MANUAL FOR

BINGHAM COUNTY ROAD STANDARDS MANUAL

Prepared by:

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REVISED & APPROVED
June 21, 2023

BINGHAM COUNTY
RESOLUTION 2024-10

A RESOLUTION AMENDING THE BINGHAM COUNTY ROAD STANDARDS MANUAL FOR USE BY THE BINGHAM COUNTY PUBLIC WORKS DEPARTMENT

Be it ordained by the Board of County Commissioners of Bingham County, Idaho:

1. The current Road Standards Manual being used by the Bingham County Public Works Department provided by Bingham County, specifically section IV (Construction Specifications), subsection G, adding number 1, which will read as follows:

   "Any pressurized irrigation lines must be encased. The casing pipe shall be required for all pressurized liquid pipelines that cross under roads, excluding domestic water lines. Casing shall be a minimum 2" larger than the pressurized pipe bell and a minimum of schedule 40 steel or C900 plastic. All material must be new and buried at a minimum depth of 36".

Dated this 6th day of March, 2024

BINGHAM COUNTY COMMISSION

Whitney Manwaring, Chairman

Mark R. Bair, Commissioner

Eric Jackson, Commissioner

BOARD OF COUNTY COMMISSIONERS BINGHAM COUNTY IDAHO

Pamela W. Eckhardt,
Bingham County Clerk

BINGHAM COUNTY
RESOLUTION 2023-34

A RESOLUTION ADOPTING THE BINGHAM COUNTY ROAD STANDARDS MANUAL FOR USE BY THE BINGHAM COUNTY PUBLIC WORKS DEPARTMENT

Be it ordained by the Board of County Commissioners of Bingham County, Idaho:

1. The current Road Standards Manual being used by the Bingham County Public Works Department provided by Bingham County is hereby repealed.

2. The repealed Roads Standards Manual will be replaced by Bingham County Road Standards Manual prepared by Bingham County Road and Bridge Department and adopted according to Bingham County Ordinance Title 7.

3. The Bingham County Road Standards Manual will become effective on June 21, 2023.

4. The new Bingham County Cross Section will be 24' of asphalt with a 2' shoulder on each side. (Refer to Bingham County Road Standards Manual Standard Cross Section)

Dated this 21st day of June, 2023

BINGHAM COUNTY COMMISSION

BOARD OF COUNTY COMMISSIONERS BINGHAM COUNTY IDAHO

Whitney Manwaring, Chairman

Mark R. Bair, Commissioner

Pamela W. Eckhardt,
Bingham County Clerk

Eric Jackson, Commissioner

BINGHAM COUNTY ROAD STANDARDS MANUAL

PREFACE

This document is primarily copied from the Local Highway Technical Assistance Council (LHTAC) Manual for Highway & Street Standards (commonly called the Green Book). These standards are based upon the American Association of State Highway and Transportation Officials (AASHTO). The suggested standards have been modified in small detail in conformance with sound engineering judgment and with the safety of the traveling public in mind. The Road & Bridge Department and other local engineers have reviewed these standards and feel the modifications are not a safety issue.

It is not the intent of this manual or these standards to make all the roads that are not in compliance with these standards obsolete, inadequate, or out of compliance. These standards are standards by which all public roads are to be built in the county. They will also provide contractors, developers, and Road & Bridge employees an expected standard for new construction.

Bingham County hereby adopts (the state/federal manuals) as the governing manuals for public works projects in Bingham County. However, Bingham County's requirements and standards set forth in this Road Standards Manual shall supersede the standards set forth in (the state/federal manuals) if the standards are in conflict. If Bingham County road manual does not contain any requirement or standard found in (the state/federal manuals) then the (state/federal manuals) shall govern and be required.

A large number of roads in Bingham County are Low-Volume roads (ADT < 400) as defined by AASHTO. Because of this, many of the existing roads fall under the geometric design of the "Very Low-Volume Local Roads" (most recent edition) as defined by AASHTO. Bingham County's desire is to have all roads built to a higher standard as roads are improved. This goal may have to be postponed until budgets are sufficient to make some standards a reality.

As roads are upgraded in the normal process of maintenance, efforts will be made to modify or construct the existing road to conform as close as possible to the new road standards. Normal maintenance activities include, but are not limited to: chip sealing, patching, or other small maintenance projects associated with maintaining the existing roads. Exceptions may be made to the plans if the low volume roads can be designed to fit within the current edition of "Guidelines for Geometric Design of Very Low-Volume Local Roads" published by AASHTO.

August 2019

Not all standards in AASHTO "Guidelines for Geometric Design of Very Low-Volume Local Roads" will be accepted. The Bingham County Board of Bingham County Commission reserves the right to approve any/all plans using the "Guidelines for Geometric Design of Very Low-Volume Local Roads." The acceptance/rejection may be delegated to the Road and Bridge Office.

Many of Bingham County's roads are built on prescriptive easements. Highways by prescription and prescriptive rights-of-way are not specified in Idaho Code. Prescription is a legal concept – a highway by prescription exists by virtue of use and not on the theory of a grant or dedication. For example, public use of a highway for the statutory period and the keeping it in repair at public expense establishes a highway by prescription, whether the road is recorded or not (Meservy v. Gullifor, 14 Idaho 133, 93, P.780 (1908)). Bingham County uses the State's default 50 foot easement for all roads that are not defined by deed or legal easement.

It is intended that prescriptive easements will only be used by the traveling public and public utilities. Any exception to this will require the interested party to develop a right-of-way agreement with any and all property owners. Bingham County will have to approve the design and the installation of each approved project. Compaction and all other highway standards including signing shall be followed.

This manual has been adopted by the Bingham County Commission on August 28, 2019 with minor alterations.

BINGHAM COUNTY COMMISSION

Whitney Manwaring, Chairman

Mark Bair, Commissioner

Jessica Lewis, Commissioner

ATTEST:

BOARD OF COMMISSIONERS BINGHAM COUNTY IDAHO

Pam Eckhardt
Bingham County Clerk

2023
BINGHHAM COUNTY
ROAD STANDARDS
MANUAL

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I. INTENT OF MANUAL

A. BINGHAM COUNTY

1. The Bingham County Commission is the body having authority over the public right-of-ways in Bingham County. This manual is prepared specifically for the consideration and use by Bingham County.

B. NEED FOR CONTROL AND UNIFORMITY

1. It is the intent of this manual to provide for a uniform roadway network throughout Bingham County. The need exists for general overall highway and street design and construction standards to better serve the public. The overall system is established on maps showing the Functional Highway Classification System in Bingham County. These maps are available through the Idaho Transportation Department office in Boise.

2. It is the further intent of these standards to upgrade and maintain the safest road system in Bingham County. It is not the intent to put forward conflicting requirements that will detract from the safety of the traveling public.

3. The maintenance of the local highways is the responsibility of the Bingham County Road & Bridge Department. The intent of these standards is to promote the construction of good streets and highways while reducing the maintenance and repair costs.

4. Furthermore, it is the intent of this manual to provide and notify land owners, contractors, developers and other responsible parties of their obligation to obtain prior knowledge of the requirements of this manual, regulations, laws, and statutes governing the road standards within Bingham County before engaging in any phase of developing, planning, permit application submittal, and/or construction which may involve or infringe upon county roads.

5. Compliance with the Bingham County Road Standards is required if future consideration is expected for the county's acceptance of privately developed roads into to the county's road system.

6. If any section, subsection, sentence, clause, phrase, or portion of these standards is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portions shall be deemed a separate, distinct, and independent provision and such holdings shall not affect the validity of the remaining portions thereof.

II. DEFINITION OF TERMS

- **Alley -** A public way of limited use intended only to provide access to the rear or side of lots or buildings in urban districts.

- **Applicant -** Any person or persons making application to the Bingham County Commission.

- **Arterial Route -** A general term including expressways, major and minor arterial streets' and interstate, state or county highways having regional continuity.

- **Center of the Road** shall mean one half of the measured distance from one edge of the pavement or travel-way to the other edge of pavement or travel-way.

- **Collector Street or Highway -** A street or highway that provides for traffic movement within neighborhoods of Bingham County and between major streets and local streets and for direct access to abutting property.

- **Clear-zone** shall mean the total roadside border area, starting at the edge of the traveled way, available for safe use by errant vehicles. This area will consist of a shoulder, a recoverable slope, a non-recoverable slope, and/or a clear run-out area. The desired minimum width is dependent upon traffic volumes and speeds and on the roadside geometry. Simply stated, it is an unobstructed, relatively flat area beyond the edge of the traveled way that allows a driver to stop safely or regain control of a vehicle that leaves the traveled way.

- **Cluster Mailbox System** is a multi-unit mailbox centralized in a neighborhood or residential subdivision for communal use.

- **Cul-de-sac Street -** A local road or street having one end permanently terminated in a vehicular turnaround.

- **Dedication -** The setting apart of land or interest in land for use by the public. Land becomes dedicated when accepted by the county as a public dedication, either by ordinance, resolution, or entry in the official minutes or by the recording of a plat showing such dedication.

- **Easement** - shall mean a right of use, falling short of ownership, and usually for a certain stated purpose.

- **Functioning Street Department** shall mean a city department responsible for the maintenance, construction, repair, snow removal, sanding, and traffic control of a public highway or public street system which qualifies such department to receive funds from the highway distribution account to local units of government pursuant to section 40-709, Idaho Code.

- **Highway -** The entire width between the boundary lines of every way publicly maintained when any part is open to the use of the public for vehicular travel, with jurisdiction extending to the adjacent property line, including sidewalks, shoulders, berms and public rights-of-way not intended for motorized traffic. The terms "street" or "road" are interchangeable with highway.

- **Irrigation Facilities –** This includes canals, laterals, ditches, conduits, gates, wells, pumps, and allied equipment necessary for the supply, delivery, and drainage of irrigation water.

- **Local Street -** A street that provides for direct access to residential, commercial, industrial, or other abutting land for local traffic movements and connects to collector and/or arterial streets.

- **Loop Street -** A minor street with both terminal points on the same street of origin.

- **Marginal Access Street -** A minor street parallel and adjacent to an arterial route and intercepts local streets and controls access to an arterial route, sometimes referred to as a frontage road.

- **Monument** shall mean a physical structure or object that occupies the position of a corner.

- **Owner** shall mean the proprietor of the land, (having legal title).

- **Plat** shall mean the drawing, map or plan of a subdivision, cemetery, town site or other tract of land, or a re-platting of such, including certifications, descriptions and approvals.

  There are several types of plats:

  - **Preliminary Plat** - A preliminary map, including supporting data, indicating a proposed subdivision development, prepared in accordance with Bingham County ordinances and the Idaho Code.
  - **Final Plat** - A map of all or part of a subdivision providing substantial conformance to an approved preliminary plat, prepared by a registered professional engineer or a registered land surveyor in accordance with Bingham County ordinances and the Idaho Code.
  - **Recorded Plat -** A final plat bearing all of the certificates of approval required by ordinance and duly recorded in the County Recorder's Office.

- **Prescription** shall mean highways by prescription and prescriptive right-of-ways as specified in Idaho Code. Prescription is a legal concept – a highway by prescription exists by virtue of use and not on the theory of a grant or dedication. For example, public use of a highway for the statutory period and the keeping of it in repair at public expense establishes a highway by prescription, whether the road is recorded or not. *Meservy v. Gullifor*, 14 Idaho 133, 93, P780 (1908)

- **Prescriptive Easement -** Typically, a prescriptive easement is created when someone uses land for access. - Public use of a highway or road for the statutory period and keeping in repair at public expense establishes a highway or road by prescription, whether the road is recorded or not. (14 Idaho 133, 93 P. 780)

- **Private Road** shall mean a road within a subdivision plat that is not dedicated to the public and not a part of a public highway system.

- **Public Highway Agency** shall mean the state transportation department, any city, county, highway district, or other public agency with jurisdiction over public highway systems and public right-of-ways.

- **Public Land Survey Corner** shall mean any point actually established and monumented in an original survey or resurvey that determines the boundaries of remaining public lands, or public lands patented, represented on an official plat and in the field notes thereof, accepted and approved under authority delegated by congress to the U.S. general land office and the U.S. department of interior, bureau of land management.

- **Public Right-of-Way** shall mean any land dedicated and open to the public and under the jurisdiction of a public highway agency where the public highway agency has no obligation to construct or maintain said right-of-way for vehicular traffic.

- **Public Street** shall mean a road, thoroughfare, alley, highway, or bridge under the jurisdiction of a public highway agency.

- **Residential Subdivision** shall mean a subdivision consisting of five (5) or more residential lots, of less than one (1) acre, in a Residential Zone. (See **Subdivision**)

- **Reserve Strip -** A strip of land between a dedicated street or partial street and adjacent property, in either case, reserved or held in public ownership for future street extension or widening.

- **Road** - Roads will be identified as principal arterials, minor arterials, major collectors, minor collectors, local roads and subdivision roads on the Official Long Range Transportation Map or Functional Class Map of the county.
- **Road Frontage** - the boundary between a plot of land and the road onto which the plot of land fronts.

- **Roadway** - That portion of a highway that is improved, designed or ordinarily used for vehicular travel, exclusive of sidewalks, shoulders, berms, and other portions of the public right-of-way.

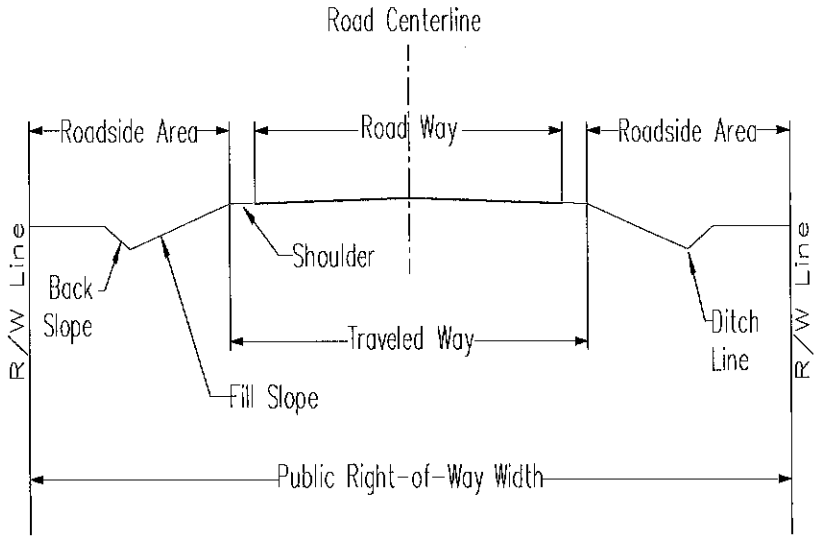
- **Street** shall mean a road, thoroughfare, alley, highway or a right-of-way which may be open for public use but that is neither part of a public highway system nor under the jurisdiction of a public highway agency.

- **Sub divider** - A sub divider shall be deemed to be the individual, firm, corporation, partnership, association, syndication, trust, or other legal entity having sufficient proprietary rights in the property to represent the owner, which submits the required subdivision application and initiates proceedings for the subdivision of land in accordance with appropriate procedures.

- **Subdivision** shall mean a tract of land divided into five (5) or more lots, parcels, or sites of one (1) acre or more for the purpose of sale or building development, whether immediate or future, which is not a bona fide division or partition of agricultural land for agricultural purposes. (See **Residential Subdivision**)

- **Traveled Way** - The portion of the roadway for the movement of vehicles, exclusive of ditches and roadside areas.

Figure 1 – Traveled Way



- **Utility Facilities -** Installations or facilities, underground or overhead, furnished for use by the public, including but not limited to: electricity, gas, steam, television, communications, water, drainage, irrigation, sewage disposal, or flood control, owned and operated by any person, firm, corporation, municipal department, or board duly authorized by state or municipal regulations. Utility or utilities as used herein may also refer to such persons, forms, corporations, departments, or boards, as applicable herein.

III. DESIGN CRITERIA

A. GENERAL DESIGN CRITERIA

1. This document is primarily copied from the Local Highway Technical Assistance Council (LHTAC) Manual for Highway & Street Standards. These standards are based upon the American Association of State Highway and Transportation Officials (AASHTO). The suggested standards have been modified in small detail in conformance with sound engineering judgment and with the safety of the traveling public in mind. The Road & Bridge Department and other local engineers have reviewed these standards and feel the modifications are not a safety issue. Items not addressed in this manual will default to the suggestions of American Association of State Highway and Transportation Officials (AASHTO).

B. ROADWAY CLASSIFICATION AND RIGHT-OF-WAY WIDTHS

Refer to Bingham County Code 7-3-3 Approaches and Intersections – Official Functional Classification Road Map.

C. WIDENING OF ROADWAYS AND/OR RIGHTS-OF-WAY

1. Bingham County reserves the right to widen roads from time to time as road classifications change caused by change in use or increased traffic, or if there is a reason the road may be improved. Some roads have a high potential of being widened because of traffic volumes. If roads are widened, twelve (12) feet minimum for each lane from the center of the road will be added to the county highway.

2. Additional widths may be required for accommodation of extreme cut or fill sections. (i.e.: The area for the right-of-way or the clear-zone may need to be wider if fills will exceed a 4 to 1 slope from a traveled way.) This can be determined by the Bingham County Road & Bridge Office or a P.E. Bingham County needs the extended slope to stabilize the roadway and provide a sloped area for people to correct their driving if they run off the road.

D. CLEAR-ZONE

1. The clear-zone as defined in the most current edition of the American Association of State Highway and Transportation Officials (AASHTO) book, "Roadside Design Guide", needs to be kept free of obstacles. (For a definition of clear-zone, please refer to Section II, Definition of Terms on page 2 of this manual.) Obstacles include, but are not limited to: mailboxes, large fence posts, landscape boulders, berms, etc., which are solid and could cause excessive damage to a vehicle or its passengers. This area may have a fence built on the right-of-way edge in the clear-zone if the fence meets the requirements of being in the clear-zone. (i.e.; posts that are no larger than 20 square inches or 2-inch pipe cemented no deeper than 2 feet in the soil.) If the fence is stronger than a chain link fence it cannot be built in the clear-zone.

2. Designs shall follow the guidelines of the AASHTO book, "Roadside Design Guide", most current edition. This guide also contains the mailbox standards for AASHTO.

3. The goal of a clear zone is to provide the safest county roads possible. No existing structures are to be removed, but if safety can be improved, a cost benefit analysis shall be performed to evaluate the possibilities and practicalities of establishing clear zones in new construction.

a. New Construction

Roadside design guidelines applicable to new construction are presented below. The guidelines address both clear zone and traffic barrier warrants and are appropriate for all functional classes of roads.

b. Clear Zone Width

Where clear zones can be provided at minimal or no additional costs, their incorporation in designs should be considered. Prior and existing structures in clear zone will be allowed. The design guidelines for roadside clear zone width on local roads are as follows:

1. At locations where a clear zone recovery area of 6 feet or more in width can be provided at minimal cost and with limited social or environmental impacts, provision of such a clear recovery area should be considered.

2. Where constraints of cost, terrain, right-of-way, or potential social or environmental impact make the provision of a 6 feet clear zone recovery area impractical, clear zone recovery areas less than 6 feet in width may be used, including designs with 0 feet clear zone recovery areas.

3. In all cases, designers should be encouraged to tailor the roadside design to site-specific conditions, consider cost-effectiveness and safety tradeoffs. For example, the use of adjustable clear zone widths, such as providing wider clear zone dimensions at sharp horizontal curves where there is a history of run-off-road crashes, or where there is evidence of vehicle encroachments such as scarring of trees or utility poles, then a clear zone may be appropriate. Lesser values of clear zone may be appropriate on tangent sections of the same roadway.

4. Other factors for consideration in analyzing the need for providing clear zones include the crash history, the expectation for future traffic volume growth on the facility, and the presence of vehicles wider than 8.5 feet and vehicles with wide loads, such as farm equipment.

The designer should provide a clear zone as wide as practical within constraints of cost, terrain, right-of-way, or potential social/environmental impacts. Where provision of a clear zone is not practical, none is required. Site-specific conditions and the engineering judgment of the designer should be the two primary determinants of the appropriate clear zone width for very low-volume local roads.

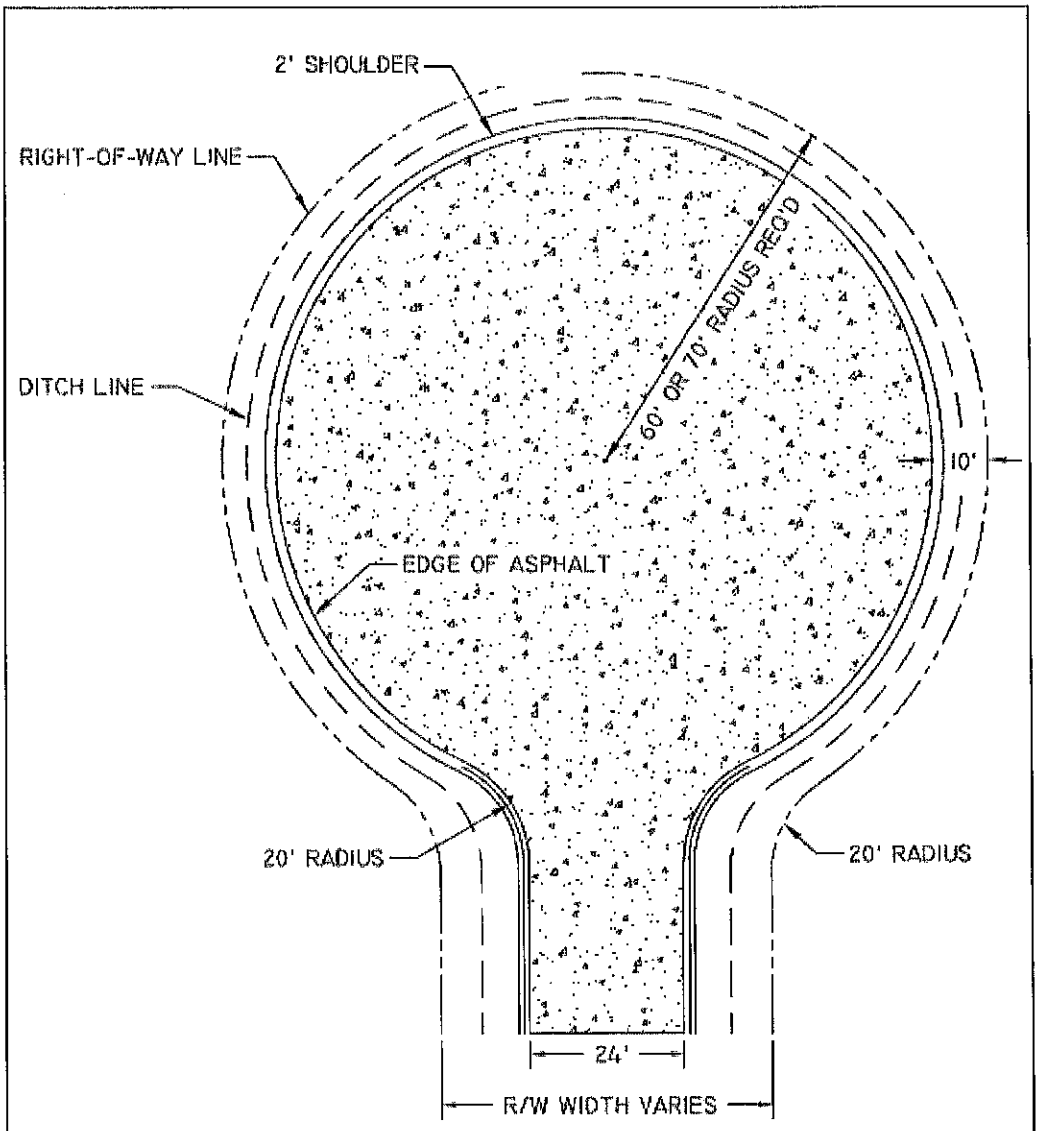
E. STANDARD CUL-DE-SAC LAYOUT

1. Cul-de-sacs shall have a minimum right-of-way of a 60-foot radius with additional highway right-of-way as needed to accommodate unusual cut and fill sections.

2. Cul-de-sacs of a temporary nature may be allowed, providing each public right-of-way is shown on the plans or plat and approved by the county. All cul-de-sacs shall be paved whether temporary or permanent. If buses are expected to use the cul-de-sac, the minimum public right-of-way shall be a 70-foot radius. A standard cul-de-sac layout is shown in Figure 2.

3. All intersections of highway right-of-way lines at street and highway intersections and at cul-de-sac bulbs shall be connected by a curve having a minimum radius of twenty feet (20').

Figure 2 – Standard 70' Cul-de-Sac Layout



NOTES:
ADEQUATE DRAINAGE OF THE SURFACE AND DITCH LINE IS REQUIRED.
RIGHT-OF-WAY (R/W) WIDTH AND REQUIRED RADIUS OF CUL-DE-SAC IS DETERMINED BY BINGHAM COUNTY ROAD AND BRIDGE.

BINGHAM COUNTY ROAD STANDARDS	CUL-DE-SAC LAYOUT	JUNE 22, 2023

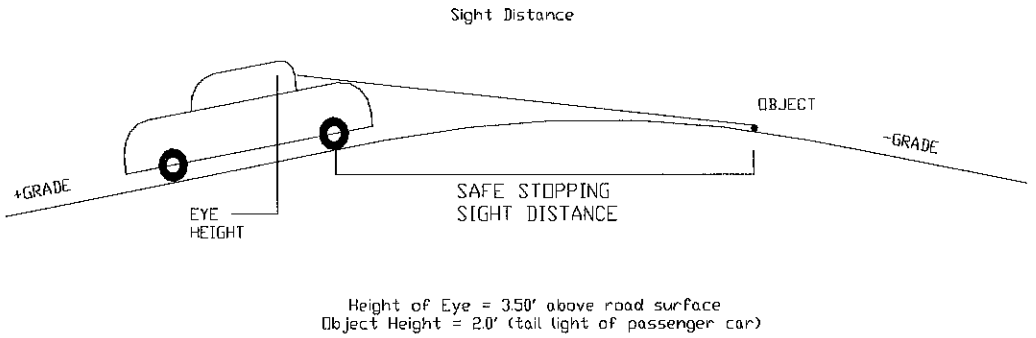
F. STOPPING AND PASSING SIGHT DISTANCE

1. The stopping and passing sight distances shall be at least the minimum shown in the following table for the design speed used on the roadways.

Table 1 - Minimum Sight Distances

MINIMUM SIGHT DISTANCES IN FEET							
Design speed MPH	20	25	30	35	40	50	55
Stopping sight distance: Stopping distance, feet:	125	150	200	225-250	275-325	400-475	450-550
K value for: * Crest vertical curve Sag vertical curve	10 20	20 30	30 40	40-50 50	60-80 60-70	110-160 90-110	150-220 100-130
Passing sight distance: Passing distance, ft. 2-lane	800	950	1100	1300	1500	1800	1950
K value for: * Crest vertical curve	210	300	400	550	730	1050	1230

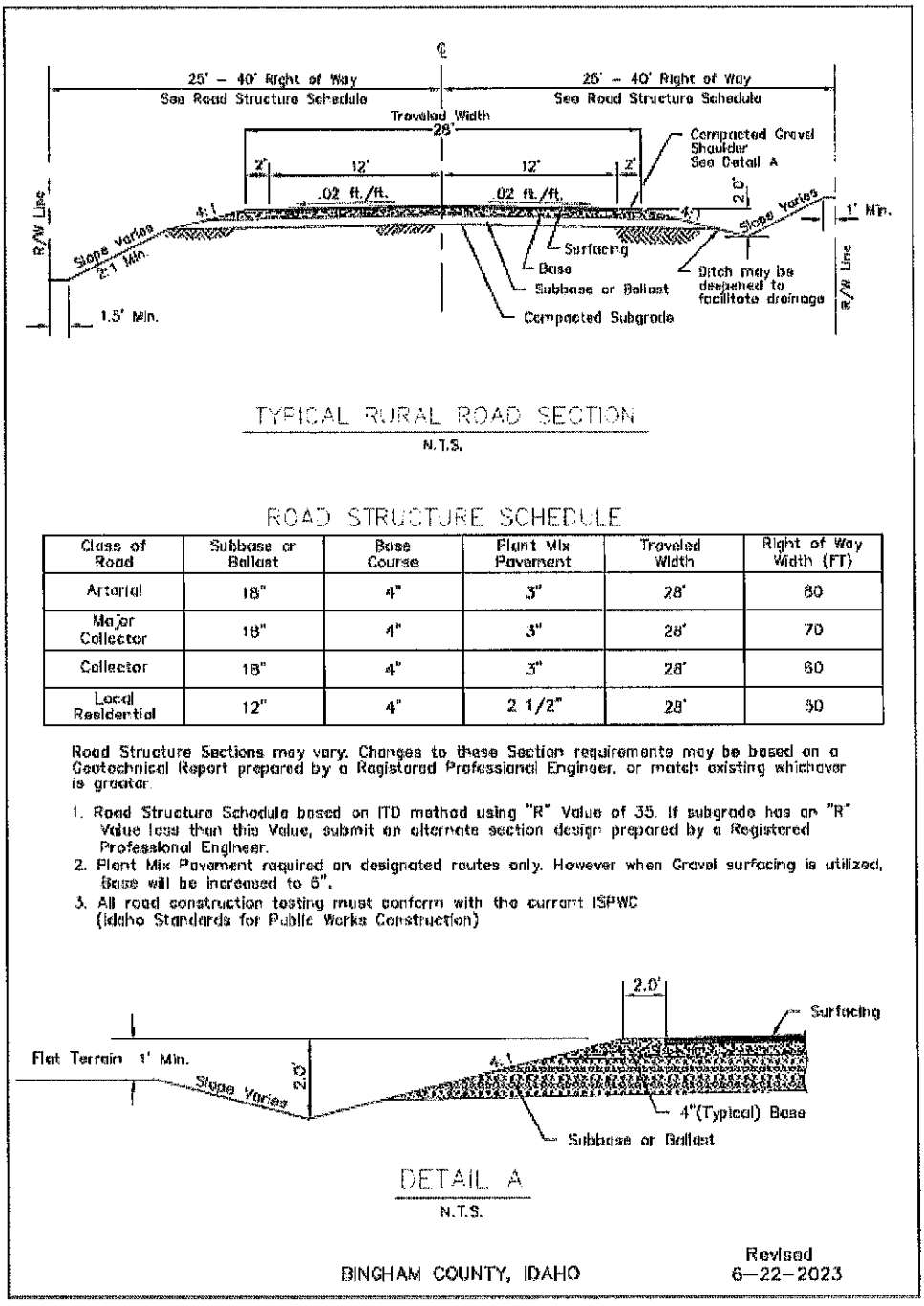
Figure 3 - Sight Distance Measurement



G. ROADWAY CROSS-SECTION

1. The typical roadway details are included in Figure 4 which shows the cross-section characteristics required for roadways within Bingham County. The details are for both rural and urban situations.

Figure 4 - Road Cross-Section



TYPICAL RURAL ROAD SECTION

N.T.S.

ROAD STRUCTURE SCHEDULE

Class of Road	Subbase or Ballast	Base Course	Plant Mix Pavement	Traveled Width	Right of Way Width (FT)
Arterial	18"	4"	3"	28'	80
Major Collector	18"	4"	3"	28'	70
Collector	18"	4"	3"	28'	60
Local Residential	12"	4"	2 1/2"	28'	50

Road Structure Sections may vary. Changes to these Section requirements may be based on a Geotechnical Report prepared by a Registered Professional Engineer, or match existing whichever is greater.

1. Road Structure Schedule based on ITD method using "R" Value of 35. If subgrade has an "R" Value less than this Value, submit an alternate section design prepared by a Registered Professional Engineer.
2. Plant Mix Pavement required on designated routes only. However when Gravel surfacing is utilized, Base will be increased to 6".
3. All road construction testing must conform with the current ISPWC (Idaho Standards for Public Works Construction)

DETAIL A

N.T.S.

BINGHAM COUNTY, IDAHO

Revised 6–22–2023

2. **Irrigation Structures** - All **Present** irrigation facilities will have the right to remain in place as long as the irrigation ditches and pipes are used and not abandoned. Road or irrigation improvements shall always be designed to improve efficiency and safety. Changes and replacement of structures need to be approved by the Road & Bridge Department. Often safety can be improved by extending the culverts, so the ends of the culvert are not in the Right of Way.

   The goal is to keep all objects over four inches (4") in height out of the right-of-way. If the ditch or box is less than thirty inches (30") and headwalls are needed, it is advisable to keep all irrigation cement less than four inches (4") above the ground and use no extending wall that would become a solid object for the traffic to hit.

   All **future** irrigation facilities should be established outside the public right-of-way if possible. Highway ditches commonly called borrow pits located in the shoulders of the road may not be used for conveying irrigation water of any type.

3. The roadway cross-section outside the paved area and inside the remaining public right-of-way shall conform in all aspects with the AASHTO Roadside Design Guide, most current edition. This Guide will be used to determine safety characteristics for any appurtenance such as signing, rock outcrops, or general hazards to the traveling public. Conformance thereto will be based on a project-by-project review process.

4. Wells and sewage drain fields are not allowed in the Right of Way. Irrigation pumps, filters, etc. along the road edges should be designed on the far side of the canals/ditches if possible.

H. APPROACHES AND INTERSECTIONS

Bingham County has an approach ordinance to improve the safety of the roads. Approval for the approach must be in writing and the approach must be built at the site agreed upon. Road studies by AASHTO suggest factors that improve safety. Bingham County Code reflects these requirements.

Before a building permit can be issued an approach permit and assigned address needs to be obtained from the Planning & Zoning Department and verified by the Road & Bridge Department.

The approach permit process begins with going to the Planning & Zoning Department to verify if it is a buildable lot. After the lot is verified, the Planning & Zoning Department will contact the Public Works/Road & Bridge Department which will make an appointment with the responsible party at the site to review the requirements of the approach.

The responsible party and the representative from the Public Works/Road & Bridge Department will sign the necessary county form verifying that they have reviewed the requirements together and that the responsible party acknowledges and understands the requirements.

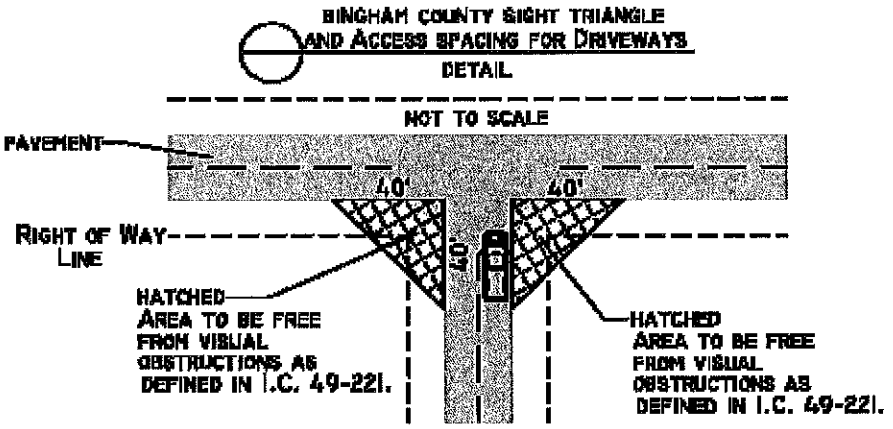
1. Approaches shall be in conformance with the Bingham County Code 7-3-3. Distances between approaches and from intersections vary depending on the classification of each road. **(See Bingham County Approach Spacing Standards Manual Effective January 1,2022)**

   *Note: The road classification of different county roads are subject to change depending on the county's growth and need. The Bingham County Official Functional Classification Road Map establishes the classification of all county roads. This map is updated and sent to the state on a regular basis.

   Approaches on cul-de-sacs, dead ends, residential subdivisions, and other non-through residential streets shall be a minimum of twenty feet (20') apart.

2. If a property is higher or lower than the adjacent public roadway, the approach coming onto the roadway shall not have more than a three percent (3%) grade connecting it to the roadway for a distance of not less than thirty feet (30'), and the approach leading to the roadway must allow the vehicle to stop on the thirty-foot (30') approach at the three percent (3%) grade.

Figure 5 – Approach Sight Triangle



STOPPING SIGHT DISTANCE

OPERATING SPEED	STOPPING SIGHT DISTANCES (IN FEET) STREET GRADE IN PERCENT						
	UPGRADES			LEVEL	DOWNGRADES		
	9%	6%	3%	0%	-3%	-6%	-9%
25MPH	140'	145'	150'	150'	155'	160'	165'
30MPH	180'	190'	200'	200'	210'	220'	230'
35MPH	215'	225'	235'	240'	255'	270'	290'
40MPH	270'	280'	290'	300'	320'	340'	370'
45MPH		340'	350'	365'	390'	420'	
50MPH		410'	420'	440'	470'	510'	
55MPH		480'	475'	500'	540'	590'	

DISTANCES FOR APPROACHES FROM INTERSECTIONS AND SPACING BETWEEN APPROACHES

REFER TO BINGHAM COUNTY APPROACH SPACING STANDARDS MANUAL.

BINGHAM COUNTY ROAD STANDARDS	SIGHT TRIANGLE, ACCESS SPACING FOR DRIVEWAYS AND STOPPING SIGHT DISTANCE	JANUARY 10, 2022

I. DRAINAGE

1. All drainage facilities shall be approved by the county in conjunction with the roadway plans. The design shall be based on the Idaho Transportation Department's publication, "Urban Storm Sewer Design for Idaho Highways", latest edition, or procedures as set forth by the county.

2. The design storm return period shall be at least ten (10) years. Any disruption of the normal drainage pattern of the area to be developed must have special consideration to accommodate future drainage.

3. Culverts used for drainage purposes should be of corrugated steel, aluminum, or concrete with the thickness and cover over the top of the pipe being in conformance with the following table (other types of materials may be used when approved by the county).

Table 2 - Culvert Requirements

DIAMETER INCHES	STEEL THICKNESS INCHES ***	ALUMINUM THICKNESS INCHES	CONCRETE CLASS**	COVER REQUIRED *
12" through 36"	0.064	0.060	V	12" minimum

* Cover may be reduced to six inches (6") on residential driveways.

** Other classes of concrete pipe may be used if proper cover is provided in accordance with manufacturer's recommendations.

*** Using corrugated metal pipe with 2 2/3" x 1/2" corrugations. Culverts or multi-plate installations larger than 36" in diameter or any structure under extreme fills shall have special consideration.

3. **All approaches** will be designed for drainage with culverts installed under the approach. The edge of the road should be designed so the edge of the road is at least twelve inches (12") above the other property. The landowners will be continually responsible that the water from their property will not flow onto the roadway, and at no time will the land owner be allowed to fill in the shoulder of the road or designed drainage areas of the road, build up the property, plug culverts, or alter where the natural drainage flows. *Refer to Bingham County Road Standards Yard and Public Roadway Cross Section (Figure 9 on page 27) and Private Driveway Approach Cross Section Diagram (Figure 10 on page 27)*.

4. Culverts across the roadways shall be a minimum of twelve inches (12") diameter or the size necessary to take care of the design volume of water, whichever is greater.

5. Culverts under approach roads or driveways shall have a minimum diameter of 12", a minimum length of thirty feet (30'), and shall meet the requirements of Section 3.G.2. Combined irrigation/drainage culverts crossing roadways shall have clean-out boxes on each end at the edge of the public right-of-way.

6. In certain circumstances a culvert minimum diameter and length may require alteration. In these instances a formal request and explanation by the applicant will be submitted to the Public Works Director for his review and determination as to the approved culvert diameter and length alteration.

7. All necessary drainage easements for accommodating drainage structures shall be shown and recorded on the plans or the plat as a part of the approved plans or plat. Drainage easements necessary for draining storm water across private property shall be shown on the plans or plat and recorded with the county by a letter from the applicant describing the areas containing the easements such as lot lines, blocks, etc.

8. Disruption of natural drainage channels and subsequent use of the roadway channel to convey the natural drainage shall not be acceptable. Shoulders of the road shall not be filled in without approval of the Road and Bridge Department, thus ensuring there is adequate drainage for the road. All shoulder design must be approved in advance and final approval given by the Road and Bridge Department.

9. Dry wells sometimes called *French drains* or *injection wells* may be used in special circumstances where all other possibilities of taking care of storm water drainage have been explored and there is no feasible alternative to dry well installation. Should drywells be necessary, all designs for such shall be approved by the Idaho Department of Water Resources, the Division of Environmental Quality (DEQ), and the Bingham County Road & Bridge Department.

10. When a curb and gutter roadway section is proposed, a complete storm sewer system must be designed and constructed under the review of a registered professional engineer. Storm water disposal and maintenance thereof shall be the responsibility of the developer or a homeowner's association.

J. STRUCTURES

1. Bridge structures shall be designed by a professional engineer, registered in the state of Idaho, in accordance with AASHTO's "Standard Specifications for Highway Bridges", latest edition. All bridge structures shall be designed for HS-20 loading.

2. The minimum width of a bridge structure from the face-to-face of curb or the face-to-face of the guardrail or bridge rail shall be the full width of the approach roadway including pavement width and shoulder width, plus two feet and eight inches (2' 8").

3. The vertical clearance above natural waterways shall be two feet above the fifty (50) year flood plain.

4. Only structures of steel, steel and concrete, or treated wood shall be used.

5. Retaining walls shall be either reinforced concrete, bin walls, reinforced earth, Geosynthetically Confined Soil (GCS), or concrete crib walls. All retaining wall structures shall be designed by a registered professional engineer and shall be approved by the county prior to their construction.

6. All other structures built in the right-of-way, or adjacent to the right-of-way shall conform to Bingham County Code 7-1-3. Defining right-of-way distances of Bingham County.

K. SIGNING

1. All permanent signing shall be shown on the design plans and shall be in conformance with the "Manual on Uniform Traffic Control Devices", (MUTCD), latest edition.

2. All signs shall be installed by the applicant prior to the acceptance of the project by the county, unless otherwise approved by the county.

3. All construction signing shall conform to the MUTCD, latest edition.

4. All other signs shall conform to Bingham County Code 10-7-31.

L. GUARDRAIL

1. Guardrail may be necessary in certain areas depending upon the need for protection of the traveling public. The county reserves the right to determine the need for guardrail under each separate circumstance. The guidelines for determining need of guardrail shall be made using the AASHTO "Roadside Design Guide", latest edition.

2. The type of guardrail to be installed shall be determined by the Bingham County Road & Bridge Department based on need, location and maintenance considerations.

M. STRIPING OR PAVEMENT MARKINGS

1. The Bingham County Road & Bridge Department will determine where pavement markings will be required. Should centerline striping or other pavement markings be required, they will be constructed by the applicant in accordance with the MUTCD, latest edition. The spacing, location, and width of markings, will be determined on an individual basis by the county. Paint quality shall be the same as that used by the Idaho Transportation Department for their pavement markings.

N. CATTLE GUARDS

1. Cattle guards shall be constructed in compliance with Section 40-2310, Idaho Code. The county has approved the cattle guard as shown in Figure 6 (page 20) in this manual.

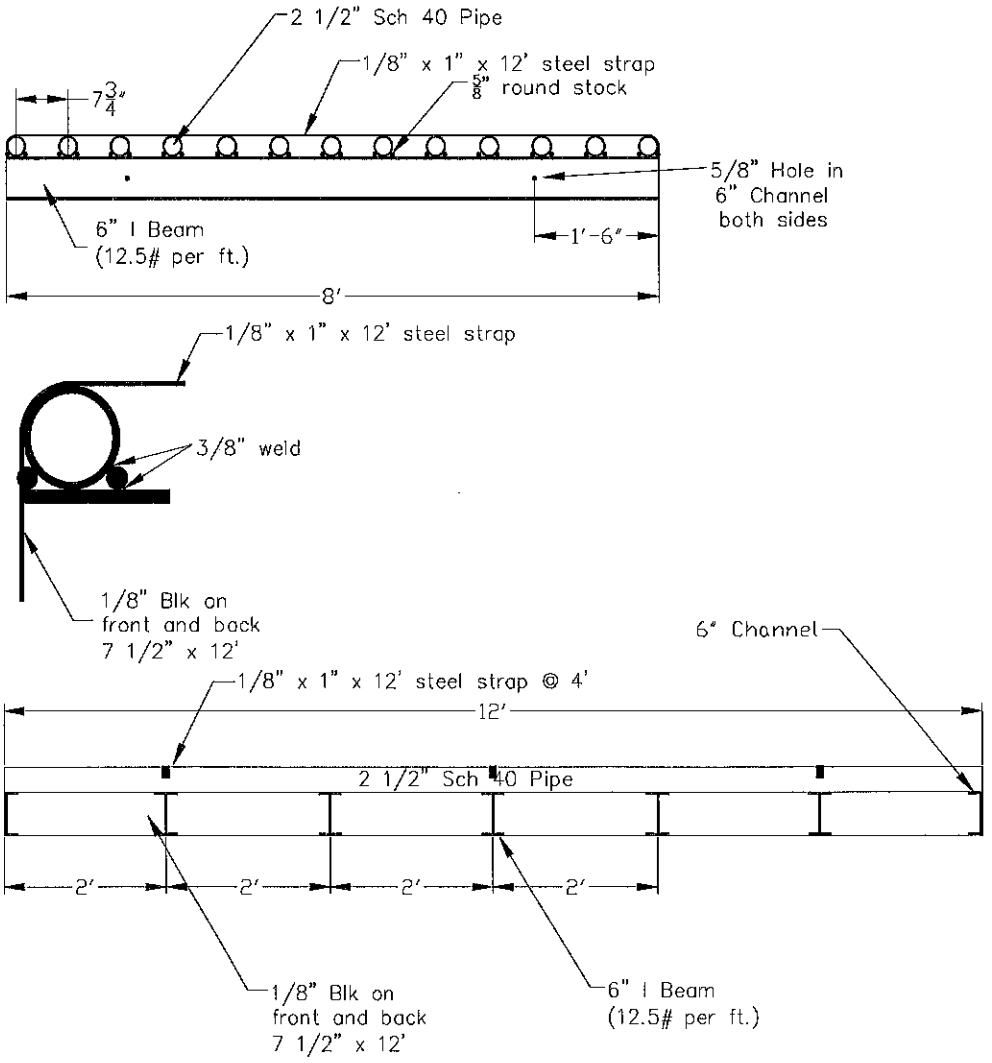
2. Section 40-2310, Idaho Code, regulates the installation of cattle guards on local highways and should be referenced when the question arises. Property owners are encouraged to place them on private property when necessary on private approaches.

3. Section 40-203(5), Idaho Code, speaks to obstruction of the public right-of-way and the misdemeanor offense involved.

4. Cattle guards shall be constructed using all steel materials in accordance with plans and specifications as follows:

Figure 6 – Cattle Guards

BINGHAM COUNTY CATTLEGUARD



Note: Paint finished product yellow.

O. Right-of-ways, All Subdivisions, Design and Maintenance.

1. All county roadways, including all subdivision roads will be built to the current **standards** of this handbook.

2. In a subdivision and town site, a minimum of fifty-foot (50') road frontage rule applies thirty feet (30') back from the road right-of-way for cul-de-sacs or on a 90° bend providing it is addressable on the county grid system.

3. All Subdivisions, town site, and county road approaches shall be no less than six feet (6') from side property lines and no greater than thirty feet (30') in width. Approach measurements for width shall be measured at the county right of way boundary. *Refer to Bingham County Approach Spacing Standard Manual.*

4. A **group, collector, or cluster mailbox system** is required for all subdivisions. All **mailboxes, including group, collector or cluster mailbox systems,** shall be placed according to the county standards and shall be placed within the subdivision, completely out of the lane of traffic of any county road. *Refer to Bingham County Standard Construction Plans for Cluster Mailbox Details diagram (Figure 8 page 25)*.

5. In the case of individual mailboxes placed on county road access. The **front of the mailbox** is required to be no less than eight (8') feet from the traveled surface of the road. The design and strength of the structure holding the mailbox will not be stronger than a 4"X 4" piece of wood or a 2" standard steel pipe buried into the ground no deeper than 18 inches. *Refer to Bingham County Standard Construction Plans for Mailbox Turnout diagram (Figure 7 page 24)*.

6. New Mailboxes: New Mailboxes and the fill material shall be installed by the owner at his/her own expense.

7. Replacement or Relocation of Mailboxes: Replacement or relocation mailboxes and fill material shall be placed by the owner at their own expense.

8. To encourage the replacement or relocation of existing mailboxes to conform to this ordinance, Bingham County may provide the fill material by determination of the Public Works Director.

9. The design of the subdivision will allow for **parking and storage** of motor vehicles on each lot. This will allow the subdivision to be in compliance with the requirement that nothing be placed on or parked within the road right-of-way.

10. All landscaping, signs, etc. need to be in compliance with the county's visibility **Approach Sight Triangle** (Figure 5 page 15) requirement and the Planning and Zoning Department requirements.

11. Water systems and/or **sprinklers** shall not be installed within or encroach upon the county right of way and must be designed to avoid causing water to flow onto or fall upon county roads.

12. **It is unlawful** for anyone to use any county road right-of-way for the depositing of items for disposal, composting, storage, parking, or landscaping, temporarily or permanently.

13. **Access roads** to adjoining property in addition to future roads **will be deeded** and constructed for future development, and at no time shall anyone reserve a strip of property at the end of a public road or along the edge of a property to deny access to adjoining property. *(As an example, all cul-de-sacs should abut the adjoining property with a fifty-foot (50') right-of-way that would connect to the adjoining property, if there is a slight possibility that their property may be developed, or acreage that the property may be divided.)*

14. **Two accesses** are required for subdivisions over thirty (30) lots and/or if the approach to a subdivision is over seven hundred fifty feet (750').

15. All **Planning & Zoning and Road & Bridge requirements will be written into the Development Agreement** and signed off by both the Road & Bridge Department and Planning & Zoning Department before any escrow money is returned.

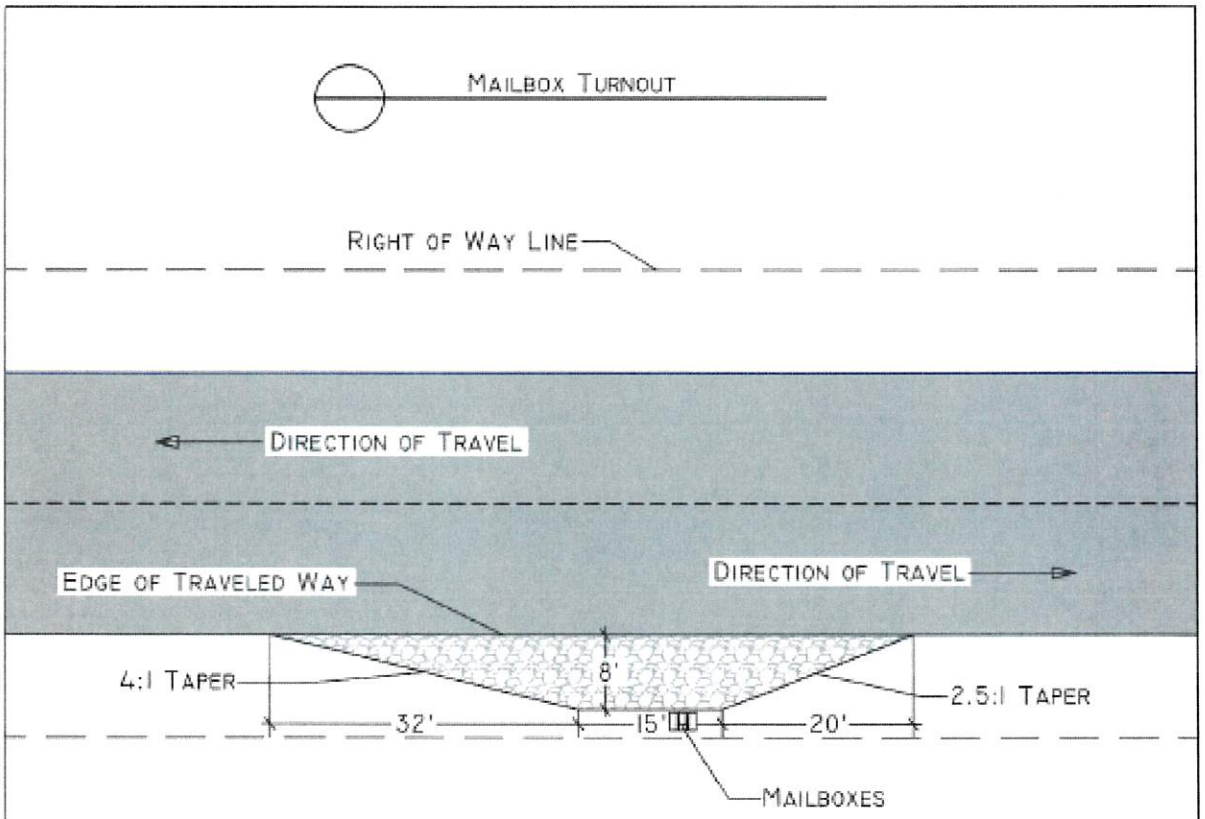
16. All Subdivision Roads will have a minimum of **two and one half inches (2.5") compacted asphalt mat**.

17. Cul-de-sac roads are county roads and may be designed for backing onto. All other lots not in a subdivision that have an approach on a county road need to be designed to allow all vehicles on the property to exit, **without backing onto a county road** from the driveway.

18. **Drainage** will be designed and culverts installed under the approaches, unless previous permission is granted by the Road and Bridge Office.

19. All subdivisions shall be designed to contain the runoff water from the subdivision without using the drainage areas or system from the roads. *Refer to Bingham County Road Standards Yard and Public Roadway Cross Section (Figure 9 page 26) and Private Driveway Approach Cross Section Diagram (Figure 10 page 27)*.

Figure 7 – Mailbox Turnout



NOTES:

NEW MAILBOXES AND THE FILL MATERIAL SHALL BE INSTALLED BY THE OWNER AT HIS OR HER EXPENSE.

REPLACEMENT OR RELOCATION OF MAILBOXES, MAILBOX AND FILL MATERIAL SHALL BE PLACED BY THE OWNER AT HIS OR HER EXPENSE, TO ENCOURAGE THE REPLACEMENT OR RELOCATION OF EXISTING MAILBOXES, BINGHAM COUNTY MAY PROVIDE THE REQUIRED FILL MATERIAL WHEN TIME ALLOWS.

BINGHAM COUNTY ROAD STANDARDS	STANDARD CONSTRUCTION PLANS FOR MAILBOX TURNOUT	JULY 22, 2019

Figure 8 – Cluster Mailbox Details

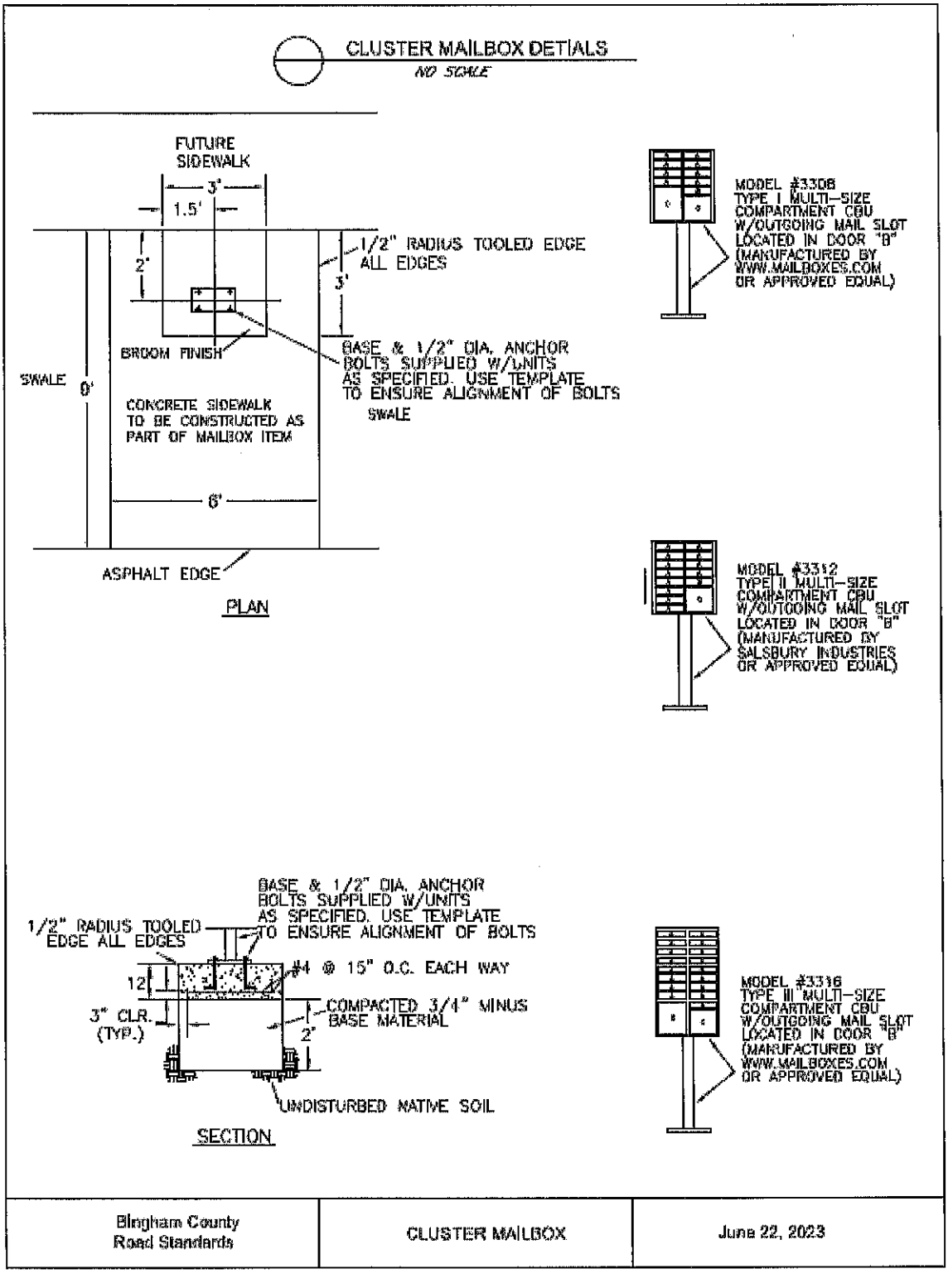


Figure 9 – Yard and Public Roadway Cross Section

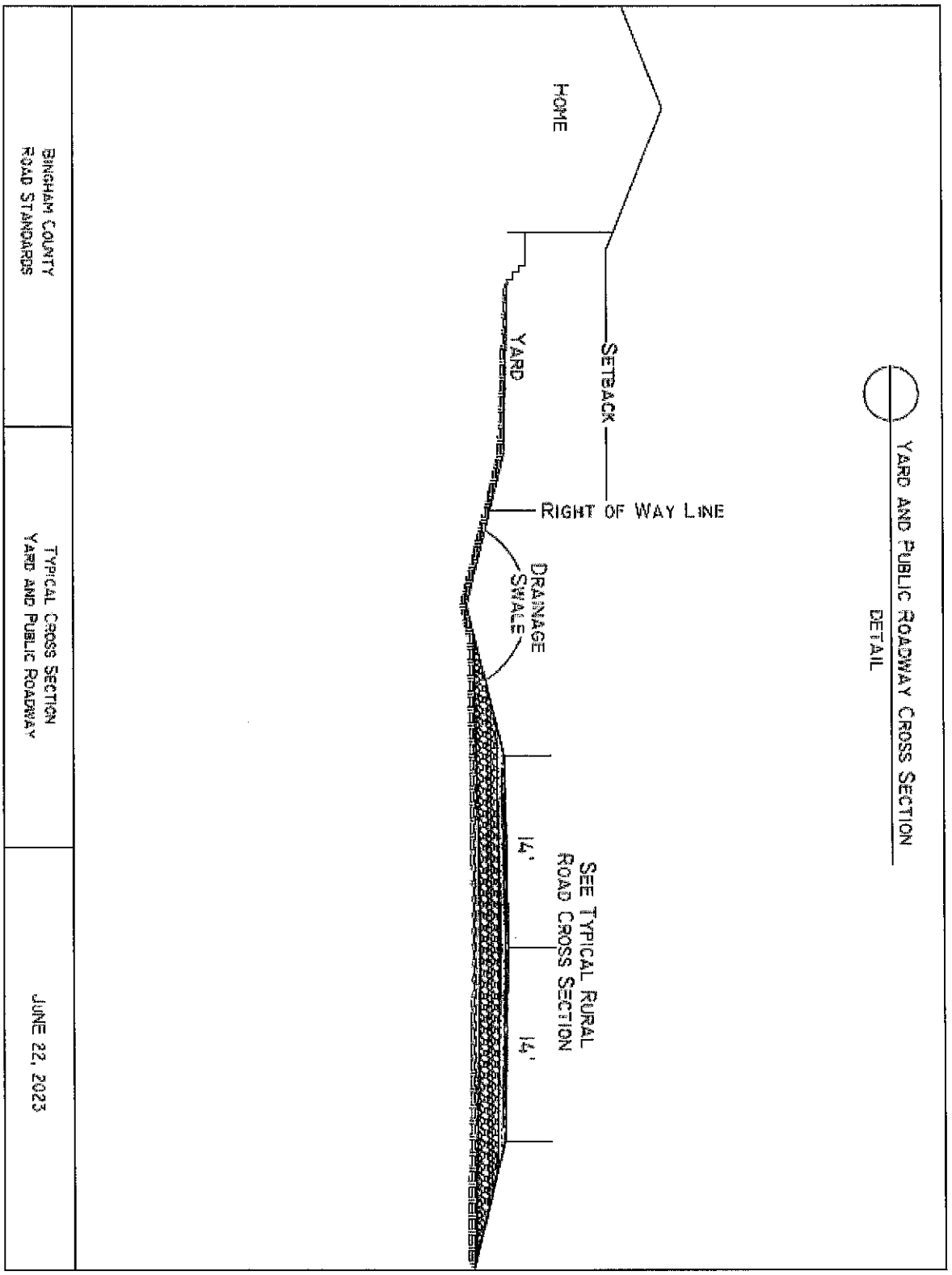
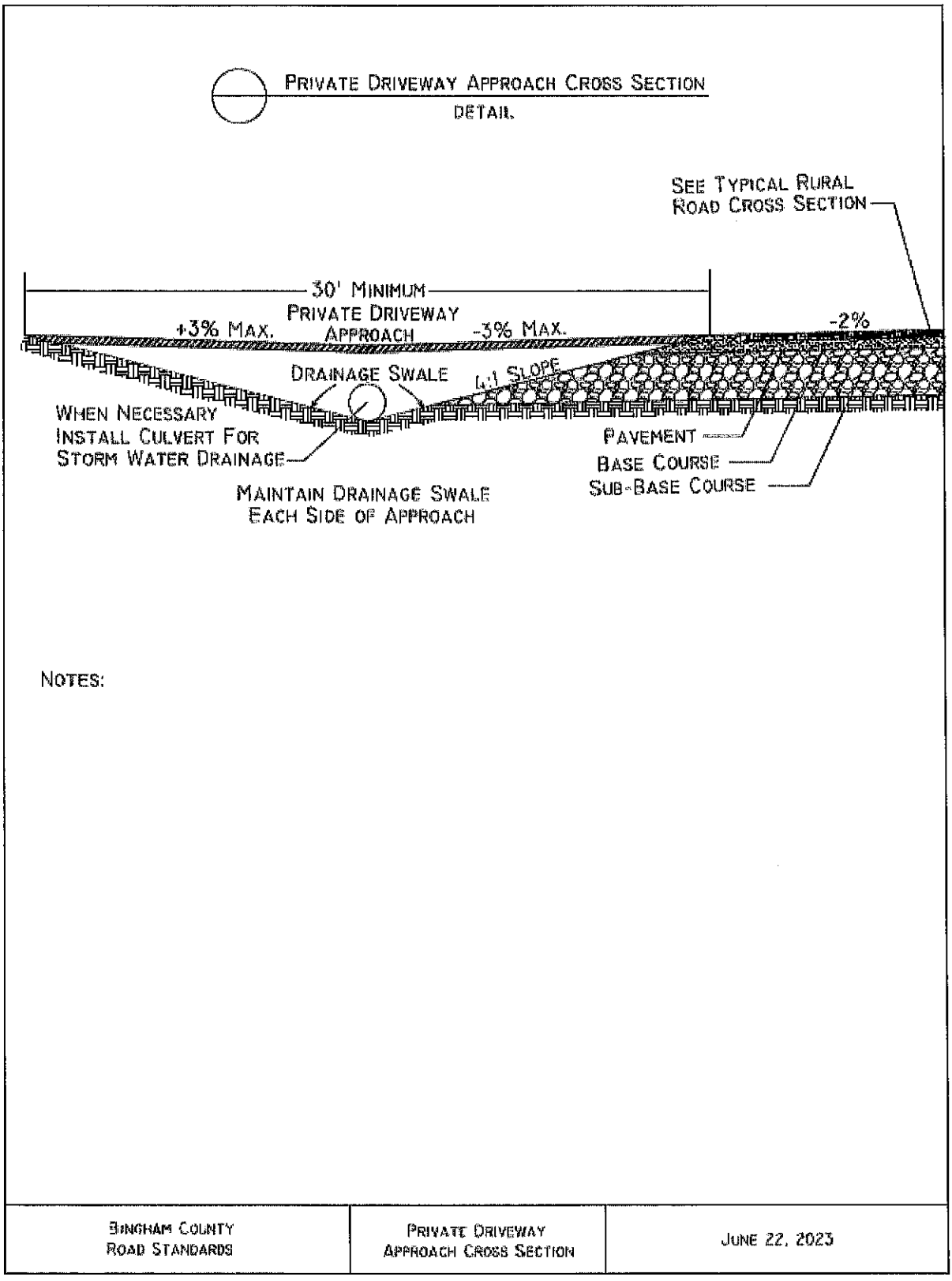


Figure 10 – Private Driveway Approach Cross Section



IV. CONSTRUCTION SPECIFICATIONS

A. CLEARING AND GRUBBING

1. Clearing and grubbing shall consist of the removal and disposal of all organic and other deleterious material from the public right-of-way. All material removed under clearing may be used as backfill on all slopes.

B. SUBGRADE

1. The subgrade shall consist of the natural materials remaining after all topsoil and duff, (organic material) have been removed and good construction material is remaining. The determination of the extent to which topsoil shall be removed shall be left to the discretion of the Road & Bridge Department, who may require soil and compaction test results to document the acceptability for construction.

2. In solid rock excavation, the solid rock shall be excavated to six inches (6") below the finished subgrade elevation and back-filled with approved granular materials.

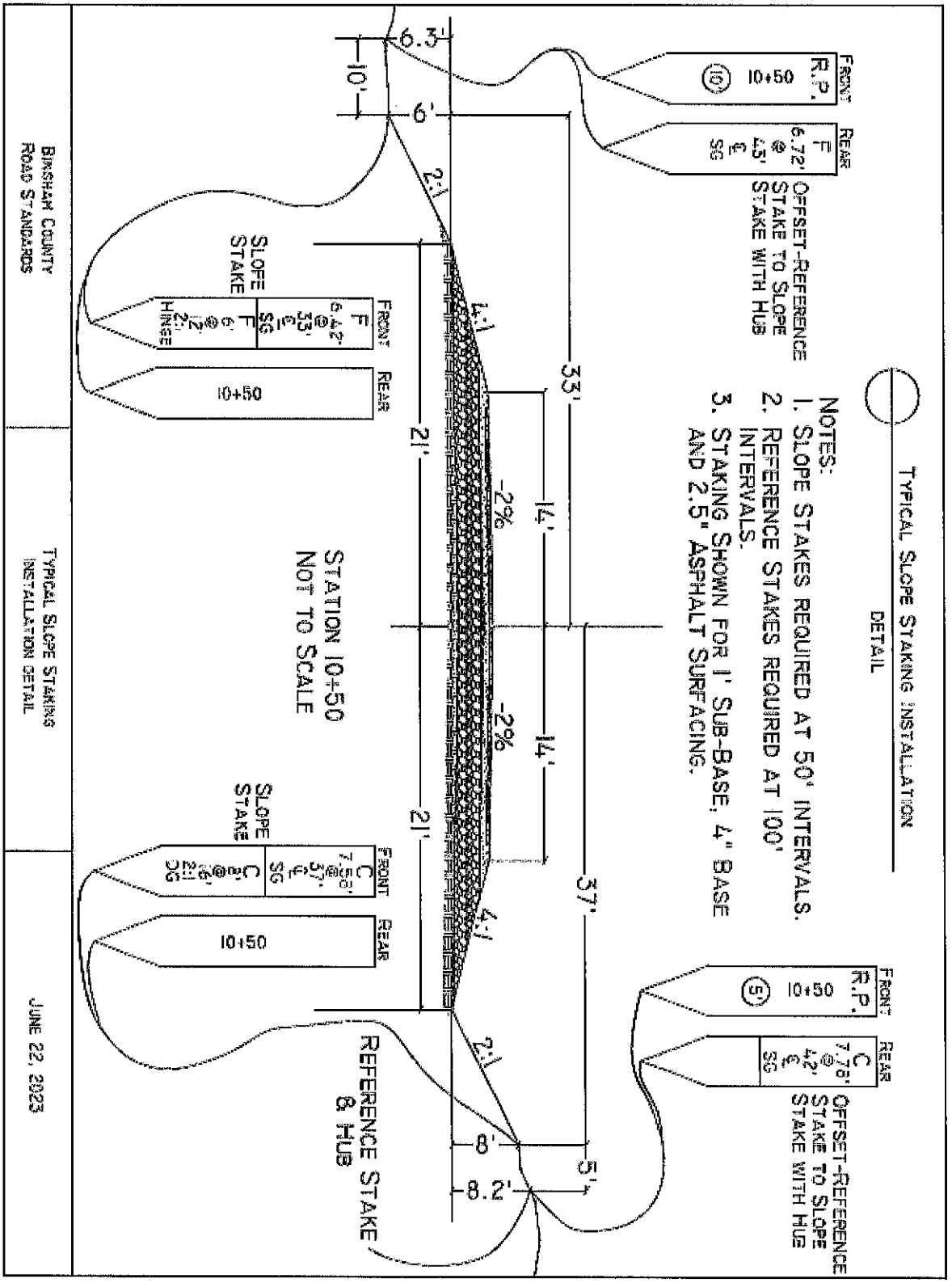
3. Unstable subgrade conditions shall be remedied by sub-excavation and back-filling with approved granular material under the direction of the Road & Bridge Department. Geotextile material may be required.

4. Construction should be controlled by slope stakes or grade stakes that have been placed by an engineer prior to the construction operations. Said slope stakes should conform to the *Typical Slope Stake Installation Method (Figure 11 page 29).*

5. Subgrade shall be compacted to a density no less than ninety-five percent, (95%) of the AASHTO T-99 Proctor Density.

6. The subgrade shall be observed by the Road & Bridge Department's designated representative prior to placing any ballast on the subgrade. The Road & Bridge Department must have at least twenty-four (24) hour notice prior to the need for observation. Such twenty-four (24) hour notice shall be given so that the observation can be made during the Road & Bridge Department's normal working hours and work week.

Figure 11 – Slope Staking



7. Prior to requesting observation of the finished subgrade, grade stakes set to finished subgrade elevation shall be in place on fifty foot (50') stationing at centerline and shoulders or ditch, unless a variance is granted.

C. SUB-BASE OR BALLAST

1. Approved pit run material may be used for the ballast course which shall be placed to a minimum of twelve inches (12") in thickness. The material shall be durable, have a sand equivalent not less than 30, and shall meet the following gradations:

Table 3 - Sub-base or Ballast Gradations

SIEVE SIZE	% PASSING
6"	100
3"	98-100
2"	75-100
1"	40-80
#4	25-60
#200	5-12

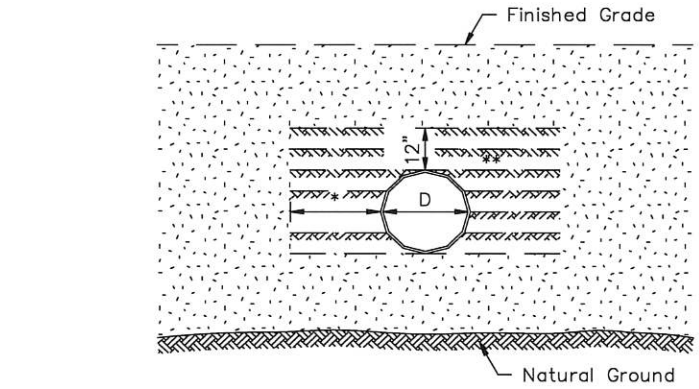
2. The ballast material shall be constructed in layers not to exceed eight inches (8") in thickness and shall be compacted using mechanical methods to at least ninety-five percent (95%) of the AASHTO T-99 Proctor Density.

3. Observation of the ballast is necessary by the Road & Bridge Department prior to the placing of base material. The Road & Bridge Department must have at least twenty-four (24) hour notice prior to the need for the observation. Such twenty-four (24) hour notice shall be given so that the observation can be made during the appropriate Road & Bridge Department's normal working hours and work week.

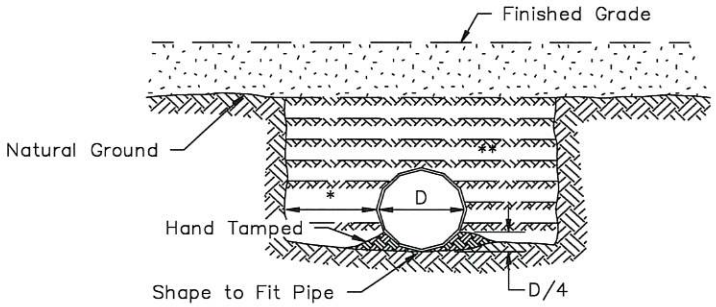
4. Prior to requesting observation of the finished ballast, red top stakes set to finished ballast elevation, shall be in place on fifty foot (50') stationing at centerline and shoulders.

5. All culvert installations crossing the highway or street shall be installed before any base material is placed. Installation should conform to the *Typical Culvert Installation* standards in *Figure 12 page 31.*

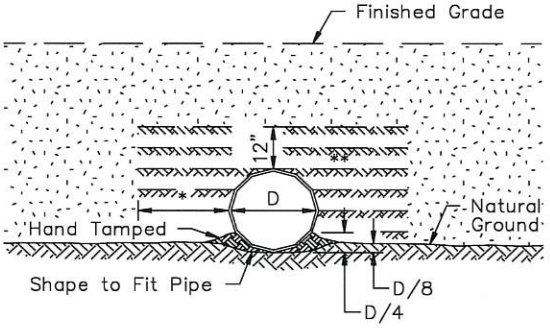
Figure 12 – Typical Culvert Installation



ABOVE NATURAL GROUND



BELOW NATURAL GROUND



ON NATURAL GROUND

NOTE: * D or 12" whichever is greater

** Mechanical compacted backfill. Place in 6" layers Each District may require this material to be base material conforming to subsection 404.01

TYPICAL CULVERT INSTALLATION
N.T.S.

BINGHAM COUNTY, IDAHO

CULVERT 1:64

D. BASE MATERIAL

1. The crushed aggregate for the base course shall be four inches (4") in depth after it has been compacted and shall comply with the following gradations:

Table 4 - Base Material Gradation

SIEVE SIZE	% PASSING
1"	100
3/4"	90-100
#4	30-65
#8	30-50
#200	3-9

2. The crushed aggregate base shall not show more than a loss of thirty-five percent (35%) under the Los Angeles Abrasion Test and the sand equivalent shall not be less than 30.

3. The material shall be laid in one or more layers to develop the compacted depth of four inches (4") minimum. Material shall be mechanically compacted by rolling to ninety-five percent (95%) of the AASHTO T-99 Proctor Density. Care shall be taken to see that the aggregate is placed in such a manner that it will have uniform mixture throughout.

4. The finished base material must be observed and approved by the Road & Bridge Department prior to placing the surface course. The notification for the observation must be twenty-four (24) hours prior to the observation and must be requested for observation during the appropriate Road & Bridge Department's normal working hours and work week.

5. Prior to requesting observation of the finished base material, blue top stakes will be set to finished base elevations at fifty foot (50') stationing on curves and one hundred foot (100') stationing on tangents at centerline and shoulders.

6. The surface of any base course, when finished, shall be such that when tested with a ten-foot (10') straightedge placed on the surface with its centerline parallel to and perpendicular to the centerline of the street, the maximum deviation from the surface of the edge of the straight edge shall nowhere exceed one-half inch (1/2"). In addition, the finished grade shall not deviate more than five-eighths inch (5/8") at any point from the staked elevation.

7. If asphalt concrete surfacing is to be placed on the base course, no portion of the complete surface of the base course shall be more than one-half inch (1/2") below the edge of a straightedge, ten feet (10') in length, laid parallel to and perpendicular to the centerline of the roadway. In addition, the finished grade shall not deviate more than three-eighths inch (3/8") at any point from the staked elevation.

8. Should patching of the base course be necessary in order to meet the above tolerances, it shall be performed using methods and aggregates approved by the Road and Bridge Department's designated representative.

E. SURFACING

1. All County Road surface types shall be approved by the Road and Bridge Department, but can generally be considered as a one half (0.5") inch hot mix asphalt. A three shot bituminous surface treatment (BST) or cold mix application may and shall only be done by Bingham County on county roads.

2. All work performed on any county road must comply with the Idaho Standards for Public Works Construction. Equipment used for asphalt construction, regardless of the type of surface treatment, shall meet the following criteria for each type of equipment.

F. OBSERVATION AND TESTING

1. All required observation shall be done by Bingham County. All testing required by the Bingham County Road and Bridge Department shall be performed by a certified laboratory and field-testing consultant, at the expense of the applicant, developer, or contractor, and shall comply with the Idaho Standards for Public Work Construction.

2. Any area of construction that fails any required testing shall be removed and replaced, at the expense of the applicant, developer, or contractor, in accordance with the required standards testing and shall comply with the Idaho Standards for Public Work Construction.

3. Any area of construction that is required to be removed and replaced shall be re-tested by a certified laboratory and field-testing consultant, at the expense of the applicant, developer, or contractor, and shall comply with the Idaho Standards for Public Work Construction.

G. ROAD CROSSING ENCASEMENTS

1. Any pressurized irrigation lines must be encased. The casing pipe shall be required for all pressurized liquid pipelines that cross roads, excluding domestic water lines. Casing shall be a minimum 2" larger than the pressurized pipe bell and a minimum of 40 steel or C900 plastic. All material must be new and buried at a minimum depth of 36".

V. JOINT TRENCH SUPPORT

JOINT UTILITIES TRENCH PROGRAM

Bingham County is in full support of the Joint Utilities Trench Program. This program installs power, gas, communications, and certain other facilities such as street light circuits in a common trench. It applies mostly to new residential and commercial subdivisions, apartment complexes, and in the future, residential services.

Bingham County acknowledges and encourages the guidelines set forth in the *"Joint Utilities Trench Specifications"* manual. To obtain a copy of *"Joint Utilities Trench Specifications"*, contact the Intermountain Gas Company.