individual temporary access permit a fee of \$20.00 shall be paid to the public works department at the time of application. Such fee is nonrefundable.

Temporary Access Permit

A temporary access permit (revocable encroachment permit) means a permit issued authorizing temporary access use of unopened or unmaintained city road right-of-way for limited, short duration activities.

Appeal

A permittee may appeal the action of the director and/or the city engineer in denying conditions or otherwise acting upon a permit provided that a written request for reconsideration must first be filed with the director within 30 days of the action complained of. The request shall state what action is being questioned and the reason for the disagreement. Upon receipt of this request, the director may choose to affirm, reverse, or modify his or the city engineer's prior action. Notice of the director's response shall be mailed to the permittee within 10 working days of the receipt of the request for reconsideration. The director's action may thereafter be appealed to the city council by filing a written notice of appeal with the clerk of the council within 30 days of the date of response from the director to the written request for reconsideration. The clerk, upon receipt of an appeal, shall schedule a public meeting or place before the regular council meeting at which time testimony will be taken from the permittee and from the director. Based upon the data supplied at this meeting and such other information as the council may request, the council may sustain, reverse, or modify the action of the director. The decision of the council shall be final and binding and not subject to further appeal.

2.02.070 Private Streets

See definition of Private Street in Section 1.

A. Private streets may be allowed when they:

1. Are permanently established by platting or easement providing legal access to each affected lot, dwelling unit, or business
2. Are sufficient to accommodate required improvements, and include provisions for future use by adjacent property owners when applicable
3. Are built to the City of Blaine minimum standards for private streets
4. Are accessible at all times for emergency and public service vehicle use
5. Will not result in land locking of present or future parcels nor obstruct public street circulation
6. Are maintained by a legally responsibility owner or homeowners association or other legal entity made up of all benefited property owners having the authority to collect fees and place liens upon non-payment of fees
7. Are clearly signed at the street entrance as a private street
8. At least one of the following conditions exist:

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- Existing abutting development precludes the construction of a public street, or
- Topographic, geological or soil conditions make development of a public road undesirable, or
- The streets are within a private community with a corporate identity, or
- Neighborhood traffic circulation and lot access can be met more logically by private streets than by public streets.

B. Criteria for Construction:

Private streets shall conform to these standards. However, it is intended that a broader flexibility will be granted proposed variance requests than given for public streets. See Standard Drawings 4-4b and 4-D for minimum specifications.

C. Acceptance as Public Streets

Acceptance of private streets as public streets will be considered only if the street(s) meet all applicable public street standards, including right-of-way widths.

2.02.075 Street Frontage Improvements

Required by Development

All commercial and residential (including multifamily) development, plats, and short plats shall install street frontage improvements at the time of construction as required by the Department of Public Works. Such improvements may include curb and gutter; sidewalk; street storm drainage; street lighting system; traffic signal modification, relocation or installation; utility relocation; landscaping and irrigation, and street widening all per these Standards. Plans shall be prepared and signed by a licensed civil engineer registered in the State of Washington.

Limits of Improvements

All frontage improvements shall be made across full frontage of property from centerline to right-of-way line.

Exceptions

When the City Engineer deems that the above such improvements cannot be accomplished at the time of building construction, a recorded agreement on forms provided by the Department of Public Works shall be completed which provide for these improvements to be installed at a later date by the applicant or by the applicant's signing of a waiver of protest in a Local Improvement District (L.I.D.).

2.02.080 Cul-de-sac

Streets designed to have one end permanently closed shall be no longer than 600 feet unless expressly approved by the planning commission. At the closed end, there shall be a widened "bulb" having a minimum paved traveled radius as shown in the "Table of Minimum

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Street Design Standards”, or a “Y”, a “T” or an “offset” which allows for comparable ease in turning for emergency vehicles. (BMC 15.08.030(b1))

2.02.090 Temporary Dead Ends

Where a street is temporarily dead ended, turn around provisions must be provided where the road serves more than one lot. The turnaround may be a hammerhead with a minimum distance on both sides at the centerline intersection of 45 feet to facilitate emergency vehicle turnaround.

2.02.100 Three Quarter Street

A Three Quarter Street is an otherwise acceptable roadway section modified to conform to limited right-of-way on the boundary of property subject to development. See definition in Section 1.

Approval

A Three Quarter Street may be permitted subject to approval by the City Engineer when:

- There is reasonable assurance of obtaining the prescribed additional right-of-way from the adjoining property suitable for completion of a full-section roadway, and
- Such alignment is consistent with or will establish a reasonable circulation pattern, and
- The right-of-way width of the Three Quarter Street shall equal at least 30 feet, and
- The traveled way shall be surfaced the same as the designated street classification to a width not less than 20 feet, and
- The Three Quarter Street shall be graded consistent with locating centerline of the ultimate roadway section on the property line, and
- Property line edge of street shall be finished with permanent curb and gutter to insure proper drainage, bank stability and traffic safety.

2.02.105 Medians

A median, where allowed, shall be in addition to, not part of, the specified roadway width except on a road classed as a boulevard. Medians shall be designed so as not to limit turning radius or sight distance at intersections. Landscaping and irrigation shall be installed when directed by the City Engineer.

2.02.110 Intersections

Specifications

Traffic control will be as specified in the Manual on Uniform Traffic Control Devices (MUTCD) or as modified by the City Engineer as a result of appropriate traffic engineering studies.

Design

Street intersections shall be laid out so as to intersect as nearly as possible at right angles. Sharp angled intersections shall be avoided. For reasons of traffic safety, a ‘T’ intersection (three-legged) is preferable to the crossroad (four-legged) intersection for local access streets. For safe design, the following types of intersection features should be avoided:

- Intersections with more than four intersecting streets;

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- 'Y' type intersections where streets meet at acute angles:
- Intersections adjacent to bridges and other sight obstructions.

Spacing

Spacing between adjacent intersecting streets, whether crossing or "T" should be as follows:

| When highest classification involved is: | Minimum centerline offset should be: |
|--|--------------------------------------|
| Major Arterial | 350 feet |
| Minor Arterial | 300 feet |
| Major Collector | 300 feet |
| Minor Collector | 200 feet |
| Local Access | 150 feet |

When different class streets intersect, the higher standard shall apply on curb radii. Deviations to this may be allowed at the direction of the City Engineer.

- Sloping Approaches.

On sloping approaches at an intersection, landings shall be provided with grade not to exceed one foot difference in elevation for a distance of 30 feet approaching any arterial or 20 feet approaching a collector or local access street, measured from nearest right-of-way line (extended) of intersecting street.

2.02.120 Driveways

General

- Details of driveway sections are located at the end of this section.
- All abandoned driveway areas on the same frontage shall be removed and the curbing and sidewalk or shoulder and ditch section shall be properly restored.
- All driveways shall be constructed of Portland Concrete Cement and shall be subject to the same testing and inspection requirements as curb, gutter, and sidewalk construction.
- Joint-use driveways serving two adjacent parcels may be built on their common boundary upon formal written agreement by both property owners and approval of the City. The agreement shall be a recorded easement for both parcels of land specifying joint usage.
- Grade breaks, including the tie to the roadway, shall be constructed as smooth vertical curves. The maximum change in driveway grade shall be 8 percent within any 10 feet of distance on a crest and 12 percent within any 10 feet of distance in a sag vertical curve.
- No commercial driveway shall be approved where backing onto the sidewalk or street will occur.

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- No driveway shall occur within 25 feet of the nearest R/W line of an intersecting street, except as provided below.

Arterial Streets

- No driveway may access an arterial street within 75 feet (measured along the arterial) of any other such arterial street access on either side of the street; provided, that such access may be located directly opposite another access.
- No driveway access shall be allowed to an arterial street within 150 feet of the nearest right-of-way line of an intersecting street.
- Within the limitations set forth above, access to arterial streets within the city shall be limited to one driveway for each tract of property separately owned. Properties contiguous to each other and owned by the same person are considered to be one tract.
- Driveways giving direct access onto arterials may be denied if alternate access is available. Deviations of these standards may be permitted by the City Engineer.

Width

- The maximum driveway width for two-way access drives onto an arterial or collector shall be 24 feet for residential, 30 feet for commercial uses, and 50 feet for industrial uses. Maximum driveway widths for one way access drives onto an arterial or collector shall be 12 feet for residential, 20 feet for commercial, and 25 feet for industrial uses. A road approach or wider driveway width may be approved by the City Engineer where a substantial percentage of oversized vehicle traffic exists, where divisional islands are desired, or where multiple exit or entrance lanes are needed.
- The maximum driveway width onto a local access street shall be 24 feet for residential uses and 26 feet for commercial uses.
- The maximum one way driveway width onto a local access street shall be 12 feet for residential and 20 feet for commercial driveways. Parking lot circulation and signing needs shall be met on site. The public right-of-way shall not be utilized as part of a one way parking lot flow.
- Road approaches and/or ingress and egress tapers may be required in industrial and commercially zoned areas as directed by the City Engineer. Tapers shall be designed per Institute of Transportation Engineers publication "Transportation and Land Development" by V. G. Stover and F. Koepke.

2.02.130 Sight obstruction

The following sight clearance requirements take into account the proportional relationship between speed and stopping distance.

The sight distance area is a clear-view triangle formed on all intersections by extending two lines of specified length (A) and (B) as shown below from the center of the intersecting streets along the centerlines of both streets and connecting those endpoints to form the hypotenuse of the triangle. See detail 2-1 at the end of this section. The area within the triangle shall be subject to said restrictions to maintain a clear view on the intersection approaches.

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Sight Distance Triangle

Stop or Yield Controlled Intersection Sight Distance (Ft.)

| Speed Limit | (A) | (B) |
|-------------|--------------|--------------|
| | Major Street | Minor Street |
| 20 mph | 200 | * |
| 25 mph | 250 | * |
| 30 mph | 300 | * |
| 35 mph | 350 | * |
| 40 mph | 400 | * |

* Sight distance measured from a point on the minor road 15 feet from the edge (extended) of the major road pavement and measured from a height of eye at 3.50 feet on the minor road to height of object at 4.25 feet on the major road.

Uncontrolled Intersection Sight Distance (Ft.)

| Speed Limit | (A) | (B) |
|-------------|--------------|--------------|
| | Major Street | Minor Street |
| 20 mph | 90 | 90 |
| 25 mph | 110 | 110 |
| 30 mph | 130 | 130 |
| 35 mph | 155 | 155 |
| 40 mph | 180 | 180 |

Vertical Clearance Area

The vertical clearance area within the sight distance triangle shall be free from obstructions to a motor vehicle operator's view between a height of 3 feet and 10 feet above the existing surface of the street.

Exclusions

Sight obstructions that may be excluded from these requirements include: fences in conformance with this section, utility poles, regulatory signs, trees trimmed from the base to a height of 10 feet above the street, places where the contour of the ground is such that there can be no cross visibility at the intersection, saplings or plant species of open growth habits and not in the form of a hedge which are so planted and trimmed as to leave at all seasons a clear and unobstructed cross view, buildings constructed in conformance with the provisions of appropriate zoning regulations and preexisting buildings.

2.02.140 Surfacing Requirements

The following are the surfacing requirements for each application listed. These designs are based on Washington stabilometer subgrade R-value of 5. Alternate structures will be accepted based on soil tests to determine the actual Washington stabilometer R-value and

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completion of worksheet 4-6A in the drawing section at the end of this Section. Soil tests and a completed worksheet for each road classification shall accompany plans submitted if other than the structures shown below are used.

One soil sample per each 500 LF of centerline with 3 minimum per project representative of the roadway subgrade shall be taken to determine a statistical representation of the existing soil conditions.

Soil tests shall be performed by an engineering firm specializing in soils analysis.

The soils report, signed and stamped by a soils engineer licensed by the State of Washington, shall be based on actual soils tests and submitted with the plans. All depths indicated are a minimum compacted depth.

Arterial Streets

Surfacing: 0.50' Class B Asphalt Concrete
Top Course: 0.17' Crushed Surfacing Top Course
Base: 2.08' Ballast

Alternate:

Surfacing: 0.50' Class B Asphalt Concrete
Top Course: 0.61' Asphalt Treated Base (ATB)
Base: 0.17' Crushed Surfacing Base Course

- Commercial Collector and Industrial Streets

Surfacing: 0.33' Class B Asphalt Concrete
Top Course: 0.17' Crushed Surfacing Top Course
Base: 2.08' Ballast

Alternate:

Surfacing: 0.33' Class B Asphalt Concrete
Top Course: 0.61' Asphalt Treated Base
Base: 0.17' Crushed Surfacing Base Course

Neighborhood Collector Streets

Surfacing: 0.33' Class B Asphalt Concrete
Top Course: 0.17' Crushed Surfacing Top Course
Base: 1.36' Ballast

Alternate:

Surfacing: 0.33' Class B Asphalt Concrete
Top Course: 0.39' Asphalt Treated Base
Base: 0.17' Crushed Surfacing Base Course

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Local Access Street

Surfacing: 0.25' Class B Asphalt Concrete
Top Course: 0.17' Crushed Surfacing Top Course
Base: 1.00' Ballast

Alternate:

Surfacing: 0.25' Class B Asphalt Concrete
Top Course: 0.20' Asphalt Treated Base
Base: 0.17' Crushed Surfacing Base Course

- Sidewalks

Surfacing: 4" Commercial Concrete
Base: 1" Crushed Surfacing Top Course or well graded sand

Alternate:

Surfacing: Asphalt sidewalks will not be permitted unless otherwise approved by the City Engineer.

Driveway

Surfacing: 6" Commercial Concrete, (3,000 psi at 28 days.)
Base: 1" Crushed Surfacing Top Course or well graded sand

Class I Bikeway

Surfacing: 4" Commercial Concrete, (3,000 psi at 28 days.)
Base: 1" Crushed Surfacing Top Course well graded sand or washed rock.

Alternate:

Surfacing: 2 1/2" Class B Asphalt Concrete
Base: 4" Ballast

Alternate:

Surfacing: 1 1/2" Class G Asphalt Concrete
Base: 3 1/2" asphalt treated base

2.02.150 Temporary Street Patching

Temporary restoration of trenches shall be accomplished by using 2" Class B Asphalt Concrete Pavement when available or 2" medium-curing (MC-250) Liquid Asphalt (cold mix), 2" Asphalt Treated Base (ATB), or steel plates.

ATB used for temporary restoration may be dumped directly into the trench, bladed and rolled. After rolling, the trench must be filled flush with asphalt concrete pavement to provide a smooth riding surface.

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All temporary patches shall be maintained by the contractor until such time as the permanent pavement patch is in place. If the contractor is unable to maintain a patch for whatever reason, the City will patch it at actual cost plus overhead and materials.

2.02.160 Trench Backfill and Restoration

Trench restoration shall be either by a patch or patch plus overlay as required by the City.

Cuts

All trench and pavement cuts shall be made by spade bladed jackhammer or saw cuts. The cuts shall be a minimum of 1 foot outside the trench width.

Backfill

All trenching shall be backfilled with crushed surfacing materials conforming to **Section 4-04** of the WSDOT/APWA Standard Specifications. The trench shall be compacted to 95 percent maximum density, as described in Section 2-03 of the WSDOT/APWA Standard Specifications.

If the existing material is determined by the City to be suitable for backfill, the contractor may use the native material except that the top 8 inches of trench below the bottom of the road surface shall be approved Class B ballast. All trench backfill materials shall be compacted to 95% density.

Backfill compaction shall be performed in 6 inch lifts.

Replacement of the asphalt concrete or Portland concrete cement shall be the existing depth plus 1 inch, or a minimum 3 inches in total thickness.

Tack

Tack shall be applied to the existing pavement and edge of cut and shall be emulsified asphalt grade CSS-1 as specified in Section 9-02.1(6) of the WSDOT/APWA Standard Specifications. Tack coat shall be applied as specified in Section 5-04 of the WSDOT/APWA Standard Specifications.

Asphalt placing

Asphalt concrete Class B shall be placed on the prepared surface by an approved paving machine and shall be in accordance with the applicable requirements of Section 5-04 of the WSDOT/APWA Standard Specifications, except that longitudinal joints between successive layers of asphalt concrete shall be displaced laterally a minimum of 12 inches unless otherwise approved by the City Engineer. Fine and coarse aggregate shall be in accordance with Section 9-03.8 of the WSDOT/APWA Standard Specifications. Asphalt concrete over 2 inches thick shall be placed in equal lifts not to exceed 2 inches each.

All street surfaces, walks or driveways within the street trenching areas affected by the trenching shall be feathered to an extent that provides a smooth-riding connection and expeditious drainage flow for the newly paved surface. Feathering as required by the City Engineer shall be accomplished by raking out the oversized aggregates from the Class B mix as appropriate.

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Surface smoothness shall be per Section 5-04.3(13) of the WSDOT/APWA Standard Specifications. The paving shall be corrected by removal and repaving of the trench only.

Joint sealing

All joints shall be sealed using paving asphalt AR4000W.

Shoulder restoration

When trenching within the roadway shoulders, the shoulder shall be restored to its original or better condition.

Final patch

The final patch shall be completed as soon as possible and shall be completed within 30 days after first opening the trench. This time frame may be adjusted if delays are due to inclement paving weather, or other adverse conditions that may exist. However, delaying of final patch of overlay work is allowable only subject to the City Engineer's approval. The City Engineer may deem it necessary to complete the work within the 30 days time frame and not allow any time extension. If this occurs, the Contractor shall perform the necessary work as directed by the City Engineer.

2.02.170 Staking

All surveying and staking shall be performed by an engineering or surveying firm capable of performing such work. The engineer or surveyor directing such work shall be licensed as a Professional Engineer or Professional Land Surveyor by the State of Washington.

A pre-construction meeting shall be held with the City prior to commencing staking. All construction staking shall be inspected by the City prior to construction.

The minimum staking of streets shall be as directed by the City Engineer or as follows:

- Centerline Stakes

Stake centerline every 50 feet in tangent sections and 25 feet in curved sections plus grade breaks, PVCs, PVTs, high points and low points, with cut and/or fill to subgrade.

- Ballast Stakes

Stake top of ballast and top of crushed surfacing at centerline and edge of pavement at the above-described intervals.

- Curb Stakes

Stake top back of curb at the above-described intervals with cut or fill to finished grade.

2.02.180 Testing

Testing shall be required at the developers or contractors expense. The testing shall be ordered by the developer or contractor and the chosen testing lab shall be approved by the City construction inspector. Testing shall be done on all materials and construction as specified in the WSDOT/APWA Standard Specifications and with frequency as specified by the City Engineer.

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In addition, the City shall be notified before each phase that street construction commences (i.e. staking, grading, subgrade, ballast, base, top course, and surfacing).

2.03.000 **SIDEWALKS, CURBS AND GUTTERS**

2.03.010 General

All properties within commercial zones of the City, properties abutting arterial streets or collector streets and properties upon which there are to be public buildings, shall, in conjunction with new construction on such properties or alterations or improvements which constitute 25 percent or more of the value of the existing structures on the property, have sidewalks constructed along abutting streets. Curbs and gutters must also be constructed along the abutting street when the City Engineer determines that the conditions of drainage require curbs and gutters.

2.03.020 Design Standards

Plans for the construction of sidewalks, curbs and gutters are to be submitted as part of the street plans when applicable.

The City has set forth minimum standards as outlined in Section 1, "Design Standards" which must be met in the design and construction of sidewalks, curbs and gutters.

- Arterial Streets.

Sidewalks, curbs and gutters shall be required on both sides of all arterial streets interior to the development. Sidewalks, curbs and gutters shall also be required on the development side of streets abutting the exterior of said development. Arterial streets for purposes of this subsection shall include major arterials, secondary arterials and collector streets as defined in BMC 142.606

- Local Access Streets.

Sidewalks shall be required on one side of local access streets interior to the development and on the development side of local access streets abutting the exterior of said development including cul-de-sacs. (BMC 142.325)

- Minimum standards

The design and construction of all sidewalks, curbs, gutters and walkways shall meet the following minimum standards:

The width of sidewalks shall be as shown in the Table of Minimum Street Design Standards. Those sidewalks designated in the comprehensive bike plan of the city as bike paths shall, in addition, meet the minimum width requirements established for said bike paths. The City Engineer shall require that the design of all sidewalks provides for a gradual rather than an abrupt transition between sidewalks of different widths or alignments.

Sidewalks shall be constructed of Commercial Concrete (3000 psi @ 28 days) 4 inches thick. When the sidewalk, curb and gutter are contiguous, the width of the sidewalk shall be measured from back of curb and gutter to back of sidewalk.

Monolithic pour of curb, gutter and sidewalk will not be allowed.

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2.03.030 Inspection

Form and subgrade inspection by the City, are required before sidewalk is poured.

2.03.040 Driveway requirements

Driveway requirements are set forth earlier in this section.

2.03.050 Curb and Gutter

Cement concrete curb and gutter shall be used for all street edges unless otherwise approved by the City Engineer. All curbs and gutters shall be constructed of Commercial Concrete (3000 psi @ 28 days) as shown on Detail 4-14. Extruded curb and gutter per WSDOT/APWA Standard Specifications is allowed. Rolled curb and gutter is allowed on private roadways.

Form and subgrade inspection by the City are required before curb and gutter are poured.

The face or top of all new curbs shall be embossed to denote the location of water and sewer services crossings. Water services shall be marked ¼ inch into concrete with a "W" and side sewers shall be marked with an "S".

2.03.060 Handicap Ramps

All sidewalks must be constructed to provide for handicap ramps in accordance with the standards of state law.

Handicap Ramps shall be constructed of Class 3000 concrete. Form and subgrade inspection by the City are required before handicap ramp is poured.

2.03.070 Staking

All surveying and staking shall be performed by an engineering or surveying firm capable of performing such work. The engineer or surveyor directing such work shall be licensed as a Professional Engineer or Professional Land Surveyor by the State of Washington.

A preconstruction meeting shall be held with the City prior to commencing staking. ALL construction staking shall be inspected by the City prior to construction.

The minimum staking of curb, gutter and sidewalk shall be as directed by the City Engineer or as follows:

Stake top back of curb every 50 feet in tangent sections and 25 feet in curved sections plus grade breaks, PVCS, PVTs, high point and low points, with cut or fill to finished grade.

2.03.080 Testing

Testing shall be required at the developer's or contractor's expense on all materials and construction as specified in the WSDOT/APWA Standard Specifications. At a minimum, at the direction of the City Engineer, one slump test and 2 test cylinders shall be taken once per day. In addition, the City shall be notified before each phase of sidewalk, curb and gutter construction commences.

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2.04.000 BIKEWAYS

2.04.010 General

Bikeway construction is required in conjunction with any new development or redevelopment where the estimated cost of improvements on such properties exceeds 25 percent of the value of the existing structures, or plat or short plat approval, when the need for such a bikeway is indicated in the Blaine Transportation Plan. See detail 4-16 for bike routes and classifications.

2.04.020 Design Standards

The design of bicycle paths shall depend upon their type and usage. Bikeway surfacing shall be as outlined in Section 2 "Surfacing Requirements".

All minimum design standards as set forth in Section 1 shall apply.

Normally, bikeways are shared with other transportation modes, although they may be provided exclusively for bicycle use. Bikeways are categorized as follows:

2.04.030 Class

- Class I, Bike Path.

A separate trail for use principally by bicyclists, but may be shared with pedestrians. These facilities are separated from motor vehicle roadways.

- Class II, Bike Lane.

A portion of a road that is designated by signs and/or pavement markings for bicycle use. These facilities are usually adjacent to the motor vehicle roadway.

- Class III, Bike Route.

A road that is designated with signs as a bicycle route, where bicycle usage is shared with motor vehicles on the street or, less desirably, with pedestrians on a sidewalk or walkway.

- Class IV, Shared Roadway.

A facility within commercial and high-density urban centers where sidewalk bicycling is not permitted. No special designations or design criteria are directed toward bicycle use. A 14 foot outside travel lane is required when a roadway is designated a shared bikeway.

Class I, II, III or IV Bikeways, as appropriate, shall be provided:

1. Wherever called for in the Blaine Transportation Plan, or
2. When traffic analysis or traffic planning indicates substantial bicycle usage which would benefit from a designated bicycle facility as determined by the City except where noted herein.

2.04.040 Staking and Testing

Staking and testing shall be done in accordance with street staking and testing as outlined in this section.

Section 2 – Streets and Transportation

2.05.000 ILLUMINATION

2.05.010 General

ALL new commercial or residential subdivisions, short plats or property development requiring review by the Technical Review Committee shall provide street lights in accordance with the standards for such improvements of the City and they shall be owned and operated by the City. See Appendix B for Contract Requirements and Specifications

2.05.020 Design Standards

A street lighting plan submitted by the applicant and approved by the City Engineer shall be required for all street light installations. Type of installation shall be as set forth in WSDOT/APWA Standard Specifications and as directed by the City except where noted herein.

All public street light designs shall be prepared by an engineering firm capable of performing such work. The engineer shall be licensed by the State of Washington. All developments shall submit the lighting plan on a separate sheet. After system is completed and approved, a set of "as built" mylars and AutoCAD drawing files shall be submitted to the City as a permanent record.

Lights shall be located in accordance with the Illumination Standards Table. In addition, intersections shall be illuminated to 1.5 times the highest foot candle requirement of the streets surrounding the intersection. Exception: In residential and intermediate classes, local and collector streets intersecting other local and collector streets do not need 1.5 times the illumination provided a luminaire is placed at the intersection. Poles shall be opposite across the roadway or on one side of the roadway. Staggered spacing will be allowed.

For the purposes of this section, area classes are determined by zoning as follows:

2.05.030 Class

- Commercial Area Class:

Central Business Zone, Highway Commercial, Marine Commercial, Planned Commercial, Residential High Density, Marine Planned Recreational.

- Industrial Area Class:

Manufacturing

- Inter-mediate Area Class:

Residential Office

- Residential Area Class:

Residential Low Density, Residential Medium Density, Residential Planned Recreational, Single Duplex Residential, Rural

As new zones are created, they will be classified by the City Engineer. If road widths differ from those in the Illuminations Standards table, other spacing will be determined by the City Engineer.

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2.05.040 Illumination Factors

AVERAGE MAINTAINED HORIZONTAL ILLUMINATION (FOOT CANDLES)

AREA CLASS

| Road Class | Residential | Intermediate | Industrial | Commercial |
|------------|-------------|--------------|------------|------------|
| Local | 0.4 | 0.6 | N/A | N/A |
| Collector | 0.6 | 0.8 | 1.0 | 1.2 |
| Arterial | 0.8 | 1.2 | 1.4 | 1.6 |

Uniformity ratio: 6:1 average: minimum for local
4:1 average: minimum for collector
3:1 average: minimum for arterial and boulevard

Dirt Factor = 0.85, lamp lumen depreciation factor = 0.73
Min. Weak Point Light = 0.2fc except residential local street
Average illumination at intersections 1.5 times the illumination required on the more highly illuminated street.

400 Watt initial lamp lumens = 50,000 foot candles
200 Watt initial lamp lumens = 22,000 foot candles
150 Watt initial lamp lumens = 16,000 foot candles
100 Watt initial lamp lumens = 9,500 foot candles

Line loss calculations shall show that no more than five percent voltage drop occurs in any circuit. Lamp Load factor shall equal 1.2. Pole foundations shall be per detail number 4-17. Poles shall be as follows:

- Type 1 "Ameron" MBQ-9.0 exposed aggregate, square, reinforced concrete, or equal.
- Type 2 Sternberg "Richmond", 4900-FP, Verde Green Powder Coat, or equal
- Type 3 Gluelam 6x6 treated wood.

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2.05.050 Illumination Standards

MAXIMUM SPACING

| ROAD CLASS | AREA CLASS | STREET WIDTH | LUMINAIRE HPS | MOUNT'G HEIGHT | ONE SIDE | BOTH SIDES OPPOSITE |
|------------|------------|--------------|---------------|----------------|----------|---------------------|
| | | feet | watt | feet | feet | feet |
| LOCAL | RES | 28 | 150 | 30 | * | - |
| | INT | 36 | 150 | 30 | 170 | - |
| COLLECTOR | RES | 36 | 150 | 30 | 170 | - |
| | INT. | 36 | 200 | 30 | - | 170 |
| | IND | 40 | 200 | 30 | - | 170 |
| | COM | 40 | 200 | 30 | - | 170 |
| ARTERIAL | RES | 58 | 400 | 40 | - | 240 |
| | INT. | 58 | 400 | 40 | - | 240 |
| | IND | 58 | 400 | 40 | - | 220 |
| | COM | 58 | 400 | 40 | - | 220 |

All luminaires to be flat lens, medium cut off, IES Type II distribution.

"Stern shoe box" fixture or equal.

All street light electrical installations including wiring conduit and power connections shall be located underground. The General Notes on Standard Plan 4-A & 4-B shall be included on any plans dealing with street design in addition to all applicable requirements as set forth in Section 1.

2.05.055 Fusing and Connections

2.05.060 Staking

All surveying and staking shall be performed by an engineering or surveying firm capable of performing such work. The engineer or surveyor directing such work shall be licensed by the State of Washington.

A preconstruction meeting shall be held with the City prior to commencing staking.

All construction staking shall be inspected by the City prior to construction.

The minimum staking of luminaires shall be as follows:

Section 2 – Streets and Transportation

- A. Location and elevation to the center of every pole base:
- B. Location and elevation of each service disconnect.

2.05.070 Testing

All illumination systems shall be subject to an electrical inspection which shall include megger testing and functional test. All components of the system including, but not limited to, foundation, standard, lamp, photocell and fixture shall be under warranty for a period of one year.

2.06.000 SIGNALS

2.06.010 General

Signals shall be installed per the requirements set forth herein. This work shall consist of furnishing and installing a complete and functional traffic control system of controllers, signals and appurtenances as required by the City.

2.06.020 Design Standards

Signal systems shall be designed in accordance with the specifications as set forth in the WSDOT Design Manual and the WSDOT/APWA Standard Specifications unless otherwise authorized by the City.

All public signal designs shall be prepared by an engineering firm capable of performing such work. The engineer shall be licensed by the State of Washington. All applicable requirements set forth in Section 1 shall be included.

2.06.030 Induction Loops

Induction loops shall be constructed per WSDOT/APWA Standard Specification 8-20.3(14) C and the following:

- A. Loops shall not be cut into final lift of new asphalt.
- B. Loops shall be preformed in crushed surfacing top course (CSTC) before paving or shall be cut in existing asphalt or leveling course to subbase before intersection is overlaid.

2.06.040 Staking

All surveying and staking shall be performed by an engineering or surveying firm capable of performing such work. The engineer or surveyor directing such work shall be licensed by the State of Washington.

A preconstruction meeting shall be held with the City prior to commencing staking.

All construction staking shall be inspected by the City prior to construction.

The minimum staking of signals shall be as follows:

- A. Location, with cut or fill to center of all pole bases.
- B. Location of junction box.
- C. Location of all corners of controller base.
- D. Location of service disconnect.

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2.06.050 Testing

All signals shall be subject to any necessary electrical inspections as well as requirements as set forth in the WSDOT Design manual and the WSDOT/APWA Standard Specifications.

A signal system shall not be approved or accepted by the City until the signal has performed correctly to the City's satisfaction for a 30 day "check-out" period as outlined below.

Controller and cabinet testing may be required by WSDOT Northwest Region laboratory and/or the City of Blaine. All specifications and material samples shall be submitted to the City for review and approval prior to installation.

2.06.060 Check-Out Procedure

The contractor shall call for an intersection check-out after completing the controller cabinet installation along with all other signal equipment complete with wiring connections. All parts and workmanship shall be warranted for one year from date of acceptance.

New signals shall operate without any type of failure for a period of 30 days. The contractor shall have a man available to respond to system failure within 24 hours during the 30 day "check-out" period.

Failure of any control equipment or hardware within the "check-out" period shall restart the 30 day "check-out" period.

2.07.000 ROADSIDE FEATURES

2.07.010 General

Miscellaneous features included herein shall be developed and constructed to encourage the uniform development and use of roadside features wherever possible.

2.07.020 Design Standards

The design and placement of roadside features included herein shall adhere to the specific requirements as listed for each feature, and, when applicable, to the appropriate standards as set forth in Section 1.

2.07.030 Staking

All surveying and staking shall be performed by an engineering or surveying firm capable of performing such work. The engineer or surveyor directing such work shall be licensed as a Professional Engineer or Professional Land Surveyor by the State of Washington.

A preconstruction meeting shall be held with the City prior to commencing staking. ALL staking shall be inspected by the City prior to construction.

2.07.040 Testing

Testing shall be required at the developer's or contractor's expense on all materials and construction as specified in the WSDOT/APWA Standard Specifications and with a frequency as specified in the WSDOT Construction Manual.

2.07.050 Survey Monuments

- Existing survey control monuments.

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All existing survey control monuments which will be disturbed or destroyed during construction shall be referenced prior to construction and replaced after construction by a Professional Land Surveyor licensed by the State of Washington. All applicable RCWs and WACs will be complied with, including but not limited to, WAC 332-120, WAC 332-130, and RCW 58.09. The monuments shall be replaced with the proper type as per City of Blaine standards at the expense of the responsible builder or developer.

- Monument Locations.

Appropriate innervisible monuments shall be placed:

1. At all street intersections;
2. At the PC and PTs of all horizontal curves or at the PI if it lies in the traveled roadway;
3. At all section corners, quarter corners and sixteenth corners that falls within the subdivision. Where these points fall outside of the pavement or sidewalks, a pre-cast concrete monument shall be set so that the top of the monument is one foot below the surface of the ground.

- Monument Installation.

The monument shall be installed after the final course of surfacing has been placed.

2.07.060 Bus Shelter and Amenities

- Placement Guidelines.

Different population densities dictate the number and placement of Intercity bus stops. The City and Whatcom Transit Authority will use the following general guidelines to determine frequency and spacing of stops on any given Whatcom Transit Authority route. In order to evaluate a new route and build ridership, placement of bus zones may initially depart from the below warrants.

1. CBD (central business district) and environs bus stops can be placed approximately every 600 feet (8 to 10 per mile or 1 every 2 to 3 blocks.)
2. Urbanized fringe (fully developed areas with mixed apartments, single-family housing or no open space other than parks and schools) no more frequently than every 800 feet (6 to 7 per mile or every 3 to 4 blocks.)
3. Suburban areas (mostly single-family housing with pockets of open space and undeveloped land) every 1,320 feet (4 per mile), as needed in open areas.
4. New service will not be initiated prior to the establishment of designated bus stops.
5. Bus stops can be initially located on an average of 4 to 6 stops per route mile along local residential collection/distribution segments of a new route.
6. Additional stops may be added if warranted, but shall not exceed the basic stop spacing guidelines of 8 to 10 stops per mile and no 2 stops within 600 feet of one another.

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Design Criteria.

The Blaine School District and the City will use the following criteria in placement and design of school bus stops:

1. A school bus stop shall be required for each new residential subdivision or apartment complex where school children are to be boarding or deboarding unless it is determined by the Blaine School District that a new bus stop is not required because adjacent facilities already exist for the site.
2. Placement shall be determined by Blaine School District and the City.
3. Location of school bus stops shall be designed with safety as a paramount concern. Major arterials with high traffic counts should be avoided where possible and only used when bus pull outs are available and significant protection provided for children.
4. School bus stops shall be designed to complement the residential environment and provide convenient location and access for neighborhood children including sidewalk access.
5. Every effort shall be made to make school bus stops and sidewalk access to school bus stops a safe and friendly pedestrian environment.
6. Whatcom Transit Authority and Blaine School District should make every effort to coordinate the location of bus stops.
 - Location Considerations.

The physical location of any bus stop shall be primarily determined by the following considerations: maximizing safety, operational efficiency, and minimizing impacts to adjacent property. Bus pullouts may be required on all arterial and commercial collector roads for safe bus berthing and to minimize impacts on traffic flow of buses stopping. Additionally, bus pull outs may be required on local access roads if road geometries require, such as determined by the City and Blaine School District.

- Identification of Bus Stops.

All Whatcom Transit Authority and Blaine School bus stops shall be identified in some fashion. This may include pavement marking and bus stop signs. Contact Whatcom Transit Authority for details on Whatcom Transit Authority sites.

- Passenger Shelter Requirements.

Passenger shelters may be required at bus pullouts, transfer centers, and bus stops. Contact the City Engineer for location plan. The following requirements apply to bus shelters.

1. Passenger shelters for Whatcom Transit Authority sites and Blaine School District sites shall be designed to standards of Whatcom Transit Authority; transparent for passenger visibility and safety, provide protection from the elements, and reasonably vandalism resistant for easy maintenance.

Specifications for bus shelters: (See Detail Section)

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2. Whatcom Transit Authority shelters shall be maintained by Whatcom Transit Authority. School bus stop shelters shall be maintained by the subdivision's Homeowner's Association or apartment owner, whichever is appropriate.
3. Shelter size shall be appropriate to anticipated service and use. The size of Whatcom Transit Authority shelter shall be determined by Whatcom Transit Authority and the City. School bus shelters shall provide a minimum of 50 square feet of shelter for each 25 lots in a subdivision or each 25 two or more bedroom units in an apartment complex.

- Pedestrian Friendly Environment.

Designing quality into the walk to and wait at a bus stop facility is an important design consideration. A pedestrian friendly environment shall be designed into all bus stop locations and surrounding service area to make bus stop use easy, friendly, and safe.

The following pedestrian friendly criteria shall be applied by the City Engineer to bus stop facilities.

1. Provide walkways paved with a hard all weather surface linking various sections of subdivision and developments to peripheral streets with bus stops.
2. In designing walkways provide access through mid-blocks to decrease distances to bus facilities and flexibility to pedestrians.
3. Provide wheel chair ramps and other facilities consistent with barrier free design standards along walkways leading to bus stops.
4. Developments enclosed by walls or fences shall provide openings or gates for walkways to provide direct access between developments and bus facilities.
5. Use street signs to mark pedestrian walkways.
6. Separate roads and parking areas from shelters and benches by grade separations landscaping and other devices. A minimum 5 foot wide sidewalk or planting strip shall be provided to buffer shelters and benches from streets and parking areas. When possible a row of trees should be provided between the sidewalk and adjacent property.
7. Provide pedestrian facilities such as lighting, signs, trash cans as warranted by anticipated use.

2.07.070 Mailboxes

Accessibility

During construction, existing mailboxes shall be accessible for the delivery of mail or, if necessary, moved to a temporary location. Temporary relocation shall be coordinated with the U.S. Postal Service. The mailboxes shall be reinstalled at the original location or, if construction has made it impossible, to a location as outlined below and approved by the U.S. Postal Service.

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Support Posts

Mailboxes shall be set on posts strong enough to give firm support but not to exceed 4 x 4 inch wood or one 1 ½ inch diameter pipe, or material and design with comparable breakaway characteristics.

2.07.080 Guard Rails

For purposes of design and location, all guard rails along roadways shall conform to the criteria of the "Washington State Department of Transportation Design Manual" as may be amended or revised.

2.07.090 Retaining Walls

Design Criteria

Rock or block walls may be used for erosion protection of cut or fill embankments up to a maximum height of 8 feet in stable soil conditions which will result in no significant foundation settlement or outward thrust upon the walls. For heights over 6 feet or when soil is unstable, structural wall of acceptable design stamped by a licensed structural engineer shall be used. Rock or block walls over 6 feet high shall be subject to inspection by a geotechnical engineer as outlined in the following paragraph.

Any rock or block wall over 30 inches high in a fill section shall require an engineered design by a geotechnical engineer. The geotechnical engineer shall continuously inspect the installation of the wall as it progresses and shall submit inspection reports, including compaction test results and photographs taken during the construction, documenting the techniques used and the degree of conformance to the geotechnical engineer's design.

In the absence of such a rock or block wall design, walls having heights over 6 feet or walls to be constructed in conditions when soil is unstable require a structural wall having a design approved by the Public Works Department or the Building Department if outside the right-of-way. The design of structural walls shall be by a professional engineer qualified in retaining wall design. Structural walls require issuance of a Building Permit prior to construction.

Block walls such as "Keystone" or "Allen Block", etc., shall be designed and installed per manufacturer's specifications.

Materials

The rock material shall be as nearly rectangular as possible. No stone shall be used which does not extend through the wall. The rock material shall be hard, sound, durable and free from weathered portions, seams, cracks and other defects. The rock density shall be a minimum of 160 pounds per cubic foot.

Base Course

The rock wall shall be started by excavating a trench having a depth below subgrade of one half the base course or one foot (whichever is greater).

Rock Selection and Placement

Rock selection and placement shall be such that there will be minimum voids and, in the exposed face, no open voids over 6 inches across in any direction. The final course shall have a

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continuous appearance and shall be placed to minimize erosion of the backfill material. The larger rocks shall be placed at the base of the rockery so that the wall will be stable and have a stable appearance. The rocks shall be placed in a manner such that the longitudinal axis of the rock shall be at right angles or perpendicular to the rockery face. The rocks shall have all inclining faces sloping to the back of the rockery. Each course of rocks shall be seated as tightly and evenly as possible on the course beneath. After setting each course of rock, all voids between the rocks shall be chinked on the back with quarry rock to eliminate any void sufficient to pass a 2 inch square probe.

Backfill

The wall backfill shall consist of quarry spalls with a maximum size of 6 inches and a minimum size of 4 inches or as specified by a licensed engineer. This material shall be placed to a 12 inch minimum thickness between the entire wall and the cut or fill material. The backfill material shall be placed in lifts to an elevation approximately 6 inches below the top of each course of rocks as they are placed, until the uppermost course is placed. Any backfill material on the bearing surface of one rock course shall be removed before setting the next course.

Subdrain

Perforated drainage pipe and filter fabric shall be installed as per Drawing No. 2 -26. This pipe requirement may be waived by the Engineer upon a showing by the developer that no subsurface water problem exists.

2.07.100 Street Trees

The street trees on the following table shall be employed when planting street trees in or along the public right-of-way.

Planting theme

1. Ratio: 3 street trees to 1 accent tree.
2. Species: To be determined by the Community and Economic Development Department.

Planting size

Trees, 13/4 inch to 3 inch caliper, measured 6 inches above the base. Ground cover (i.e., ivy), 4 inch pot spaced 18 to 20 inches on center or 1 gallon pots at 20 inches on center. Low growth shrubs (i.e., juniper), 1 gallon pots at 3 feet on center. Shrubs (i.e., rhododendron), 18 to 24 inches in height at 5 feet on center or 3 gallon pot at 5 feet on center.

Location

Trees shall be located a minimum of five (5) feet behind the backside of the sidewalk in residential areas. Trees shall be spaced 40 feet on center starting 15 feet from the property line. Tree spacing may be adjusted slightly to allow a 10-foot clear zone on either side of a driveway. For downtown commercial streets see the Downtown Commercial Standard Street Detail 4-2.3 & 4.29. Use of tree barriers is required.

Maintenance

All developments required to plant street trees will also be required to maintain the trees for the life of the project, regardless of ownership.

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Exceptions

Exceptions to the planting theme may be made by the City Engineer. Exceptions include but are not limited to, screening industrial areas; planting around historical sites; maintaining natural vegetation that better serves as street landscaping or beautification.

2.08.000 PARKING LOTS

Parking lots shall be surfaced with asphalt concrete pavement, cement concrete pavement, or concrete paving brick. The Public Works Director may accept an alternative surface, including engineered Low Impact Development (LID) methods that reduce stormwater impacts. Minimum requirements for parking lot capacity shall be determined at Site Plan Review.

2.08.010 Parking Lot Construction Permit

A parking lot construction permit is required prior to surfacing any unsurfaced designated parking area not covered by the Site Plan Review process. Parking lot construction done in conjunction with a project covered by the Site Plan Review process shall be exempt from a parking lot construction permit. Requirements for construction of such a lot will be determined through the Site Plan Review process.

2.08.020 Storm Water Retention

Storm water retention, detention, and treatment shall be provided and shall follow the criteria as set forth in Section 3 of these standards.

2.08.030 Review and Approval

Three sets of plans and specifications shall be required to be submitted for review and approval by the City with respect to: storm drainage discharge, on site retention, detention, or treatment; matching street and/or sidewalk grades; access locations; parking layout; and to check for future street improvement conformity and City zoning regulations.

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LIST OF DRAWINGS

| Title | Drawing |
|--|----------------|
| • Street Construction General Notes | 2 - 0.1 |
| • Street Light Construction General Notes | 2 - 0.2 |
| • Sight Obstruction | 2 - 1 |
| • Street Ends and Cul-De-Sac | 2 - 2.1 |
| • Downtown Commercial Street Intersection | 2 - 2.2 |
| • Downtown Commercial Std. Street Detail | 2 - 2.3 |
| • Primary and Secondary Arterial | 2 - 3 |
| • Downtown Commercial | 2 - 3.1 |
| • Local Man./Commercial & Res. Collector | 2 - 3.2 |
| • Residential Neighborhood | 2 - 4 |
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| • Rural - Local & Arterial | 2 - 4.2 |
| • Pavement Design | 2 - 6.1 |
| • Pavement Design Worksheet | 2 - 6.2 |
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| • Tree Planter and Barrier Detail | 2 - 29 |
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LIST OF FIGURES

DESCRIPTION

- Urban Growth Boundary Transportation Network
- Bicycle/Pedestrian Facilities
- Proposed Road Intersection Improvements
- Proposed Bicycle/Pedestrian Improvements

FIGURE NO.

1.1
3.4
5.1
5.2

DRAFT

GENERAL NOTES (STREET CONSTRUCTION)

1. All workmanship and materials shall be in accordance with City of Blaine standards and the most current copy of the State of Washington Standard Specifications for Road, Bridge, and Municipal Construction.
2. The contractor shall be responsible for all traffic control in accordance with M.U.T.C.D. Prior to disruption of any traffic, traffic control plans shall be prepared and submitted to the City for approval. No work shall commence until all approved traffic control is in place.
3. All curb and gutter, street grades, sidewalk grades, and any other vertical and/or horizontal alignment shall be staked by an engineering or surveying firm capable of performing such work.
4. Where new asphalt joins existing, the existing asphalt shall be cut to a neat vertical edge and tacked with Asphalt Emulsion type CSS-1 in accordance with the standard specifications. The new asphalt shall be raked at the initial joint with the existing pavement to remove coarse stone prior to compaction. The joint shall be sealed with asphalt sealing compound.
5. Compaction of subgrade, rock, and asphalt shall be in accordance with the standard specifications.
6. Form and subgrade inspection by the City is required before pouring concrete. Twenty-four hours notice is required for form inspection.
7. See City of Blaine Development Guidelines and Public Works Standards for testing and sampling frequencies.
8. The Contractor shall provide and install approved street name and regulatory signs at the contractors/developers expense.

| | | | | | | | | | |
|-----|--------------------------|-----------|------|----------|----------------------------|---|---|----------|---|
| | | | | | STREET CONSTRUCTION | CITY OF BLAINE DEPT. OF PUBLIC WORKS | | |  |
| | | | | | | GENERAL NOTES | | | |
| | PREPARED FOR STD. MANUAL | WRS | 3/96 | | SIZE A | PREV. DWG NO. | PUBLIC WORKS DRAWING NUMBER 4-A | | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED | SCALE | SHEET | OF | REV. NO. | |

GENERAL NOTES (Street Light Construction)

1. ALL workmanship, materials and testing shall be in accordance with the most current Washington State Department of Transportation/American Public Work Association Standard Specifications for Road, Bridge, and Municipal Construction, National Electrical Code and City of Blaine Development Guidelines unless otherwise specified below. In cases of conflict the most stringent guideline shall apply. When the most stringent guideline is not clear, the City Engineer will make the determination. The Electrical Contractor shall be familiar with all above stated publications and guidelines as they will be strictly enforced by the City.
2. ALL safety standards and requirements shall be complied with as set forth by the State of Washington, Department of Labor and Industries.
3. The contractor shall be responsible for all traffic control in accordance with the Manual on Uniform Traffic Control Devices. Prior to disruption of any traffic, traffic control plans shall be prepared and submitted to the City for approval. (See WSDOT Standard Plans K2-K21.) No work shall commence until all approved traffic control is in place.
4. A pre-construction meeting shall be held with the City of Blaine Construction and Electrical Inspectors prior to the start of construction.
5. All approvals and permits required by the City of Blaine shall be obtained by the contractor prior to the start of construction.
6. It shall be the responsibility of the contractor to have a copy of an approved set of plans on the construction site at all times.
7. ALL surveying and staking shall be done by a surveying or engineering firm licensed in the state of Washington.
8. Temporary erosion control/water pollution measures shall be required in accordance with section 1-07.15 of the WSDOT/APWA Standard Specifications and the Storm Water Management Manual for the Puget Sound Basin. At no time will silts and debris be allowed to drain into an existing or newly installed facility.
9. If construction is to take place in the County right-of-way, the contractor shall notify the County and obtain all the required approvals and permits.
10. The contractor shall be fully responsible for the location and protection of all existing utilities. The contractor shall verify all utility locations prior to construction by calling the Underground Locate Line at 1-800424-5555 a minimum of 48 hours prior to any excavation. The contractor will also be responsible for maintaining all locate marks once the utilities have been located.
11. Electrical permits and inspections are required for all street lighting installations within the City of Blaine. The Contractor is responsible for obtaining said permits prior to any type of actual construction. These permits are available from the State of Washington.

| | | | | | | | | | |
|--------------------------|----------------------|-----------|------|--|----------------|---|----|----------|---|
| | | | | <i>STREET LIGHT CONSTRUCTION GENERAL NOTES</i> | | <i>CITY OF BLAINE DEPT. OF PUBLIC WORKS</i> | | |  |
| PREPARED FOR STD. MANUAL | | WRS | 3/96 | SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-B | | REV. NO. | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED | SCALE | SHEET | OF | REV. NO. | |

CITY OF BLAINE
“TABLE OF MINIMUM STREET DESIGN STANDARDS”

| Design standards | Alley | Cul de Sac under 600' | Down Town Comm | Local Manf/ Comm. | Collector | Secondary Arterial | Primary Arterial | Rural Local | Rural Arterial | Residential Neighborhood |
|---|----------|------------------------|----------------|-------------------|---------------|--------------------|------------------|----------------|----------------|--------------------------|
| Right of way width | 20' | 60' | 80' | 60' | 80' | 80' | 80' | 60' | 80' | 60 |
| Pavement width | 20' | 36' | 64' | 40' | 40' | 52' | 48' | 22' | 24' | 28 |
| No. of Traffic Lanes | 2 | 2 | 2 | 2 | 2 | 3 | 4 | 2 | 2 | 2 |
| Lane Width | 8' | 10' | 12' | 12' | 12' | 12' | 12' | 11' | 12' | 10 |
| No. of Parking Lanes | N/A | 2 | 2 | 2 | 2 | 2 | 0 | 0 | 0 | 1 |
| Parking Width | 0 | 8' | 20' | 8' | 8' | 8' | 0 | 0 | 0 | 8 |
| Type of Parking | N/A | Parallel | Diagonal | Parallel | Parallel | Parallel | None | None | None | Parallel 1 side |
| No. of Bicycle Lanes | 0 | 0 | Optional | 0 | 2 | 2 | Optional | 0 | 0 | 0 |
| Bicycle Lane Width | N/A | N/A | 5' | N/A | 5' | 5' | 4 | N/A | N/A | N/A |
| Curb Type | None | Curb & Gutter | Curb & Gutter | Curb & Gutter | Curb & Gutter | Curb & Gutter | Curb & Gutter | *Curb/Shoulder | *Curb/Shoulder | *Curb/Shoulder |
| No. of Sidewalks | 0 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 |
| Sidewalk Width | 0 | 6 | 8 | 6 | 6 | 6 | 6 min. | 6 | 6 | 6 |
| Street Plantings | None | Optional | Required | Required | Required | Required | Required | Optional | Optional | Optional |
| Street Lighting | Optional | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Hammerhead Size | | 90' x 20' | | | | | | | | |
| Cul de Sac Right of Way Without Parking | | 50' Radius | | | | | | | | |
| Cul de Sac Curb Radius Without Parking | | 40' Urban 35' Rural | | | | | | | | |
| Cul de Sac Right of Way With Parking | | 70' Radius | | | | | | | | |
| Cul de Sac Curb Radius With Parking | | 60' Radius | | | | | | | | |

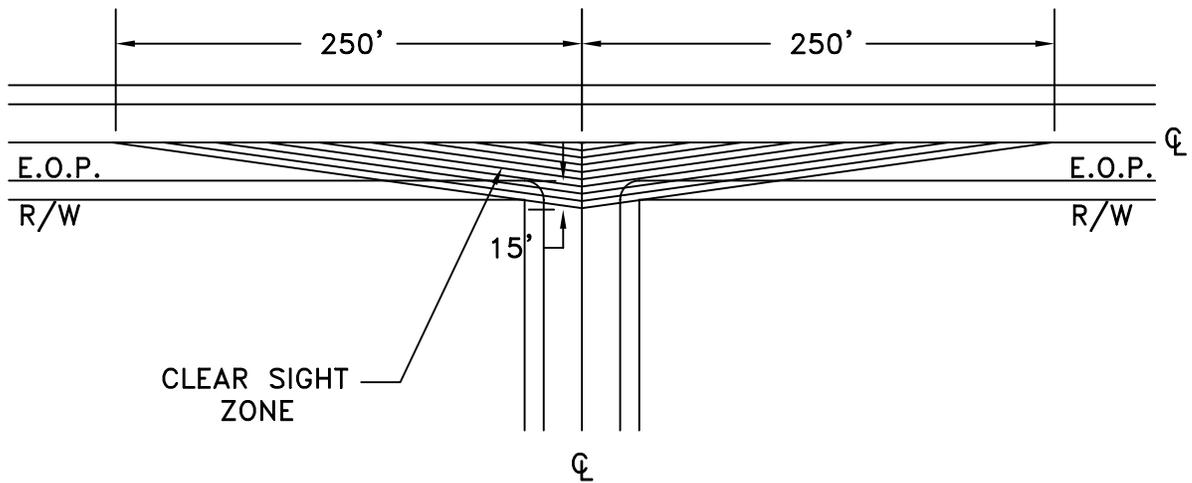
* Curb/Shoulder allowed for bio-swale one side with curb, gutter and sidewalk on opposite side.

CITY OF BLAINE
“TABLE OF MINIMUM STREET DESIGN STANDARDS”
PRIVATE ROADWAYS WITHIN THE CITY

| Design standards | Private Local | Private Collector | Cul de Sac over 600' | Cul de Sac under 600' |
|-------------------------|---------------|-------------------|----------------------|-----------------------|
| Right of way width | 26' | 28' | 30' | 30' |
| Width curb to curb | 24' | 26' | 28' | 28' |
| No. of Traffic Lanes | 2 | 2 | 2 | 2 |
| Lane Width | 11' | 12' | 14' | 14' |
| No. of Parking Lanes | 0 | 0 | 0 | 0 |
| Parking Width | 0 | 0 | 0 | 0 |
| Curb Type | Rolled | Rolled | Rolled | Rolled |
| No. of Sidewalks | 0 | 1 | 0 | 0 |
| Sidewalk Width | 0 | 5 | 0 | 0 |
| Street Lighting | Yes | Yes | Yes | Yes |
| Hammerhead Size | | | 90' x 20' | 90' x 20' |
| Cul de Sac Right of Way | | | 50' Radius | 50' Radius |
| Cul de Sac Curb Radius | | | 40' | 40' |

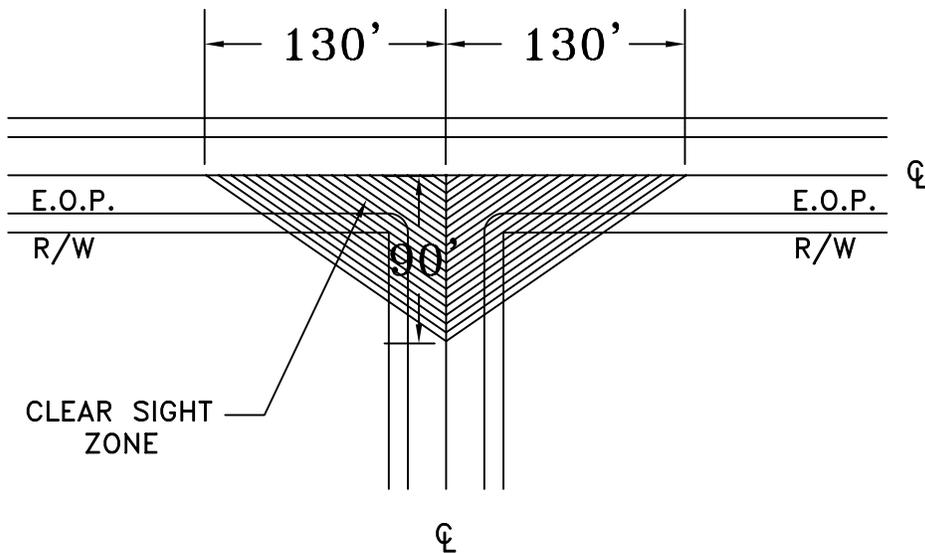
STOP OR YIELD CONTROLLED INTERSECTIONS

EXAMPLE: MAJOR STREET SPEED LIMIT = 25 M.P.H.



UNCONTROLLED INTERSECTIONS

EXAMPLE: MAJOR STREET SPEED LIMIT = 30 M.P.H.
MINOR STREET SPEED LIMIT = 20 M.P.H.



GENERAL NOTES:

1. SEE SECTION 4B.150 OF THE DEVELOPMENT GUIDELINES FOR MORE INFORMATION ON THE VERTICAL CLEARANCE WITHIN THE CLEAR SIGHT ZONE.

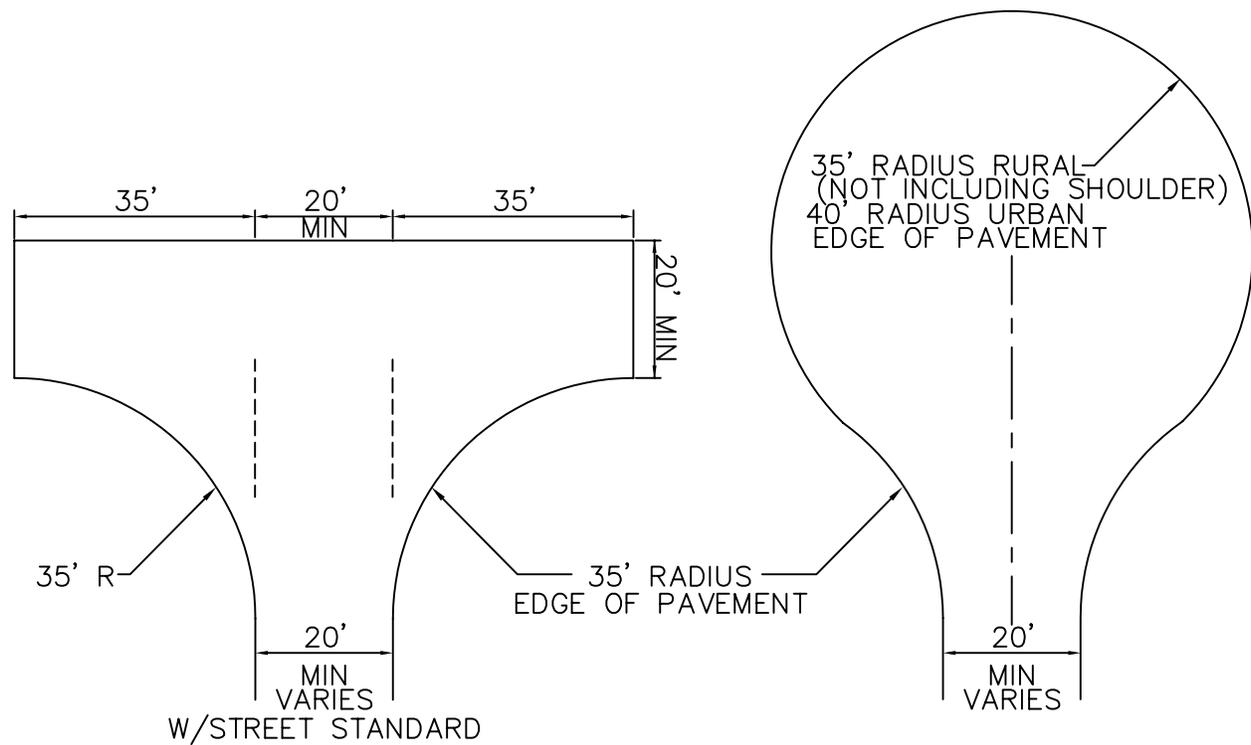
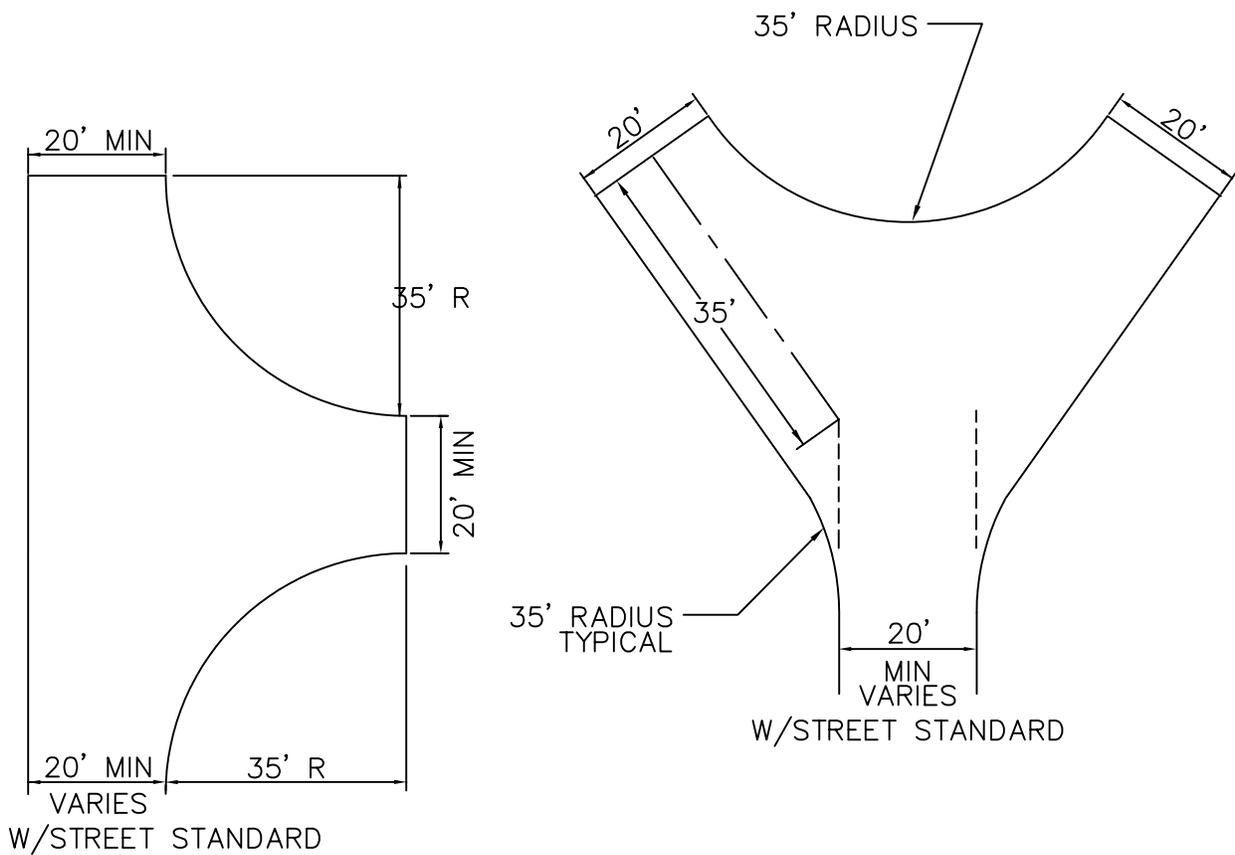
| | | | |
|--------------------------|----------------------|------------------------|---------------|
| DWG#: 4-1 | | TIME: 02-26-96 1:07 PM | |
| PREPARED FOR STD. MANUAL | SCP | 2/26/96 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

*SIGHT
OBSTRUCTION*

| | | | |
|---|----------------|---|----------|
| <i>CITY OF BLAINE DEPT. OF PUBLIC WORKS</i> | | | |
| SIZE <i>A</i> | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER <i>4-1</i> | |
| SCALE <i>NONE</i> | SHEET | OF | REV. NO. |



NOTE: NO PARKING IN TURN AROUND AREAS OR POSTED "NO PARKING FIRE LANES"

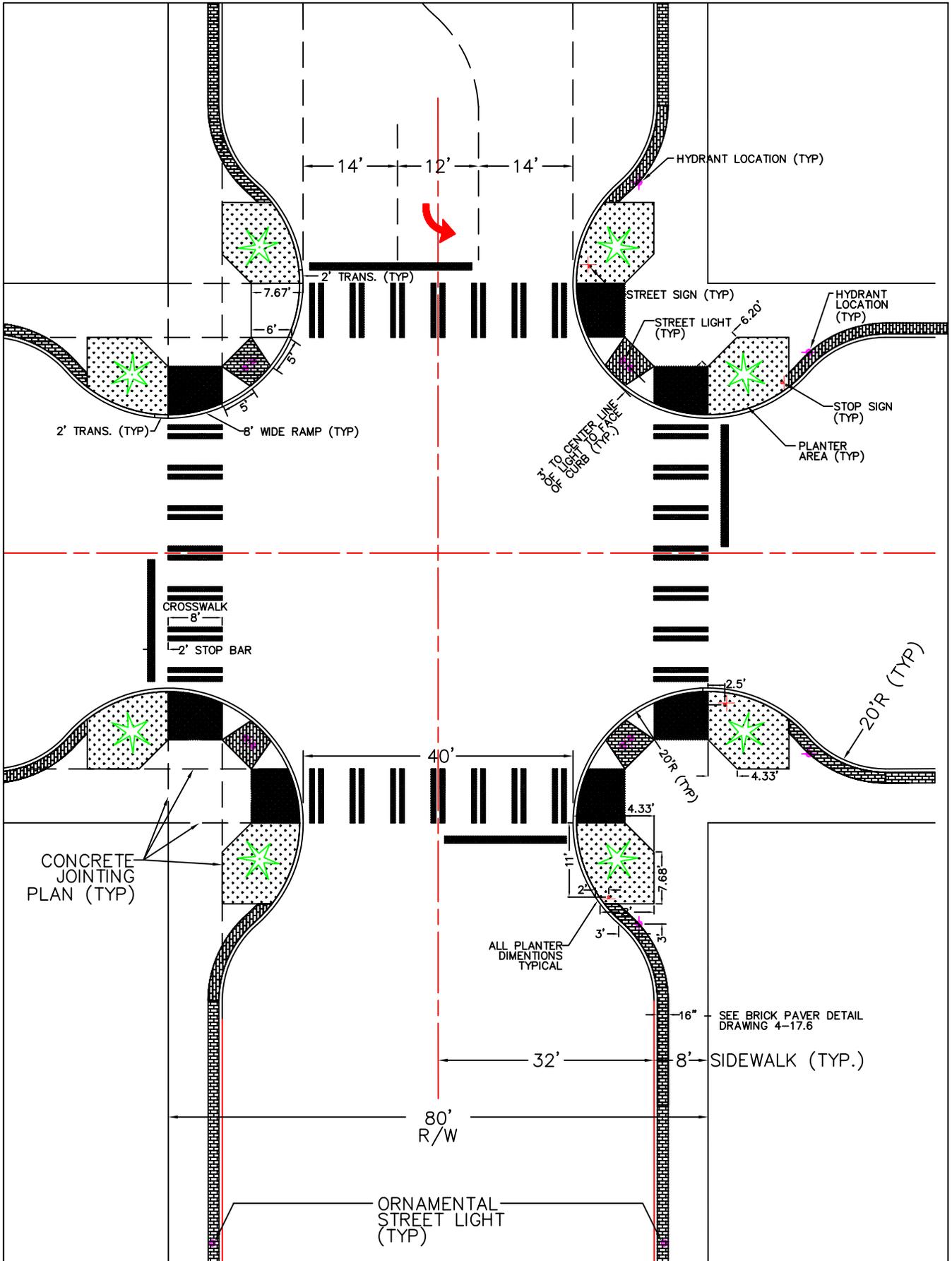


| | | | | | |
|---------|--------------------------|---------------|---------|----------|--|
| DWG#4-2 | | TIME:02-29-96 | | 11:2 AM | |
| A | REVISED FOR STD'S MANUAL | SCP | 2/27/96 | | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED | |

*STREET ENDS
&
CUL DE SACS*

| | | |
|------------------------------|---------------|---|
| CITY OF BLAINE | | |
| DEPT. OF PUBLIC WORKS | | |
| SIZE A | PREV. DWG NO. | PUBLIC WORKS DRAWING NUMBER 4-2 |
| SCALE <i>NONE</i> | SHEET | OF |
| | | REV. NO. |



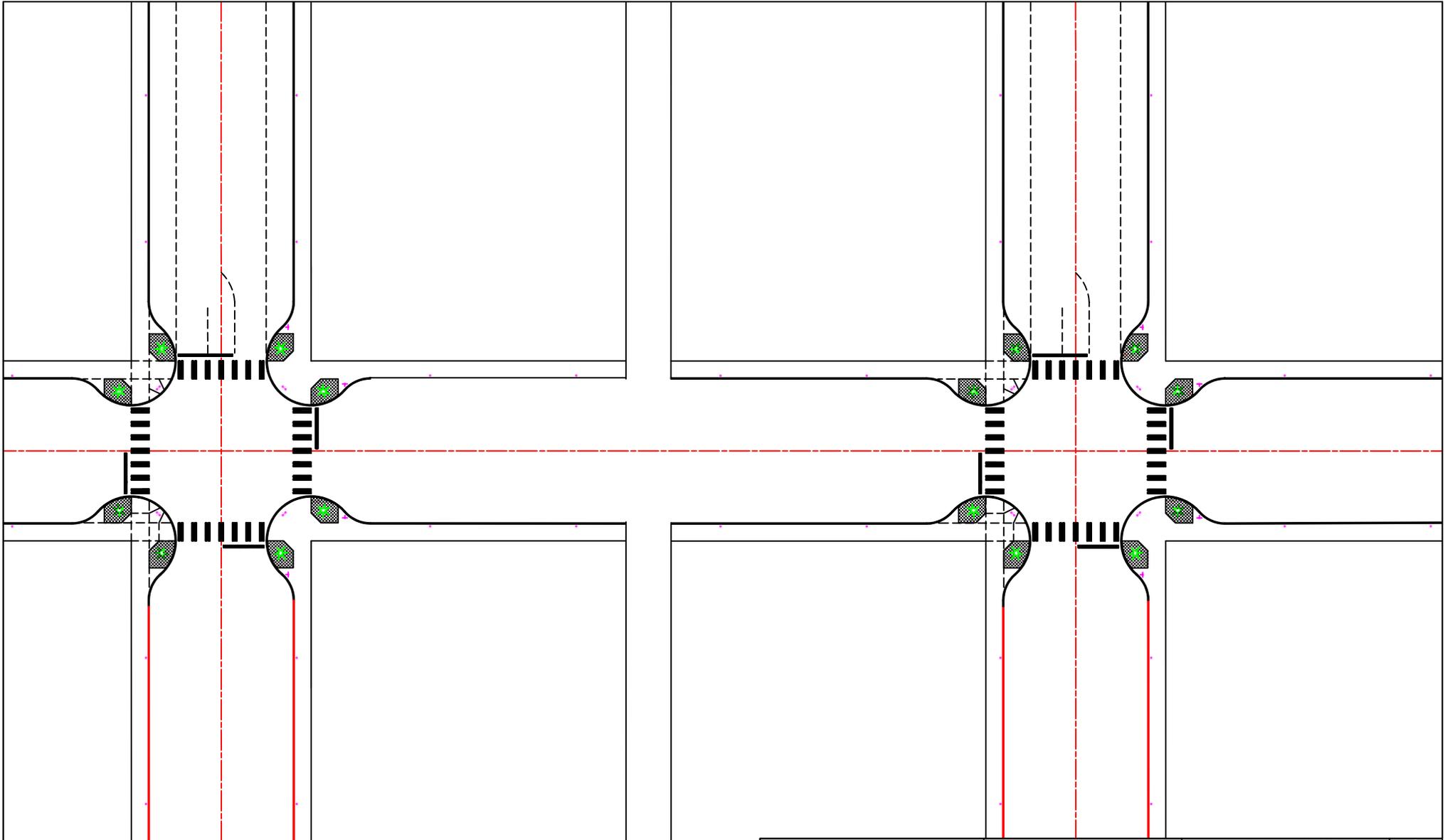


| | | | |
|----------------------------|----------------------|------------------------|---------------|
| DWG# 4-2_1 | | TIME: 02-14-97 2:45 PM | |
| REVISED FOR 97 | SCP | 2/14/97 | |
| B XREF & PSPACE ADDED | SCP | 9/10/96 | |
| A PREPARED FOR STD. MANUAL | SCP | 3/12/96 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

DOWNTOWN COMMERCIAL STREET INTERSECTION

| | | | |
|------------------------------|---------------|-----------------------------|----------|
| CITY OF BLAINE | | | |
| DEPT. OF PUBLIC WORKS | | | |
| SIZE | PREV. DWG NO. | PUBLIC WORKS DRAWING NUMBER | |
| A | | 4-2_1 | |
| SCALE 1=20 | | SHEET | OF |
| | | | REV. NO. |



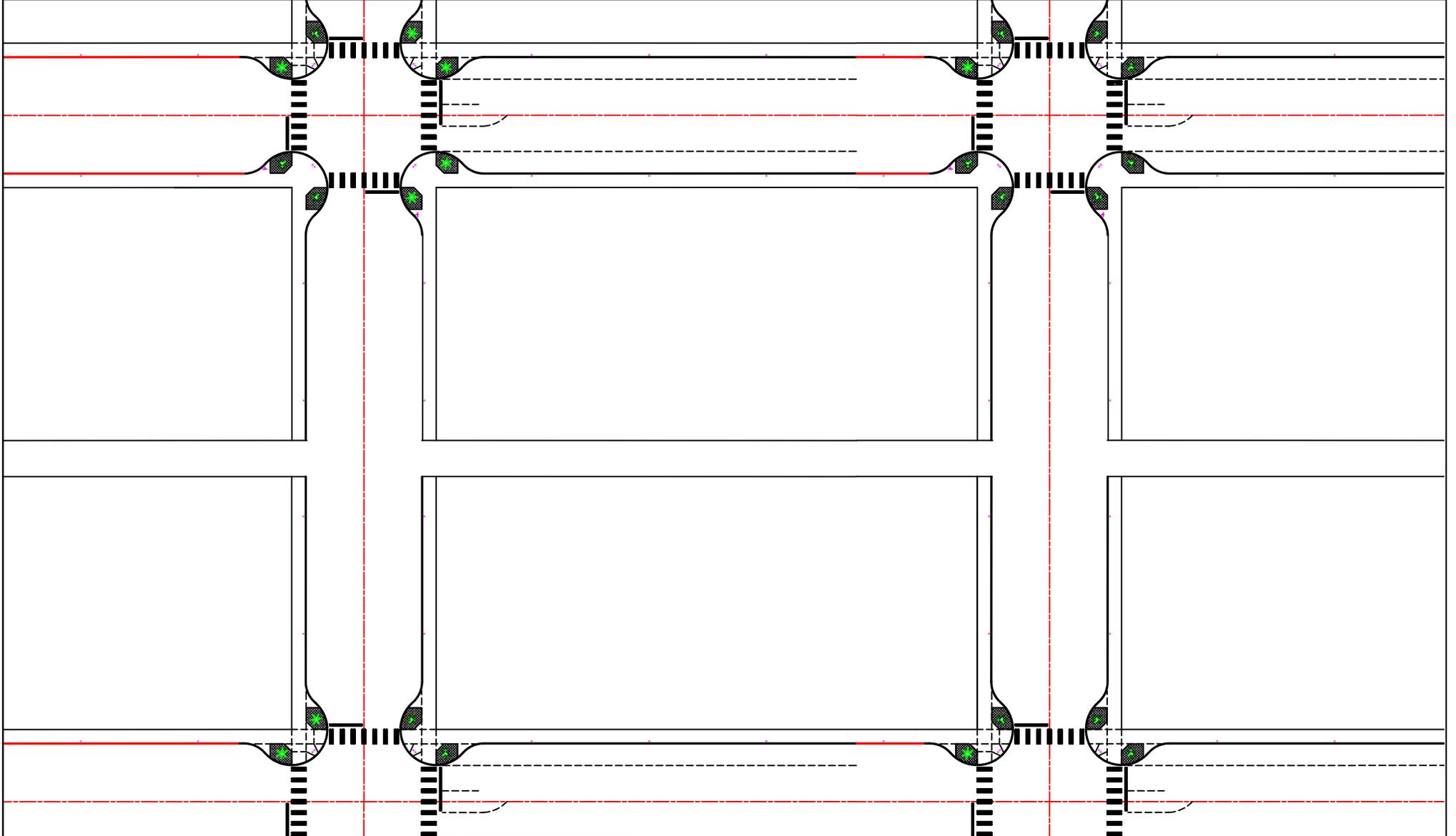


| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED |
|-----|--------------------------|-----------|------|----------|
| A | REVISED FOR STD'S MANUAL | | | |

**DOWNTOWN COMMERCIAL
STANDARD STREET
DETAIL**

| | | | |
|---|---------------|---|----------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
| SIZE B | PREV. DWS NO. | PUBLIC WORKS DRAWING NUMBER 4-2.2 | REV. NO. |
| SCALE 1"=40' | SHEET | OF | REV. NO. |



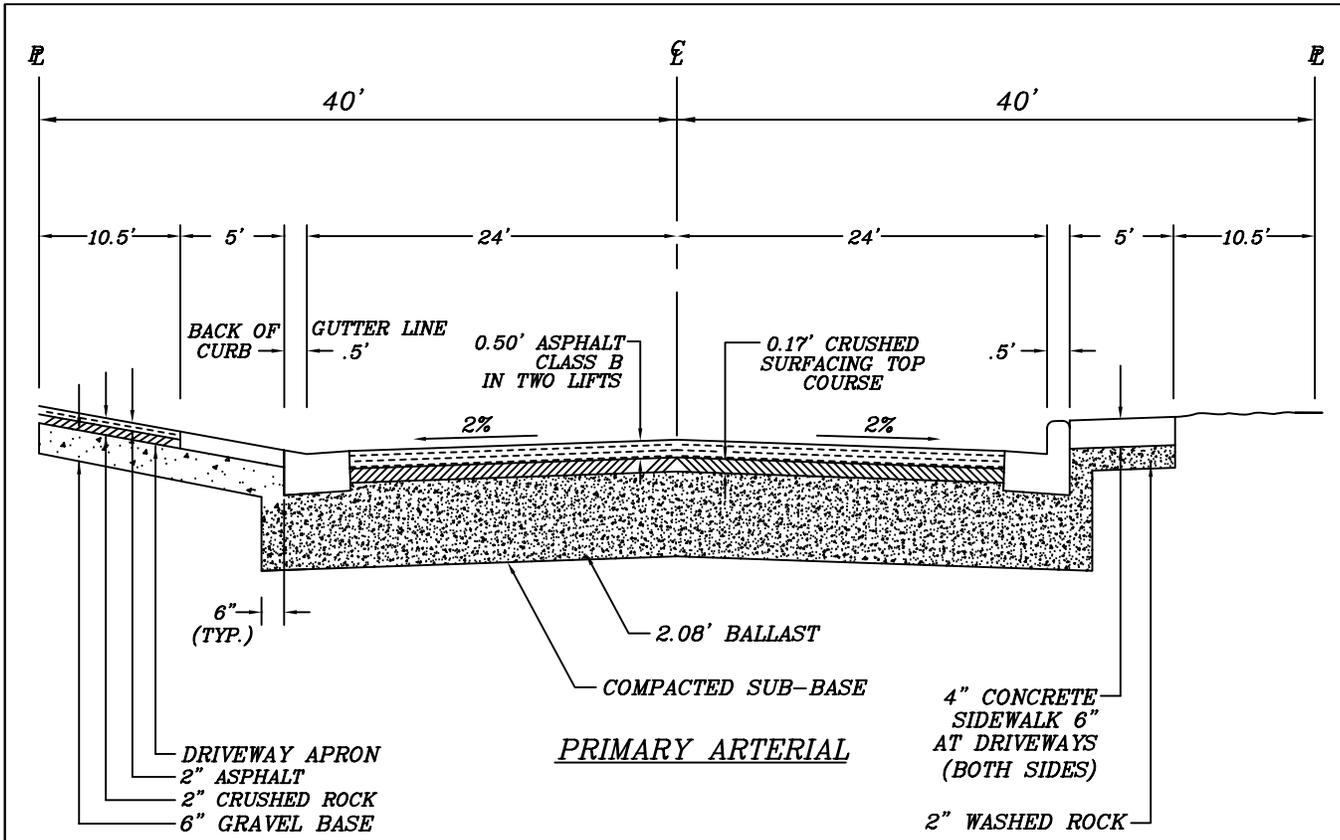


| | | | |
|------------|--------------------------|-------------------------|---------------|
| DWG: 4-2.3 | | TIME: 03-15-98 12:57 PM | |
| A | REVISED FOR STD'S MANUAL | | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

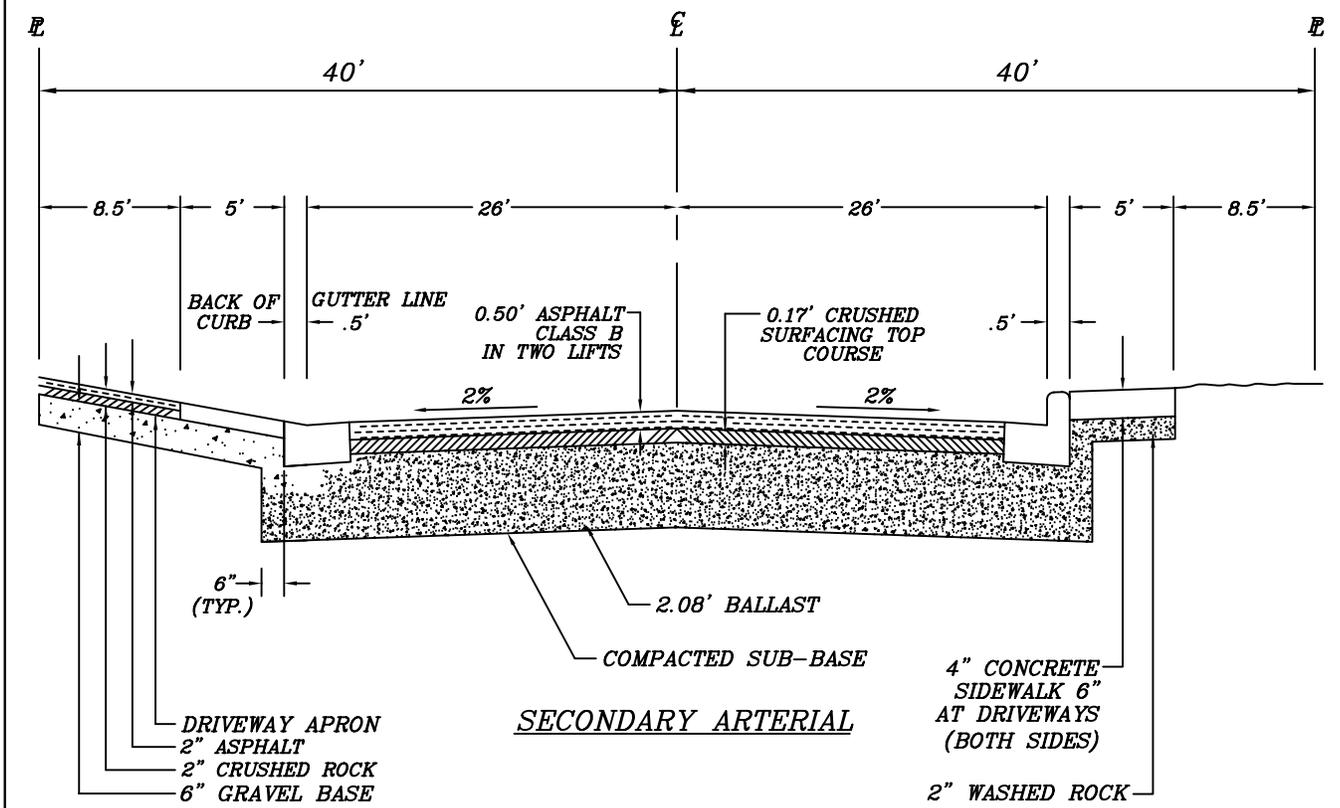
**DOWNTOWN COMMERCIAL
STANDARD STREET
DETAIL**

| | | |
|------------------------------|---------------|-----------------------------|
| CITY OF BLAINE | | |
| DEPT. OF PUBLIC WORKS | | |
| SIZE | PREV. DWG NO. | PUBLIC WORKS DRAWING NUMBER |
| B | | 4-2.3 |
| SCALE: 3/8"=1' | SHEET | REV. NO. |
| | of | |





NOTE: THE PRIMARY ARTERIAL HAS NO PARKING AVAILABLE.

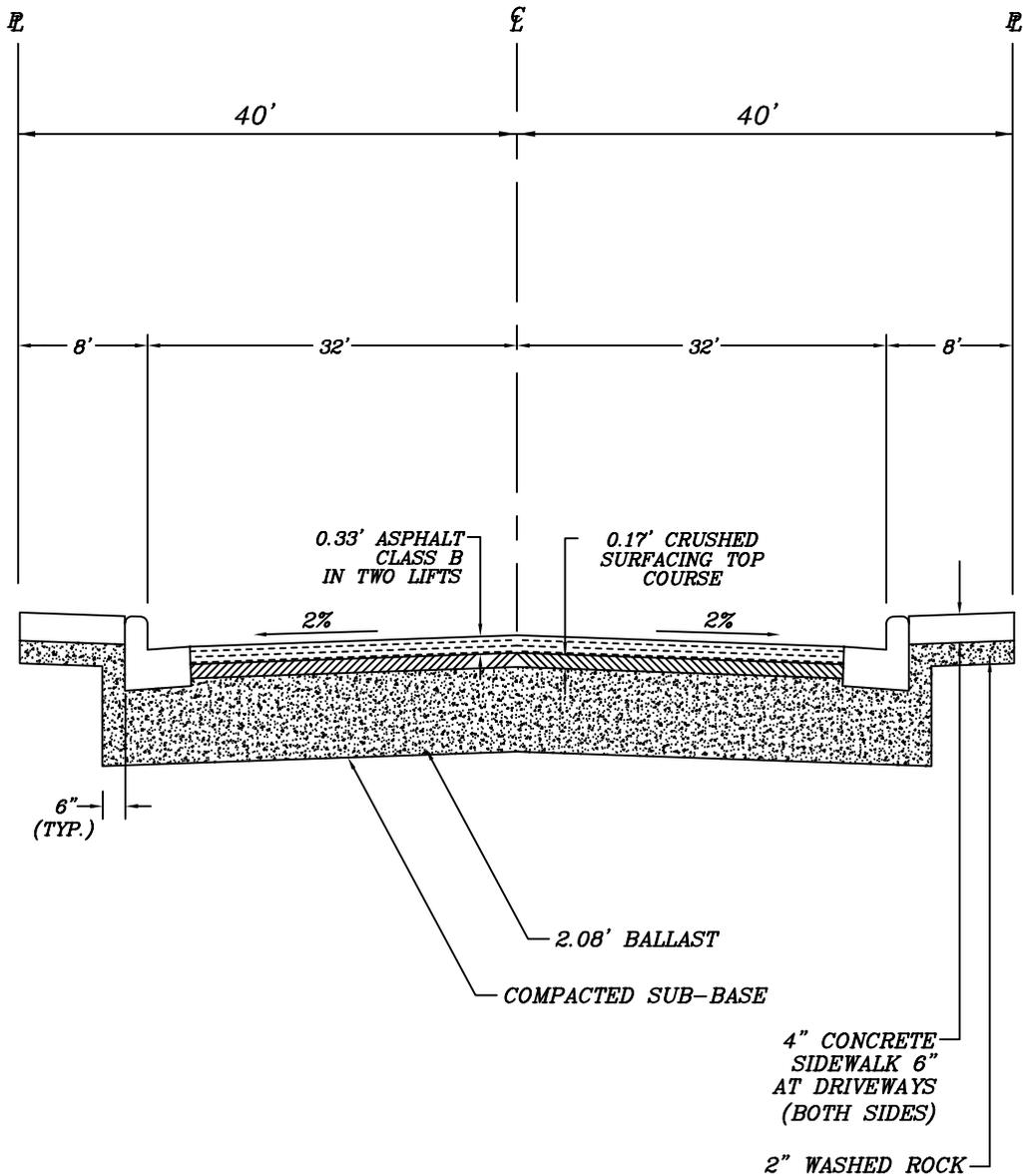


| | | | |
|-----------|----------------------|------------------------|---------------|
| DWG#: 4-3 | | TIME: 02-29-96 3:10 PM | |
| A | REVISED | SCP | 2/27/96 |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

**PRIMARY &
SECONDARY
ARTERIALS**

| | | | |
|---|----------------|------------------------------------|----------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-3 | A |
| SCALE NONE | SHEET | OF | REV. NO. |



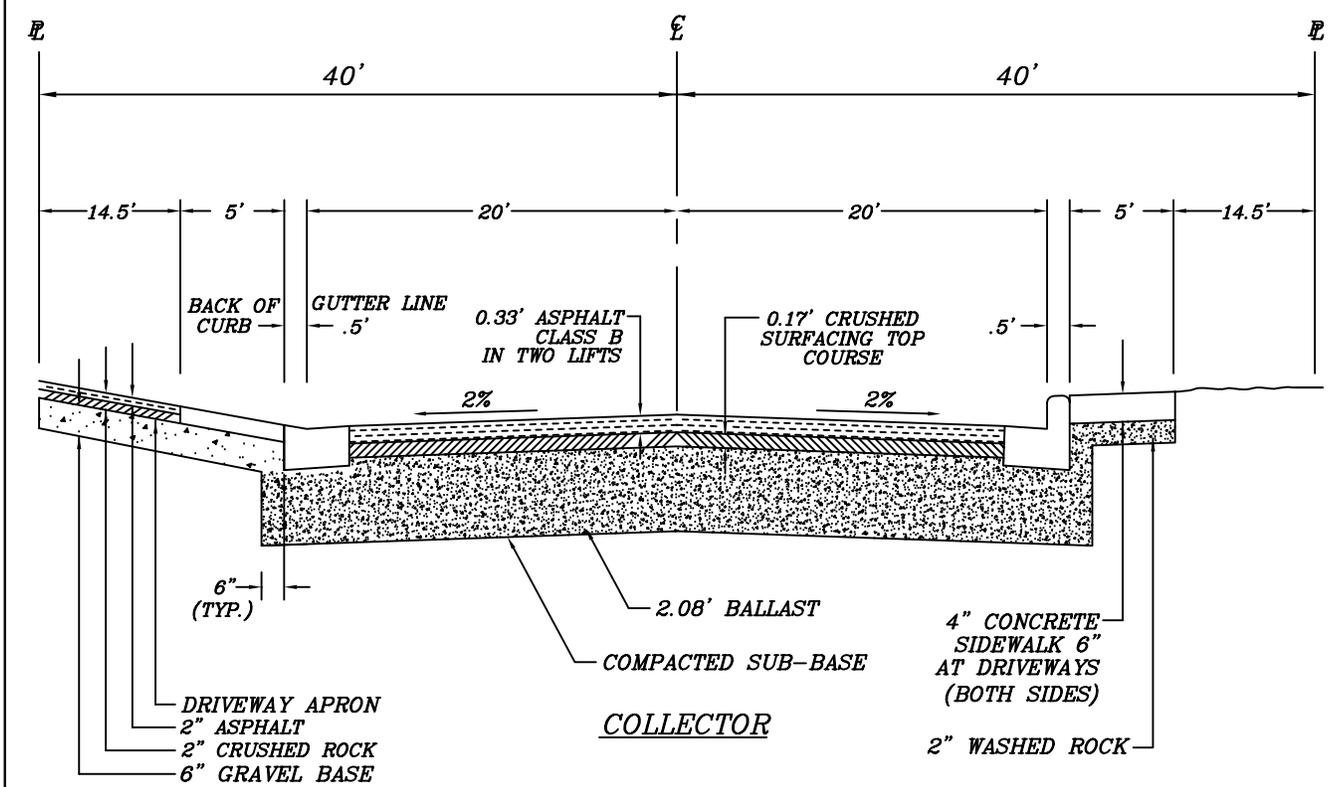
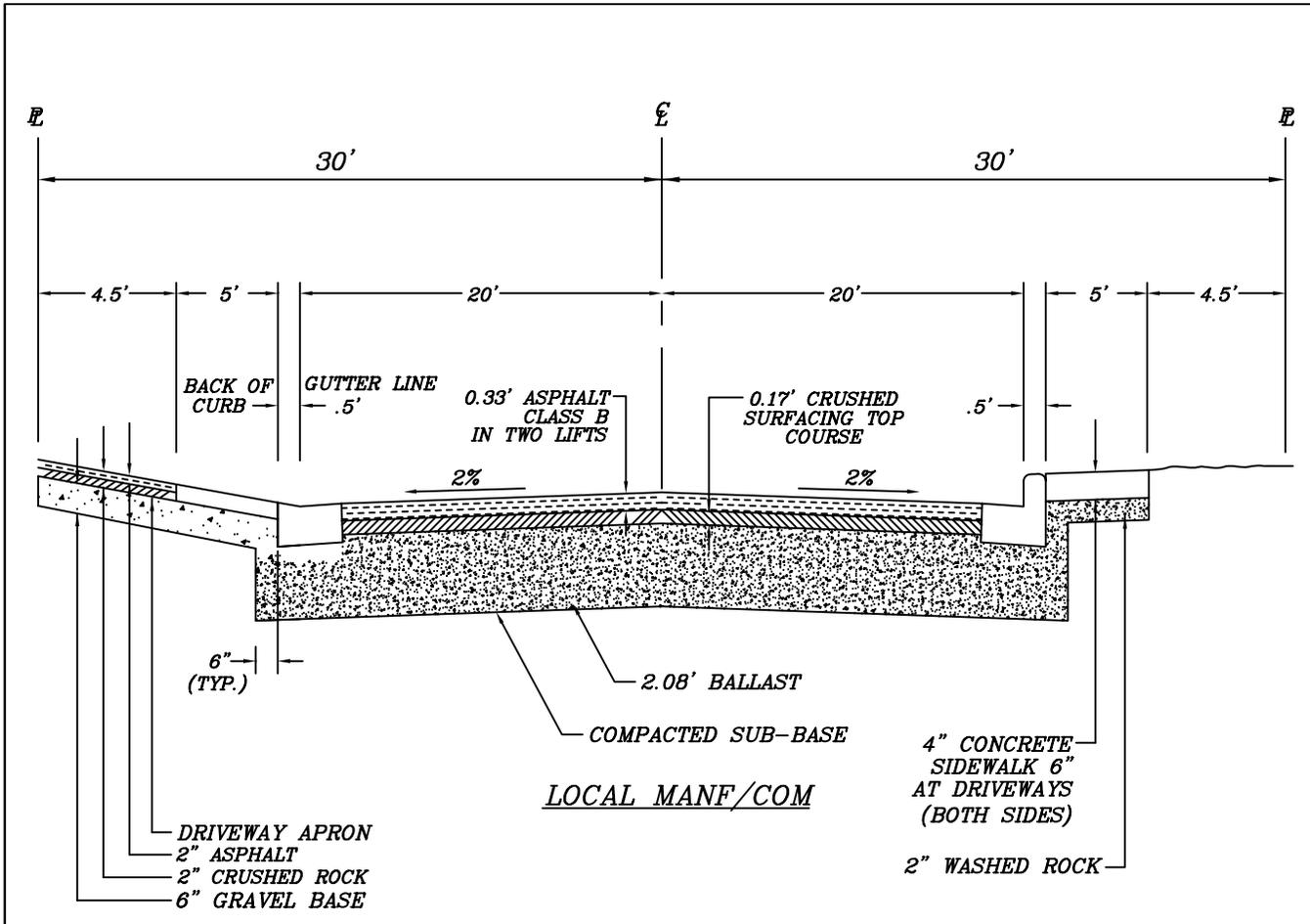


| | | | | |
|-------------------------------------|----------------------|-----------|---------|----------|
| DWG#: 4-3_1 TIME: 02-27-96 10:05 AM | | | | |
| | | | | |
| A | REVISED | SCP | 2/27/96 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED |

**DOWNTOWN
COMMERCIAL**

| | | | |
|---|----------------|---|----------------------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-3.1 | REV. NO. A |
| SCALE | SHEET | OF | REV. NO. |



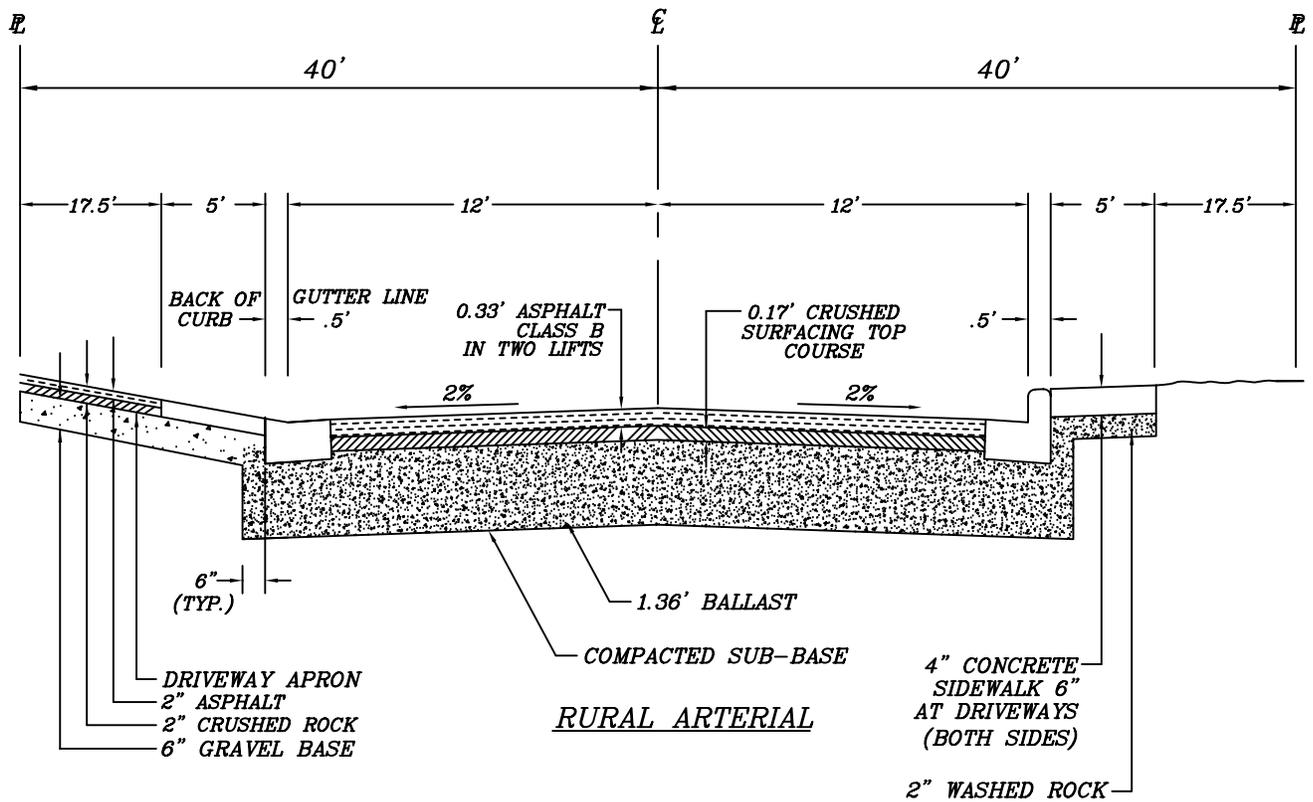
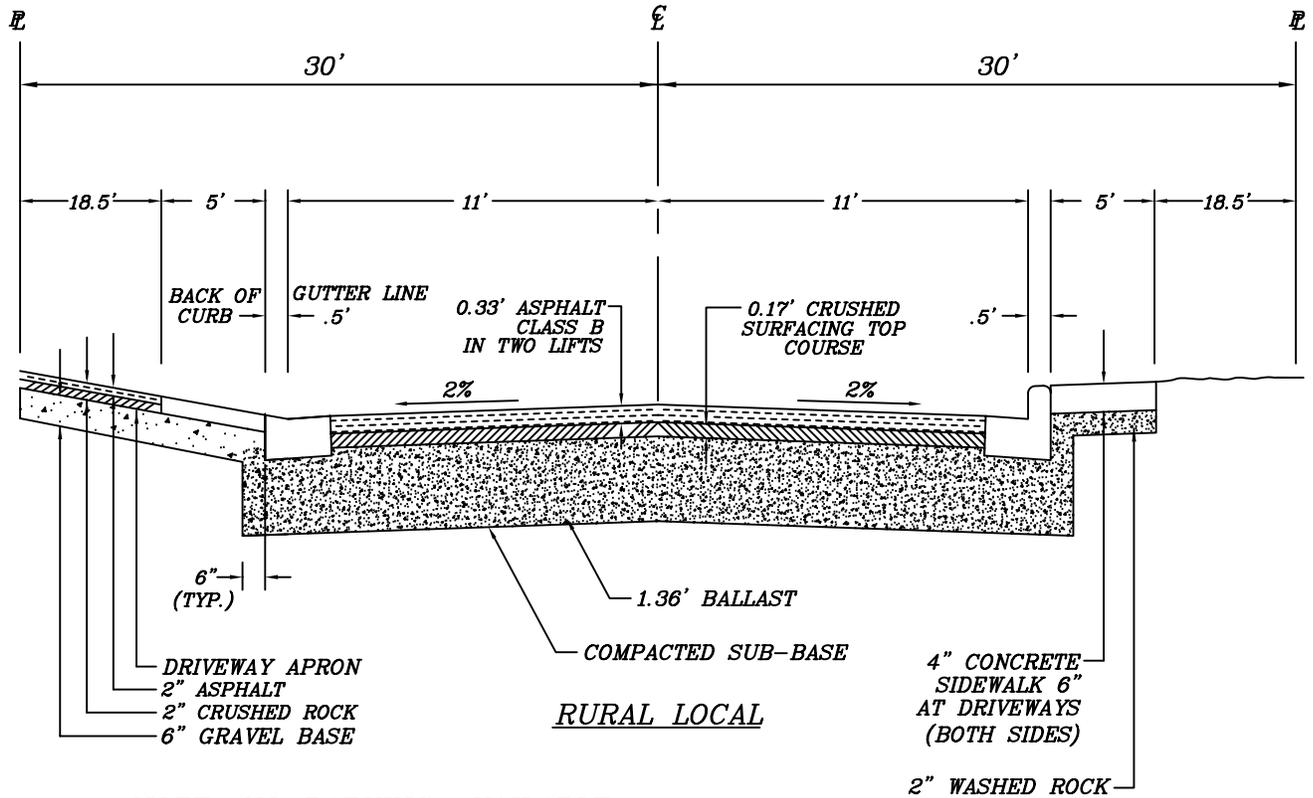


| | | | | | |
|-------------|----------------------|----------------|---------|----------|--|
| DWG#: 4-3_2 | | TIME: 02-29-96 | | 3:42 PM | |
| A | REVISED | SCP | 2/27/96 | | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED | |

**LOCAL MANF/COM
&
COLLECTORS**

| | | | |
|---|----------------|---|----------------------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-3.2 | REV. NO. A |
| SCALE | SHEET OF | | REV. NO. |



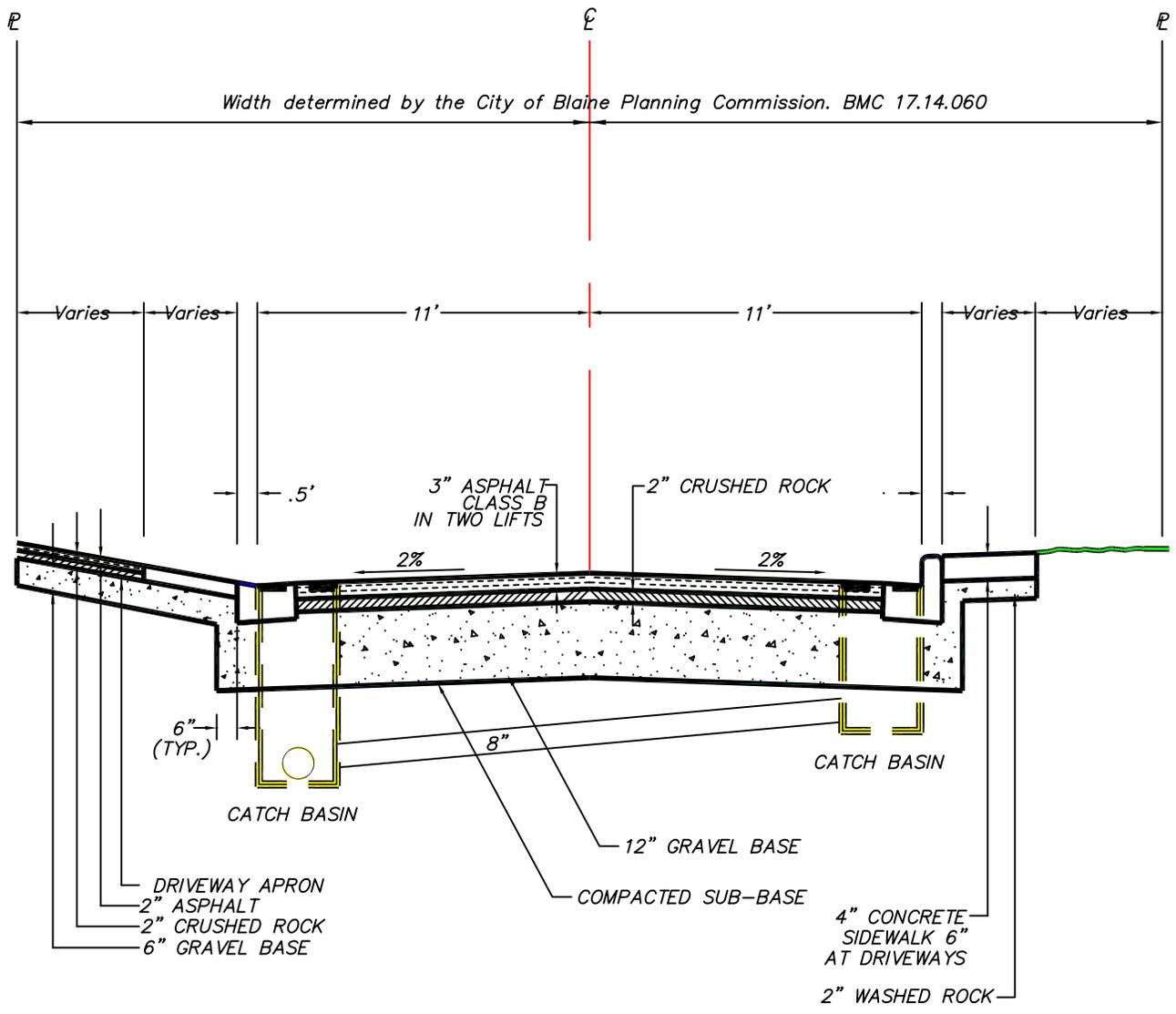


| | | | | | |
|-------------|----------------------|----------------|---------|----------|--|
| DWG#: 4-4_2 | | TIME: 02-29-96 | | 3:54 PM | |
| A | REVISED | SCP | 2/27/96 | | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED | |

**RURAL LOCAL
&
RURAL ARTERIAL**

| | | | |
|---|----------------|---|----------------------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-4.2 | REV. NO. A |
| SCALE NONE | SHEET | OF | REV. NO. |

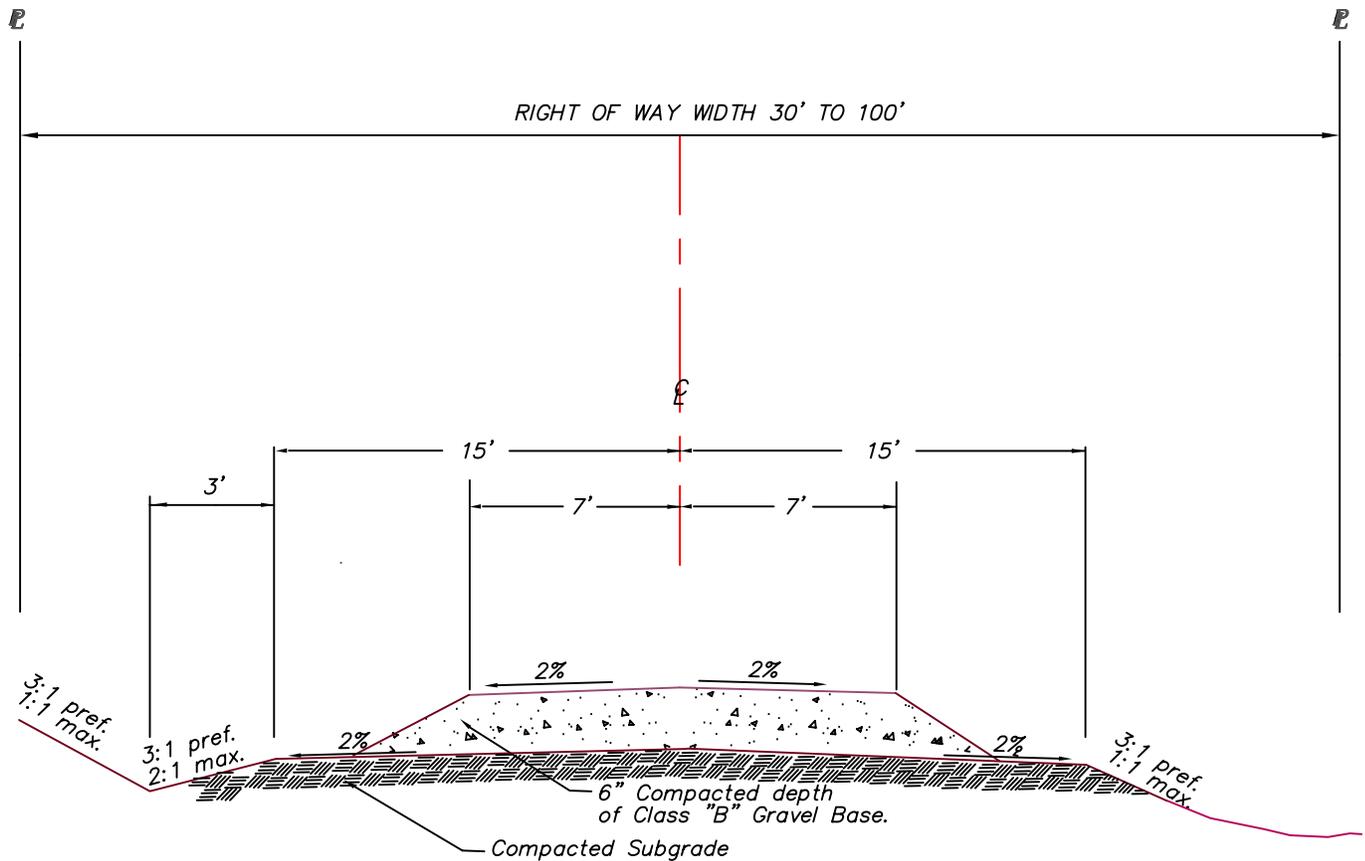




| | | | | |
|-----|----------------------|-----------|----------|----------|
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED |
| | | wps | 10/22/06 | |

PRIVATE ROAD STANDARD

| | | | |
|---|---------------|---|----------|
| CITY OF BLAINE PUBLIC WORKS DEPARTMENT | | | |
| SIZE A | PREV. DWG NO. | PUBLIC WORKS DRAWING NUMBER 4-4.3 | |
| SCALE | SHEET | OF | REV. NO. |



NOTES:

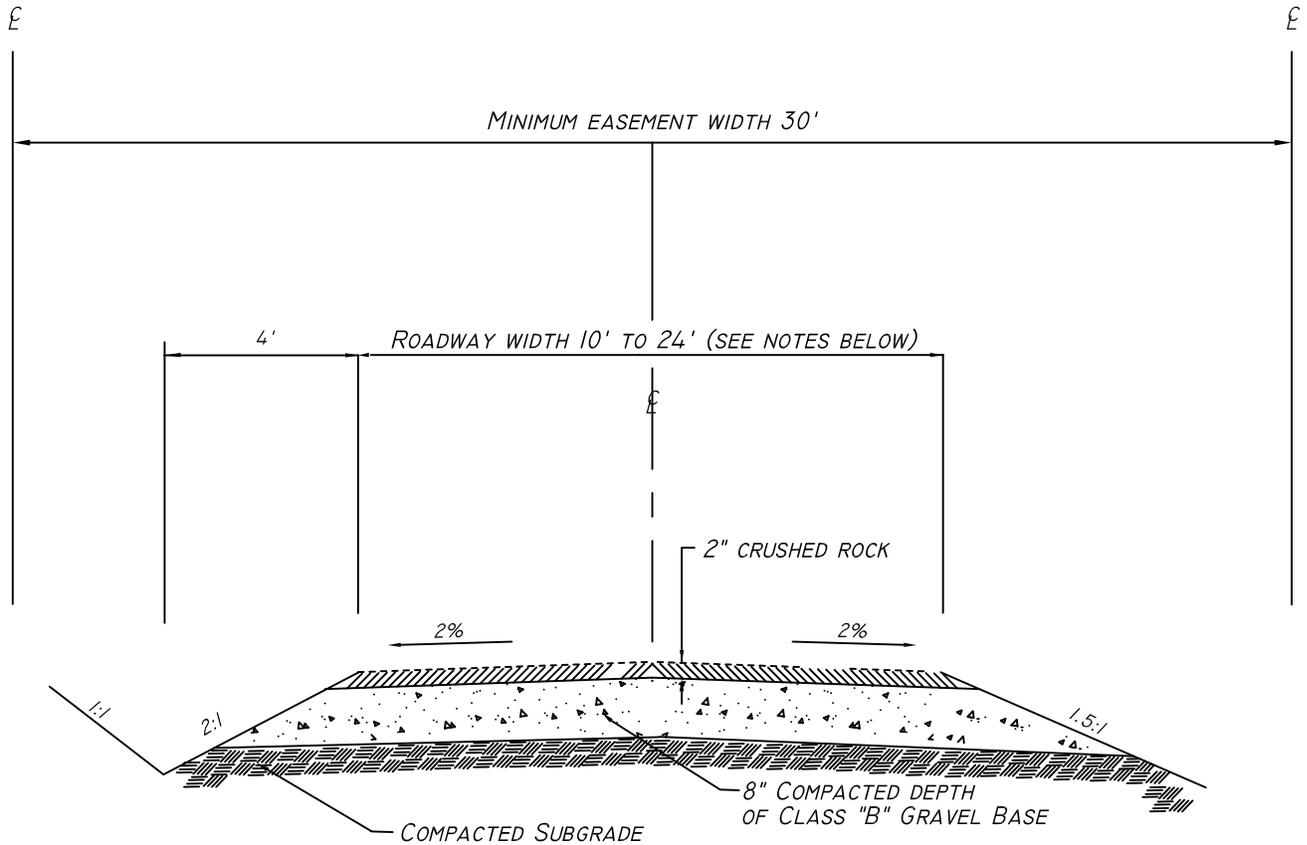
- 1) GRAVEL STREETS SERVING ONE OR MORE RESIDENCES SHALL HAVE A 20 FOOT LONG, FULL WIDTH PAVED APPROACH WITH 35 FOOT RADIUS RETURNS WHEN INTERSECTING WITH A PAVED CITY STREET.
- 2) ALL DISTURBED GROUND INCLUDING GRADED ROADWAY SHALL BE SEEDED AND HAVE A SATISFACTORY STAND OF GRASS PRIOR TO FINALIZATION OF PERMIT.
- 3) THE ENTIRE SUBGRADE AND ALL SURFACING MATERIALS SHALL BE COMPACTED WITH APPROVED COMPACTION EQUIPMENT TO 95% OF THE MATERIALS MAXIMUM DENSITY.
- 4) MAINTENANCE OF THE PUBLIC ROAD IS THE RESPONSIBILITY OF THE INDIVIDUALS HOLDING A TRAIL PERMIT.
- 5) CONTACT THE CITY OF BLAINE PUBLIC WORKS DEPARTMENT FOR ADDITIONAL CRITERIA AND REQUIREMENTS FOR OPENING PUBLIC RIGHTS OF WAY. ADDITIONAL REQUIREMENTS FOR SUBSEQUENT PERMITS ARE CONTAINED IN SECTION 4.02.065 OF THE CITY OF BLAINE DEVELOPMENT GUIDLINES AND PUBLIC WORKS STANDARDS.

| | | | |
|------------|----------------------|------------------------|---------------|
| DWG#: 4-4a | | TIME: 02-06-03 9:45 PM | |
| A | | wrs | 2/06/03 |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

**MINIMUM STANDARD
FOR OPENING PUBLIC
RIGHT OF WAY**

| | | | |
|---|----------------|-------------------------------------|----------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
| SIZE A | PREV. DVG. NO. | PUBLIC WORKS DRAWING NUMBER 4-4a | A |
| SCALE 20 scale | SHEET | OF | REV. NO. |





NOTES:

- 1) GRAVEL STREETS SERVING ONE OR MORE RESIDENCES SHALL HAVE A 20 FOOT LONG, FULL WIDTH PAVED APPROACH WITH 35 FOOT RADIUS RETURNS WHEN INTERSECTING WITH A PAVED CITY STREET.
- 2) FOR 1 RESIDENCE: CONSTRUCT A STANDARD ROADWAY WIDTH OF 10 FEET.
- 3) FOR 2-6 RESIDENCES: CONSTRUCT A STANDARD ROADWAY WIDTH OF 16 FEET.
- 4) FOR 7-11 RESIDENCES: CONSTRUCT A STANDARD ROADWAY WIDTH OF 24 FEET.
- 5) FOR 12 OR MORE RESIDENCES: REFER TO CITY OF BLAINE "TABLE OF MINIMUM STREET DESIGN STANDARDS" PRIVATE ROADWAYS WITHIN THE CITY.

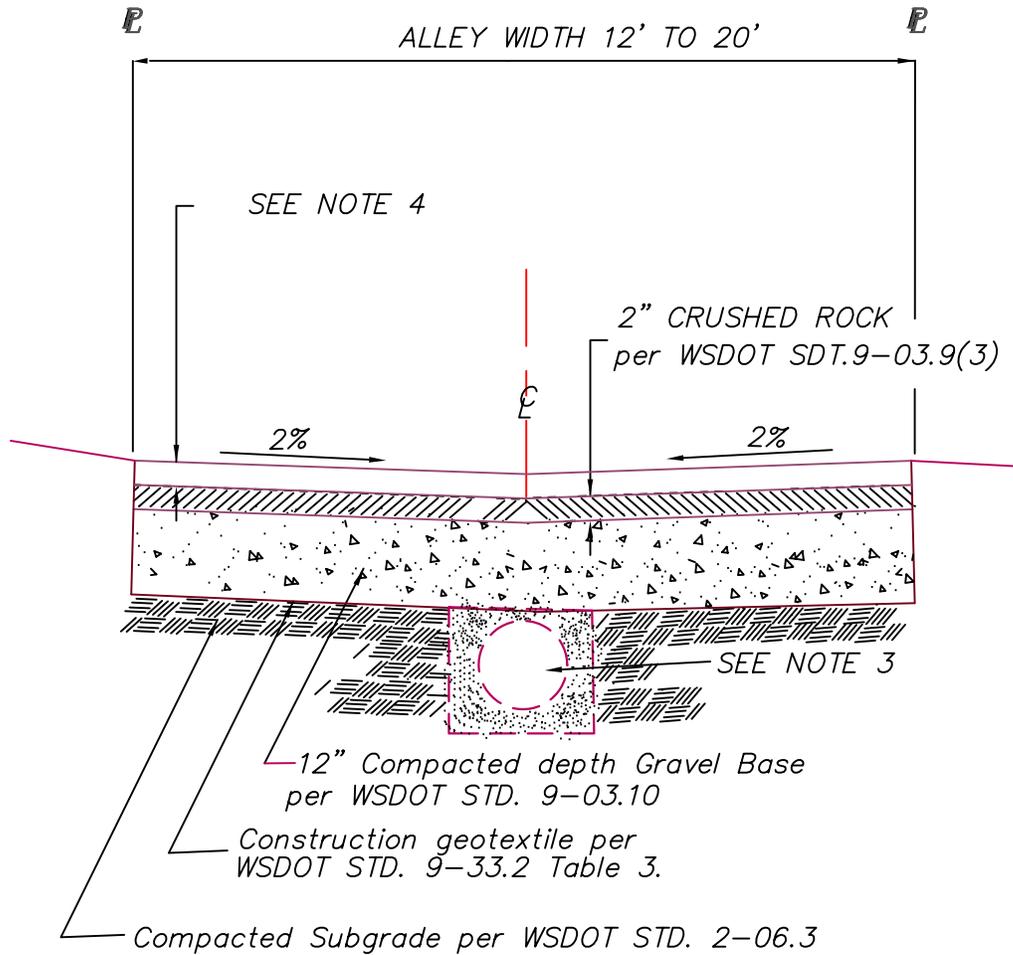
ANY DEVIATION FROM THE ABOVE STANDARDS REQUIRES WRITTEN APPROVAL FROM THE DIRECTOR OF PUBLIC WORKS.

| | | | |
|------------|----------------------|-------------------------|----------|
| DWG#: 4-4b | | TIME: 02-16-06 08:00 AM | |
| C | NOTES REVISED | WRS | 7/11/06 |
| B | UPDATED NOTES | TAMc | 2/16/06 |
| A | | WRS | 2/4/03 |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE |
| | | | APPROVED |

**MINIMUM STANDARD
PRIVATE RESIDENTIAL
NEIGHBORHOOD STREET
1-11 LOTS**

| | | | |
|---|---------------|--|----------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
| SIZE A | PREV. DWG NO. | PUBLIC WORKS DRAWING NUMBER 4-4b | B |
| SCALE | SHEET | OF | REV. NO. |





NOTES:

- 1) GRAVEL SURFACE ALLEYS SHALL HAVE A 20 FOOT LONG, FULL WIDTH PAVED APPROACH WHEN INTERSECTING A PAVED STREET OR CONCRETE SIDEWALK. PAVED APPROACH THICKNESS IS 2" MINIMUM OR PER ALLEY SERVICE TYPE BELOW.
- 2) GENERALLY, THE CITY PREFERS THE INVERTED CROWN SECTION AS SHOWN. THE PWD DIRECTOR MAY CONSIDER DIFFERENT ALLEY SECTIONS ON A CASE BY CASE BASIS.
- 3) THE PWD DIRECTOR MAY REQUIRE SUB-SURFACE STORM DRAINAGE IN AREAS WHERE PONDING MAY OCCUR.
- 4) THE PWD DIRECTOR MAY REQUIRE CHIP SEAL SURFACE TREATMENT (BST) OR ASPHALT PAVING IN ALLEYS SERVING MULTIFAMILY RESIDENTIAL OR COMMERCIAL/INDUSTRIAL USES AS FOLLOWS:

| ALLEY SERVICE TYPE | ASPHALT PAVEMENT REQUIREMENTS | | |
|-------------------------|-------------------------------|-----------------|----------------|
| | WSDOT STD. | TOTAL THICKNESS | LIFT THICKNESS |
| MULTIFAMILY RESIDENTIAL | CLASS B | 3" | 1.5" |
| COMMERCIAL / INDUSTRIAL | CLASS B | 4" | 2" |

| | | | |
|------------|----------------------|------------------------|---------------|
| DWG#: 4-4c | | TIME: 01-14-05 1:00 PM | |
| A | | W'S | 01/14/05 |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

**MINIMUM STANDARD
FOR IMPROVEMENT
OF CITY ALLEYS**

| | | | |
|---|----------------|-------------------------------------|---------------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
| SIZE A | PREV. DVG. NO. | PUBLIC WORKS DRAWING NUMBER 4-4c | REV. NO. A |
| SCALE | SHEET | OF | REV. NO. |



PAVEMENT DESIGN—CONSTANTS

| | BOULEVARD & ARTERIAL | COMMERCIAL & INDUSTRIAL COLLECTOR | NEIGHBORHOOD COLLECTOR | LOCAL |
|---|----------------------------|--|---------------------------|--------|
| AADT | 15,000 | 4,000 | 4,000 | 500 |
| % AADTT | 8 | 15 | 5 | 5 |
| GROWTH RATE | 5 | 5 | 5 | 2 |
| LANE FACTOR | 0.5 | 0.5 | 0.5 | 0.5 |
| DESIGN EAL | 2,222,422 | 1,111,205 | 370,406 | 34,023 |
| R% | 95 | 90 | 85 | 80 |
| S _o | 0.45 | 0.45 | 0.45 | 0.45 |
| P _i | 4.20 | 4.20 | 4.20 | 4.20 |
| P _t | 2.5 | 2.4 | 2.3 | 2.2 |
| ΔPSI | 1.7 | 1.8 | 1.9 | 2.0 |
| MIN. DEPTH AC | 3.5" | 3" | 3" | 2" |
| MIN. TOTAL DEPTH | 12" | 12" | 12" | 9" |
| <div style="display: flex; align-items: center;"> <div style="font-size: 3em; margin-right: 5px;">}</div> <div style="margin-right: 10px;">AC</div> </div> | 6" | 4" | 4" | 3" |
| <div style="display: flex; align-items: center;"> <div style="font-size: 3em; margin-right: 5px;">*</div> <div style="margin-right: 10px;">CSTC</div> </div> | 2" | 2" | 2" | 2" |
| <div style="display: flex; align-items: center;"> <div style="font-size: 3em; margin-right: 5px;">}</div> <div style="margin-right: 10px;">BALLAST</div> </div> | 25" | 25" | 16" | 8.5" |

* STREET STRUCTURE REQUIRED IN LIEU OF DESIGN BASED ON FIELD VERIFIED "R" VALUE.

| | | | |
|--------------------------|----------------------|------------------------|---------------|
| DWG# 4-6A | | TIME: 02-29-96 2:26 PM | |
| | | | |
| PREPARED FOR STD. MANUAL | SCP | 2/29/96 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

*PAVEMENT
DESIGN*

| | | | |
|------------------------------|----------------|--|----------|
| <i>CITY OF BLAINE</i> | | | |
| <i>DEPT. OF PUBLIC WORKS</i> | | | |
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-6A | |
| SCALE <i>NONE</i> | SHEET | OF | REV. NO. |



PAVEMENT DESIGN – AASHTO METHOD

SEE PREVIOUS PAGE FOR INPUT IN DOUBLE BOXES ()

SOIL TEST RESULTS
MUST BE SUBMITTED
WITH THIS WORKSHEET.

STREET CLASSIFICATION:

INITIAL AADT: % OF AADTT:

GROWTH RATE:

DESIGN LIFE: 20 YEARS

DESIGN (EAL):

RELIABILITY LEVEL (R%): % STANDARD DEVIATION (S₀):

INITIAL SERVICEABILITY INDEX (P_i): 4.2

TERMINAL SERVICEABILITY INDEX (P_t):

Δ PSI = P_i - P_t = 4.2 - =

SUBGRADE: Mr = 1000 + (555 x R)

RVALUE FROM SOILTEST = => Mr psi

USING AASHTO DESIGN METHOD: SN = , PROVIDE NOMOGRAPH OR CALCULATIONS.

$$SN = (A_1 D_1) + (A_2 D_2) + (A_3 D_3) + (A_4 D_4)$$

STRUCTURAL COEFFICIENT: CLASS B ASPHALT CONCRETE
 ASPHALT TREATED BASE
 CSTC OR CSBC
 BALLAST

A₁=0.42
 A₂=0.34
 A₃=0.14
 A₄=0.10

| | | | |
|--------------------------|----------------------|-----------------------|---------------|
| DWG#:4-6B | | TIME:02-29-96 2:32 PM | |
| | | | |
| | | | |
| PREPARED FOR STD. MANUAL | SCP | 2/29/96 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

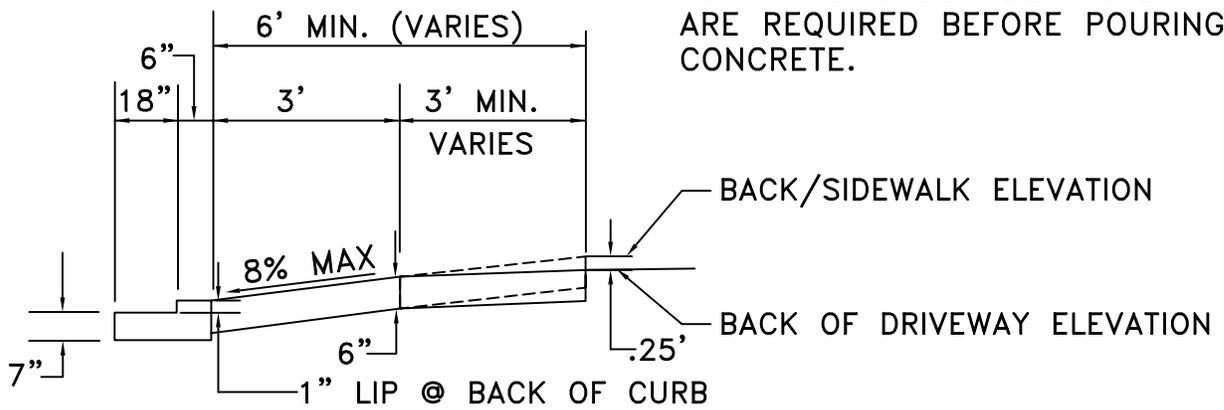
PAVEMENT
DESIGN
WORKSHEET

| | | |
|---|----------------|-------------------------------------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | |
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-6B |
| SCALE NONE | SHEET | OF |
| | | REV. NO. |

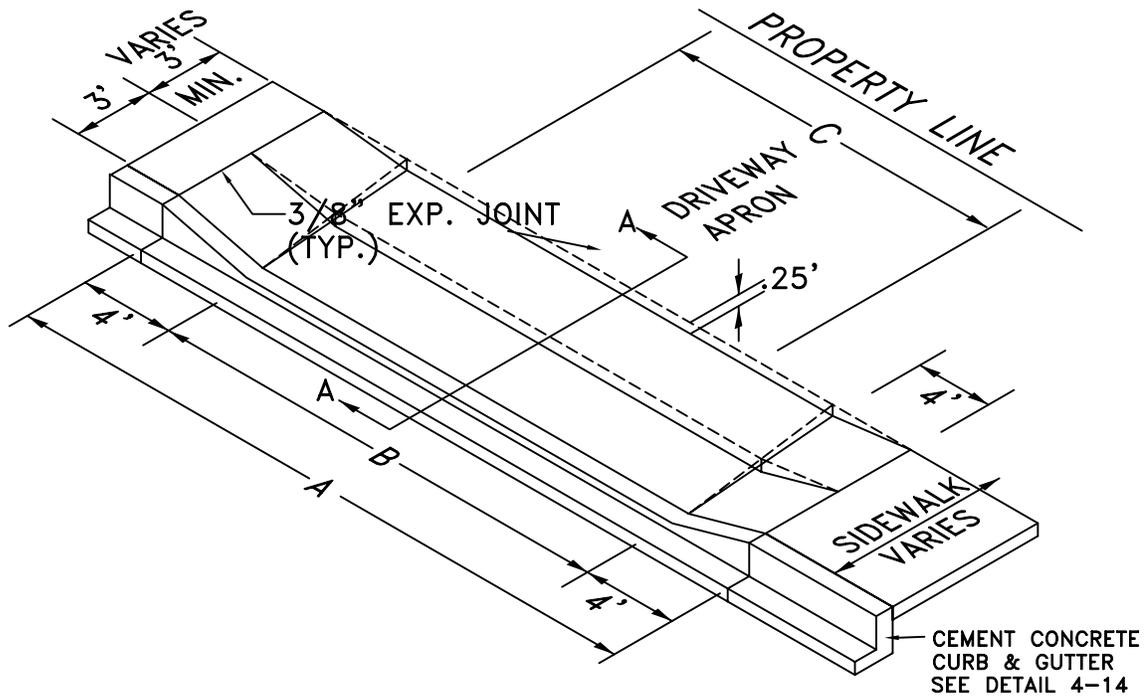


NOTE:

FORM AND SUBGRADE INSPECTION ARE REQUIRED BEFORE POURING CONCRETE.



SECTION A-A



DRIVEWAY WIDTHS

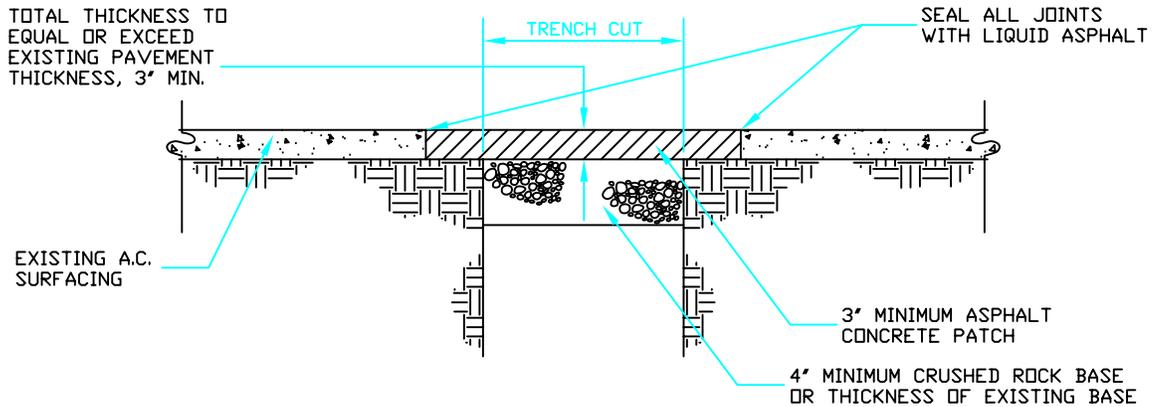
| STREET TYPE | CLASS | A | | B | | C | |
|--------------------|-------------|---------|---------|---------|---------|---------|---------|
| | | ONE WAY | TWO WAY | ONE WAY | TWO WAY | ONE WAY | TWO WAY |
| ARTERIAL/COLLECTOR | RESIDENTIAL | 28' | 32' | 20' | 24' | 20' | 24' |
| ARTERIAL/COLLECTOR | COMMERCIAL | 28' | 38' | 20' | 30' | 20' | 30' |
| ARTERIAL/COLLECTOR | INDUSTRIAL | 33' | 43' | 25' | 35' | 25' | 35' |
| LOCAL | RESIDENTIAL | 20' | 28' | 12' | 20' | 12' | 20' |
| LOCAL | COMMERCIAL | 28' | 34' | 20' | 26' | 20' | 26' |

| | | | |
|-----------|--------------------------|-------------------------|----------|
| DWG#: 4-7 | | TIME: 02-21-97 10:58 AM | |
| 2 | REVISED FOR 97 | SCP | 2/21/97 |
| 1 | PREPARED FOR STD. MANUAL | SCP | 2/26/96 |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE |
| | | | APPROVED |

**CEMENT
CONCRETE
DRIVEWAY**

| | | | |
|---|----------------|---|----------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-7 | REV. NO. |
| SCALE: NONE | SHEET | OF | REV. NO. |



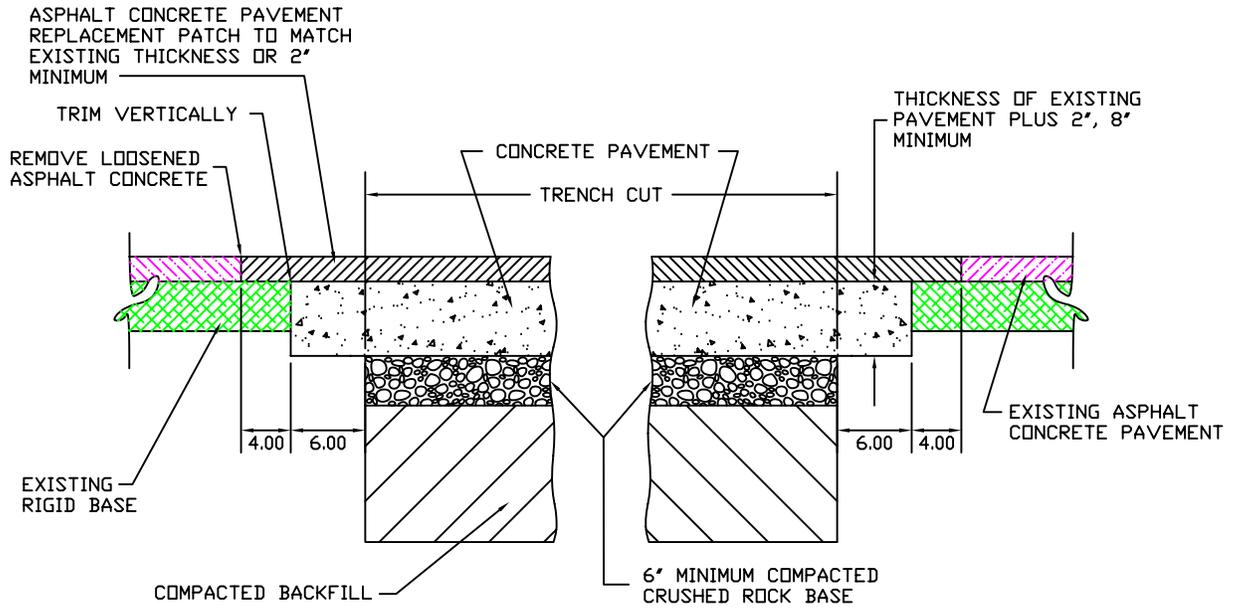


DOUBLE LIFT PATCH

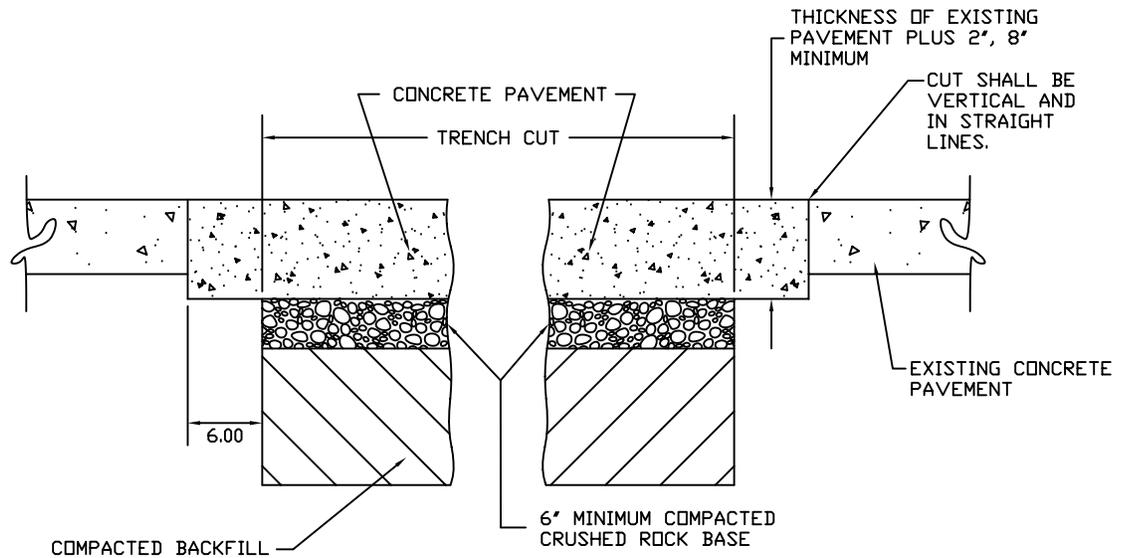
NOTE:

1. ASPHALT TREATED BASE MAY BE SUBSTITUTED FOR THE FIRST LIFT ASPHALT CONCRETE AND CRUSHED ROCK BASE. SEE SPECIFICATIONS.

| | | | | | | | | |
|--------------------------|----------------------|-------------------------|---------|--|---|----------------|-----------------------------|--|
| DWG#: 4-8 | | TIME: 02-21-97 10:22 AM | | ASPHALT CONCRETE PATCHING | CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
| REVISED | | SCP | 2/21/97 | | SIZE | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER | |
| PREPARED FOR STD. MANUAL | | SCP | 2/26/96 | | A | | 4-8 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | | APPROVED | SCALE NONE | SHEET OF | |



RIGID PAVEMENT WITH ASPHALTIC CONCRETE SURFACE



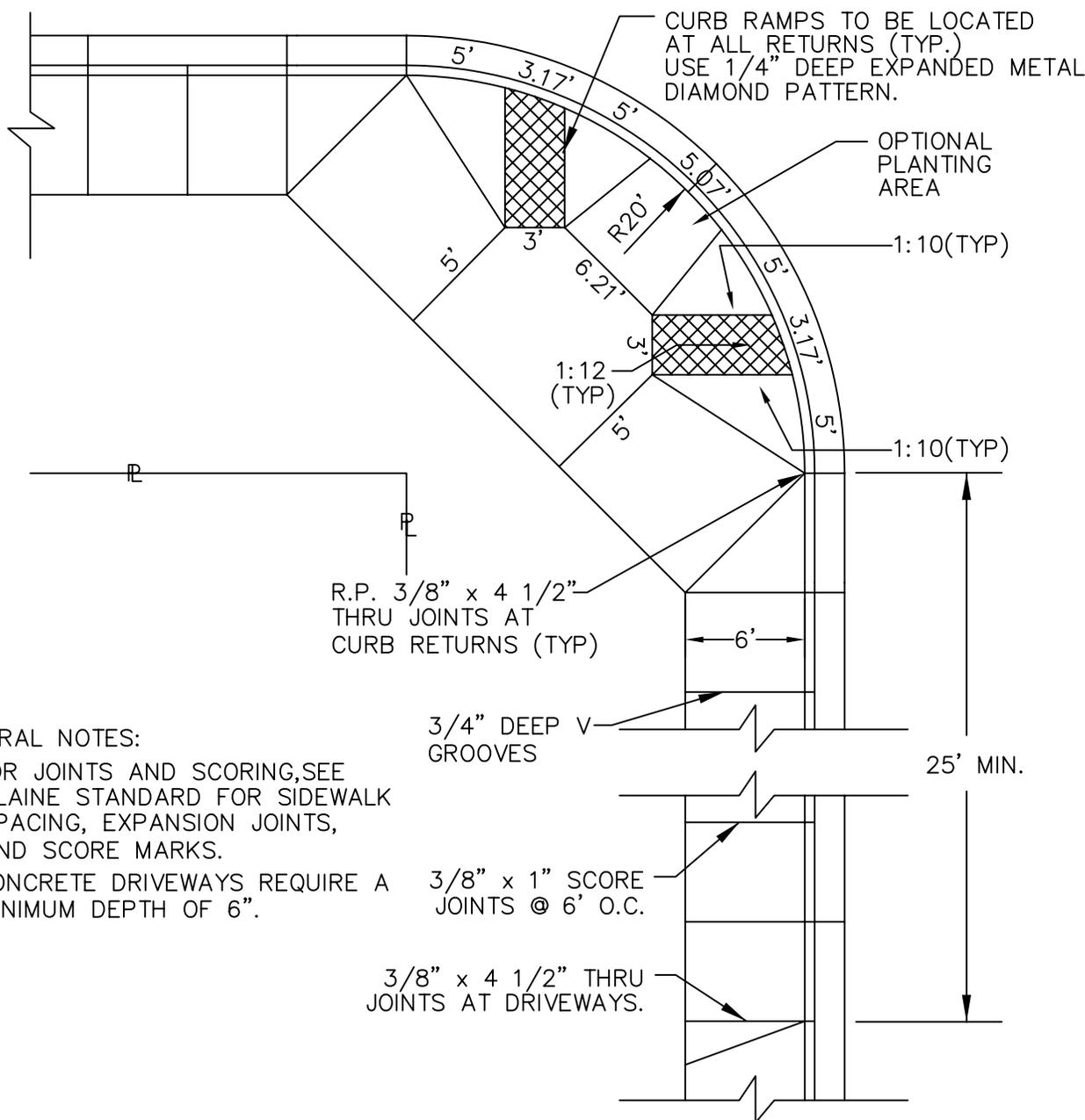
CEMENT CONCRETE PAVEMENT

| | | | |
|--------------------------|----------------------|------------------------|---------------|
| DWG#: 4-8A | | TIME: 02-26-96 8:19 AM | |
| | | | |
| PREPARED FOR STD. MANUAL | SCP | 2/26/96 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

**RIGID
PAVEMENT
PATCHING**

| | | | |
|---|----------------|--|----------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-8A | |
| SCALE <i>NONE</i> | SHEET | OF | REV. NO. |





GENERAL NOTES:

1. FOR JOINTS AND SCORING, SEE BLAINE STANDARD FOR SIDEWALK SPACING, EXPANSION JOINTS, AND SCORE MARKS.
2. CONCRETE DRIVEWAYS REQUIRE A MINIMUM DEPTH OF 6".

3/4" DEEP V GROOVES

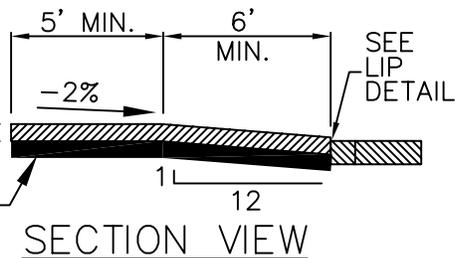
3/8" x 1" SCORE JOINTS @ 6' O.C.

3/8" x 4 1/2" THRU JOINTS AT DRIVEWAYS.

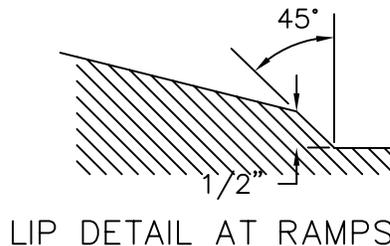
R.P. 3/8" x 4 1/2" THRU JOINTS AT CURB RETURNS (TYP)

4" CEMENT SIDEWALK
6" @ DRIVEWAYS

2" CRUSHED ROCK



BOTTOM OF RAMP MAY HAVE MAX. 1/2" LIP AT 45°.



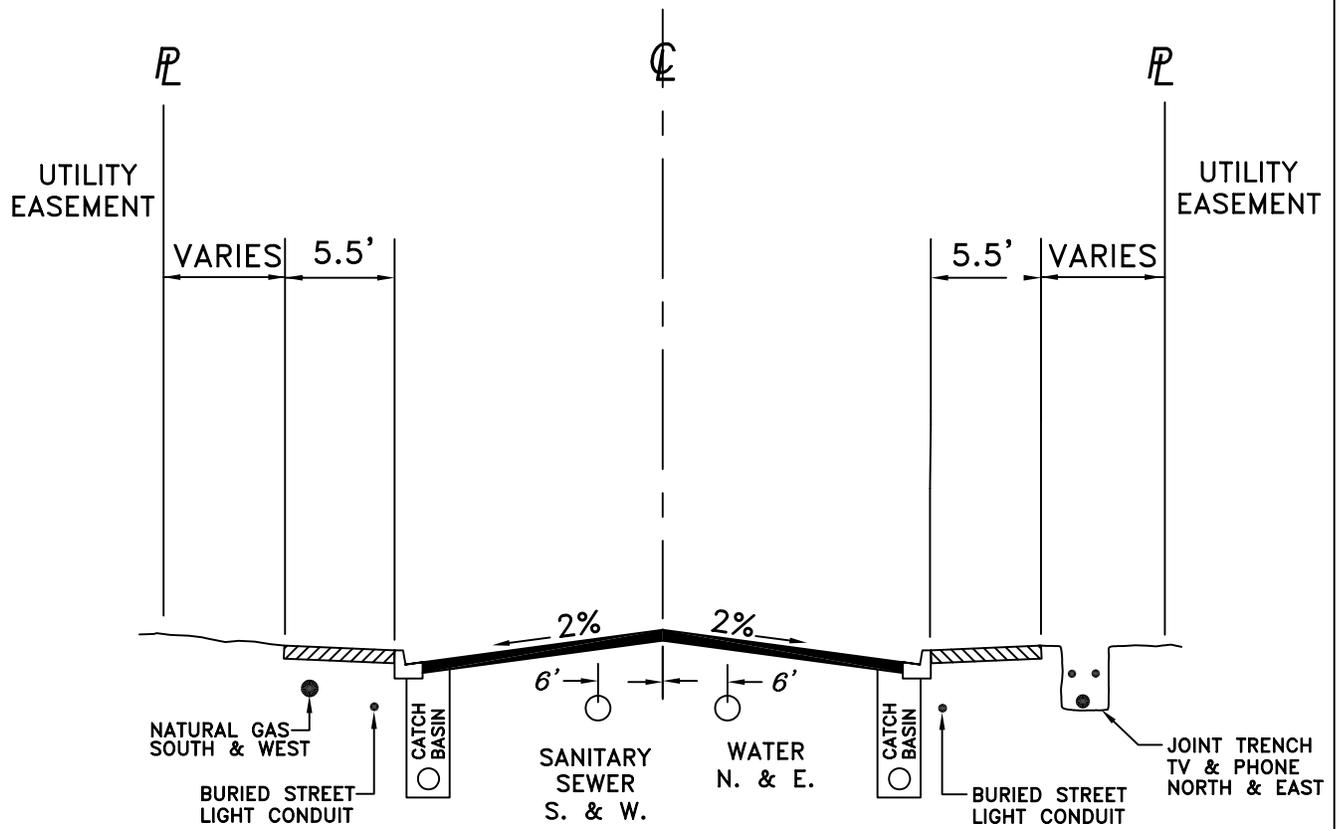
| | | | |
|---------|--------------------------|-----------------------|---------------|
| DWG#4-9 | | TIME:02-14-97 1:56 PM | |
| 2 | REVISED FOR 97 | SCP | 2/14/97 |
| 1 | PREPARED FOR STD. MANUAL | SCP | 2/26/96 |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

SIDEWALK STANDARD

**CITY OF BLAINE
DEPT. OF PUBLIC WORKS**

| | | | |
|------------|----------------|------------------------------------|----------|
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-9 | REV. NO. |
| SCALE NONE | SHEET | OF | REV. NO. |





GENERAL NOTES:
MINIMUM BURY:
 WATER 36"
 ELECTRICAL 48"
 STREET LIGHT CIRCUIT 24"
 SANITARY SEWER BY DESIGN
 STORM SEWER BY DESIGN

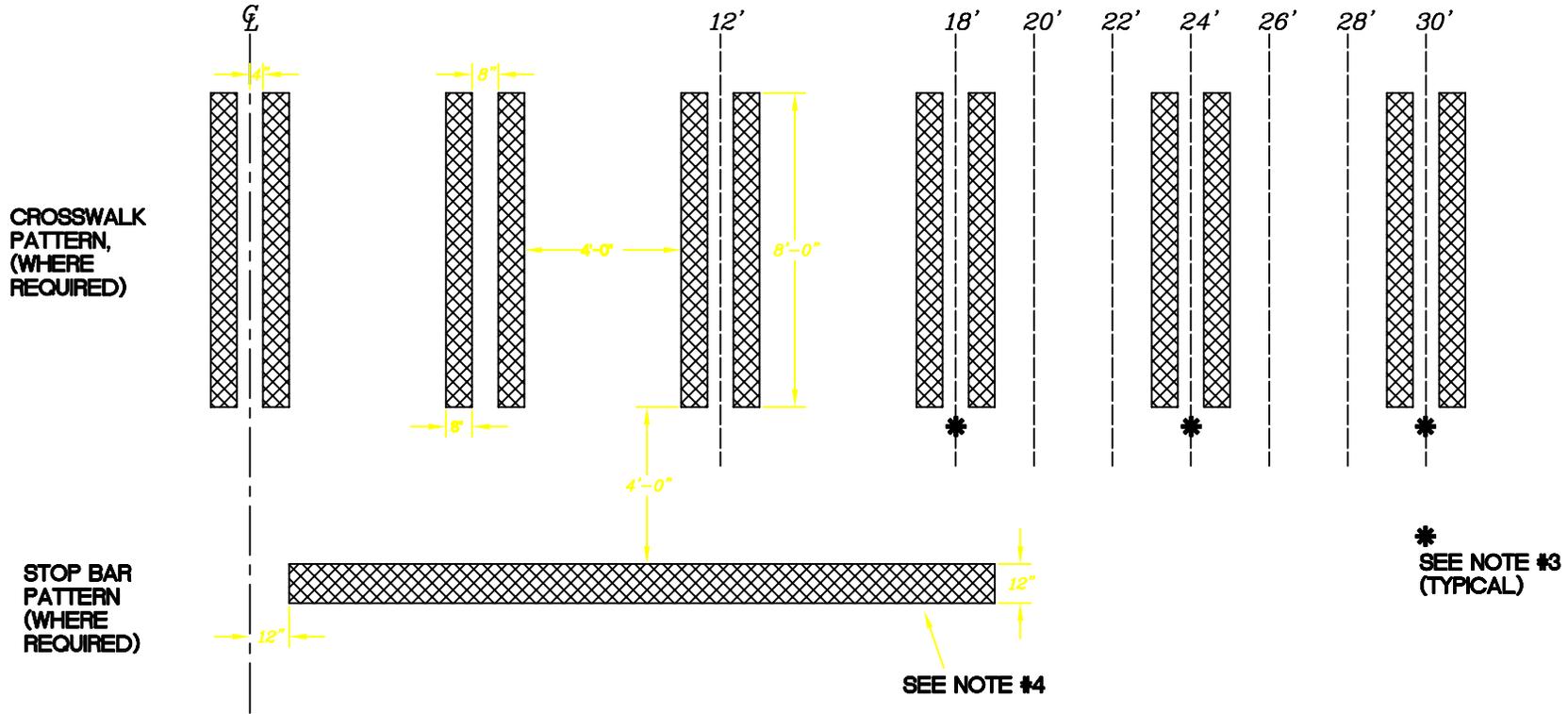
| | | | |
|------------|----------------------|------------------------|---------------|
| DWG#: 4-10 | | TIME: 02-29-96 4:30 PM | |
| A REVISED | | SCP | 2/23/96 |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

*UTILITIES
CORRIDOR*

| | | | |
|---|----------------|-------------------------------------|----------|
| <i>CITY OF BLAINE DEPT. OF PUBLIC WORKS</i> | | | |
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-10 | A |
| SCALE | SHEET | OF | REV. NO. |



DISTANCE FROM \mathcal{C} TO LANE CURB OR EDGE OF ROADWAY



NOTES:

- 1) CROSSWALK AREA TO BE CLEANED BY SWEEPING, AND FLUSHING IF NECESSARY, TO PROVIDE CLEAN, DRY SURFACE PRIOR TO APPLICATION.
- 2) CROSSWALK MATERIAL TO BE "HOTAPE, SUPERFLEX SERIES, 0.090 INCH THICKNESS" BY PAVE-MARK CORP, OR EQUAL.

- 3) ELIMINATE ANY 8 INCH STRIPES WITHIN 16 INCHES OF CURB OR OUTER EDGE OF ROAD SHOULDER.
- 4) END STOP BARS IN LINE WITH CROSSWALK ENDS AS SHOWN.
- 5) CONTINUE CROSSWALK PATTERN TO CURB RADIUS, SHORTEN AS REQUIRED.
- 6) ALL DIMENTIONS TYPICAL.

STANDARD
CROSSWALK DETAIL

4-11

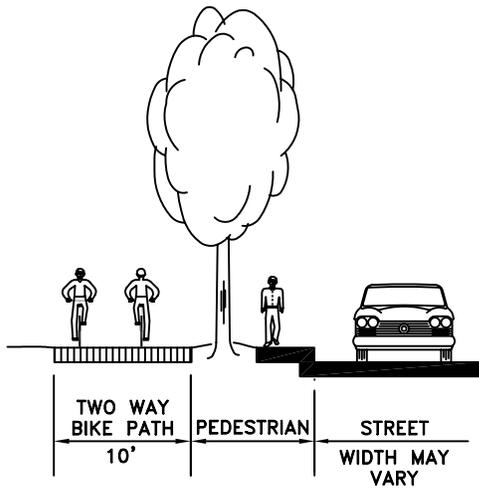
PUBLIC WORKS DRAWING NUMBER SIZE PREV. DWG. NO. REV. NO.

CITY OF BLAINE
PUBLIC WORKS DEPARTMENT

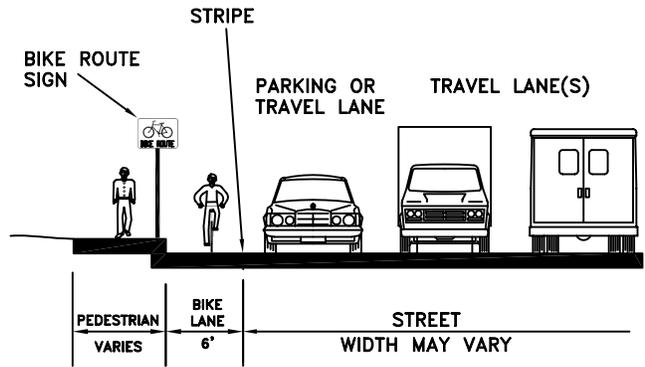


| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED |
|-----|----------------------|-----------|------|----------|
| | | | | |
| | | | | |
| | | | | |

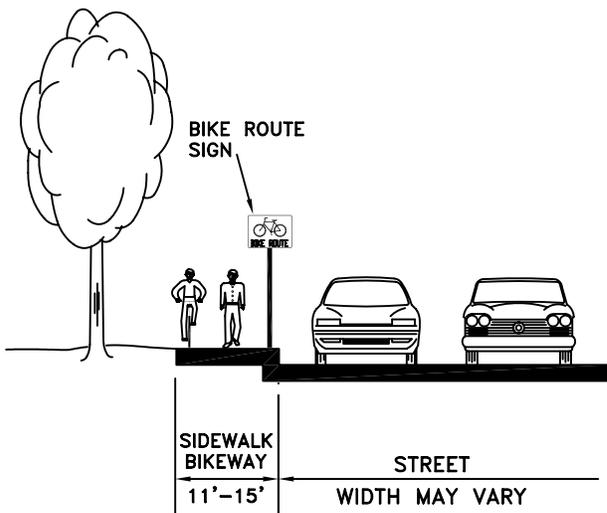
SCALE SHEET OF



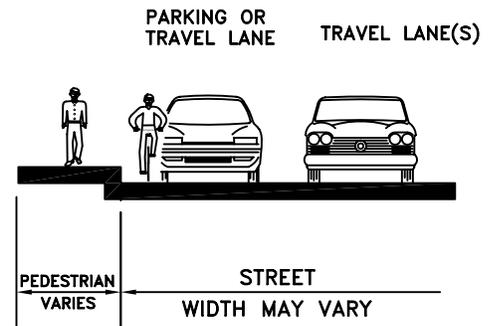
CLASS I BIKE PATH



CLASS II BIKE PATH



CLASS III BIKE ROUTE



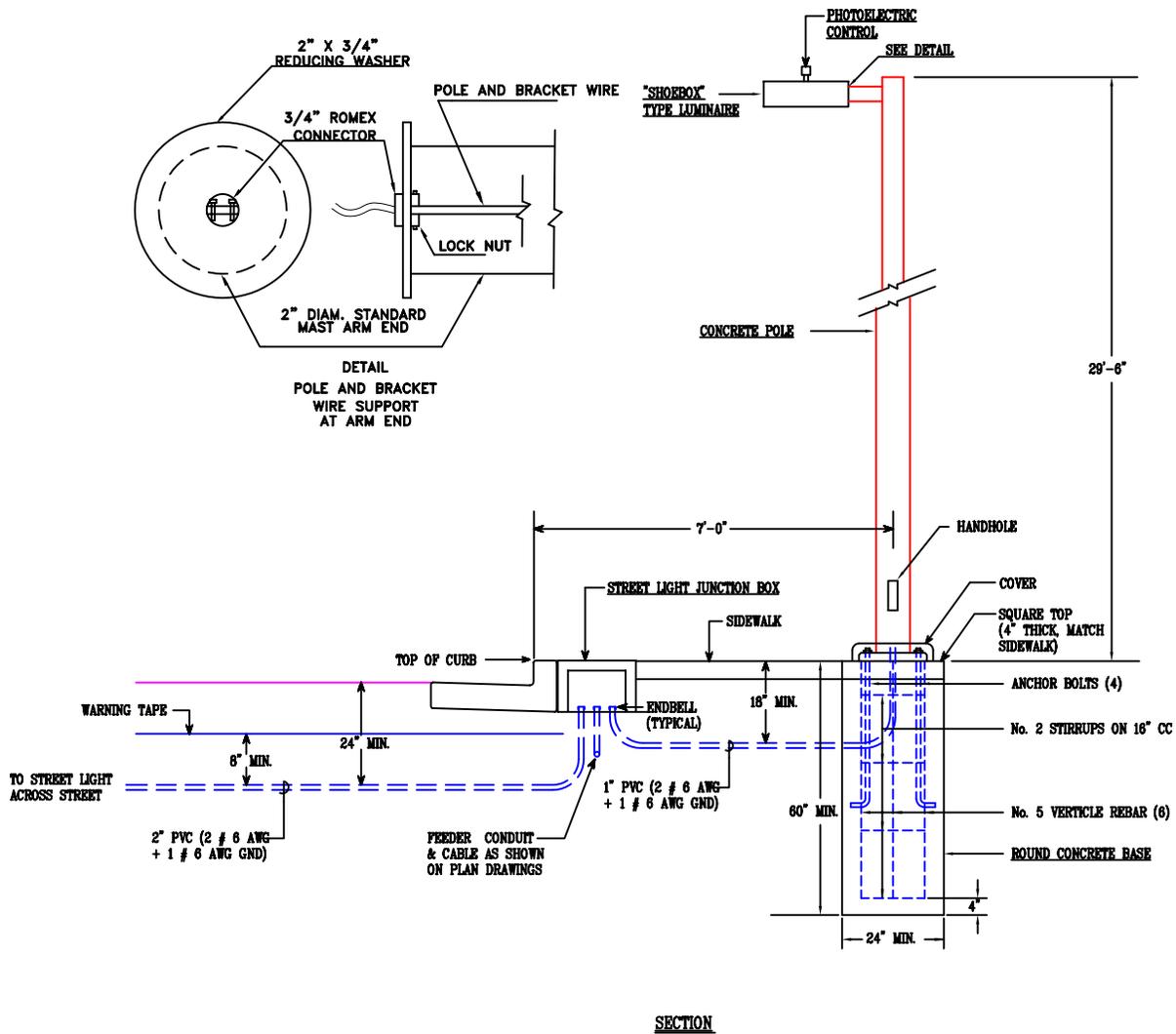
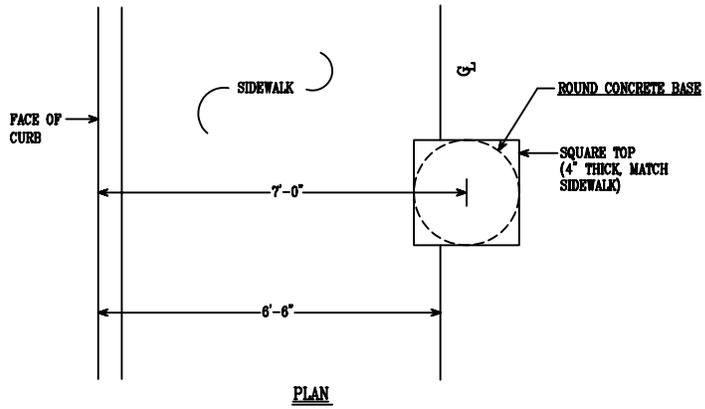
CLASS IV SHARED ROADWAY

| | | | |
|--------------------------|----------------------|-----------------------|---------------|
| DWG#4-16 | | TIME:02-29-96 1:57 PM | |
| PREPARED FOR STD. MANUAL | SCP | 2/29/96 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

BIKEWAY CLASSES

| | | | |
|------------------------------|----------------|-------------------------------------|----------|
| <i>CITY OF BLAINE</i> | | | |
| <i>DEPT. OF PUBLIC WORKS</i> | | | |
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-16 | |
| SCALE NONE | SHEET | OF | REV. NO. |





DETAIL - TYPICAL "STANDARD" STREET LIGHT

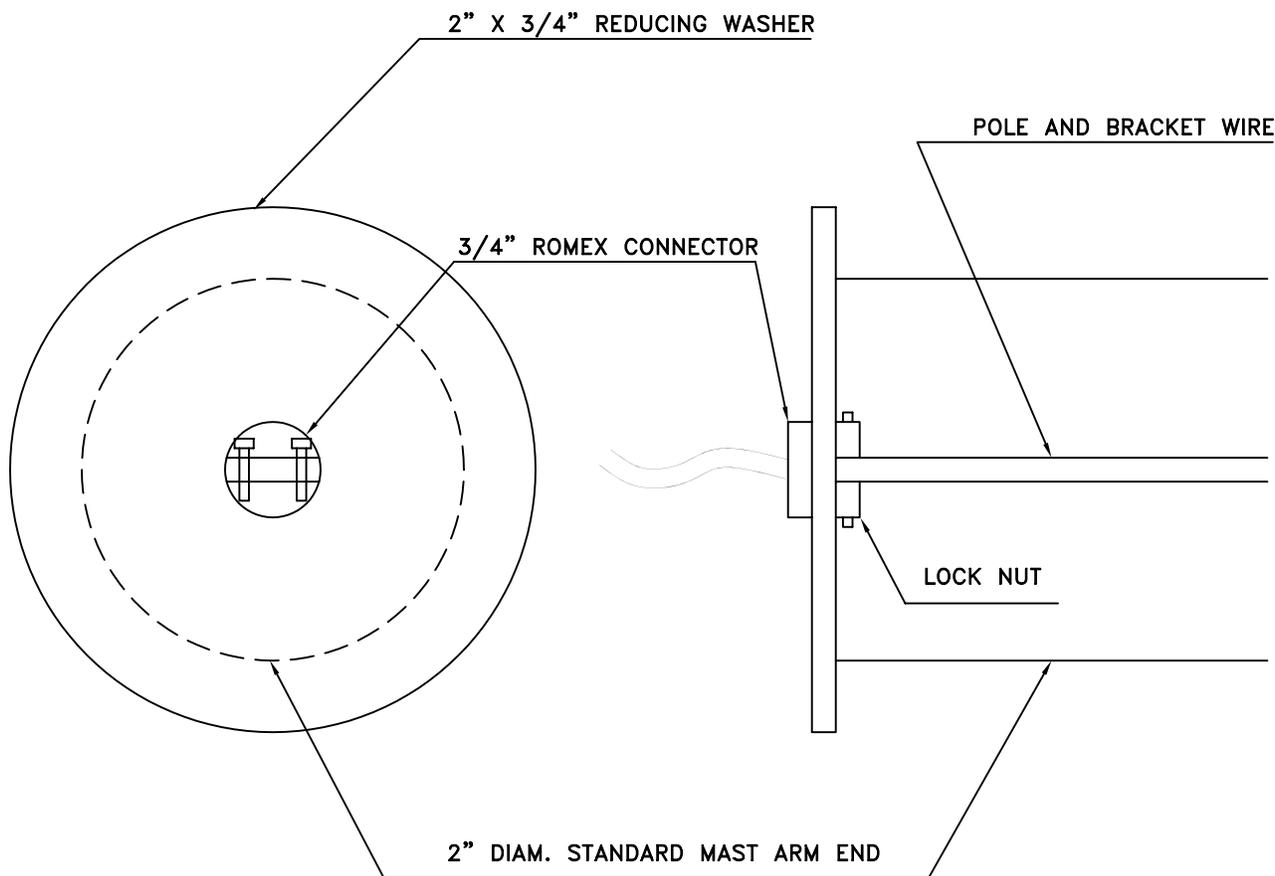
NO SCALE

| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED |
|-----|----------------------|-----------|----------|----------|
| | | WPS | 03/22/01 | |

STANDARD STREET LIGHT DETAIL TYPICAL INSTALATION

| CITY OF BLAINE PUBLIC WORKS DEPARTMENT | | | |
|---|---------------|-----------------------------|----------|
| SIZE | PREV. DWG NO. | PUBLIC WORKS DRAWING NUMBER | |
| A | | 4-17.1 | |
| SCALE | NO SCALE | SHEET | OF |
| | | | REV. NO. |





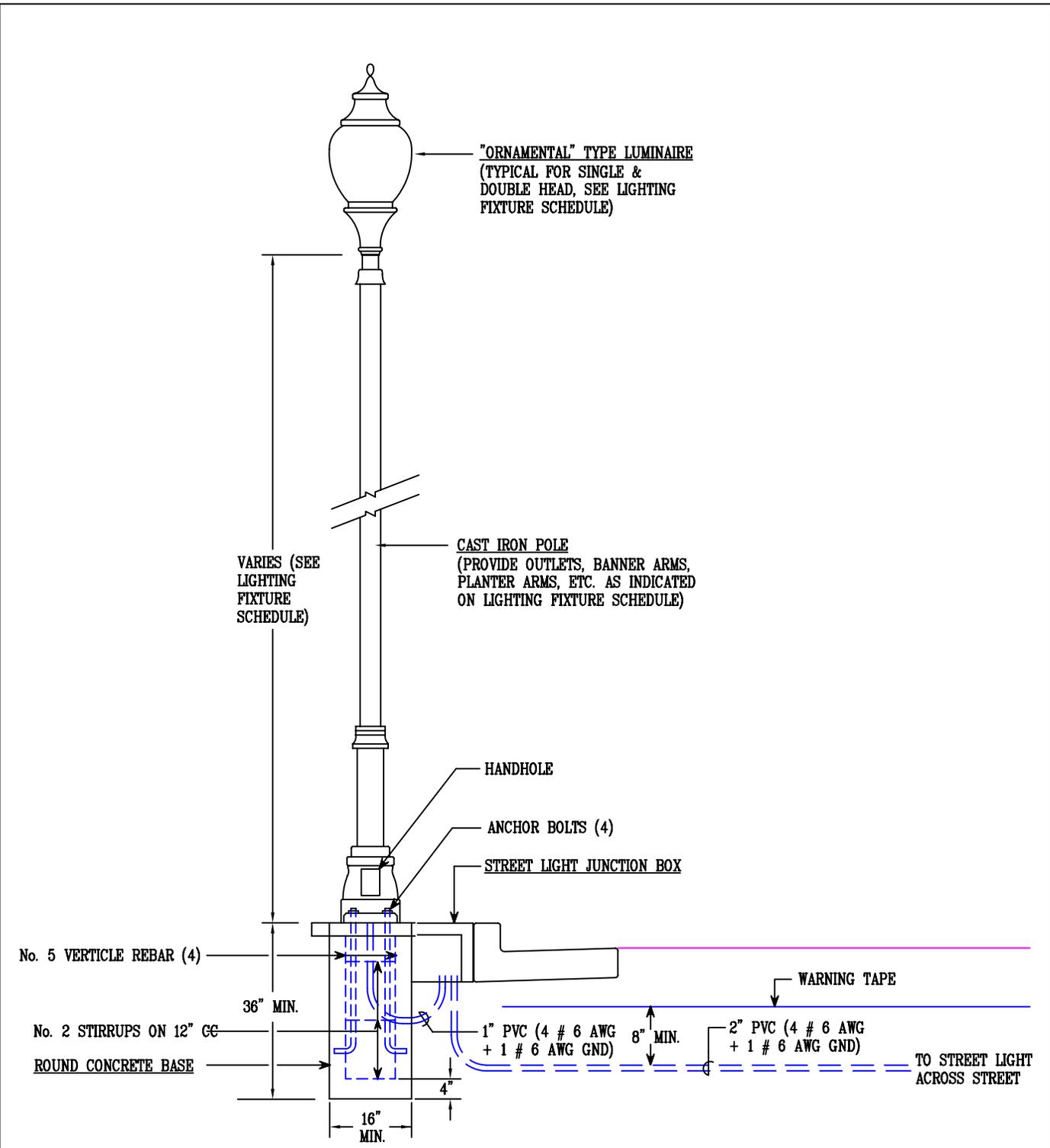
N.T.S.

| | | | | |
|--------------------------|----------------------|-----------|------|----------|
| | | | | |
| Renumbered | wrs | 3/22/01 | | |
| PREPARED FOR STD. MANUAL | SCP | 3/1/96 | | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED |

*POLE AND BRACKET
WIRE SUPPORT
@ ARM END*

| | | | |
|---|---------------|-----------------------------|----------|
| <i>CITY OF BLAINE DEPT. OF PUBLIC WORKS</i> | | | |
| SIZE | PREV. DWG NO. | PUBLIC WORKS DRAWING NUMBER | |
| A | | 4-17.1a | |
| SCALE NONE | SHEET | OF | REV. NO. |





DETAIL – TYPICAL "ORNAMENTAL" STREET LIGHT

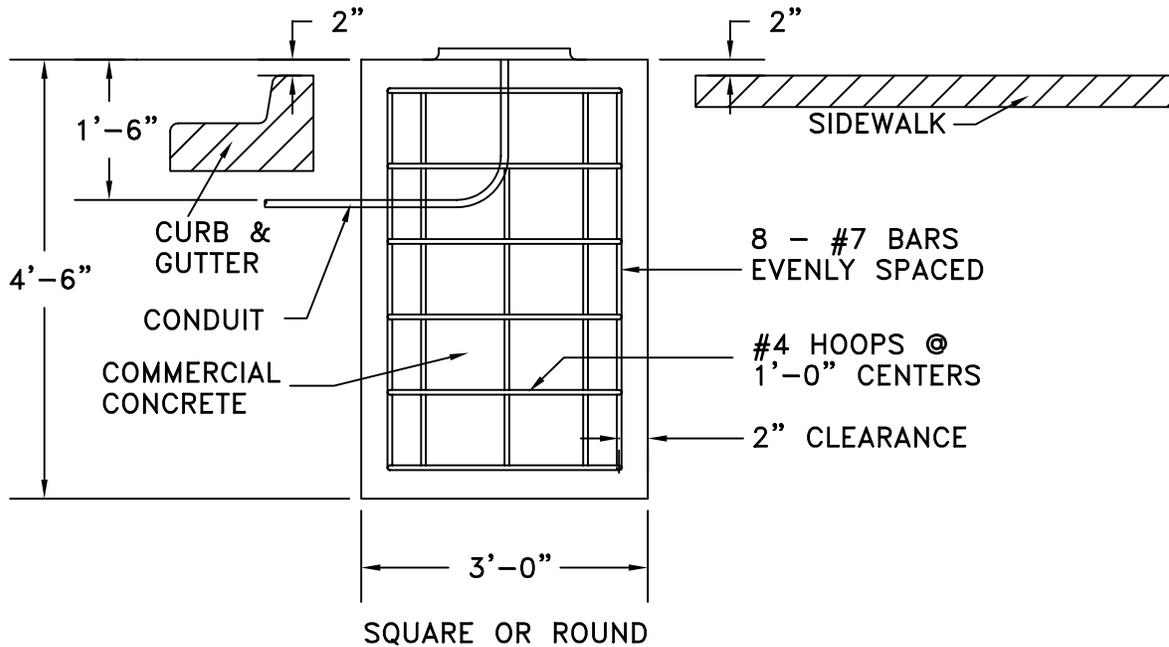
NO SCALE

| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED |
|-----|----------------------|-----------|----------|----------|
| | | WPS | 03/22/01 | |

ORNAMENTAL STREET LIGHT DETAIL TYPICAL INSTALATION

| | | | |
|---|---------------|--|----------|
| CITY OF BLAINE PUBLIC WORKS DEPARTMENT | | | |
| SIZE A | PREV. DWG NO. | PUBLIC WORKS DRAWING NUMBER 4-17.2 | |
| SCALE NO SCALE | SHEET | OF | REV. NO. |





GENERAL NOTES:

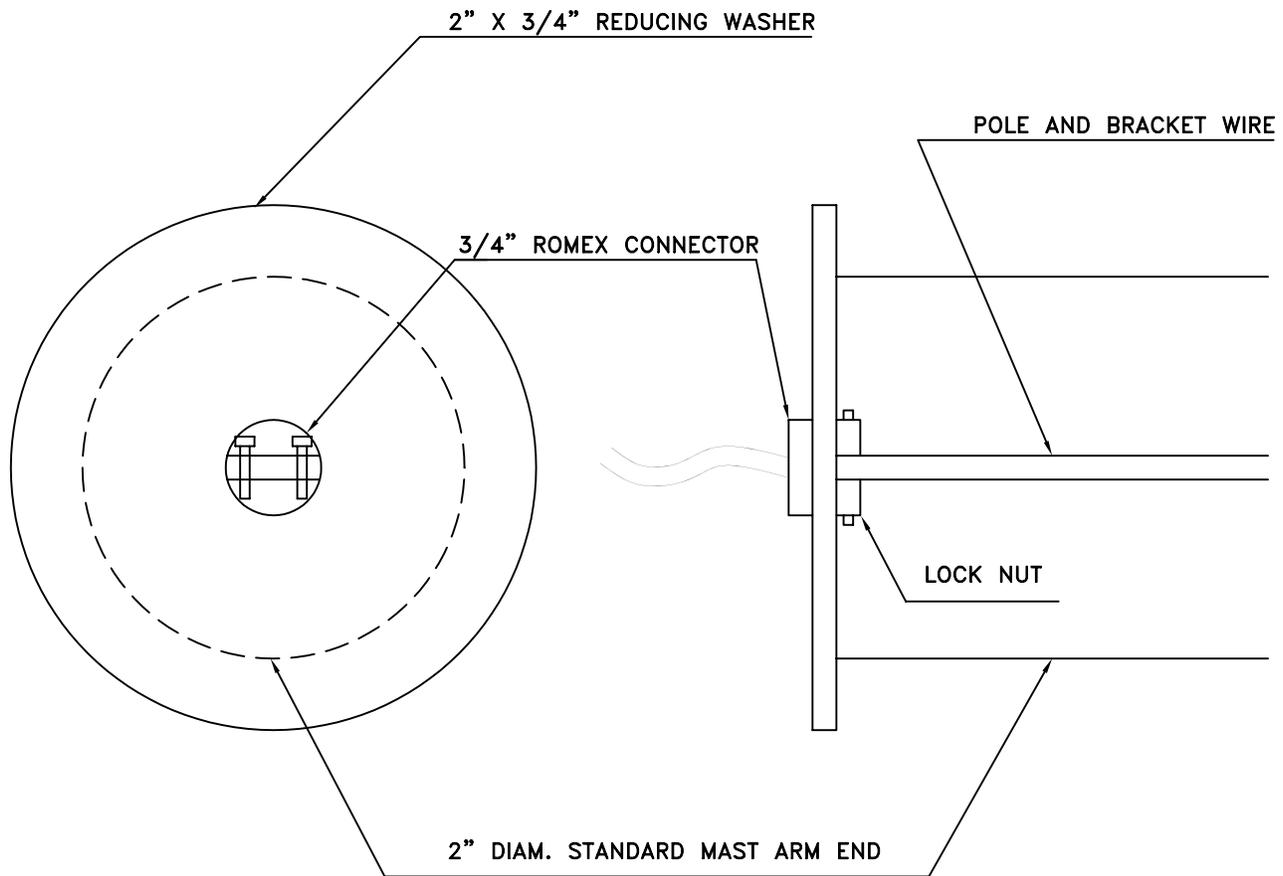
1. THE FOUNDATION IS DESIGNED FOR 2000 PSF AVERAGE SOIL LATERAL BEARING PRESSURE.
2. BOLT PATTERN PER MANUFACTURES SPECIFICATIONS.
3. FOR DETAILS NOT SHOWN USE MANUFACTURES SPECIFICATIONS AND DETAILS.

| | | | |
|--------------------------|----------------------|-----------------------|---------------|
| DWG#:4-17 | | TIME:02-29-96 2:00 PM | |
| PREPARED FOR STD. MANUAL | SCP | 2/29/96 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

**LUMINAIRE
FOUNDATION**

| | | | |
|---|----------------|--|----------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-17 | REV. NO. |
| SCALE <i>NONE</i> | SHEET | OF | REV. NO. |





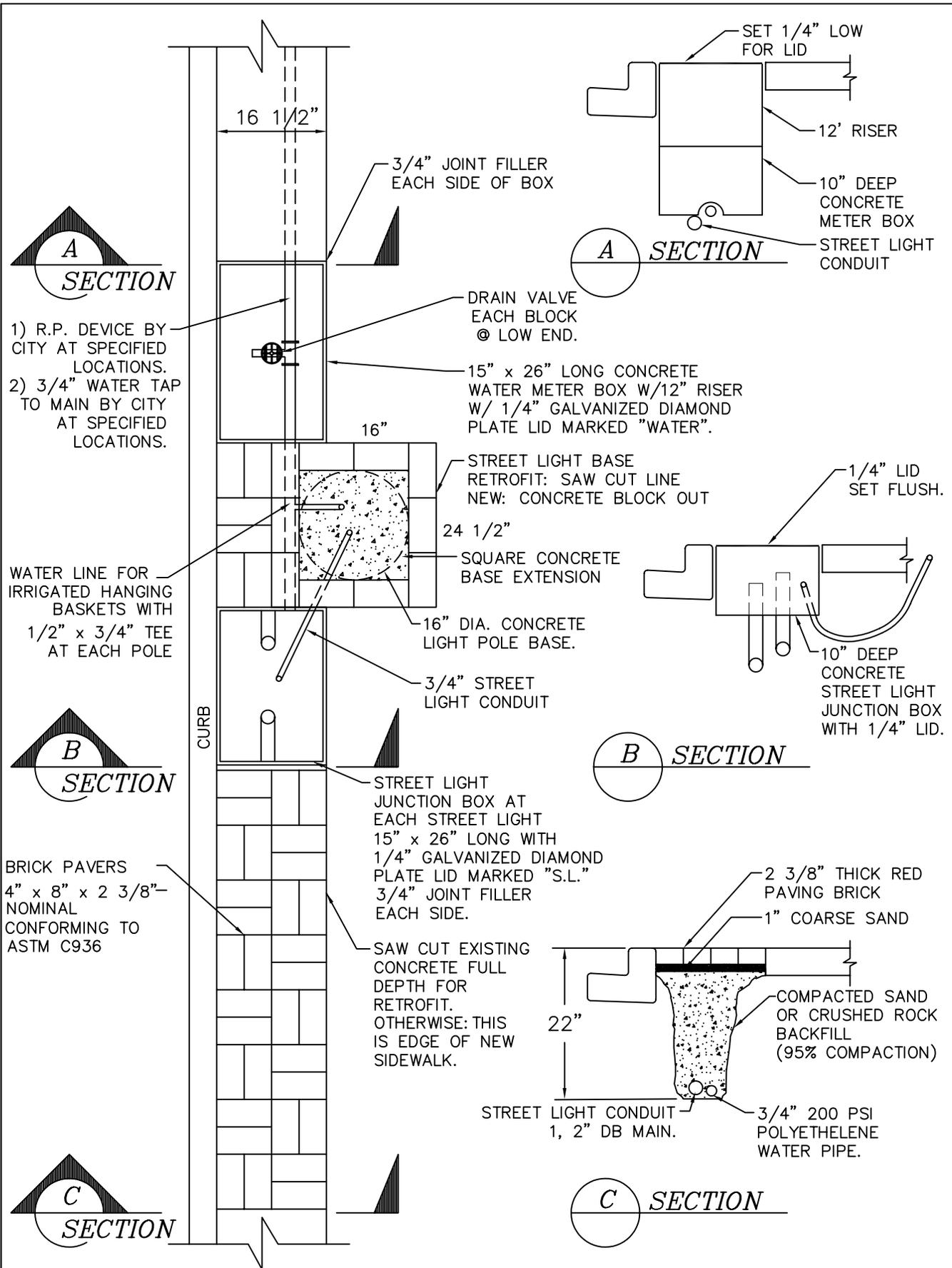
N.T.S.

| DWG#:4-17_2 TIME:03-01-96 11:23 AM | | | | |
|------------------------------------|----------------------|-----------|------|----------|
| | | | | |
| PREPARED FOR STD. MANUAL | SCP | 3/1/96 | | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED |

**POLE AND BRACKET
WIRE SUPPORT
@ ARM END**

| | | | |
|---|----------------|---------------------------------------|----------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-17.2 | REV. NO. |
| SCALE NONE | SHEET | OF | REV. NO. |





DWG#: 4-17_5 TIME: 05-30-96 10:29 AM

| | | | | |
|-----|----------------------------|-----------|----------|----------|
| 1 | REPLACED BRICK W/ CONCRETE | | | |
| | FOUND. UNDER LIGHT | TAMc | 11/15/00 | |
| 0 | PREPARED FOR STD. MANUAL | SCP | 5/28/96 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED |

**ORNAMENTAL LIGHT
INSTALLATION
DETAIL**

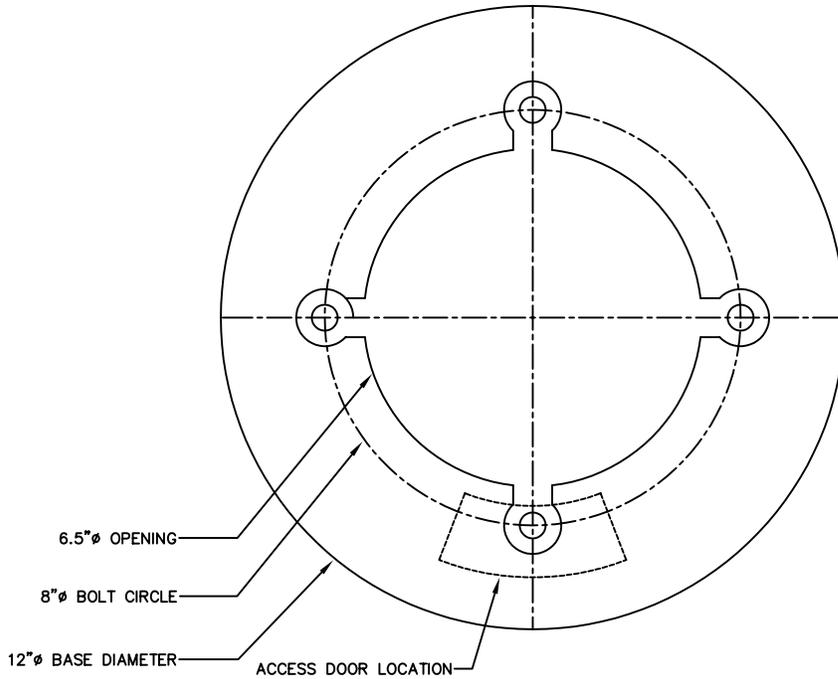
**CITY OF BLAINE
DEPT. OF PUBLIC WORKS**

| | | | |
|-------------------|----------------|--|-------------------|
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-17.5 | SHEET 1 |
| SCALE <i>NONE</i> | | | REV. NO. |



STREET

CURB



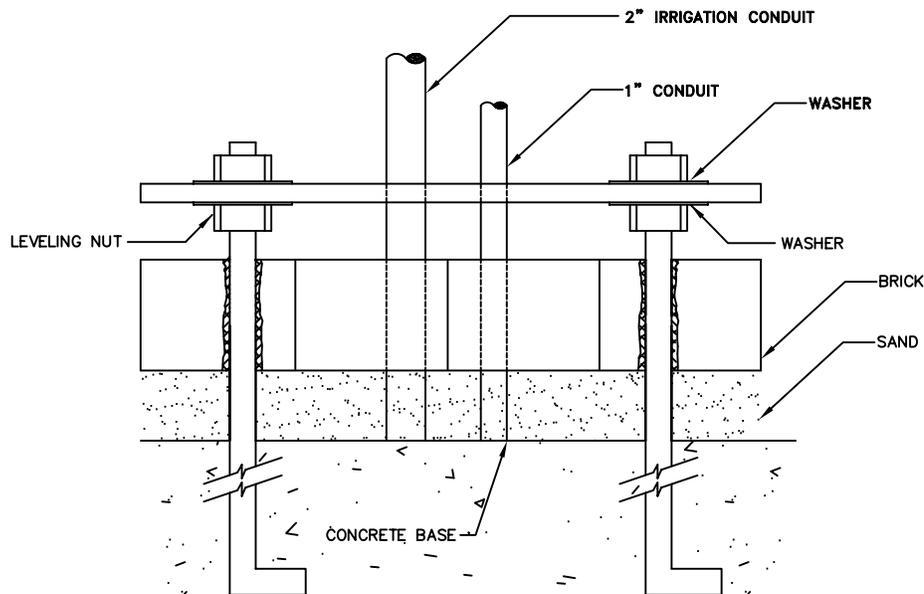
NOTES:

1. POST BASE IS FURNISHED WITH (4) 1/2" Ø x 18" HOT DIPPED GALVANIZED L-TYPE ANCHOR BOLTS WITH 2" MINIMUM PROJECTION EACH.
2. FOR ADDITIONAL CLARIFICATION, SEE WSDOT STANDARD PLAN J-1b.

MANUFACTURER: ANTIQUE STREET LAMPS INC
 SINGLE LUMINAIRE
 CATALOG # CH12F.25/12-CA/VG-20SPL/
 VG-DWPRT-2BA12/VG-RA25F/
 VG-S100/240-III-PEC

DOUBLE LUMINAIRE
 CATALOG # CH14F.25/12-CA/VG-20SPL/
 VG-20S12/VG-DWPRT-2RA25F/
 VG-S150/240-III-AF/VG-PEC

REQUIRED BOLT PATTERN



DWG# 4-17_5A TIME: 11-08-00 2:18 PM

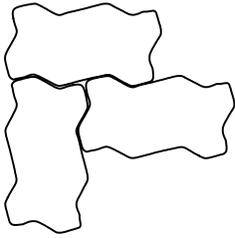
| | | | | |
|-----|----------------------|-----------|----------|----------|
| | | | | |
| | | TAMc | 11/08/00 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED |

**ORNAMENTAL LIGHTING
 ANCHOR DETAIL**

**CITY OF BLAINE
 DEPT. OF PUBLIC WORKS**

| | | | |
|------------|---------------|--------------------------------------|----------|
| SIZE A | PREV. DWG NO. | PUBLIC WORKS DRAWING NUMBER 4-17A | |
| SCALE NONE | SHEET | OF | REV. NO. |

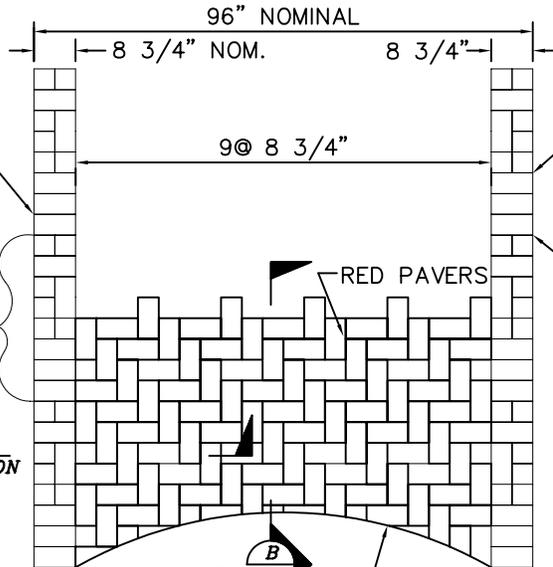




BRICK INTERLOCK DETAIL

BORDERS OF WHITE PAVERS

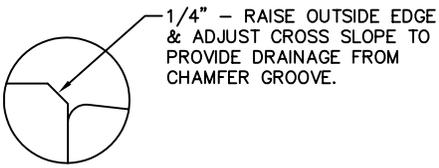
REPEATING THEME FOR WHITE BORDER



BORDERS OF WHITE PAVERS

SAW CUT JOINT FOR RETROFIT TO EXISTING ROAD SURFACE. VERTICAL CONSTRUCTION JOINT IF NEW ROAD SURFACE IS INSTALLED (TYPICAL).

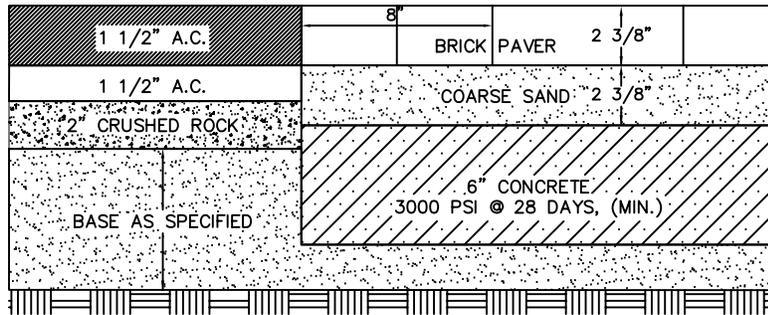
TYPICAL SAW CUT PAVERS FOR CLOSE FIT TO CURB/GUTTER



1 DETAIL

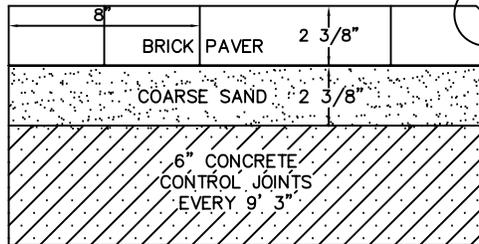
PLAN VIEW

INTERLOCK BRICK PAVERS
 2 3/8" NOMINAL THICKNESS x 8 3/4" x 4 3/8"
 CONFORMS TO ASTM C936-82 "SOLID CONCRETE INTERLOCK PAVING UNITS", OR MOST RECENT SPECIFICATIONS.



A SECTION

1 DETAIL



B SECTION

BEDDING SAND

SIEVE %PASSING

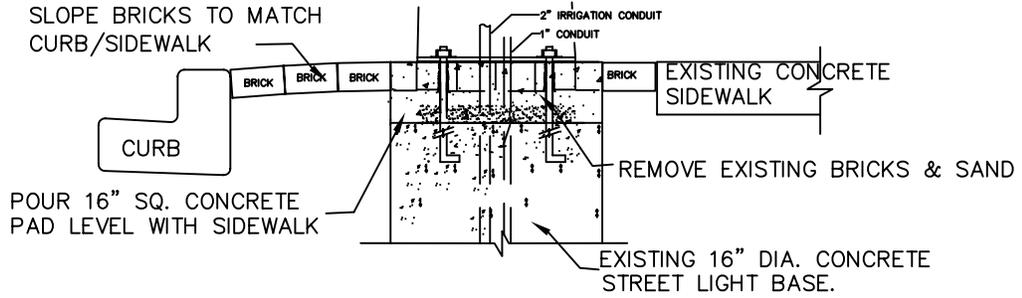
| | |
|-----|--------|
| 4 | 90-100 |
| 8 | 80-95 |
| 16 | 55-85 |
| 50 | 10-35 |
| 200 | 0-5 |

| | | |
|--------------|--------------------------|-------------------------|
| DWG#: 4-11_1 | TIME: 06-24-96 | 12:52 PM |
| 2 | REVISED | SCP 6/24/96 |
| 1 | PREPARED FOR STD. MANUAL | SCP 5/29/96 |
| NO. | REVISION DESCRIPTION | PREP'D BY DATE APPROVED |

**BRICK PAVER
 CROSSWALK DETAIL
 PLAN & PROFILE**

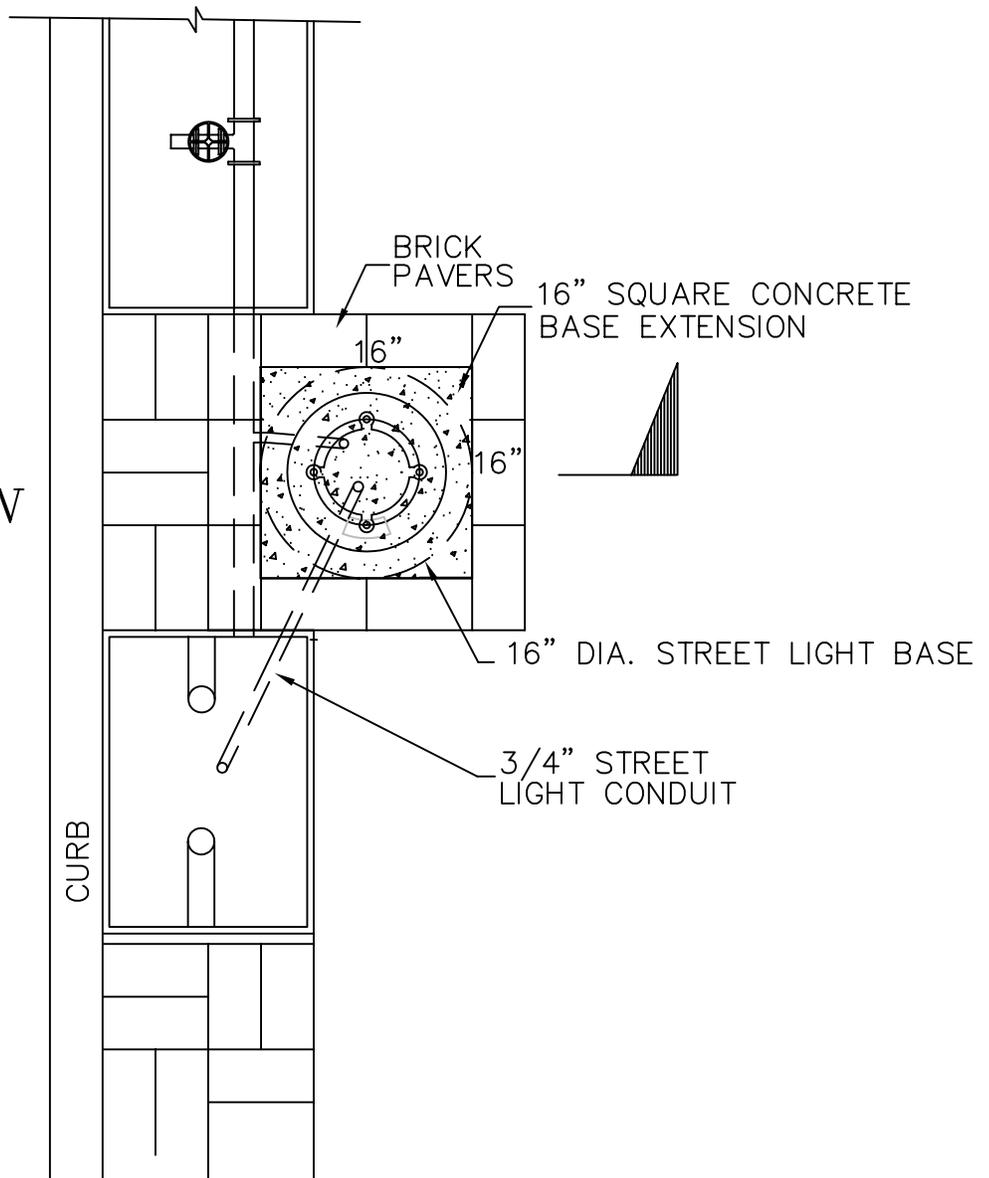
| | | |
|---|----------------|---------------------------------------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | |
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-11.1 |
| SCALE NONE | SHEET | OF |
| | | REV. NO. |





A
SECTION

A
SECTION

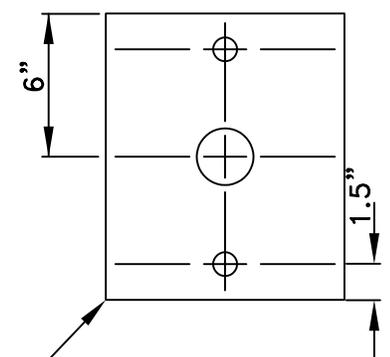


| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED |
|-----|----------------------|-----------|----------|----------|
| | | WRS | 02/22/10 | |

ORNAMENTAL LIGHTING
CONCRETE BASE
REPAIR DETAIL

| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
|---|----------------|-----------------------------|----------|
| SIZE | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER | |
| A | | 4-17_b | |
| SCALE NONE | | SHEET | OF |
| | | | REV. NO. |



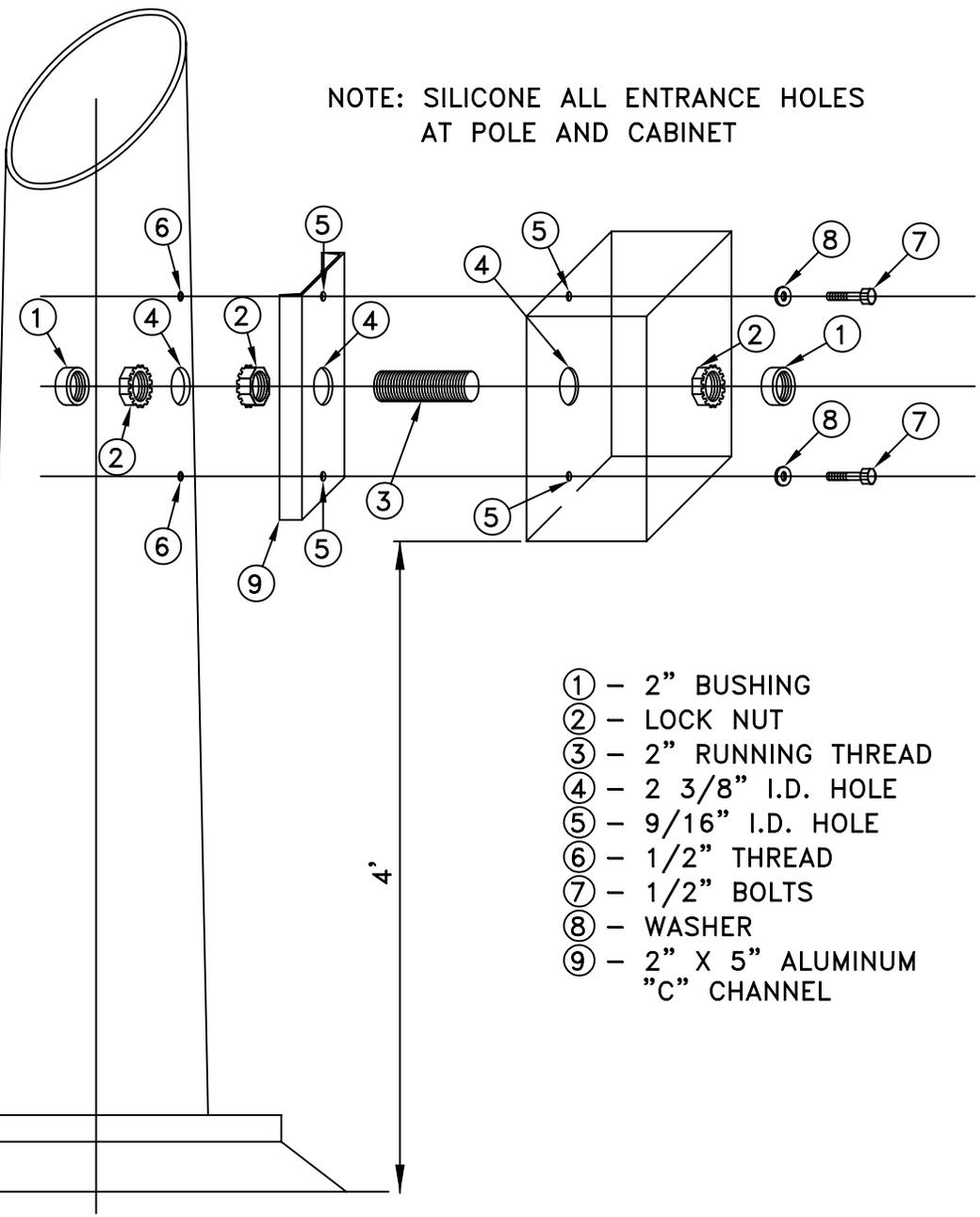


12" X 10" STAHLIN J1210 HPL CABINET
WITH 2-TK 1210 TERMINAL STRIPS OR
APPROVED EQUAL.

ENCLOSURE
MOLDED FIBERGLASS
NEMA 3-4X-12
12" X 10" X 4 7/8" INSIDE
STAINLESS STEEL PIANO HINGE
2-STAINLESS STEEL LATCHES
PADLOCK HASP

TERMINAL STRIPS
2-18 TERMINALS STRIPS
LUG TYPE CONNECTIONS
600 V RATE/50 AMP CAPACITY
STAND OFF MOUNTING

NOTE: SILICONE ALL ENTRANCE HOLES
AT POLE AND CABINET

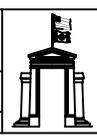


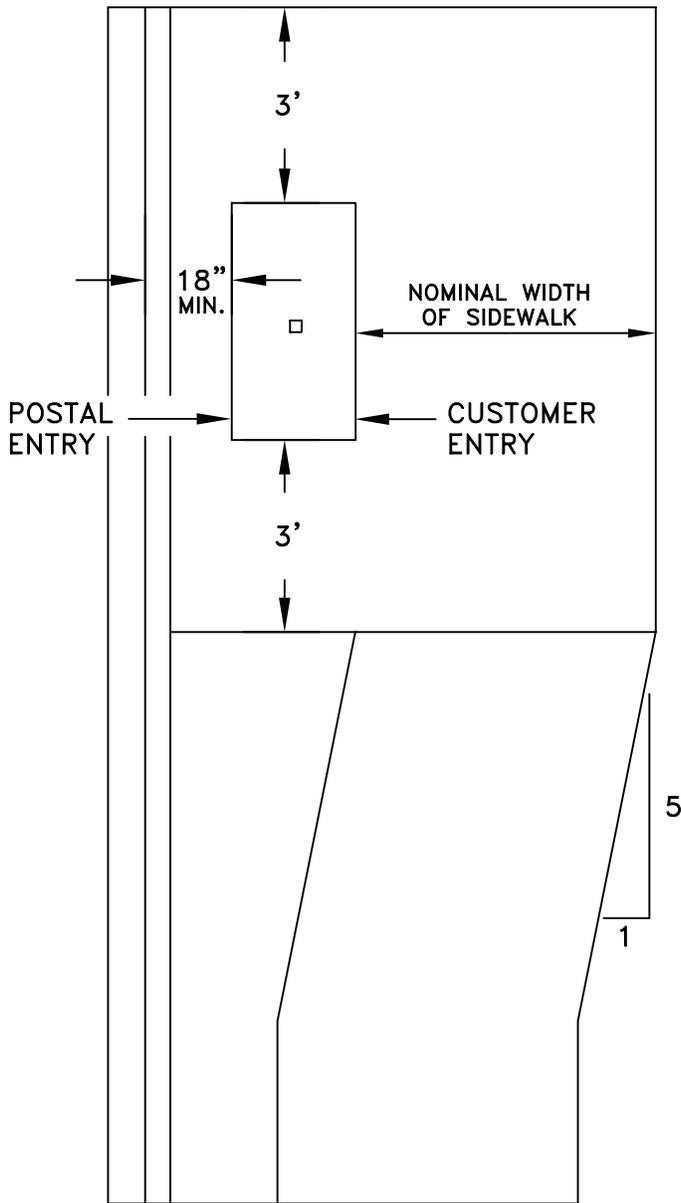
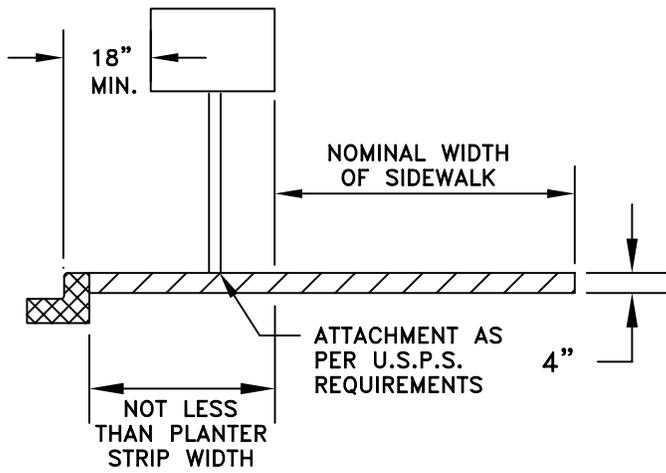
- ① - 2" BUSHING
- ② - LOCK NUT
- ③ - 2" RUNNING THREAD
- ④ - 2 3/8" I.D. HOLE
- ⑤ - 9/16" I.D. HOLE
- ⑥ - 1/2" THREAD
- ⑦ - 1/2" BOLTS
- ⑧ - WASHER
- ⑨ - 2" X 5" ALUMINUM "C" CHANNEL

| | | | |
|--------------------------|----------------------|------------------------|---------------|
| DWG#4-17B | | TIME:03-01-96 11:18 AM | |
| PREPARED FOR STD. MANUAL | SCP | 3/1/96 | |
| ND. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

**TERMINAL CABINET
INSTALLATION DETAIL**

| | | |
|---|----------------|---|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | |
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-17B |
| SCALE <i>NONE</i> | SHEET | OF |
| | | REV. NO. |





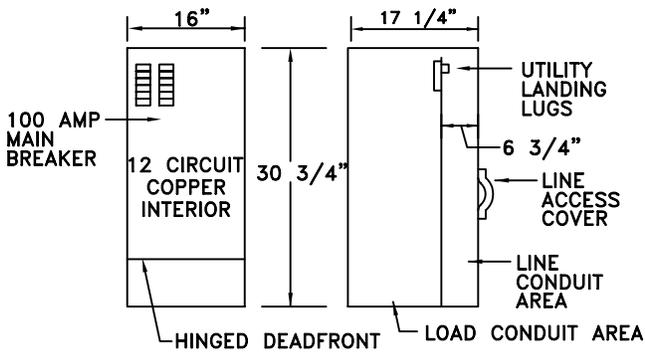
GENERAL NOTES:
 1. SEE DEVELOPMENT GUIDELINE 4G.070 FOR ADDITIONAL REQUIREMENTS.

| | | | |
|-----------|----------------------|------------------------|------|
| DWG#:4-18 | | TIME:03-01-96 11:29 AM | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE |
| | | | |
| | | | |

**MAIL BOX
 CLUSTER
 STYLE**

| | | | |
|--|----------------|--|----------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-18 | REV. NO. |
| SCALE NONE | SHEET | OF | REV. NO. |





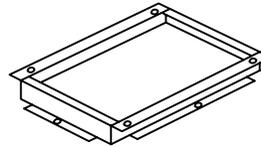
MEUGL-M100C-UM, OR
UNICORN CPIIB-0113A (NOT SHOWN)
 OR APPROVED EQUAL

THE UNIT SHALL CONTAIN THE FOLLOWING ADDITIONAL EQUIPMENT:

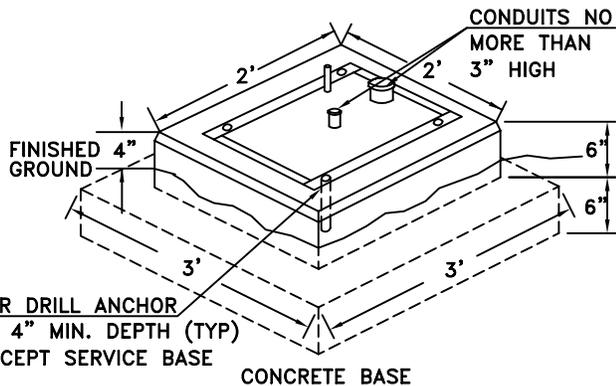
- TWO MERCURY RELAYS (DPST)
- ONE 3 POSITION TEST SWITCH
- ONE PHOTOCELL

SPECIFICATIONS

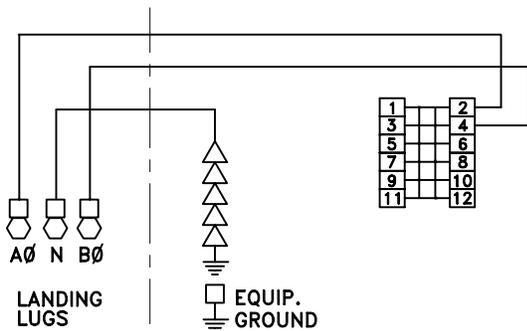
1. STANDARD VOLTAGE IS 120/240V; 100 AMP
2. CALTRANS TYPE 3B SERVICE OR U.L. APPROVED EQUAL.
3. TYPE 3R RAINPROOF ENCLOSURE
4. 12 GAUGE ZINC COATED STEEL CONSTRUCTION.
5. INTERIORS WILL ACCEPT PLUG-IN BREAKERS (BRYANT, G.E., WESTINGHOUSE, ITE, CROUSE-HINDS)
6. STANDARD FINISH: LIGHT GREEN BAKED ENAMEL OVER CORROSION RESISTANT ZINC CHROMATE PRIMER. EXCEEDS 250 HOURS SALT SPRAY ASTM B-117
7. DETACHABLE PADMOUNT SUB-BASE
8. COPPER BUSSED INTERIOR HAS PROVISIONS FOR TWELVE FULL ONE-INCH POLES.
9. SUITABLE FOR USE WITHOUT A MAIN WHEN NO MORE THAN SIX SERVICE DISCONNECTS ARE INSTALLED AND USED IN ACCORDANCE WITH ARTICLE 384 OF THE NEC.
10. SEAL SERVICE TO CONCRETE FOUNDATION WITH SILACONE



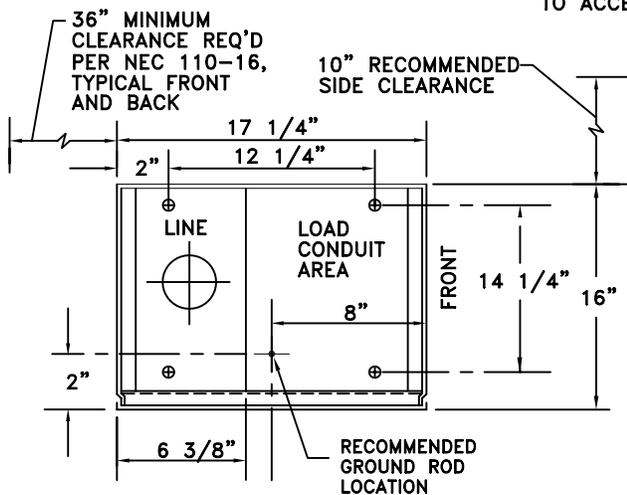
PADMOUNT BASE BEFORE INSTALLATION ON OR IN CONCRETE FOUNDATION



FOUNDATION



WIRING DIAGRAM



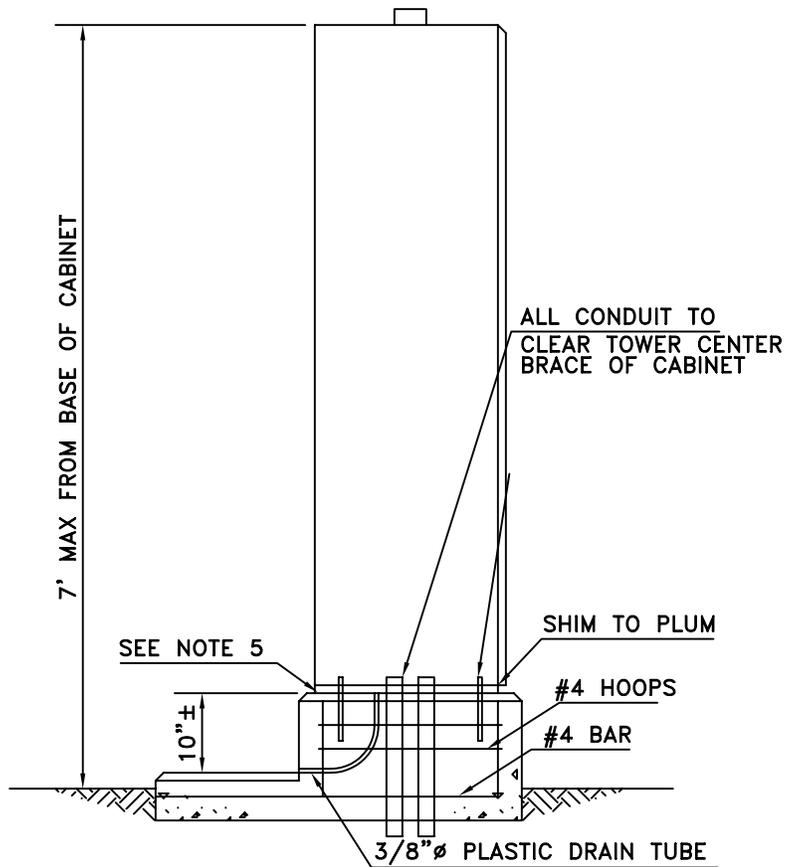
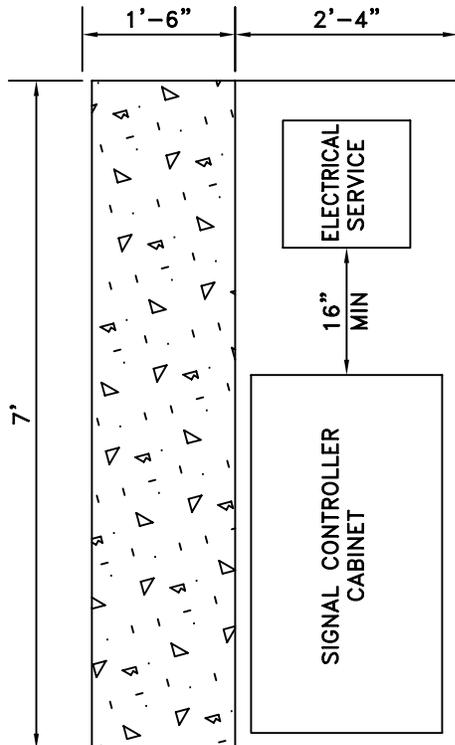
FLOOR PLAN

| | | | |
|--------------------------|----------------------|-------------------------|---------------|
| DWG#: 4-19 | | TIME: 03-01-96 11:34 AM | |
| PREPARED FOR STD. MANUAL | SCP | 3/1/96 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

SERVICE DISCONNECT FOR STREET LIGHTS TRAFFIC SIGNALS

| | | | |
|-----------------------|----------------|-----------------------------|----------|
| CITY OF BLAINE | | | |
| DEPT. OF PUBLIC WORKS | | | |
| SIZE | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER | |
| A | | 4-19 | |
| SCALE NONE | SHEET | OF | REV. NO. |





NOTES:

1. PAD AND PEDESTAL MOUNTS SHALL BE CLASS B CONCRETE UNLESS NOTED OTHERWISE ON PLANS
2. WHERE PAD OF PEDESTAL MOUNTS ARE LOCATED IN A SIDEWALK, CONSTRUCT MOUNT TOP FLUSH WITH SIDEWALK GRADE, OMITTING CHAMFER WHERE TOP AND SIDEWALK ABUT.
3. PAD MOUNT DESIGN IS TYPICAL: CONTRACTOR SHALL UTILIZE CABINET ON BASE WITH RESPECT TO CONDUIT PLACEMENT. CONTRATOR SHALL SUBMIT FOR APPROVAL A PROPOSED DESIGN WITH PLAN, ELEVATION AND ANY RELEVANT SECTION VIEW.
4. CABINET SHALL BE ATTACHED WITH AASHTO M 164 CHEMICALLY BONDED ANCHOR TO EXISTING PAD MOUNTS. ANCHOR INSTALLATIONS SHALL BE PER MANUFACTURER'S RECOMMENDATIONS IN DRY CONDITIONS.
5. PLACE A SILICONE SEAL BETWEEN THE CABINET FOUNDATION AND THE CABINET FOR THE PAD MOUNT DESIGN.
6. CABINET AND SERVICE TO BE CENTERED ON BASE.

DRAWING IS TYPICAL SEE NOTE #3 THE PURPOSE IS TO FIT THE CONTROLLER AND SERVICE ON ONE PAD WITH 16" SPACE BETWEEN.

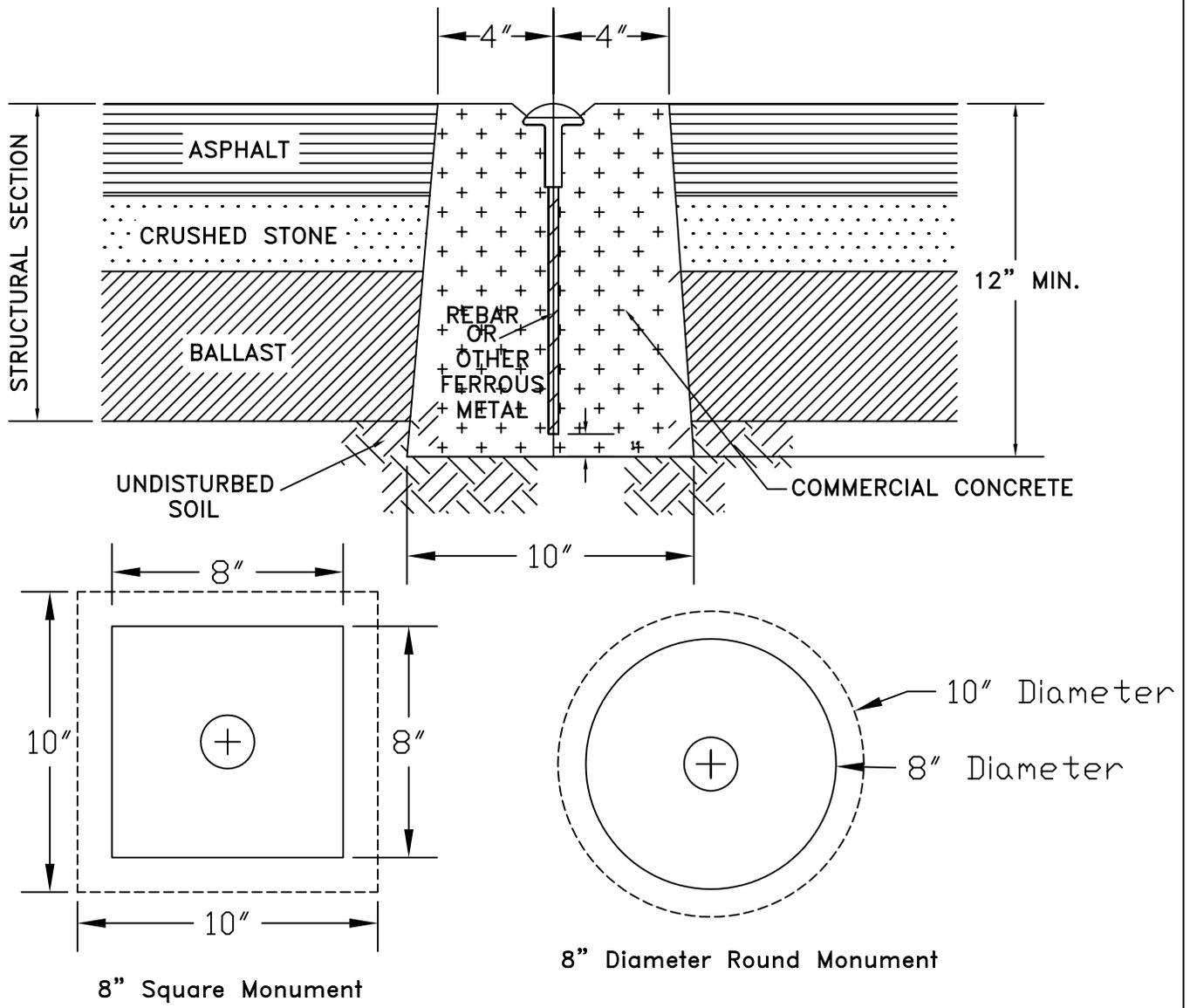
SEE DRAWING NO 4-19 FOR ELECTRICAL SERVICE DESCCONNECT SPECIFICATIONS.

| | | | |
|--------------------------|----------------------|-------------------------|---------------|
| DWG# 4-19B | | TIME: 03-01-96 11:38 AM | |
| | | | |
| | | | |
| PREPARED FOR STD. MANUAL | SCP | 3/1/96 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

**SIGNAL CABINET
ELECTRICAL
SERVICE FOUNDATION**

| | | |
|---|----------------|---|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | |
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-19B |
| SCALE <i>NONE</i> | SHEET | OF |
| | | REV. NO. |





GENERAL NOTES:

1. THIS MOUNUMENT TO BE USED PRIMARILY ON BITUMINOUS OR ASPHALT CONCRETE PAVEMENT FOR USE PRIMARILY IN SUBDIVISIONS AND MINOR ARTERIALS.
2. CONCRETE BASE DIMENSIONS SHOWN ARE MINIMUM. CONCRETE BASE NEED NOT BE FORMED.
3. CAP SHALL BE "BERNTSEN RB SERIES" OR BRASS PLUG MARKER.
4. CONCRETE TO BE PLACED ON A FIRM AND UNYIELDING FOUNDATION.
5. MONUMENT POSITION SHALL BE SET BY A PROFESSIONAL LAND SURVEYOR LICENSED BY THE STATE OF WASHINGTON WHOSE CERTIFICATE NUMBER SHALL BE STAMPED ON CAP.
6. SUFFICIENT FERROUS METAL SHALL BE PLACED IN CONCRETE TO ALLOW DETECTION BY A METAL DETECTOR.

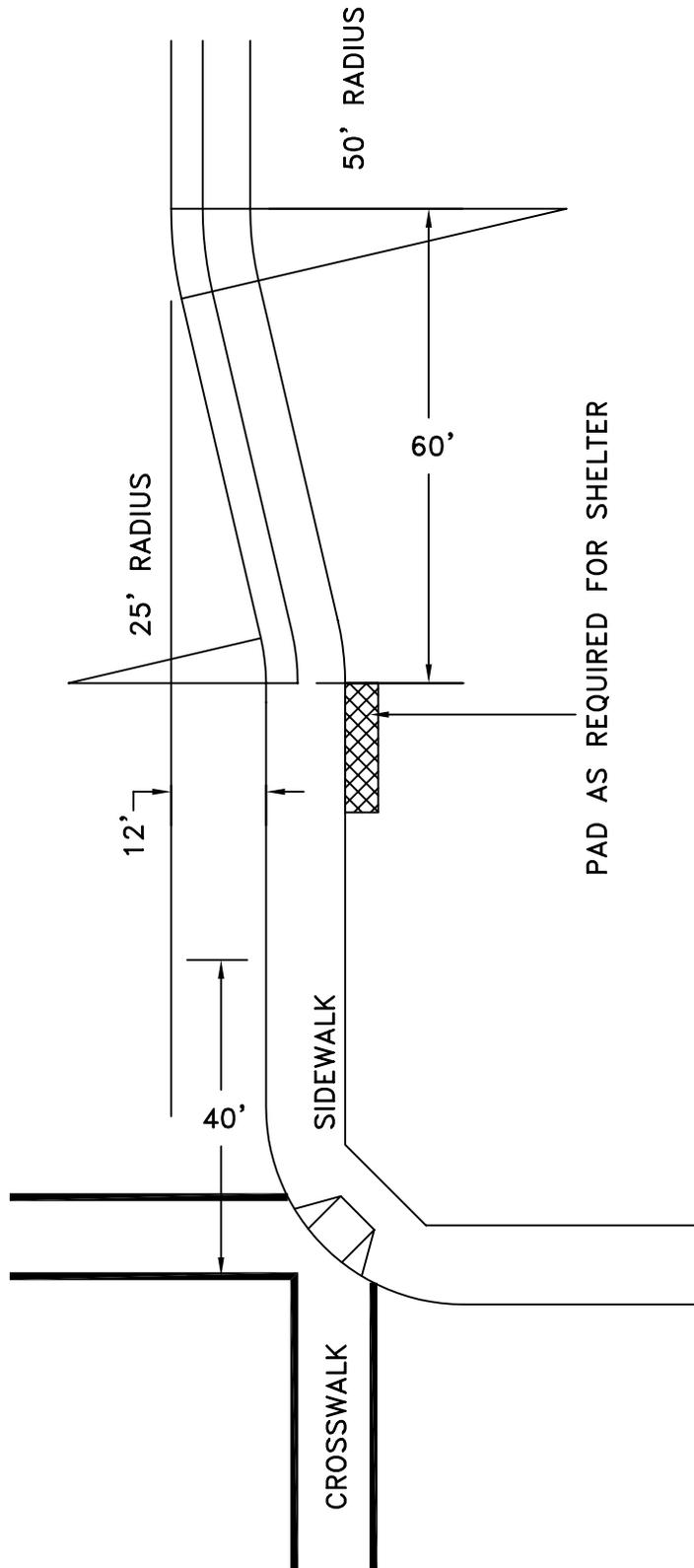
DWG#:4-20 TIME:09-27-05 4:30 PM

| | | | | |
|-----|--------------------------|-----------|----------|----------|
| B | Increased base dimension | wrs | 09/27/05 | |
| | Prepared for Std. Manual | SCP | 02/29/96 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED |

**CAST IN PLACE
MONUMENT**

| | | | |
|---|----------------|-----------------------------|----------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
| SIZE | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER | |
| a | None | 4-20 | |
| SCALE: AS | SHEET | OF | REV. NO. |





DWG#: 4-24 TIME: 02-29-96 2:18 PM

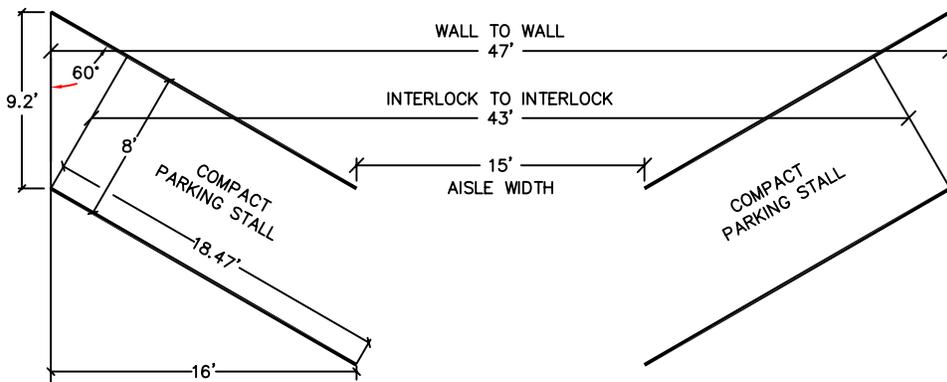
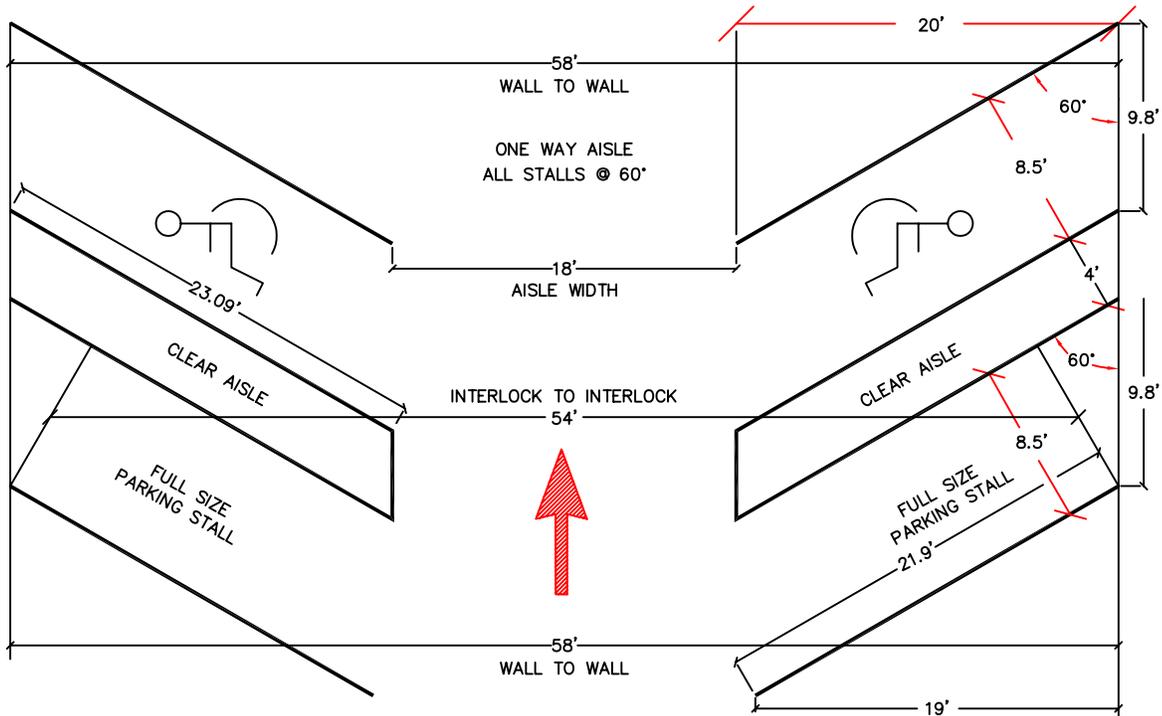
| | | | | |
|-----|--------------------------|-----------|---------|----------|
| | | | | |
| | | | | |
| | PREPARED FOR STD. MANUAL | SCP | 2/29/96 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED |

*FARSIDE
BUS
PULLOUT*

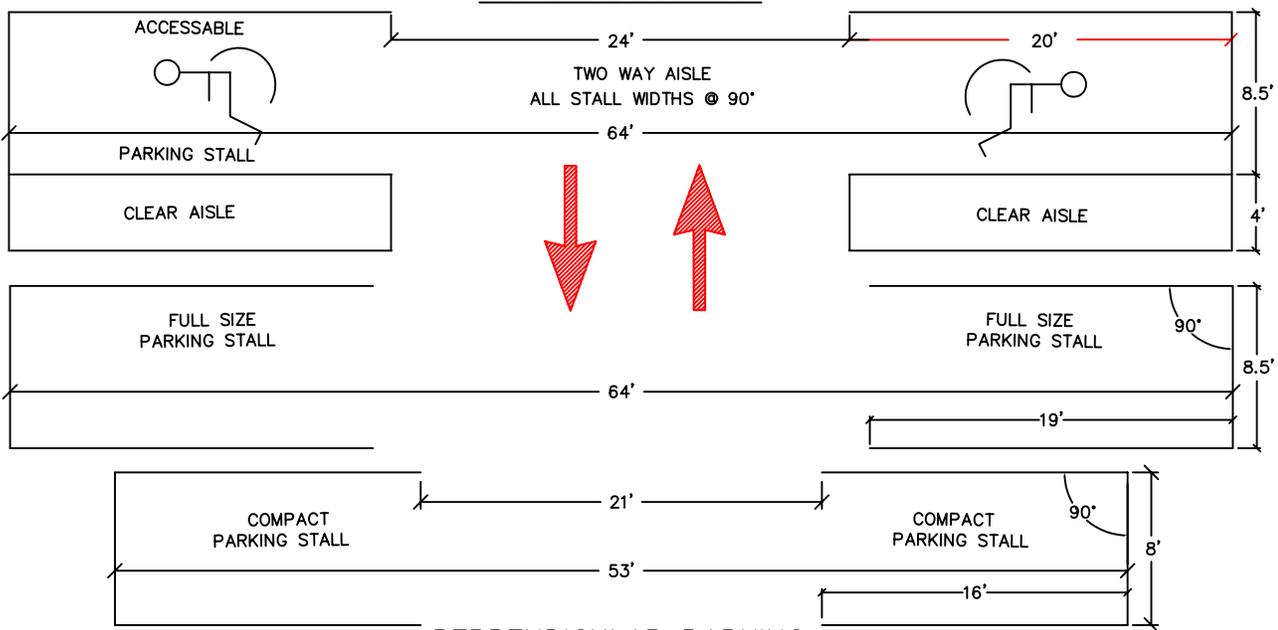
*CITY OF BLAINE
DEPT. OF PUBLIC WORKS*

| | | | |
|------------|----------------|-----------------------------|----------|
| SIZE | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER | |
| A | | 4-24 | |
| SCALE NONE | SHEET | OF | REV. NO. |





DIAGONAL PARKING



PERPENDICULAR PARKING

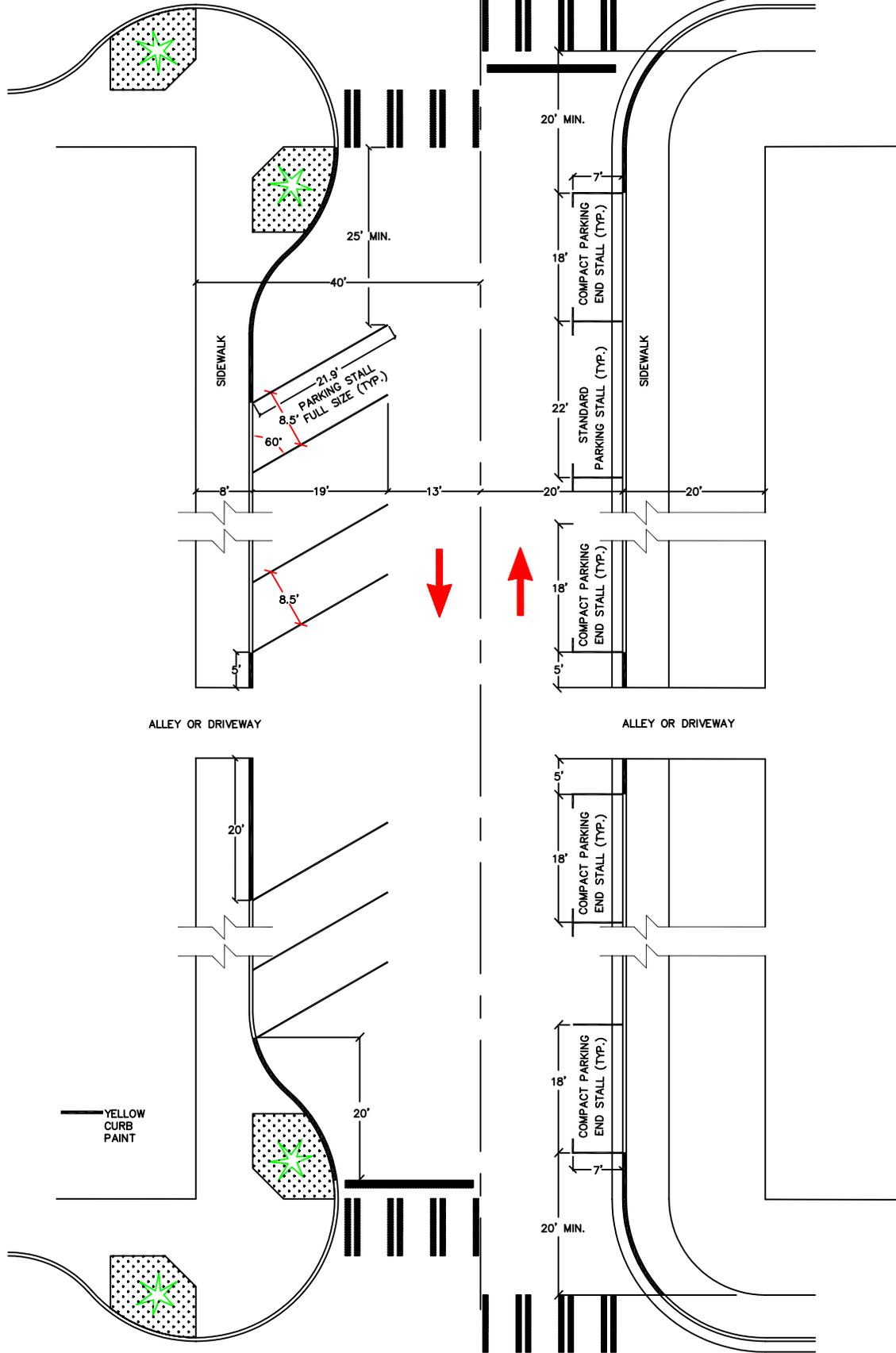
DWG#: 4-27_1 TIME: 02-21-97 3:47 PM

| | | | | |
|-----|----------------------|-----------|------|----------|
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED |
| 1 | REF. ORD. # 17.58 | SCP | | |

**DIAGONAL & PERPENDICULAR
PARKING STANDARDS
ORD. # 17.58**

| | | | |
|---|---------------|---------------------------------------|----------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | PUBLIC WORKS DRAWING NUMBER 4-27.1 | |
| SIZE A | PREV. DWG NO. | SHEET OF | REV. NO. |
| SCALE 1"=10' | | | |





Note: All curb crotch radii (i.e., the concave curb radius arrowed as "R-15" on the attached drawing) must have a minimum radius of 20'.

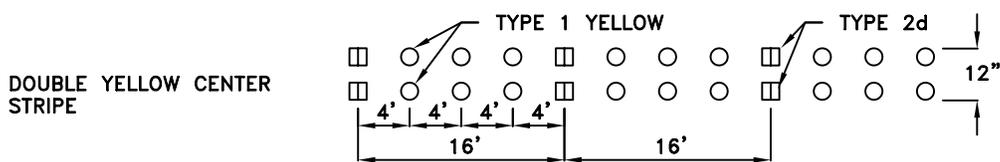
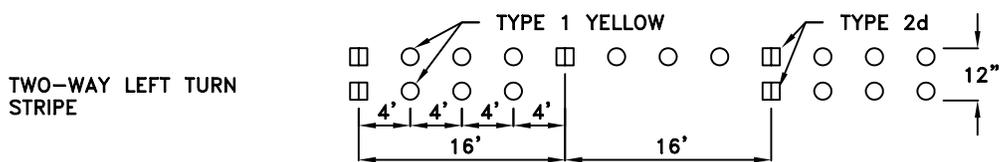
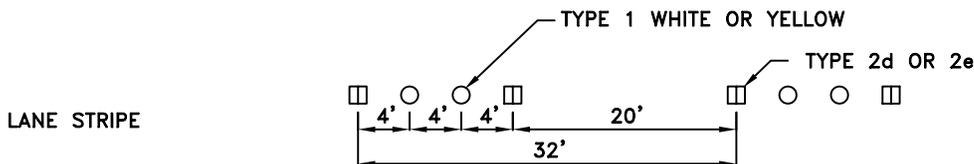
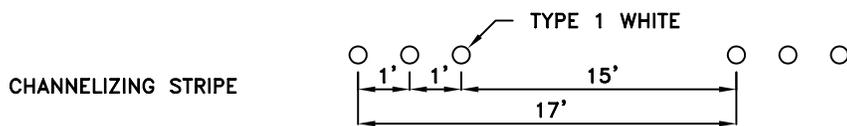
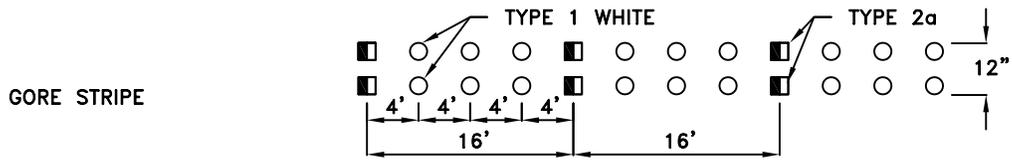
| | | | | |
|--|----------------------|-----------|------|----------|
| DWG#: 4-27_2 TIME: 02-21-97 3:30 PM | | | | |
| ADDED NOTE | TAMc | 1/2/07 | | |
| 1 REF. ORD. # 17.58 | SCP | | | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED |

**CURB PARKING
ANGLE & PARALLEL
ORD. # 17.58**

| | | | |
|---|---------------|--|----------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
| SIZE A | PREV. DWG NO. | PUBLIC WORKS DRAWING NUMBER 4-27.2 | |
| SCALE 1"=20' | SHEET | OF | REV. NO. |



PAVEMENT MARKING DETAILS



LANE MARKERS

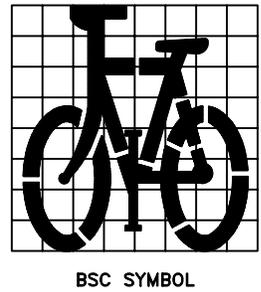
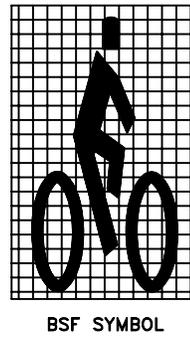
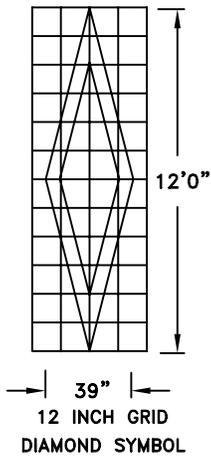
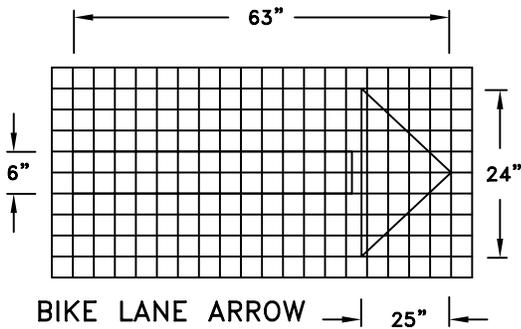
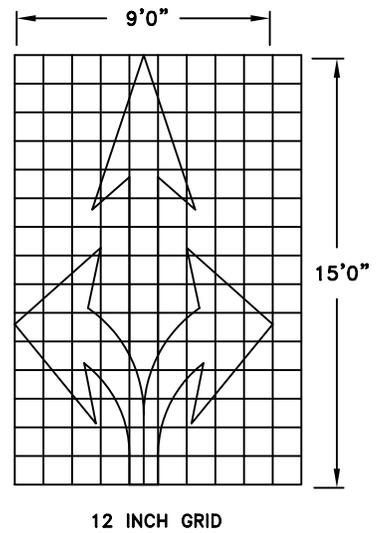
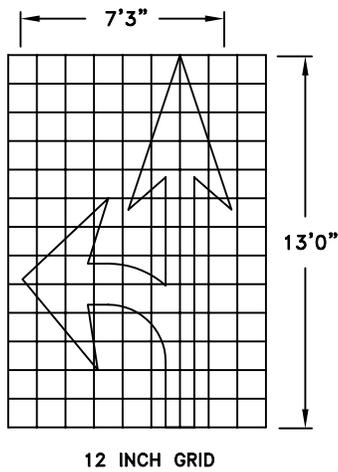
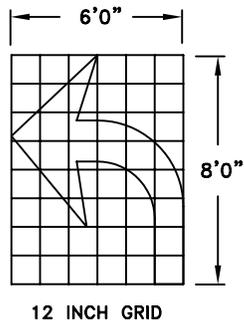
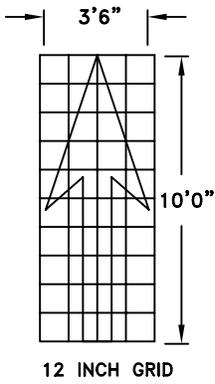
- TYPE 1 LANE MARKERS, WHITE OR YELLOW
- TYPE 2a REFLECTIVE LANE MARKER, WHITE AND RED
- TYPE 2d REFLECTIVE LANE MARKER, YELLOW AND YELLOW
- ▣ TYPE 2e REFLECTIVE LANE MARKER, WHITE-ONE SIDE ONLY

| | | | |
|--------------------------|----------------------|-----------------------|---------------|
| DWG#:4-27 | | TIME:02-29-96 2:20 PM | |
| | | | |
| PREPARED FOR STD. MANUAL | SCP | 2/29/96 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

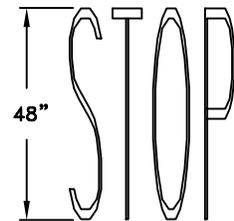
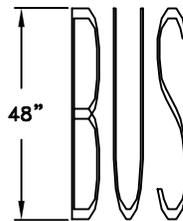
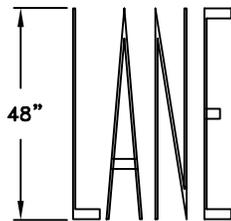
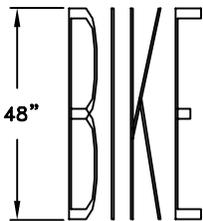
*STRIPING
DETAIL*

| | | |
|---|---------------|--|
| <i>CITY OF BLAINE DEPT. OF PUBLIC WORKS</i> | | |
| SIZE A | PREV. DWG NO. | PUBLIC WORKS DRAWING NUMBER 4-27 |
| SCALE <i>NONE</i> | SHEET | OF |
| | | REV. NO. |





COMPLETE WORD STENCILS



GENERAL NOTES:

1. ALL MARKINGS SHALL MEET FEDERAL METRIC STANDARDS.

| | | | |
|--------------------------|----------------------|------------------------|---------------|
| DWG#: 4-28 | | TIME: 02-29-96 2:24 PM | |
| PREPARED FOR STD. MANUAL | SCP | 2/29/96 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

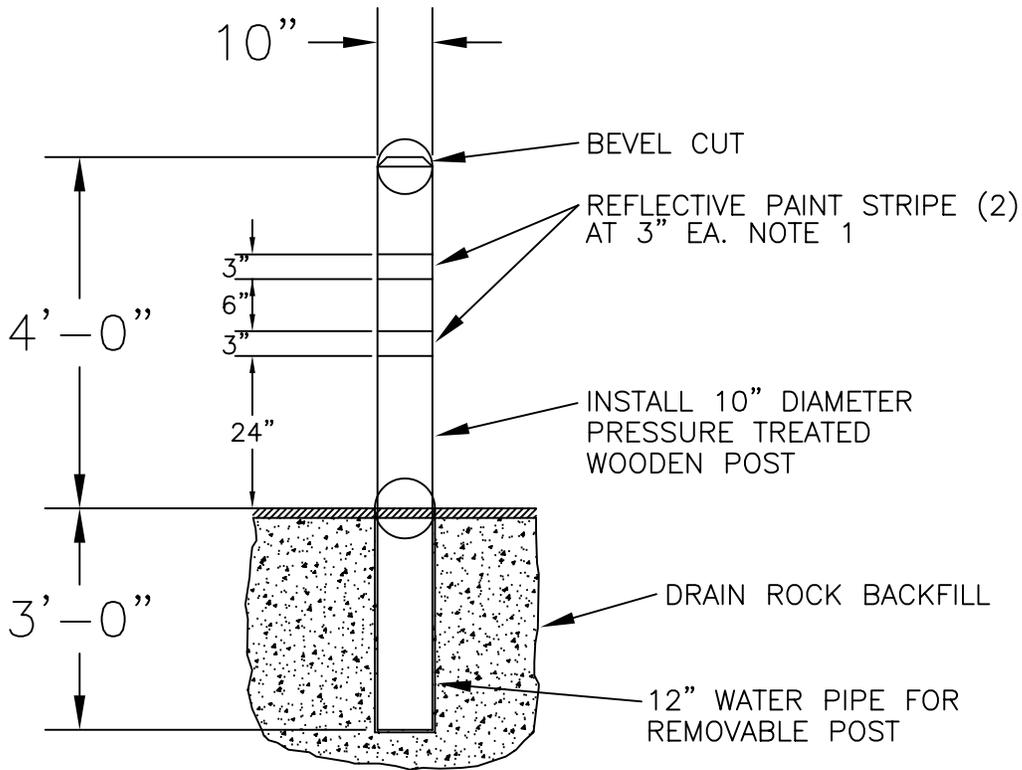
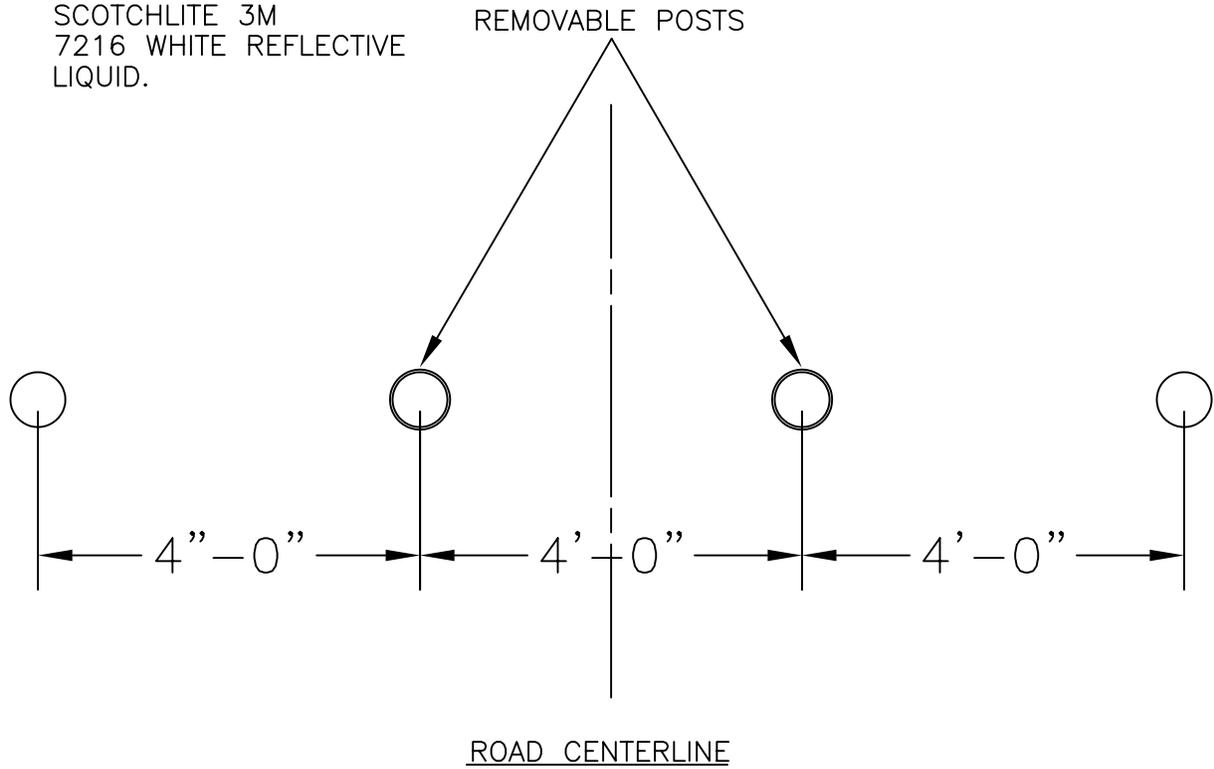
PAVEMENT MARKINGS

| | | | |
|---|----------------|-------------------------------------|----------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-28 | REV. NO. |
| SCALE NONE | SHEET | OF | REV. NO. |



NOTES:

- REFLECTORIZED PAINT
SCOTCHLITE 3M
7216 WHITE REFLECTIVE
LIQUID.



BARRIER POST

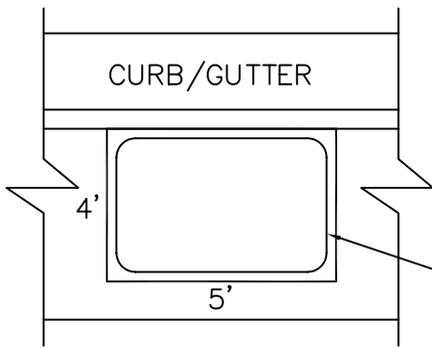
| | | | |
|--------------------------|----------------------|------------------------|---------------|
| DWG#: 4-29 | | TIME: 02-26-96 9:44 AM | |
| | | | |
| PREPARED FOR STD. MANUAL | SCP | 2/26/96 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

**BARRIER
POST
STANDARD**

**CITY OF BLAINE
DEPT. OF PUBLIC WORKS**

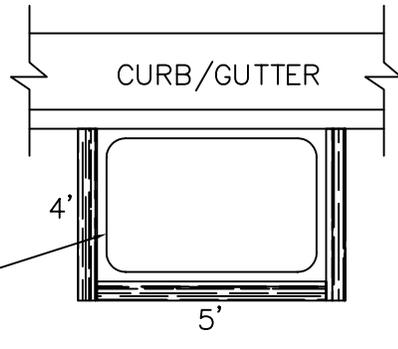
| | | | |
|------------|----------------|-------------------------------------|----------|
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-30 | REV. NO. |
| SCALE NONE | SHEET | OF | REV. NO. |





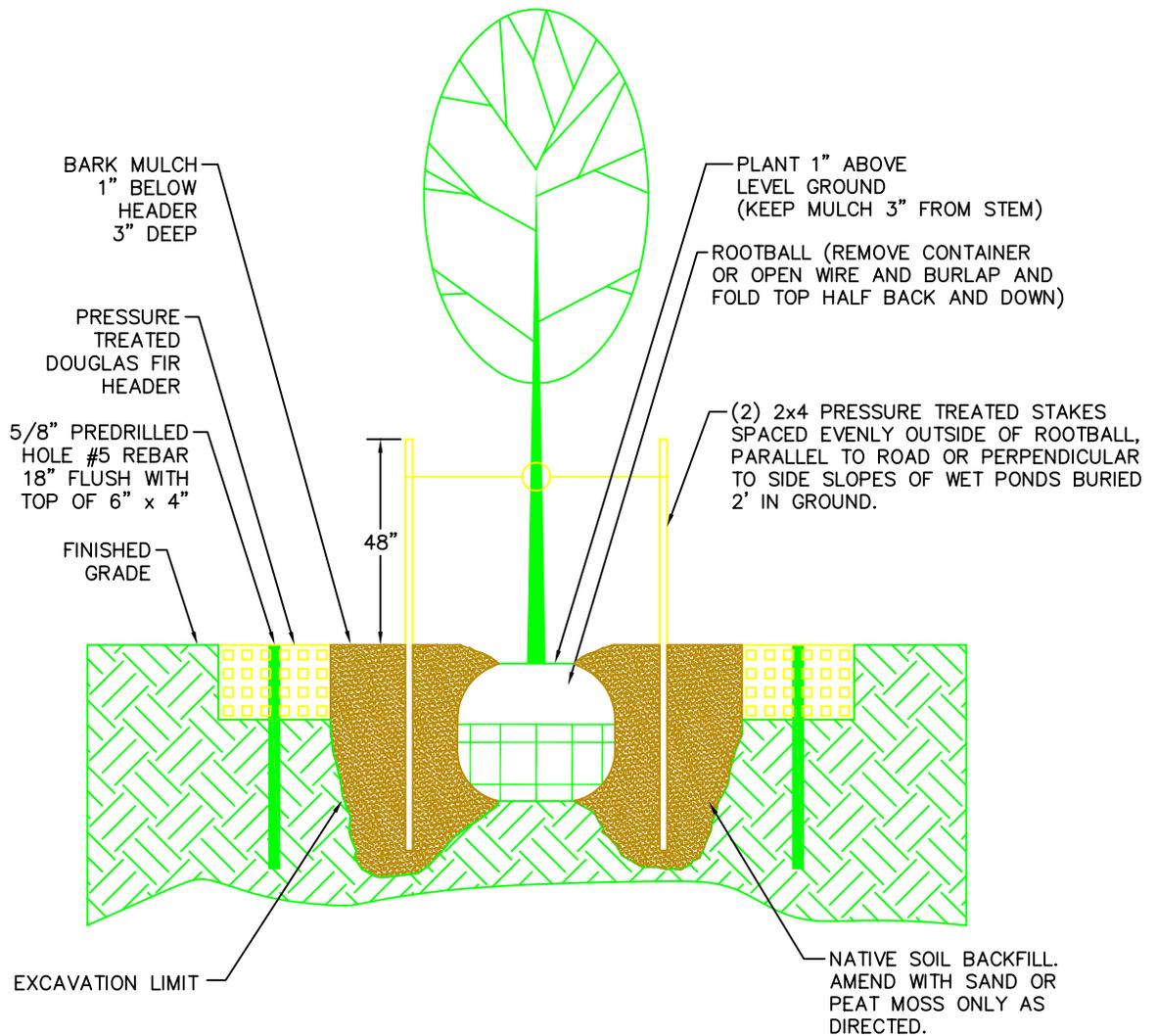
PLAN VIEW

BLOCK OUT
IN SIDEWALK



PLAN VIEW

NON-SIDEWALK AREA



NOTES:

1. THE GEOTEXTILE ROOT CONTROL SYSTEM SHALL BE 12 INCH BIOBARRIER STRIPS, OR APPROVED EQUAL.

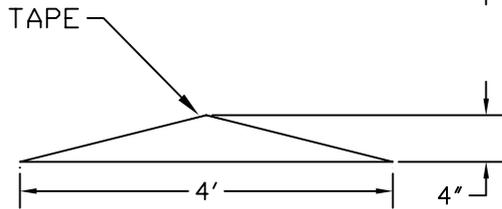
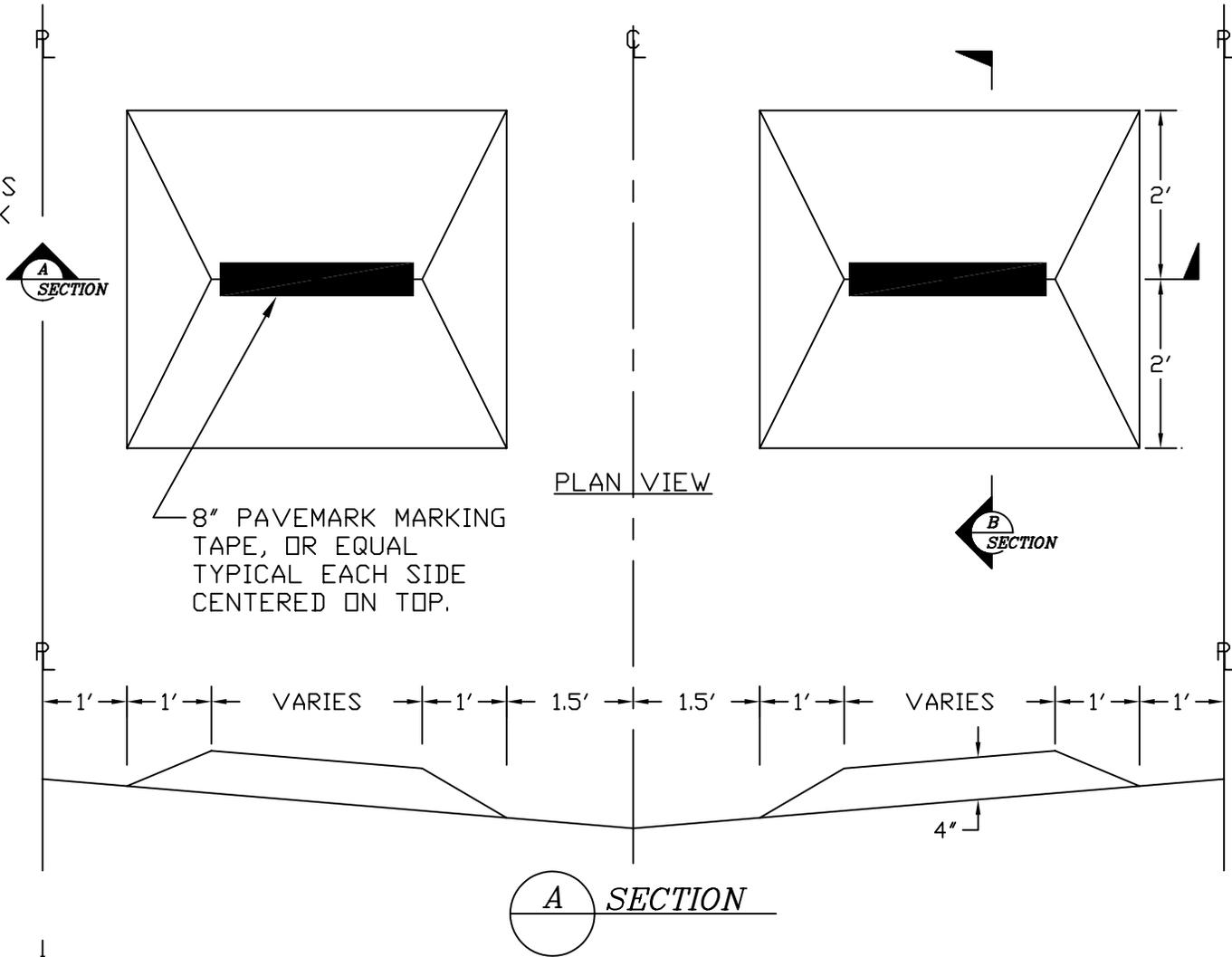
| | | | |
|--------------------------|----------------------|-----------------------|---------------|
| DWG#:4-30 | | TIME:04-09-96 7:45 AM | |
| | | | |
| PREPARED FOR STD. MANUAL | SCP | 4/5/96 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE APPROVED |

**TREE PLANTER
AND
BARRIER DETAIL**

| | | |
|-----------------------|----------------|-------------------------------------|
| CITY OF BLAINE | | |
| DEPT. OF PUBLIC WORKS | | |
| SIZE A | PREV. DWG. NO. | PUBLIC WORKS DRAWING NUMBER 4-30 |
| SCALE NONE | SHEET | OF |
| | | REV. NO. |



NOTE: USE STANDARD CLASSES OF HOT MIX ASPHALT CEMENT CONCRETE PAVEMENT: CLASS 'G' PREFERRED. FULLY TACK COAT EXISTING PAVEMENT SURFACE. SEAL EDGES AFTER COMPACTION.



SECTION B

| DWG#: 4-31 | | TIME: 07-16-96 7:14 AM | | |
|------------|----------------------|------------------------|------|----------|
| 1 | ORIGINAL REVISION | | | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED |

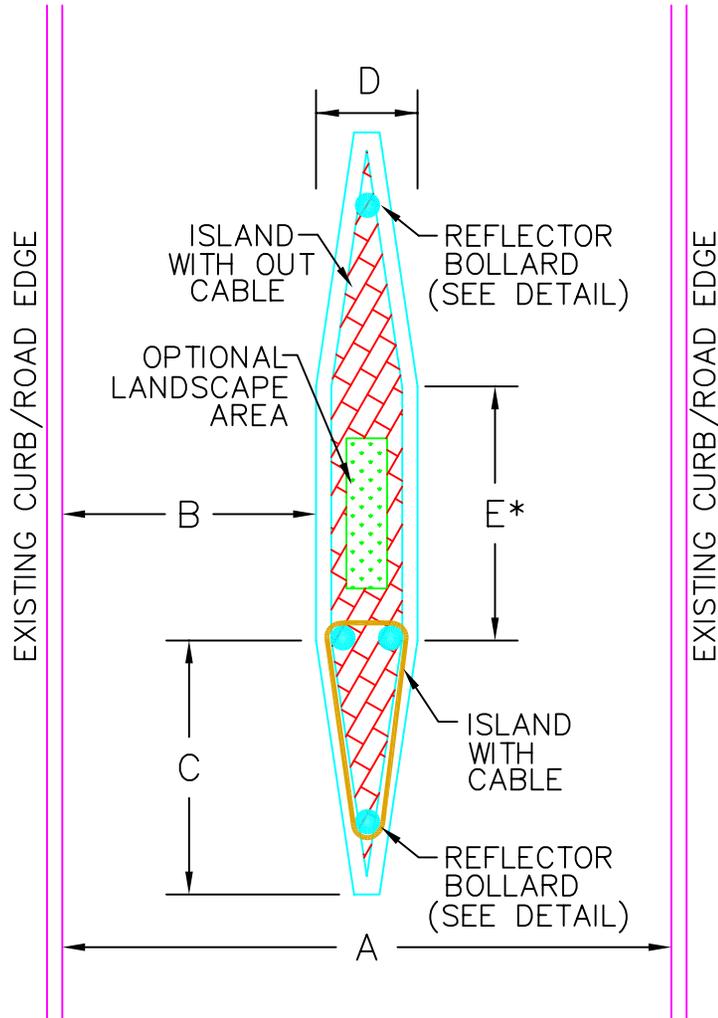
ALLEY
SPEED CONTROL
STRUCTURE

| | | | |
|---|---------------|-----------------------------|----------|
| CITY OF BLAINE DEPT. OF PUBLIC WORKS | | | |
| SIZE | PREV. DWG NO. | PUBLIC WORKS DRAWING NUMBER | REV. NO. |
| | | 4-31 | 1 |
| SCALE 1=1 | SHEET | OF | REV. NO. |

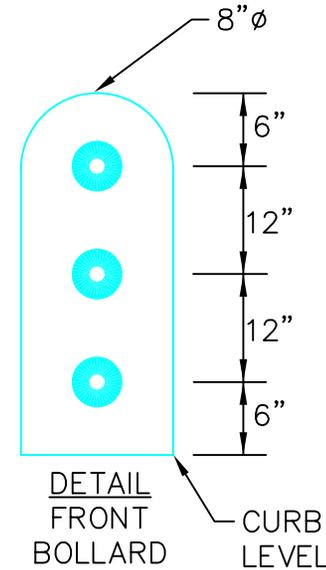


-  CURB WITH 6" REVEAL
-  LANDSCAPING – NON IRRIGATED VARIETY.
-  BRICK PAVERS OR SIMULATED CONCRETE PAVERS COMBINATION.
-  CONCRETE OR WOOD BOLLARDS. (ALUMINIUM 3/4" WIRE CABLE OR ROPE OPTIONAL).

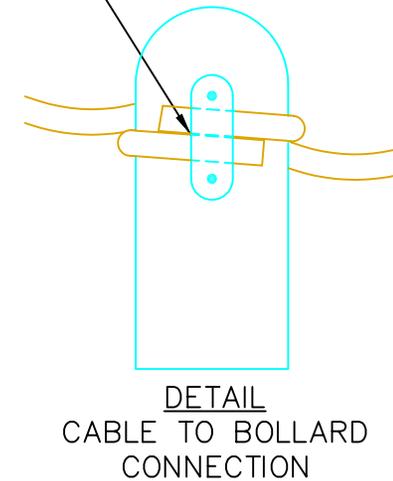
| A | B | C | D | E | |
|----|-----|----|----|----|---|
| 24 | 10 | 10 | 4 | 10 | |
| 26 | 10 | 12 | 6 | 12 | * INCLUDES 4' BIKE LANE DESIGNATED STRIPING |
| 28 | 10 | 14 | 8 | 14 | |
| 32 | 10 | 16 | 12 | 16 | |
| 36 | 14* | 18 | 6 | 12 | |
| 40 | 16* | 18 | 8 | 14 | |



THREE EACH YELLOW REFLECTORS, IN LINE, SET WITH EXPANSION ANCHORS.



2, 1/4" x 3" EXPANSION ANCHOR WITH GALVANIZED CLAMP BAR 1/8" THICK x 1" x 4".



* OPTIONAL USE: MID-BLOCK CROSSWALK ISLAND.

| | | | | |
|-------|----------------------|-----------|----------|----------|
| DWG#: | 4-32 | TIME: | 07-16-96 | 7:15 AM |
| A | DRAWN ON AUTOCAD | SCP | 6/95 | |
| NO. | REVISION DESCRIPTION | PREP'D BY | DATE | APPROVED |

SPEED CONTROL ISLAND

| | | | |
|------------------------------|---------------|-----------------------------|----------|
| CITY OF BLAINE | | | |
| DEPT. OF PUBLIC WORKS | | | |
| SIZE | PREV. DWG NO. | PUBLIC WORKS DRAWING NUMBER | |
| A | | 4-32 | A |
| SCALE | NONE | SHEET | OF |
| | | | REV. NO. |

