Monongalia County Planning Commission
243 High st. Room 026
Morgantown, WV 26505

MONONGALIA COUNTY

Subdivision and Land Development Ordinance

Guidelines and Toolkit

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Aknowledgements

Working Group for the Subdivision Ordinance

John Congedo, White Horse Development
Scott Copen, Cheat Road Engineering
Greg Eddy, March Westin
Brian Gallagher, Steptoe & Johnson
Bader Giggenbach, 2018 Planning Commission
Kyle Haugh, 2018 Planning Commission
Richard Wood, 2018 County Planner

2019 Planning Commission

Matthew Ridgeway, Vince Putkowski, Ed Hawkins, Erica Bowe, Rick Colebank, Bader Giggenbach, Barton Loar, Michael Mills, Joe Panico

Other Contributors

Falcon Development
First Energy
Morgantown Utility Board
Philip Magro, Esq.
Robert Andriotti, County Surveyor
WV Department of Highways
MC County Commissioners
MC Assessing Dept
MC Clerk
MC Planning Dept

Streetmix. Net
Multimodal Public Space and Corridor Guidelines for Central Indiana

Director's Message

Welcome to Monongalia County's Subdivision and Land Development Ordinance Guidelines and Toolkit. Regulations, such as The Ordinance provides, are legal documents, and as such are often written in 'legalese'. They are sometimes unwieldy, and seldom include examples and explanations. This document is intended to provide those examples and explanations in more common English. This guideline/toolkit explains why we have The Ordinance in the first place and what is in it. It also explains the process of using The Ordinance (applying, deadlines, etc.) as well as how to use the guideline/toolkit itself. It provides explanations of the concepts behind some of the regulations and provides numerous examples, samples and scenarios. Finally, this document (and particularly the online version) provides templates for good development that allow a developer to start from a good spot, as it is often easier to modify a good example rather than start from scratch.

Hopefully, for the few who develop, you will find this helpful and applicable and that it encourages you to create good developments in Mon County to the benefit of everyone's pocketbooks and the quality of life in the County.

Sincerely,

Andrew Gast-Bray
Director of Planning, Monongalia County (Additional Thanks)

Introductory Material

Process

CHAPTER I. Introduction and Definition (Art. 1 and Appendix A)

CHAPTER II: Subdivision Illustrations and Housing Types

CHAPTER III: Subdivision Application Process

CHAPTER IV: Expedited Review

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CHAPTER VI: Changes, Amendments and Appeals Guidelines

CHAPTER VII: Standard Compliance and Preferred Design Overview

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Chapter I: Introduction and Definition

This chapter is intended to answer fundamental questions about The Ordinance and its role in the County's planning efforts and context.

I.1 How to Use these Guidelines

The Ordinance is focused on development applications. Thus, it is organized around satisfying specific requirements for a given application - i.e. a bit like a checklist. These guidelines are provided to elucidate what the Regulations mean, how the Regulations are measured, how an applicant can meet the Regulations (i.e. flexibility in the Regulations), and more details about the process. These guidelines also provide examples and illustrations of the concepts behind the regulations.

So, to use the guidelines, the table of contents is organized by the concepts or the topic. As a wayfinding aid, the Articles in The Ordinance that pertain to or use these concepts or topics are indicated in parentheses below the topic listing. For instance, if you are looking for an illustration of the subdivision types, you will find it in Chapter C.1 Application types in the preceding table of contents - it will also denote that the pertinent sections of The Ordinance are Articles 3-6. If you are looking to satisfy parking requirements in an application,- it will also denote that the pertinent section of The Ordinance is found in its Appendix B.

- Chapter I of these guidelines provides a brief overview of how to use these guidelines, the rationale for subdivision regulations as well as an overview of what is in the regulations.
- Chapter II illustrates what is meant by 'subdivisions', types of subdivision and the types of housing typically found and designed for in subdivisions.
- Chapter III describes the standard process for applying to develop or build a subdivision within the County in the Regulations.
- Chapter IV describes the process for Expedited Review of subdivisions and how to apply.
- Chapter V describes the steps after approval of a land development plan and recording of the plat. This includes NIFs that allow work on the site and surety and other related issues. Note that some of this activity in identified cases can take place before the official recording of the plat.
- Chapter VI discusses changes to land development plans, amendments to plats and appeals to any part of the process
- Chapter VII provides the overview of requirements to satisfy qualifying for preferred design and the expedited review process.
- Chapter VIII provides illustrations, explanations and guidelines for addressing global considerations that may impact a subdivision, in particular when there are other plans that impact a subdivision.
- Chapter IX provides illustrations and guidelines for transportation aspects of development.
- Chapter X provides guidelines and illustrations of slope and setbacks needed for good parcel design.
- Chapter XI provides guidelines for parking, parking lots and impervious surfaces.
- Chapter XII provides templates or models for good development and the sample components of developments or good applications that developers (i.e. those who are subdividing property) can use as starting points to modify as needed.
- Chapter XIII is a resource guide including an index, list of abbreviations and resources that informed this guideline/toolkit.

I.2 What is a Subdivision?

A subdivision is the splitting of one or more parcels into additional parcels. It refers to the actual act of "Subdivision of Land" as opposed to a "Residential Subdivision" as a land/housing type (although they are related, obviously).

Within The Ordinance, there are three types of subdivisions:

- **Exempt**: Parcel divisions that are exempt from the technical aspects of The Ordinance. There are 8 types of exempt subdivisions: family, cemetery, agricultural, or resource extraction subdivisions; division of land pursuant to a court order; minor boundary adjustment; merger; or creation of a utility or emergency services parcel.
- **Minor**: Parcel divisions into 5 or fewer parcels including the parent parcel and that do not include extension of off-tract infrastructure.
- **Major**: Parcel divisions into more than 5 parcels, or that do not meet exempt or minor subdivision requirements

Generally speaking, there are four types of land use associated with subdivision:

- Residential – Mobile home parks, single family homes, townhomes, apartments, condos, multi-plexes
- Commercial – malls, office complex, retail centers
- Industrial/Manufacturing – business or industrial parks
- Mixed Use – includes some combination of the other three

Comprehensive Plan vs Subdivision Regulations

The Ordinance does not restrict what kind of land use can be placed on a property, nor does it describe what "should go where" as in a Comprehensive Plan from a land use perspective. Once a land use is sought for a piece of land (e.g. residential development), The Ordinance describes how the development will appear or lay-out on the property, meeting certain minimum standards in that development.

I.3 What is a Subdivision Ordinance and Why is it Necessary?

Subdivision Ordinances allow for governing bodies to ensure safe and responsible development through guaranteeing proper development of roads, stormwater management, utilities, right of ways, and other infrastructure needs in conjunction with any type of subdivision, be it commercial, residential, or industrial.

Ensuring that subdivisions respect required minimums helps prevent undersized roads and lack of appropriate utilities during construction and also allow for bonding in case of developer abandonment or bankruptcy. Without it there could be an absence of right-of-way requirements, utility requirements, road failure, etc., which could lead to issues such as basement flooding, fire and ambulance turnaround issues and other safety issues, vehicular accidents, and so on.

Subdivision

A subdivision is the splitting of one or more parcels into additional parcels. It is in reference to the actual act of Subdivision of Land as opposed to a "Residential Subdivision".

I.4 How does it Fit into Other Planning Regulations?

Comprehensive Plans outline community goals and aspirations in terms of community development. This type of document both expresses and, to a lesser extent, regulates public policies on transportation, utilities, land use, recreation, and housing. Comprehensive plans typically encompass large geographical areas, a broad range of topics, and cover a long-term time horizon. In West Virginia, comprehensive plans are required to be updated at a minimum every ten years.

Zoning divides the planning area into districts or zones, and adopts regulations concerning the types of land use allowed in those zoning districts i.e. single-family residential, multi-family, commercial, and industrial.

Subdivision Ordinances regulate the division of land for development. For a given type of development, it establishes certain minimum standards for the development as well as certain layout characteristics of the site.

Building Codes regulate the construction and some operational standards for the buildings themselves.

Ensuring subdivisions respect required minimums helps prevent undersized roads and lack of appropriate utilities during construction and allow for bonding in case of developer abandonment or bankruptcy. Without it, a development might not meet right-of-way requirements or utility requirements etc. This could lead to issues such as road failures, basement flooding, large vehicle turnaround and safety issues, vehicular accidents, and so on.

I.5. What is in the Regulations?

The proposed Regulations outline the requirements for subdividing land and the development of the land once subdivided. The Articles contained in The Ordinance include the following:

[Please Note: This is a basic outline and is not all encompassing. Please see the full Ordinance for more detailed information.]

- Authority and Purpose and General Provisions
  - *Lists the enabling legislations and basis requirements of the Regulations*
- Exempt Subdivisions
  - *Parcel splits which are exempt from the technical aspects of the Regulations (There are 8 types of exempt subdivisions: family, cemetery, agricultural, or resource extraction subdivisions; division of land pursuant to a court order; minor boundary adjustment; merger; or creation of a utility or emergency services parcels)*
- Minor Subdivisions and Land Developments
  - *Parcel splits which are between 1-5 parcels including their parent parcel and do not include extension of off-tract infrastructure*
- Major Subdivisions and Land Developments
  - *Parcel splits which are 5 plus, or do not meet exempt or minor subdivision requirements*
- Procedure for Approval of Major Subdivisions and Land Developments
  - *The steps for major subdivision approval including a public hearing*
- Subdivision Review Board
  - *The appeals board for subdivisions reviewed by the Planning Commission, prior to taking Circuit Court action*
- Enforcement
  - *How the County Commission and MCPC will ensure the Regulations are being met*
- General Standards for: Roads, Earthwork, Sanitary Sewage and Potable Water, and Storm Water Management
  - *Access Management and Road Design*

- *Slope and Water Management and Drainage Design*
- *Construction requirements with most standards following state or local requirements already in place*

- Sign Requirements, Fire Protection, Special Flood Hazard Areas
  - *The requirements for posting a sign for the public hearing as well as a requirement to follow state and local regulations already in place for fire and flood*
- Lot Requirements and HOAs, Utilities
  - *The requirements where WV36B and utilities are concerned*
- Plat Requirements
  - *A detailed outline of what is required for a Major Subdivision*
- Appendices
  - *Definitions, Parking Standards, and Fees*

I.6 What is the difference between zoning and subdivision regulations?

Zoning divides the planning district into districts or zones (a 'what goes where'), and adopts regulations concerning the types of land use allowed in those zoning districts i.e. single-family residential, multi-family, commercial, and industrial.

The Ordinance, in contrast, regulates how a given development lays out on the land and how it addresses access, water and utility management, meeting certain minimum standards for that development.

Pros and Cons of Subdivision

Pros:

Subdivision regulations allow for governing bodies to ensure safe development through guaranteeing proper development of roads (to state standards, which would not be required without The Ordinance), stormwater management, utilities, rights-of-way, and other infrastructure needs in conjunction with any type of subdivision, be it commercial, residential, or industrial. In fact, access and stormwater management issues were the driving need that launched the subdivision regulation effort in the first place.

Without regulation, Rights-of-Way (ROWs) are difficult to guarantee. This impedes the State from being able to adopt, fix or maintain the roads of the County. Furthermore, adequate turnaround and safe passage for EMTs, busses and large vehicles are often precluded.

They help prevent undersized roads and lack of appropriate utilities during construction and allow for bonding in case of developer abandonment or bankruptcy.

Cons:

Subdivision regulations cannot be enforced if no actual subdivision of land takes place. This means that if an apartment complex, strip mall or other project going in does not require subdivision of land in order to be developed, the regulations do not apply (See Zoning in 3 above). These regulations also do not prevent incompatible uses from being placed adjacent to one another. In addition, they cannot control building height, or design standards (building architecture or landscaping). After the fact parking requirements are also not affected (i.e., the land is split and something other than what was originally proposed goes in).

Even though the State legislation that enables local governments to enact subdivision regulations, WV 8A, states that it is a Subdivision and Land Development Ordinance, the abilities and requirements they enable only allow for enforcement with the subdivision of land. A true Land Development Ordinance embodies both zoning and subdivision controls within the same framework (again see 3 above)

CHAPTER II: Subdivision and Housing Types

The Introduction defined what a subdivision is and answered fundamental questions as to why Monongalia County has elected to regulate subdivisions. This chapter illustrates 4 basic application types, the different types of subdivisions created from those applications and housing types addressed by The Ordinance.

CHAPTER II: Subdivision Illustrations and Housing Types

II.1 The Four Application Types Overview

ALL SUBDIVISIONS REGARDLESS OF TYPE MUST FILL OUT AN APPLICATION

This section discusses the processes associated with the review of a given type of subdivision. As a reminder, there are 4 types: Exempt, Minor, Major (Single Phase) and Major with Phases. A major may be 'Standard' or 'Expedited' (Full Comparison in Chapter IV). Each will be summarized below.

Type 1: Exempt or proceeding to other processes
If a subdivision falls into one of the exempted statuses, an applicant will still need to fill out an application to ensure that it meets those conditions. As stated above, there is a limited number of subdivision types which qualify as Exempt (see Table II-1 above). Should someone apply for Exempt status that is not Exempt, it will automatically be denied. Consequently, if applicants are unsure, they should come in to make sure you are applying for the correct classification.

This application type consists principally of family splits. There is no submission deadline as approval is done administratively by Planning Staff, and it does not involve payment of a fee. There is a limited number of splits a family can do from a single parcel - five over a five year period. There is also a special type of exemption called Grandfathering, which only pertains to a small subset of applications. See gold sidebar on next page . Documents necessary are shown in Table 6-1 of The Ordinance.

Type 2: Minor
If a subdivision does not qualify for Exempt, it will be classified as either Minor or Major (or with phases). Both include fees, formal filing and review. Those that are not Exempt, but are 5 lots or less including the parent tract, are classified as Minor. Most Minor subdivisions will be reviewed by the Planning Staff, and the approval process will be managed by the Planning Staff.

This application type is a step up from Exempt as all parcel splits less than 5 lots that are not exempt. There is no submission deadline as approval is done administratively by Planning Staff, but it does involve payment of a fee. It also does not include any construction of multi-family developments or large-scale commercial over 5,000 sq ft regardless of number of lots. Those are automatically considered major subdivisions. Documents necessary are shown in Table 6-1 of The Ordinance.

Type 3a: Major Standard (Single Phase)
This application type involves subdivisions over 5 lots including the parent parcel (if more than 20 lots, a multi-phase is recommended - see below), or that does not otherwise fit Exempt or Minor. Major subdivisions will be reviewed by the Planning Commission and the approval process will be managed by the Planning Staff. If a subdivision meets Preferred Design criteria, it may be eligible for Expedited Review, which allows for some small savings in time (for a simple Major Subdivision - much more with a phased development - see below and extra design advantages - see below). If, however, the applicant is not eligible or does not choose the Expedited Process, they must follow the process described in Standard Major -Final.

Type 3b: Expedited Single Phase
Subdivisions of 5 lots or more, including the parent tract, that are classified as Major, but meet the Preferred Design and are eligible may be reviewed under the Expedited Process. Expedited Major subdivisions will still be reviewed by the Planning Commission and the approval process will still be managed by the Planning Staff, but review times and waiting requirements are shorter because such subdivisions are following designs that are familiar to the Commission and Staff and are known to meet planning criteria. If the applicant is eligible or elects to follow the Expedited Process, they should follow the process described in Chapter IV.

Type 4a: Multi-Phase Standard

This application type involves anything over 5 lots or that does not otherwise fit Exempt or Minor, but is broken up into distinct phases. Large developments are usually complex and are encouraged to be executed in phases [which see IV 12], especially those over 20 lots. This avoids a lot of the risk inherent to the developer and the County from 'biting off more than they can chew'. The advantages to creating a phased development, especially if you are creating a development of more than 20 lots, is multi fold. By right-sizing the amount of work per phase, a development can save on assessment rate, and right-size infrastructure so that it is not building more than is necessary, among other issues, but that is handled more in depth in the chapters on design (VII-XI). The advantage shown in Chapter III concerns process. By setting up phases, a development can accelerate completeness review and waiver reviews for each phase.

This type of development first requires an 'overview' (sometimes called master) plan - here called a 'multi-phase' Land Development plan that describes the entire project and ALL of its phases. This allows the PC to see the over arching infrastructure and set up and then can delegate to staff (if they see fit) completeness and waiver reviews as appropriate. Each phase is treated as if it is its own separate 'Major' subdivision, and should follow that procedure, with the exception of the initial and final review. Nonetheless, the PC must review to approve a given phase.

If approved, then the applicant can apply for the individual phases with final documents for final approval of that phase - in order so they can either sell lots or begin the process for building structures (See NIFs). In the Standard review, each phase may be reviewed by the PC, and the approval process will be managed by the Planning Staff. Documents necessary are shown in Table 6-1 of The Ordinance.

Clarification of Grandfathering

There will be a transition period of 6 months after enaction of The Ordinance where any project can file for grandfathering so long as a complete application for exemption is submitted to the Planning Office during this period.

In Order to be Grandfathered beyond the 6 month period you must be:

(1) A development or land use already completed.
(2) A development underway or at least partially approved by a government entity such that an expenditure has been outlayed (can opt for newer method of review, if applicant desires)
(3) A phase not yet underway, but approved in a Multi-Phase Plat qualifies as in 2, unless there are substantive changes to the Multi-Phase Plat such that a revision would be necessary anyway - former phases may remain, but a new phase with NO approvals would be subject to the newer method.

Type 4b: Expedited Multi-Phase (with Preferred Design)
For Multi-Phase developments that meet the Preferred Design, the Expedited 'overview' or Multi-Phase Land Development (LD) plan review is nearly the same as for a Multi-Phase Standard, and the timeline FOR THIS STEP is only mildly shortened (i.e. maybe a couple of weeks). The same incentives apply like deferred taxing and design advantages are provided to encourage this 'phasing'. However, for the phases with the Expedited Process, there are tremendous savings in time, number of lots/infrastructure and management practices. For a quick comparison, see below or Chapter IV for more details. Documents necessary are shown in Table 6-1 of The Ordinance.

This overview or LD plan must be presented in front of the Planning Commission. If approved, with the Expedited process, then staff can review the individual phases, saving the applicant a lot of time with the process, provided the applicant adheres to the process and does not undertake major changes along the way. If approved, then the applicant has final approval of that phase and with the appropriate documents, they can either sell lots or begin the process for building structures (See NIFs).

Type	Abbreviation	Use
Exempt	N/A	Family Subdivision, Division pursuant to court order, minor boundary adjust, cemetery, ag, resource extraction, merger, utility or emergency services, project in progress
Minor	Min	5 or less lots (including the parent)
Major	Maj	Subdivisions that do not meet Exempt or Minor
Major, Phased	MjP	Subdivision that do not meet Exempt or Minor, which include both a Multi-Phase Plat and several phases (staff recommends this for subdivisions above 20 new parcels created)

Quick Comparison: Standard vs. Expedited

As the Subdivision Ordinance is intended to encourage development consistent with the future vision for the County, the County has made it easier, faster and more readily approvable for developments that follow a preferred design. It usually does not prevent all bad developments, but it makes it more difficult to develop a subdivision that is poorly designed from a County perspective.

Preferred designs are basically pre-reviewed and acceptable development patterns and designs (cf. Chapter IV). As Staff and the Planning Commission have already vetted these designs, the applicant can be granted an expedited process, which can save the applicant roughly 2 weeks in a major single phase and for a multi-phase project up to 4 weeks PER PHASE (see Chapter IV for details). Furthermore, the applicant can begin development (and development phases) earlier in the expedited process and has approval advantages (as the majority of the designs are already acceptable and understood by the reviewing entities, they are more likely to be approved rapidly).

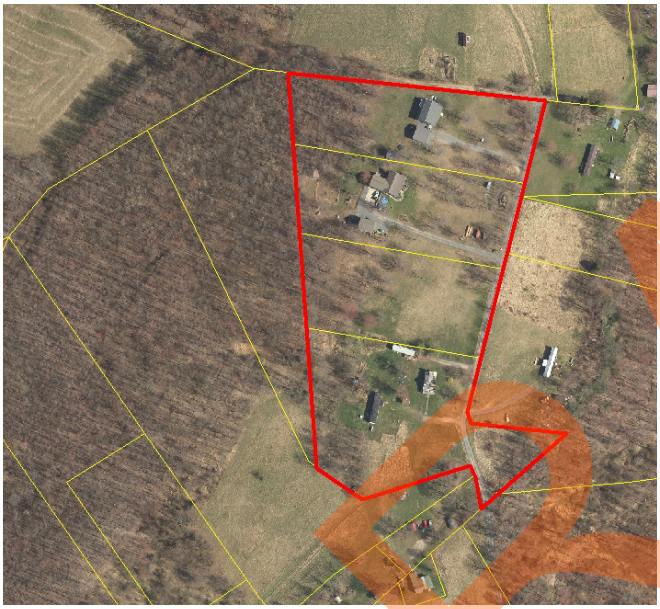
When a developer provides such Preferred Designs, not only do they receive preferred attention from the process and time savings, they also receive 'design advantages' including: cost advantages in the form of greater possible number of units and less infrastructure per a given area, as well as some tax advantages, providing a higher return on investment. The details of this speedier, more time-effective option for developers is described in detail in Chapter IV. The design advantages are described in Chapters VII-XI.

II.2 Subdivision Illustrations

Minor and Exempt Subdivision

Exempt Subdivisions fall into one of eight categories: Family Split; Division of Land Pursuant to a Court Order; Minor Boundary Adjustment; Merger; Utility or Service Lot Creation; or Cemetery, Agricultural or Resource Extraction Subdivisions. If the subdivision does not meet one of these categories, Minor or Major Subdivisions must be used.

Minor Subdivisions are those splits between 1 and 5 (including the parent parcel) which are not Exempt. Note that a Minor Subdivision may include up to 5 houses sharing a driveway, provided that a shared use agreement is provided and agreed to by DOH.



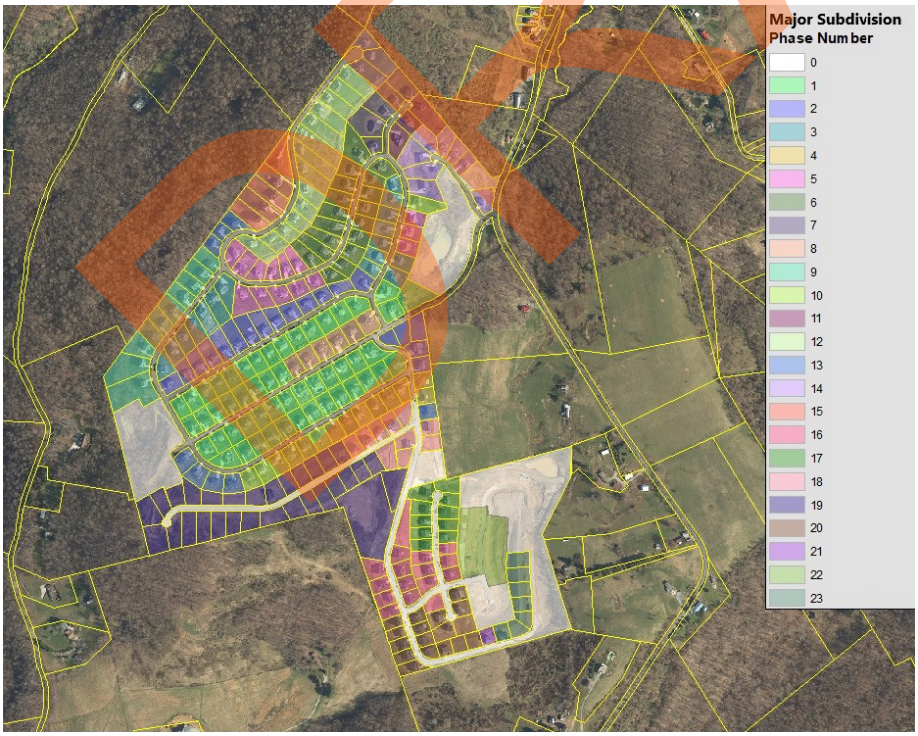
This Minor Subdivision was a three parcel split of 2.11 acres each from a 9.21 acre parcel.

This Exempt Subdivision was a single parcel split of 3 acres off from a 26 acre parcel.

Major and Major Multiphase Subdivision

Major Subdivisions are those greater than 5 splits (including the parent parcel) which are not exempt. Staff recommends that all major subdivisions greater than 20 splits be done as a phased subdivision for better localized control over potential problems within the subdivision. This can reduce taxes on the undeveloped later phases. It can also enable a more cost-effective, flexible approach to upfront infrastructure and allowing bonds to be more right-sized (see phasing scenario at the end of Chapter D). Furthermore, this allows a developer more adaptability to changes in the marketplace that occur over the life of the development.

The 12 parcel development at right shows a typical example of an unphased Major Subdivision

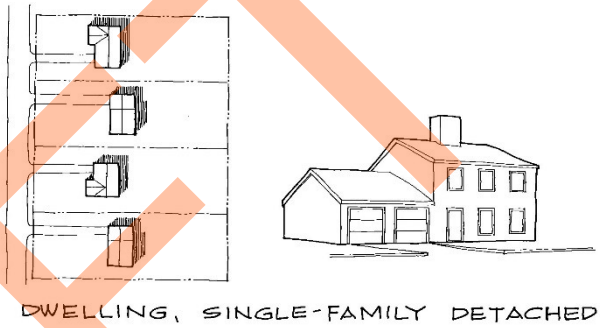


The photo and illustration at left shows the phasing of a development. Advantages include: less taxes, less required/more flexible infrastructure up front, possible reductions in bonding burdens, and more adaptability to market changes.

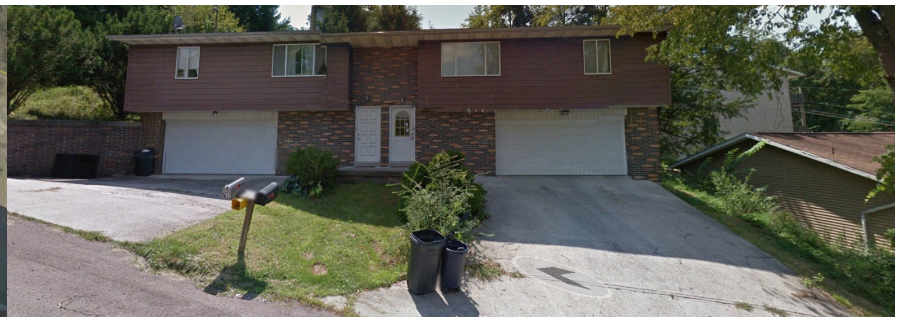
II.3 Housing Types

As most of the land subdivision in the County is overwhelmingly for residential purposes, The Ordinance ensures that desired housing is provided for in the Regulations. This subsection describes the different housing types accommodated or addressed in The Ordinance. Typical housing types range from single family detached (SFD) to apartments (MF) and mixed-use (MU) and many types of 'middle housing' in-between. The importance of middle housing option and affordability/workforce housing cannot be overstated and has gained national attention in recent years.

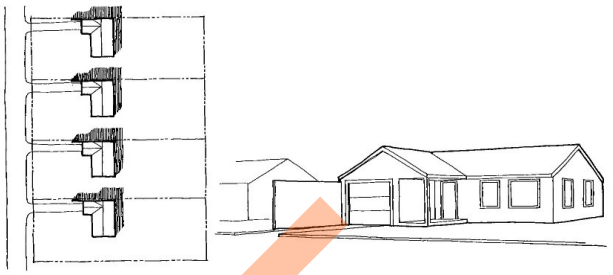
Single Family Detached: A building containing one dwelling unit that is not attached to any other dwelling unit by any means and is surrounded by open space or yards.



Single Family Semi-Detached: A one-family dwelling attached to one other one-family dwelling by a common vertical wall. This example has each dwelling on a separate lot (AKA duplex).



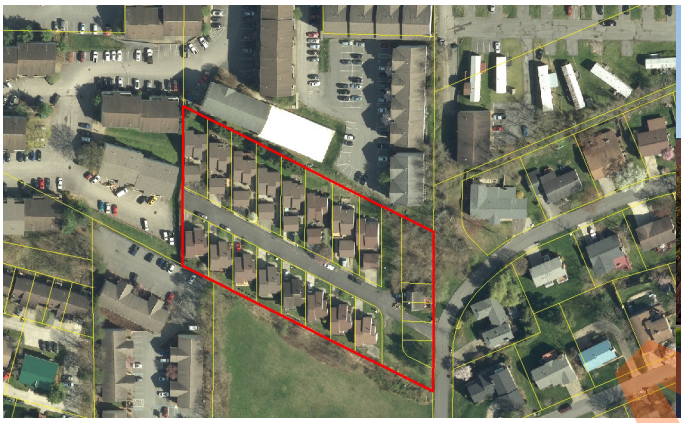
Patio Home A: A one-family dwelling on a separate lot with open space setbacks on three sides and with a courtyard. More efficient layout is often used in an urbanized setting (AKA sideyard house).



Patio Home B: Similar to A, but larger one-family dwelling on a separate, smaller lot with minimal yard space, situated without common walls, more suited to a slightly less urban and subtly more suburban context.

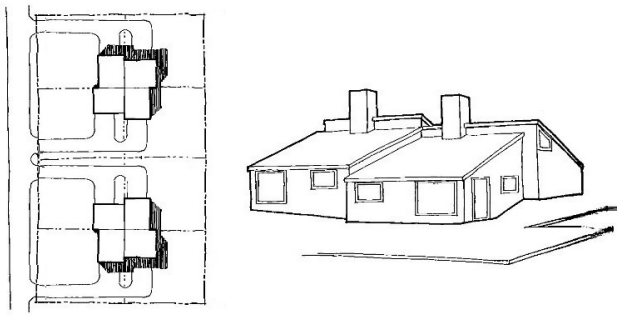
Row House: A one-family dwelling on a separate, generally smaller lot, similar in concept to town homes situated without common walls.

DWELLING, ROWHOUSE

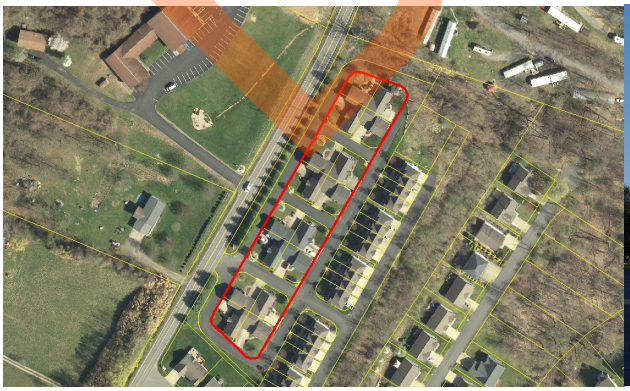


Quadplex: Four attached dwellings in one building in which each unit has two open space exposures and shares one or two walls with adjoining unit or units. This example has each dwelling on a separate lot.

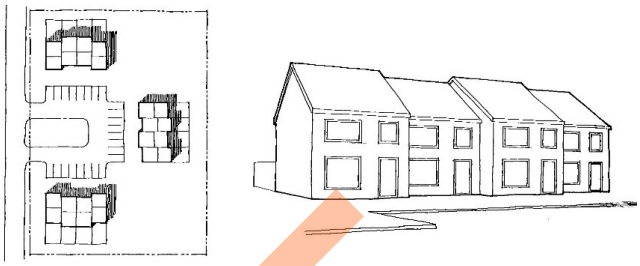
For quadplexes with each dwelling on a separate lot, low density residential lot size requirements must be adhered to. For a quadplex on a single lot, high density residential lot size requirements must be adhered to.



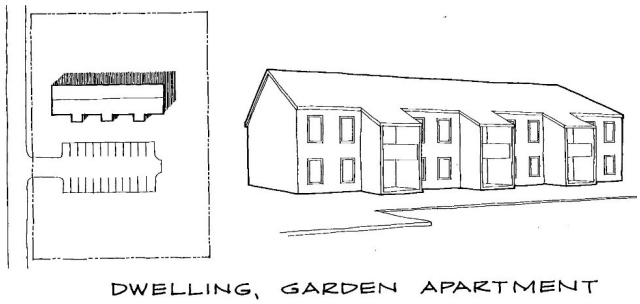
DWELLING, QUADRUPLEX



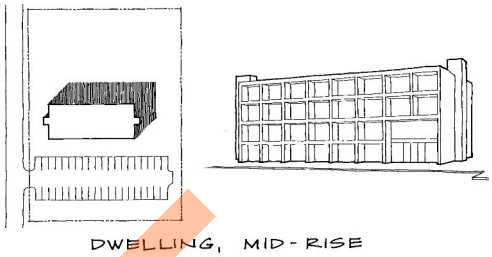
Townhouse: A one-family dwelling in a row of three or more in which each unit has its own front and rear access to the outside, and each unit is separated from any other unit by one or more vertical common unpierced walls.



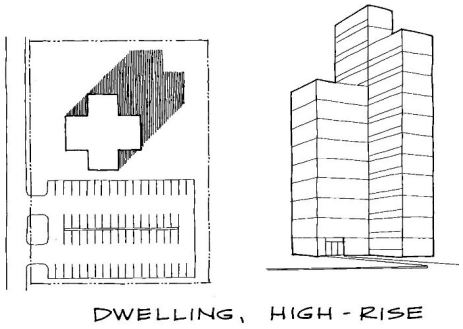
Garden Apartment: One or more two- to three-story multi-family structures including related off-street parking, open space, and recreation.

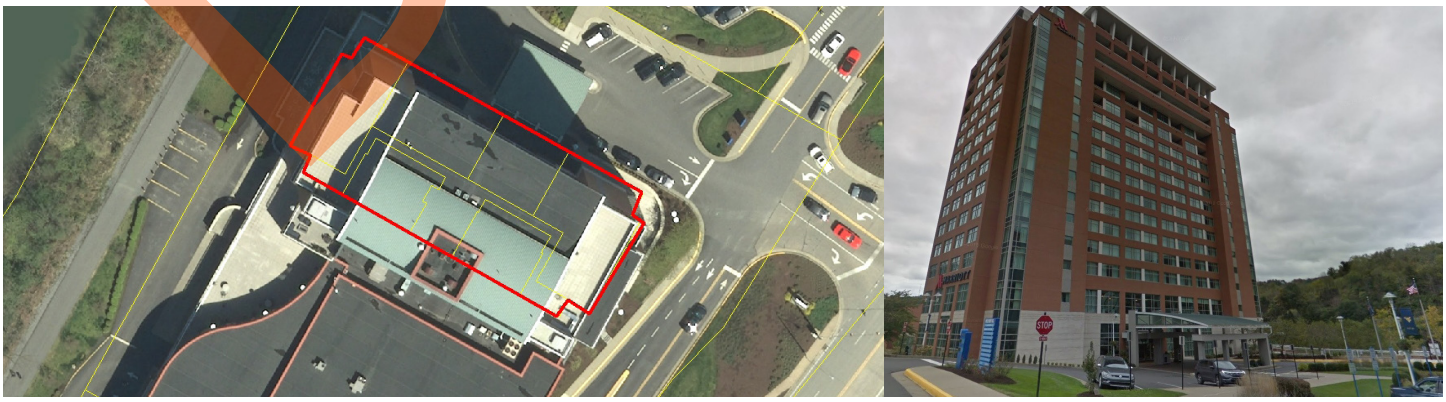


Mid-Rise: An apartment building containing from three to seven stories. This example is a condo with parking underneath.



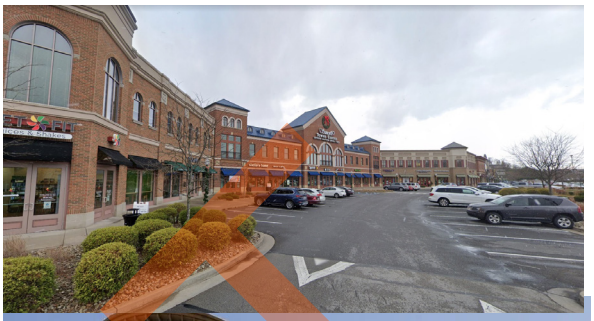
High-Rise: A building of eight or more stories. This example has both a hotel with restaurant on the bottom stories, and condo units on the upper stories.

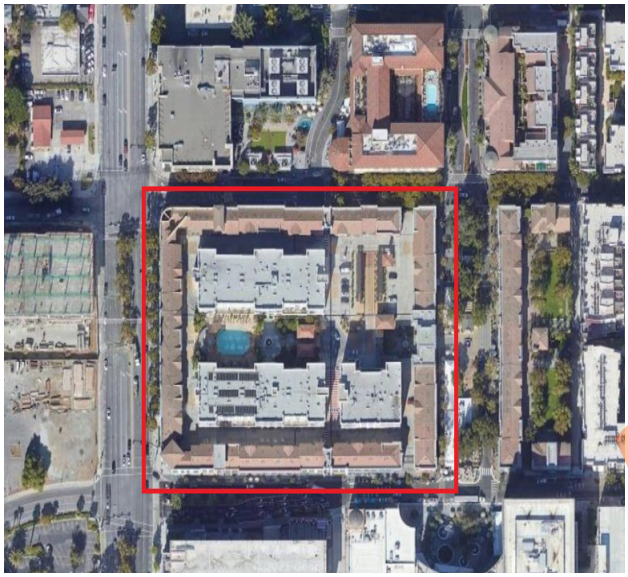


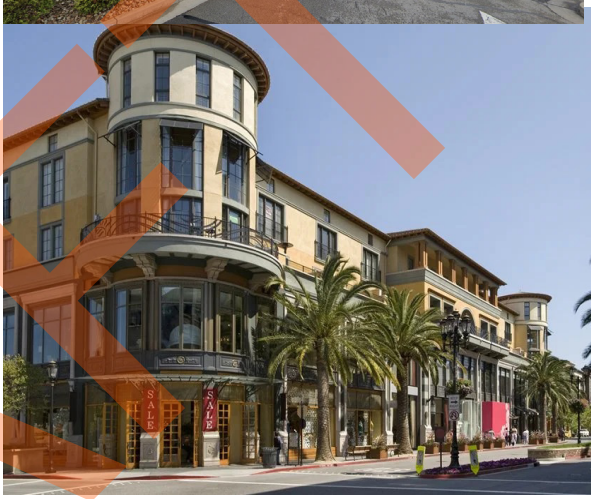


II.4 Commercial and Mixed-Use

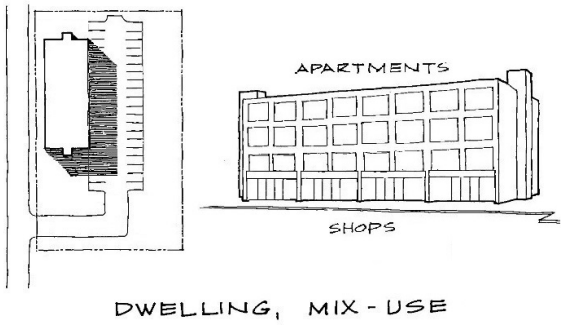
Commercial: A building or cluster of buildings containing multiple non residential ventures in the same development. This development has an interior courtyard for public use as well as a small area of interior parking.







Mixed-Use: A building or cluster of buildings containing multiple dwelling units and non residential ventures in the same development. This example has commercial ventures in two of the three buildings with residential to the rear. The county prefers development of mixed use vertical (where residential uses are on floors directly above the commercial uses on the ground floor{s}),rather than mixed use adjacent (where residential land uses are neighbors to the commercial uses).



CHAPTER III: Subdivision Application Process

This chapter describes the process for applying for developing or building within the County. To be allowed to create a subdivision, an application is necessary. Different types of subdivision applications are described in Table II-1. Table II-2 describes what type of application is required for different actions. Section 3 describes the application process with deadlines and what materials are generally required. Section 4 provides a flow-chart for the subdivision types showing review timelines, as well as describes how to use the flowchart.

CHAPTER III: Subdivision Application Process

III.1 Application Guide

III.1.a Table III-1. Application Guide

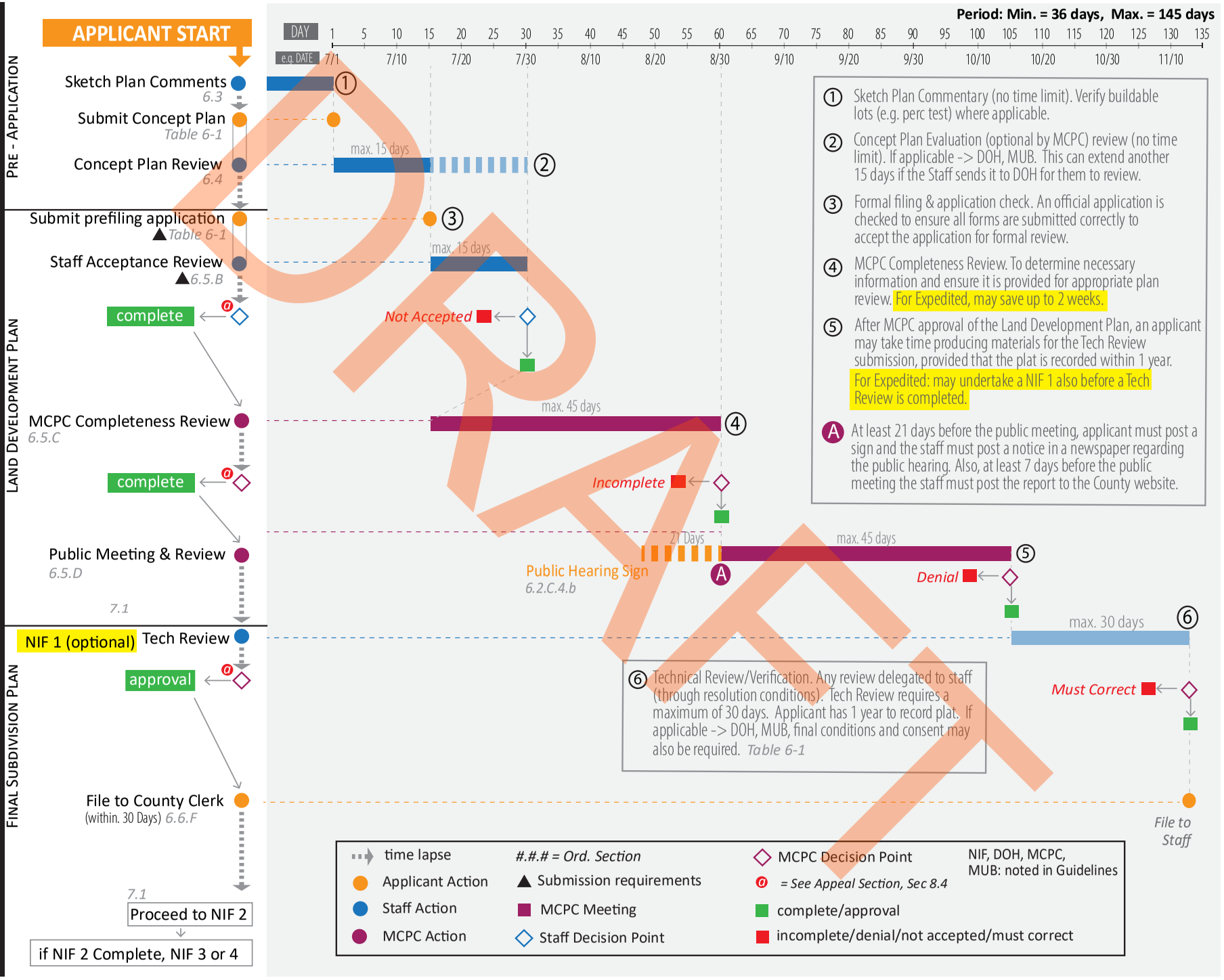
What I Want to Do	Application Needed	Fee?	Deadline to Submit*	How Long Does This Take*	Bodies which Review the Application
Give a parcel to a family member	Exempt	N/A	N/A	max 15 days	Planning Staff
File division of land pursuant to a court order	Exempt	N/A	N/A	max 15 days	Planning Staff
Do a minor boundary adjustment	Exempt	N/A	N/A	max 15 days	Planning Staff
Create a cemetery lot	Exempt	N/A	N/A	max 15 days	Planning Staff
Do an agricultural split	Exempt	N/A	N/A	max 15 days	Planning Staff
Do a split in conjunction with resource extraction	Exempt	N/A	N/A	max 15 days	Planning Staff
Merge or recombine two or more lots	Exempt	N/A	N/A	max 15 days	Planning Staff
Create a utility or emergency services lot	Exempt	N/A	N/A	max 15 days	Planning Staff
Continue an ongoing project (must be grandfathered)	Exempt	N/A	N/A	max 15 days	Planning Staff
Create no more than five lots (including the parent)	Minor	yes	N/A	max 10 days	Planning Staff
Create no more than five lots, but require off-site infrastructure	Major	yes	35-45 days	max 45 days	MCPC
Create six or more lots	Major	yes	35-45 days	max 45 days	MCPC
Do a subdivision in phases	Major, Phased	yes	35-45 days	max 45 days	MCPC
Create a residential subdivision of 6+ lots	Major or Major, Phased	yes	35-45 days	max 45 days	MCPC
Create a business park or commercial development with out-parcels	Major or Major, Phased	yes	35-45 days	max 45 days	MCPC

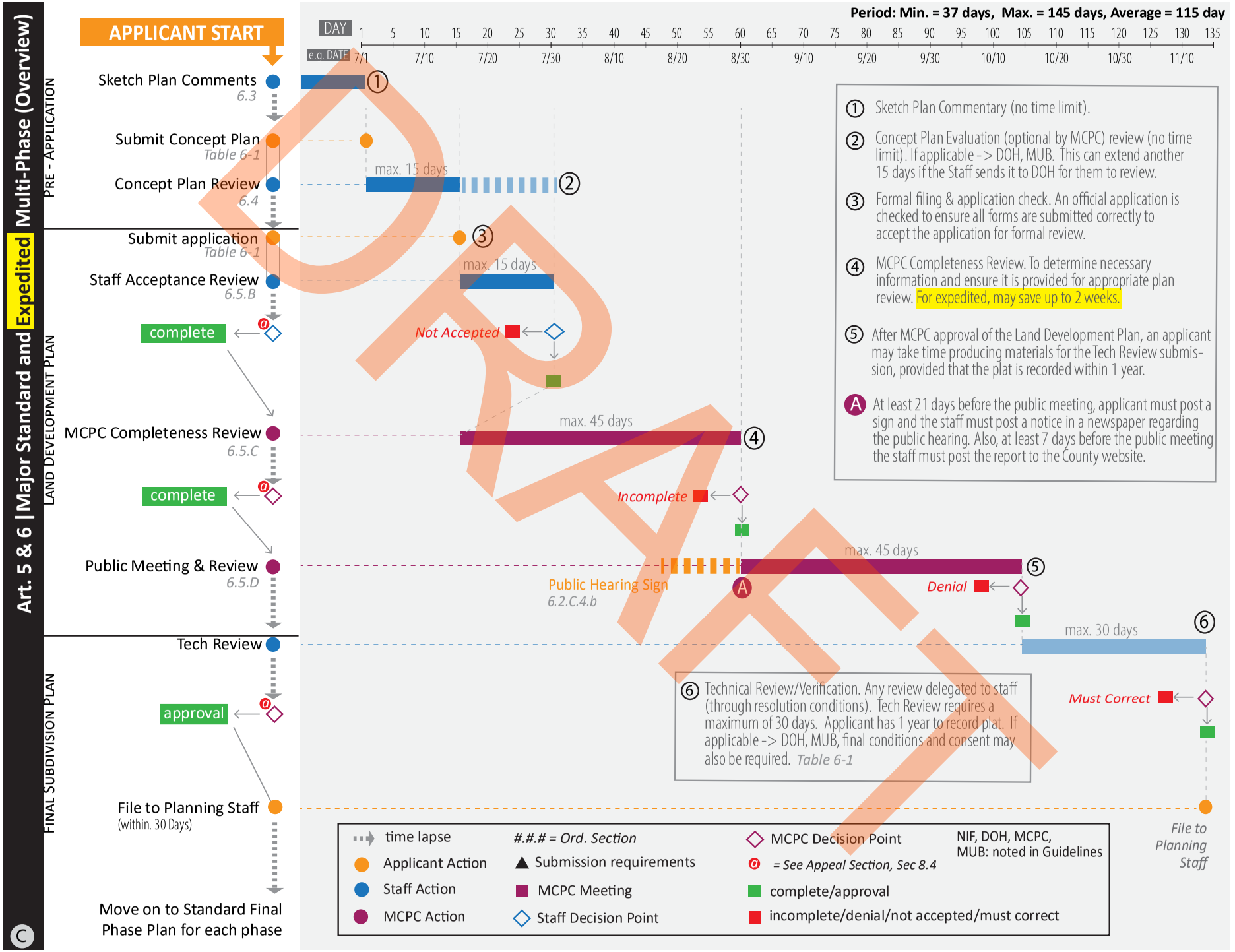
* For 'Complete' Application. From 'complete' application submission to approval or public hearing only. Does not include possible holding by the Planning Commission.

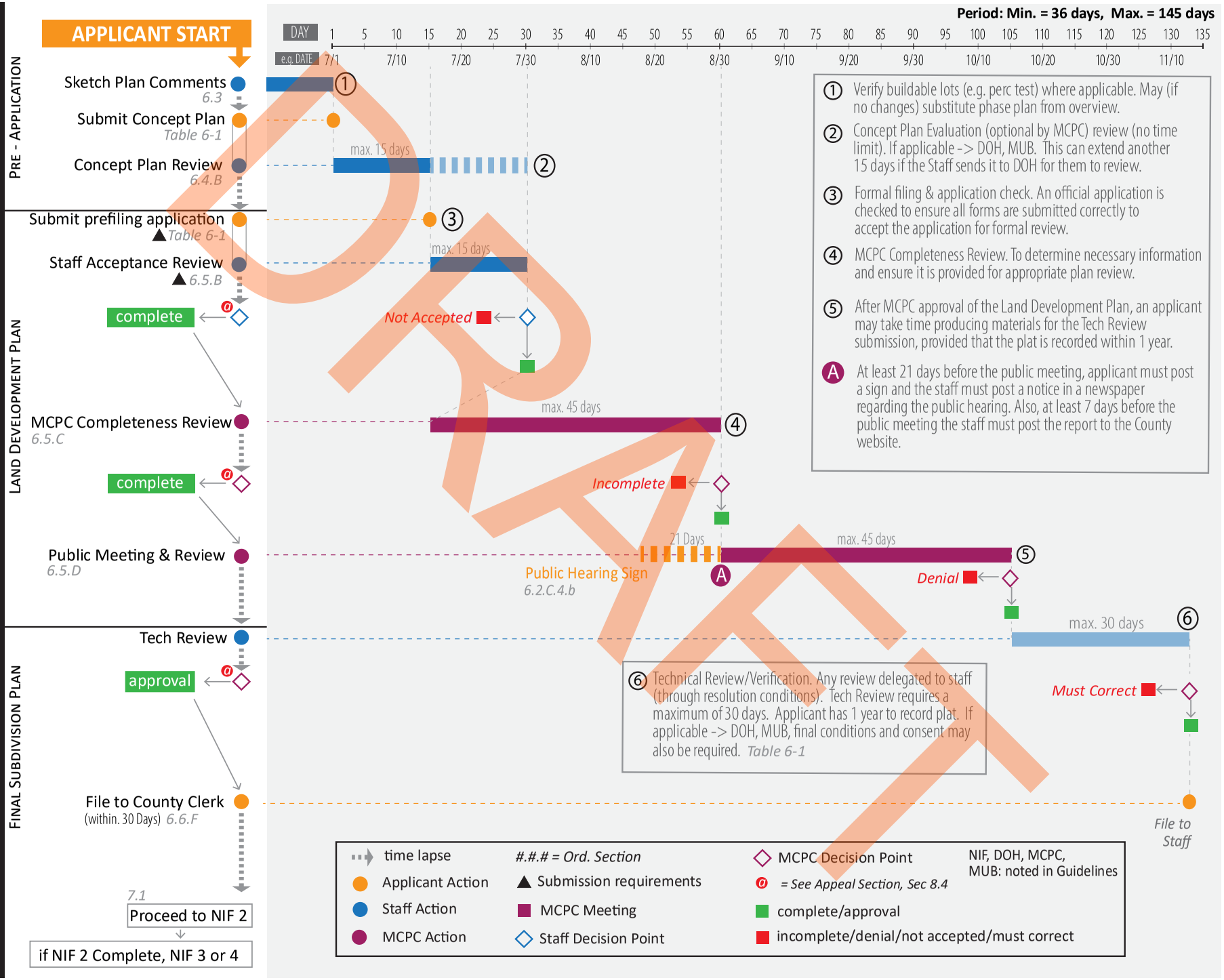
III.1.b Table III-2. Application Guide

What I Want to Do	Special Considerations
Give a parcel to a family member	There is a definition of "family" in the sub regs.
File division of land pursuant to a court order	The court order must be submitted along with the application.
Do a minor boundary adjustment	Max adjustment of 2,000 sq ft with no additional lots created.
Create a cemetery lot	Cemetery lots do not entail a subdivision in the classic sense (and are exempt), BUT the full parcel that contains the cemetery lots would be subject as any other land use parcel.
Do an agricultural split	Use for creation of a lot or road used exclusively for ag purposes. E.g.: a lot split to subdivide ag land between siblings (crops vs ranching).
Do a split in conjunction with resource extraction	Creation of lots for extraction or harvesting of resources. E.g.: a lot split to allow harvesting of forest timber.
Merge or recombine two or more lots	To enlarge a lot, not to be resubdivided.
Create a utility or emergency services lot	Cannot be used for commercial purposes.
Continue an ongoing project	Must have been started prior to the enaction date of the sub regs. Must include a Multi-Phase Plat to be approved.
Create no more than five lots (including the parent)	This cannot include extension or creation of offsite infrastructure.
Create six or more lots	This is automatically a major. Can be done as a single major subdivision without phasing.
Do a subdivision in phases	This includes a Multi-Phase Plat showing the final layout of all phases.
Create a residential subdivision of 6+ lots	Major or Major, Phased depends on how many parcels one wishes to create.
Create a business park or commercial development with out-parcels	Major or Major, Phased depends on how many parcels one wishes to create.


Art. 4 | Exempt
Art. 5 | Minor
Period: Min. = 2 days, Max. = 30 days
Period: Min. = 3 days, Max. = 30 days
DAY
DATE
e.g. DATE
APPLICANT START
Completeness Review
4.4
complete
Incomplete
Application Review
4.4
approval
Not Exempt
File plat to County Clerk
4.6 (within. 30 Days)
File to County Clerk
Proceed to NIF 3 or 4
7.1
County Clerk
max. 15 days
① Needs information to demonstrate application qualifies as Exempt.
② If application is Exempt, Staff cannot 'deny'. Denial in this case means 'not Exempt.'
APPLICANT START
Sketch/Concept Plan (opt) Comments
sec 5.2.A
5.3.A Apply for Prefiling Completeness Review
Table 6-1
7-day meeting
complete
Incomplete
Classification Review
5.3.B
Minor Sub
Not Minor
Tech Review
5.3.C
approval
Denial
File Plat to County Clerk
5.3.D (within. 30 Days)
Proceed to NIF 3 or 4
7.1
max. 10 days
① Sketch Plan Commentary (no time limit). If a formal Concept Plan is submited, Staff must review it in 15 days. Review can extend another 15 days, if Staff sends it to DOH to review. Verify buildable lots (e.g. perc test) where applicable.
time lapse
Applicant Action
Staff Action
MCPC Action
#.#.# = Ord. Section
Submission requirements
MCPC Meeting
Staff Decision Point
MCPC Decision Point
= See Appeal Section, sec. 8.4
complete/approval
incomplete/denial/not minor
NIF, DOH, MCPC, MUB: noted in Guidelines


APPLICANT START
PRE - APPLICATION
Sketch Plan Comments
6.3
Submit Concept Plan
Table 6-1
Concept Plan Review
6.4
LAND DEVELOPMENT PLAN
Submit prefiling application
▲Table 6-1
Staff Acceptance Review
▲6.5.B
complete
Not Accepted
MCPC Completeness Review
6.5.C
complete
Incomplete
Public Meeting & Review
6.5.D
Public Hearing Sign
6.2.C.4.b
Denial
7.1
FINAL SUBDIVISION PLAN
NIF 1 (optional) Tech Review
approval
Must Correct
File to County Clerk
(within. 30 Days) 6.6.F
File to Staff
7.1
Proceed to NIF 2
if NIF 2 Complete, NIF 3 or 4
Period: Min. = 36 days, Max. = 145 days
DAY
e.g. DATE
max. 15 days
max. 15 days
max. 45 days
21 Days
max. 45 days
max. 30 days
① Sketch Plan Commentary (no time limit). Verify buildable lots (e.g. perc test) where applicable.
② Concept Plan Evaluation (optional by MCPC) review (no time limit). If applicable -> DOH, MUB. This can extend another 15 days if the Staff sends it to DOH for them to review.
③ Formal filing & application check. An official application is checked to ensure all forms are submitted correctly to accept the application for formal review.
④ MCPC Completeness Review. To determine necessary information and ensure it is provided for appropriate plan review. For Expedited, may save up to 2 weeks.
⑤ After MCPC approval of the Land Development Plan, an applicant may take time producing materials for the Tech Review submission, provided that the plat is recorded within 1 year. For Expedited: may undertake a NIF 1 also before a Tech Review is completed.
A At least 21 days before the public meeting, applicant must post a sign and the staff must post a notice in a newspaper regarding the public hearing. Also, at least 7 days before the public meeting the staff must post the report to the County website.
⑥ Technical Review/Verification. Any review delegated to staff (through resolution conditions). Tech Review requires a maximum of 30 days. Applicant has 1 year to record plat. If applicable -> DOH, MUB, final conditions and consent may also be required. Table 6-1
time lapse
Applicant Action
Staff Action
MCPC Action
#.#.# = Ord. Section
▲ Submission requirements
MCPC Meeting
Staff Decision Point
MCPC Decision Point
= See Appeal Section, Sec 8.4
complete/approval
incomplete/denial/not accepted/must correct
NIF, DOH, MCPC, MUB: noted in Guidelines


Art. 5 & 6 | Major Standard and Expedited Multi-Phase (Overview)
PRE - APPLICATION
LAND DEVELOPMENT PLAN
FINAL SUBDIVISION PLAN
APPLICANT START
Sketch Plan Comments
6.3
Submit Concept Plan
Table 6-1
Concept Plan Review
6.4
Submit application
Table 6-1
Staff Acceptance Review
6.5.B
complete
MCPC Completeness Review
6.5.C
complete
Public Meeting & Review
6.5.D
Tech Review
approval
File to Planning Staff
(within. 30 Days)
Move on to Standard Final Phase Plan for each phase
Period: Min. = 37 days, Max. = 145 days, Average = 115 day
DAY
e.g. DATE
max. 15 days
max. 15 days
Not Accepted
max. 45 days
Incomplete
max. 45 days
Public Hearing Sign
6.2.C.4.b
Denial
max. 30 days
Must Correct
File to Planning Staff
① Sketch Plan Commentary (no time limit).
② Concept Plan Evaluation (optional by MCPC) review (no time limit). If applicable -> DOH, MUB. This can extend another 15 days if the Staff sends it to DOH for them to review.
③ Formal filing & application check. An official application is checked to ensure all forms are submitted correctly to accept the application for formal review.
④ MCPC Completeness Review. To determine necessary information and ensure it is provided for appropriate plan review. For expedited, may save up to 2 weeks.
⑤ After MCPC approval of the Land Development Plan, an applicant may take time producing materials for the Tech Review submission, provided that the plat is recorded within 1 year.
A At least 21 days before the public meeting, applicant must post a sign and the staff must post a notice in a newspaper regarding the public hearing. Also, at least 7 days before the public meeting the staff must post the report to the County website.
⑥ Technical Review/Verification. Any review delegated to staff (through resolution conditions). Tech Review requires a maximum of 30 days. Applicant has 1 year to record plat. If applicable -> DOH, MUB, final conditions and consent may also be required. Table 6-1
time lapse
Applicant Action
Staff Action
MCPC Action
#.#.# = Ord. Section
Submission requirements
MCPC Meeting
Staff Decision Point
MCPC Decision Point
= See Appeal Section, Sec 8.4
complete/approval
incomplete/denial/not accepted/must correct
NIF, DOH, MCPC, MUB: noted in Guidelines


APPLICANT START
PRE - APPLICATION
Sketch Plan Comments
6.3
Submit Concept Plan
Table 6-1
Concept Plan Review
6.4.B
LAND DEVELOPMENT PLAN
Submit prefiling application
Table 6-1
Staff Acceptance Review
6.5.B
complete
MCPC Completeness Review
6.5.C
complete
Public Meeting & Review
6.5.D
FINAL SUBDIVISION PLAN
Tech Review
approval
File to County Clerk
(within. 30 Days) 6.6.F
7.1
Proceed to NIF 2
if NIF 2 Complete, NIF 3 or 4
Period: Min. = 36 days, Max. = 145 days
DAY
e.g. DATE
max. 15 days
max. 15 days
Not Accepted
max. 45 days
Incomplete
21 Days
max. 45 days
Public Hearing Sign
6.2.C.4.b
Denial
max. 30 days
Must Correct
File to Staff
1 Verify buildable lots (e.g. perc test) where applicable. May (if no changes) substitute phase plan from overview.
2 Concept Plan Evaluation (optional by MCPC) review (no time limit). If applicable -> DOH, MUB. This can extend another 15 days if the Staff sends it to DOH for them to review.
3 Formal filing & application check. An official application is checked to ensure all forms are submitted correctly to accept the application for formal review.
4 MCPC Completeness Review. To determine necessary information and ensure it is provided for appropriate plan review.
5 After MCPC approval of the Land Development Plan, an applicant may take time producing materials for the Tech Review submission, provided that the plat is recorded within 1 year.
A At least 21 days before the public meeting, applicant must post a sign and the staff must post a notice in a newspaper regarding the public hearing. Also, at least 7 days before the public meeting the staff must post the report to the County website.
6 Technical Review/Verification. Any review delegated to staff (through resolution conditions). Tech Review requires a maximum of 30 days. Applicant has 1 year to record plat. If applicable -> DOH, MUB, final conditions and consent may also be required. Table 6-1
time lapse
Applicant Action
Staff Action
MCPC Action
#.#.# = Ord. Section
Submission requirements
MCPC Meeting
Staff Decision Point
MCPC Decision Point
= See Appeal Section, Sec 8.4
complete/approval
incomplete/denial/not accepted/must correct
NIF, DOH, MCPC, MUB: noted in Guidelines

III.3 Application Process

ALL SUBDIVISIONS REGARDLESS OF TYPE MUST FILL OUT AN APPLICATION

This section discusses the major steps of the process and an overview of the processes associated with the development types. This process is based on the steps used by designers of good subdivisions, the kind the County would like to have. It then facilitates that process as an incentive, especially since the regulations do not prevent applicants from doing subdivisions in the way that they have done for years in the County. It may seem like a large number of steps, but again, they are steps a good development would normally undertake, AND by receiving timely feedback, should actually make the process more efficient, optimize investment and avoid mistakes, which are the most costly of all.

If you have no experience with applying for a subdivision of land, Staff suggests that you should come in to be guided through the process. If you are experienced, you may still want to come in ahead of applying, especially if the project is complicated by outside influences such as topography. This is to ensure that you are getting the most for your investment in the subdivision and ensuring that the County is avoiding unnecessary costs itself.

III.3.a Application Process:

Major Steps of the Process:

There are a number of steps to any review of a subdivision application. Note that there are submissions that may be required for each or any of the steps (See Table 6-1 in The Ordinance for a complete list of submissions/requirements for each step). The major steps of the review process are as follow:

- Sketch Plan
- Pre-Meeting
- Pre-Filing Review

Pre-meetings are recommended for any project, BUT required for all major subdivisions. There are no fees or deadlines associated with this step.

Major Steps of the Process

Question this step may help the applicant answer: I have this property on X St., what can I do with it? How will the process unfold?

The purpose of a pre-application meeting is when the project is at a preliminary stage, the applicant has not made significant expenditures for engineering work. This permits Staff to offer comments and suggestions regarding project layout and Preferred Design standards. If the pre-application meeting is scheduled in advance, the applicant will receive comments from the Planning Office and other pertinent County agencies to ensure that the applicant receives design guidance prior to designing a Concept Plan. For non-major subdivisions, the Sketch Plan step and the Concept Plan step may become just one step.

One of the key submissions is a sketch. For the sketch, applicants should know the location of the property, its size, the rough number of lots, rough layout and development goals (e.g. 'I want to make a small walkable neighborhood) for the proposed subdivision, as well as the principal access they are planning to use for it (cf. Table 6-1). Again, a Sketch Plan is not intended to require any engineering.

Advantages include being able to verify that proposed lots are actually going to be buildable before an applicant goes through the whole process. It coordinates the application with the requirements of the County, DOH, MUB and other pertinent entities before any significant money is spent on design or engineering, saving a lot of potential wasted investment. Furthermore, the applicant will be provided an electronic template on which to submit their application, drawings, and materials.

Concept Plan and Conference:
Following the submission of a Sketch Plan and attending the required meetings of Section 6.3.B, all applicants seeking approval for a Major Subdivision must also file a Concept Plan for the entire subdivision regardless of the number of phases in which the subdivision will be completed. A concept drawing should display the desired number of lots and layout (i.e. integrating comments from the Sketch Plan and getting specific on lots and layout).

The purpose of a Concept Plan is to facilitate a productive pre-application conference and allow the Planning Office to offer comments and suggestions and raise potential concerns regarding a proposed project before a lot of money is spent on design work (i.e. gets you started on the right track for the best and most cost-effective design to meet your needs). It intends to put the applicant in the room with all the staff expertise needed to achieve the subdivision goals. This includes but is not limited to: Planning staff, County Engineer, Slope and Floodplain agent, Assessing, and possibly outside entities such as DOH and/or MUB representation. Obviously, not all of these will always be necessary, which is one of the reasons why the Sketch Plan phase is useful. Scheduling a meeting with all such entities takes time to arrange, and if they are not strictly necessary for a given project, it is better to 'right-size' the attendees list. On the other hand, timely feedback from a key official can avoid costly mistakes and delays. This is the final chance for such entities to weigh in on the subdivision design BEFORE having to approve or deny any official application.

The applicant in a successful Preferred Design application will have an expedited process as the design meets the standards for a quality development and all the County's requirements. Even if a proposed development does not meet the Preferred Design standards, the applicant will benefit in many ways from some of the incentives and also achieve a Staff-reviewed design that can help with financial institutions.

A non-refundable deposit (to be applied to the application fee should the applicant choose to proceed) must be paid along with a copy of the proposed Subdivision Plan drawing(s) and supporting information compliant with the requirements of Section 6.3.B (cf. Table 6-1).

As Preferred Design involves designs that have already been reviewed by staff, State agencies and the Planning Commission, applicants using Preferred Design will benefit not only from density and cost/unit incentives, but also time benefits. The applicant will have a design that they can take to a financial entity that meets County specifications at this point BEFORE they spend any significant money on engineering. They will have a complete list of the documents needed for a complete application, possibly saving a couple of weeks on the completeness review as a result. By using 'tried and tested' designs, the worry of hiccups in the process is significantly reduced. Any bonuses or design advantages must be requested at this step in the process.

Concept Plan and Conference:

Question this step may help the applicant answer: How many units can I get? How do I layout the streets to my best advantage?

Public Hearing vs. Public Meeting:

A public meeting signifies the meeting of a board/commission and it is open to the public (hence public meeting). At that meeting, the board/commission may review something in particular that requires feedback from the public. That is a Public Hearing. A Hearing is a mandatory procedure wherein public comment is entertained in a formal board/commission proceeding. In this case, that would be a subdivision plan review by the MCPC. Once the public has been 'heard', the board/commission deliberates taking into account the public comment, but after a decision is made, the 'hearing' is closed.

Formal Application and Acceptance Check

After the Concept Plan phase (if done/required), the first step is to fill out all the necessary parts therein of the application. Staff gives the application an initial 'check'. This check advises the applicant on the actual filling out of the application, which will provide the reviewers with a clear request of what the applicant wants to do AND allows Staff and the MCPC to determine the appropriate materials and information needed to review the Subdivision Plan (especially if there is no concept plan). This ONLY pertains to 'did you fill out the forms correctly', NOT has the applicant submitted all the required materials. The complete list of required submissions, aka completeness, will be discussed below. Table 6-1 of The Ordinance lists all the materials that typically MAY be required for approval, BUT in unusual circumstances, some of the information needs will be waived, while other materials may be requested.

Completeness

This step ensures that all the necessary materials and information are received before rendering a decision. Not every application requires the same information. One may have school considerations, another may impact traffic in the area greatly. Thus, 'Completeness' ensures that all the necessary considerations are provided so that the reviewing entity (either staff or the Planning Commission) can make an informed decision. The actual review has a time deadline to respect, and if the reviewers do not have the materials needed to issue a responsible decision, they can deny an application that might otherwise be acceptable. This step ensures that the applicant is fully aware of what is needed for a decision and has provided a complete portfolio for the reviewers when the clock on review begins.

Land Development (LD) Plan Review

Whether the reviewers are the Planning Commission or it is a process that has been delegated to Staff, this step looks at the complete portfolio against the requirements of The Ordinance and renders a decision whether or not the application is compliant - NOT whether or not they like it. A review may accept a subdivision plan, accept it with conditions, or deny the plan application. The decision may be 'reconsidered' once (typically addressing important new information, or what would be the point?), OR it may be appealed to the Subdivision Review Board (Chap VI). IF the plan is accepted, that does not yet mean the applicant can start to build - only that the 'LD Plan' is acceptable: number of lots, layout, access, etc. There still needs to be a verification of the technical aspects of the proposed subdivision including but not limited to: conditions imposed by the Review, drainage and other engineering considerations, other entity requirements such as the DOH, MUB, DEP etc. (see below), BUT the 'Plan' has been accepted at this point.

Phases

Large developments are usually complex and are encouraged to be executed in phases. This then requires an 'overview' or 'multi-phase' (sometimes called master) plan - here called a 'multi-phase' subdivision plan that describes the entire project and ALL of its phases. If approved, then the applicant can apply for the individual phases with final documents for final approval of that phase (again cf. Table 6-1 of The Ordinance) - in order so they can either sell lots or begin the process for building structures (See NIFs) within that phase. If sufficient detail is provided in this Multi-Phase Subdivision plan, usually associated with Preferred Design and the Expedited Review, then the Planning Commission can approve the overall plan and delegate the approval of the phases to

Formal Application and Acceptance Check

Questions this step may help the applicant answer: Have I filled out my application appropriately or am I missing something? Have I clearly denoted the what the project entails (x units of y type on z acres)? Have I marked any requested bonuses (if applicable) and filled out the coinciding table?

Completeness

Question this step may help the applicant answer: Are there any additional requirements because of the nature of my specific application or its location that I need to provide for review? (e.g. Traffic Study, distance to school, etc.)

Land Development (LD) Plan Review

Question this step may help the applicant answer: Are the number of lots and their layout acceptable to the County?

Staff, which provides a huge time savings to the applicant (i.e. no more public meetings to schedule) provided that there are no significant changes to the overall subdivision plan when the phase plan process is complete.

Final Subdivision Plan/Technical Verification Review

As mentioned in Land Development Plan review above, once a Land Development Plan has been approved and/or its phases, there may still be a number of technical reviews necessary before the Plat can be recorded. This is called the Final Subdivision Plan review OR often just 'Tech Review'. Conditions imposed by the MCPC may defer to Staff for verification or small design changes that will address concerns that the MCPC expressed in the conditional approval.

Furthermore, engineering considerations like drainage treatment, grading, and so forth are necessary to be reviewed to ensure that the lots proposed are safe, and meet State requirements as designed. This includes any final conditions imposed by the State or Regional entities themselves, like DOH, MUB etc. that often have to verify special conditions outside the purview of the MCPC. This step may require different information than the Subdivision Plan, but the huge advantage is that a lot of the engineering details can be designed AFTER the subdivision is already approved, making cost and time outlay more convenient and efficient (again cf. Table 6-1 of The Ordinance). At this point, a NIF I for a Preferred Design/Expedited Review may be allowed (*which see*). Upon completion, then the applicant can record the plat and thereafter begin the construction process.

Filing/Recording the Plat

All subdivision plats (i.e. official layout drawing) must be recorded in the Clerk's to become official. A development cannot sell lots or build buildings without recording the plat.

Submittals

For each of the steps, each type of subdivision has items that an applicant must supply. This is listed in Table 6-1 of The Ordinance.

Phases

Question this step may help the applicant answer: Is my phase of development consistent with the approved overview plan and is it ready for detailed engineering?

Final Subdivision Plan/ Technical Verification Review

Question this step may help the applicant answer: Are all the details of my proposed subdivision correct?

Filing/Recording the Plat

Question this step may help the applicant answer: Now that the details of my subdivision are defined and approved, what do I officially need to record as a legal document so I can complete the infrastructure for my development and sell lots? (Note you will still need to file NIFs (which see) before you can build houses or buildings).

III.3.b Application Process: Other Steps and Considerations:

Conditions

If Conditions are applied to either a Minor or Major Subdivision by the Planning Commission or Planning Staff, they will be reviewed for compliance by Staff prior to recording the plat, except those which are in relation to specific phases or that need to be met mid-construction. Per WV8A, conditions applied to a subdivision must adhere to three provisions: first, the development project results in the need for the conditions; second, the conditions have a reasonable relation to the development project; and third, all conditions are in conformity with the comprehensive plan adopted pursuant to Chapter 6 of WV8A (cf. bonds below).

NIFs

As required by WV8A, any location 'improvement' (i.e. building) needs to be addressed in lieu of a building permit, if a locality does not have building permits. A lot must be properly recorded BEFORE such building can take place. We go into more detail in Chapter V.

Bonds *(Surety and bonds behave the same as standard)*

In order to ensure that infrastructure is built for a subdivision, even if the developer cannot finish the project, a bond, letter of credit or tri-partite agreement is required to guarantee that the necessary infrastructure has sufficient funds to ensure completion as necessary.

SEE CHAPTER V FOR MORE DETAIL

Changes, Appeals, Resubmissions and Reconsiderations

Because projects and their applications do not always go through as planned, or the way the applicant originally expects, disagreements arise. All decisions by the reviewing authority may be appealed, AND applications may be altered even after the application has been filed. The process allows for applicants to resubmit, ask to reconsider an application or a portion thereof, AND even appeal any decision that the applicant disagrees with, though there is no guarantee that the applicant will change the outcome of a review. Even if it is known in advance that something will be appealed, an applicant must nonetheless go through the full application process so that everything required for a decision is available, or an appeal will be rejected.

SEE CHAPTER VI FOR MORE DETAIL

III.4 Flow Chart Walkthrough for the Subdivision and Land Development Processes by Subdivision Type

The following flowchart walkthroughs are intended to explain the application steps and timelines. The difficulty in representing this information is that dates vary from month to month, so that mandatory process times may fall differently depending on the given month. As such, an example of a sample timeline based on a year starting July 1, 2020 is provided so that an applicant can get a better idea how a given process will unfold in time. Each flowchart attempts to also provide the possible variability for each step no matter what date or month an application is started. The following application types are treated in regards to the previously shown flowcharts to help the applicant see how a given process proceeds in time.

Exempt

If an applicant submits an "Exempt"application, Staff then has up to 15 days to declare the application complete. Then, once Staff has a complete application, then they have up to 15 days to determine whether or not the application qualifies as exempt and determine that the plat is correct and complete. If it does not qualify as exempt, that does not necessarily mean it will ultimately be denied - merely that it might have to be applied for under a minor subdivision (see below). After accepted as exempt, the applicant has 30 days to file the application with the County Clerk. That is the maximum, though as a matter of course, these are usually fairly simple processes and can often be handled the same day. See flowchart/timeline for the process at the beginning of this chapter.

Minor

If an applicant submits an application, Staff has up to 10 days to verify ('accept') the application has been filed properly, though this step will normally be done the day of submission, Staff then has up to 10 days to declare the application complete. Then, once Staff has a complete application, then they have 10 days to review the application for approval or denial. After that, the applicant has 30 days to file the application with the County Clerk. That is again a maximum timeline. For simple subdivisions, it will usually take less time. See flowchart/timeline for the process at the beginning of this chapter.

Minor to other processes - Reclassification

There are, however, three reasons the Planning Commission may need to hear a Minor Subdivision. First, there is reclassification of a subdivision from Minor to Major. This happens because the development proposed does not meet the additional guidelines set forth in the Regulations (such as the applicant proposing multi-family development, commercial development over 5,000 sq ft, or the need to extend infrastructure such as roads or utilities to the site). Second, a Minor subdivision may need to go before the Planning Commission due to a request for waiver from a specific requirement or conditions. Third, there is Planning Director discretion, where the Director feels that the application is appropriate for Planning Commission review due to project specific concerns (e.g. a targeted development area like an opportunity zone). In all three cases, the process would follow that of a major subdivision below.

The flowcharts are intended to show the basic process for a typical application for the classes of subdivision listed in the Regulations: exempt and minor. There is also a process for appeal of a decision, whether by the Director or the MCPC.

Single Phase Standard (and Expedited-see Chap. IV) Review, Major

The applicant submits a concept plan. Staff then has 15 days to review the plan. Staff then has 15 days to review a submitted application for prefiling. If the application is declared complete, the date of prefiling submission is the date of official submission. If the application is missing information, the information must be procured and the application resubmitted for prefiling or be submitted for Staff review. Staff then has 15 days to accept the application as properly submitted (this can be concurrent). Then the MCPC has 45 days to review the application for completeness. Once confirmed the MCPC has an additional 45 days to hold a public meeting and approve or deny the application. At least 21 days before the public meeting the Planning Office has to post a notice in a newspaper regarding the public hearing. At least 7 days before the public meeting the Planning Office has to post the report to the county website. If the application is approved, they have 30 days to file the application with the county clerk. If the application is denied, a denial notice must be sent out no later than 10 days after the denial. A reconsideration of the decision may be submitted no later than 14 days after the date of the denial notice. The MCPC has 45 days to reconsider the application where a vote to approve or deny the application will take place. No further requests for reconsideration may be submitted.

Multi Phase Standard Review, Major

Major developments with phases (i.e. Multi-Phase) will also include a Multi-Phase (Overview) Land Development Plan, in addition to each phase, which will each be treated as its own major subdivision. Applicants start by submitting a Sketch Plan. There are no time limits associated with this step.

Then, the applicant submits a Concept Plan (i.e. for the 'overview' of the whole multi-phase preliminary plan). The Planning Office then has 15 days to review a submitted application for prefiling. If the application is declared complete, the date of prefiling submission is date of official submission. If the application is missing information, it must be procured and the application resubmitted for prefiling or be submitted for Staff review. Staff then has 15 days to 'accept' the application.

Then the MCPC has 45 days to review the application for completeness. Once confirmed the MCPC has an additional 45 days to hold a public meeting and approve or deny the application. At least 21 days before the public meeting, Staff has to post a notice in a newspaper regarding the public hearing. At least 7 days before the public meeting, Staff has to post the report to the county website.

If the application is approved, applicants have 30 days starting to file the application with the County Clerk. If the application is denied, a denial notice must be sent out no later than 10 days after the denial. A reconsideration of the decision may be submitted no later than 14 days after the date of the denial notice. The MCPC has 45 days to reconsider the application where a vote to approve or deny the application will take place. No further requests for reconsideration may be submitted.

Per Phase

If the Phased Subdivision is standard, each phase must go through the same process listed for a single phase standard review.

For Standard, if an applicant submits a phase, it would be reviewed by Staff and either reviewed by or just confirmed by the Planning Commission, depending on the circumstances and how much information on that phase was provided during the overview plan. See Chapter VI-9 for example - A change proposed such as that in the gold box would only require confirmation, while the change in the area of the blue box, though it would likely be allowed, but would require further review directly by the Planning Commission.

There will also be a final survey of the overall site to be platted after all development from all phases is finalized, or no further development or phases are pursued.

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CHAPTER IV: Expedited Review

Poor development burdens the residents of the development, their neighbors and the County as a whole, with road washouts, backed up traffic and more. Good development design addresses neighborhood and County needs as well as the needs of the development itself. Those developments are worth more to the residents and end up being a benefit to all.

Thus, the County is seeking to give 'preference' to developments that try to do a better job with context sensitive or what we are calling 'Preferred Design'. Preferred Design allows an applicant the ability to follow the Expedited Review process, which is faster and easier IF the County is getting what it considers a 'good development' - based on this Preferred Design. This chapter provides details and information on this type of review. Chapters VII discusses how to qualify as Preferred Design.

CHAPTER IV: Expedited Review

Section 1 introduces the concept and principals behind Expedited Review, its advantages, the steps involved and the submission requirements (from a process standpoint - the actual submission(s) is(are addressed in Table 6-1 of The Ordinance). Section 2 provides flowcharts that show how Expedited Review is executed for the different types of subdivision, contrasting its advantages over standard review.

IV.1 Introduction

This section will describe the process for reviewing a development that qualifies as Preferred Design, called Expedited Review, since it accelerates the schedule for reviewing such an application. The intent is to reward developers that pursue good development design. As this is intended to encourage development consistent with the future vision for the County, there are incentives for Preferred Design in the form of process and time savings. The details of this speedier, more time-effective option for developers are described in this Chapter. When developers provide such Preferred Designs, they also have incentives in the form of design advantages including a greater possible number of units and less infrastructure per a given area, as well as some tax advantages, providing a higher return on investment. These bonuses and how to qualify for Preferred Design are the subject of Chapter VII.

IV.1.a Overview of Process Advantages

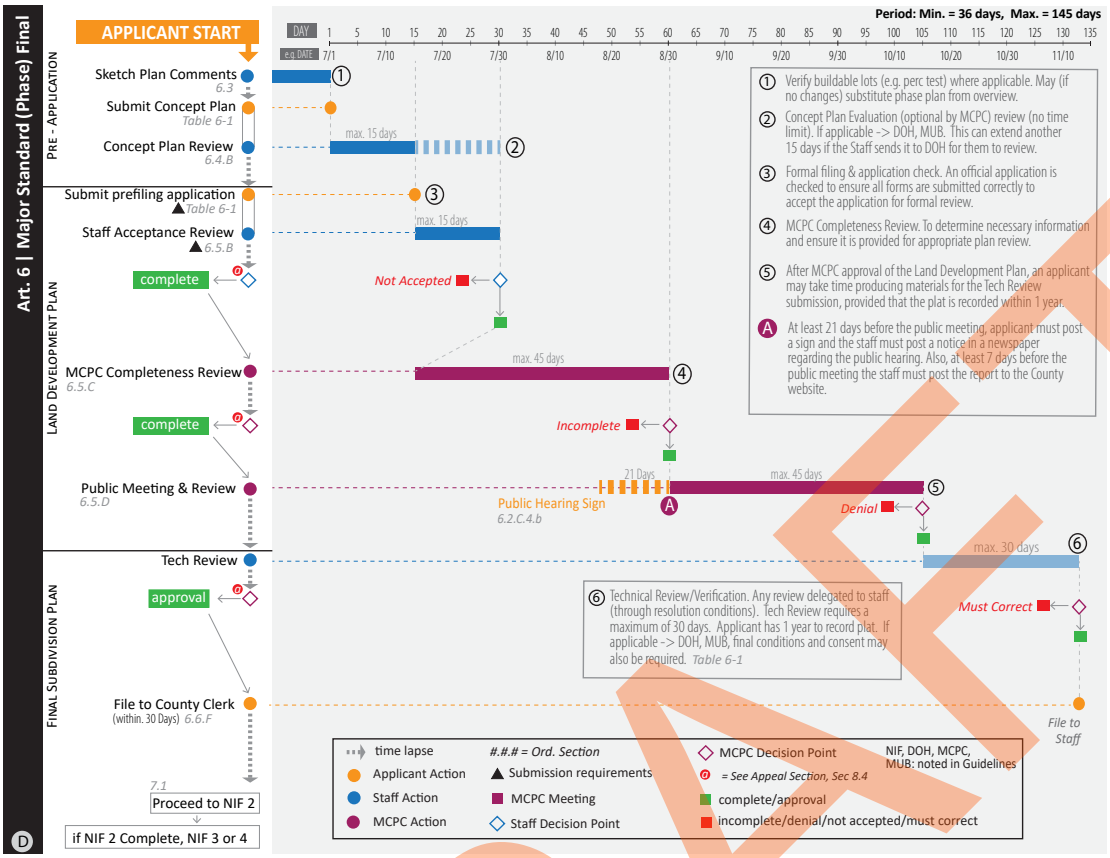
Comparison: Standard vs. Expedited

Review and timeline advantages due to the Expedited Process are the subject of this section. In order to encourage better development, the County has made it easier, faster and more readily approvable for developments that follow a Preferred Design. Preferred designs are basically pre-reviewed and acceptable context-sensitive development patterns and designs (cf. Chapter VII). As Staff and the Planning Commission have already vetted these designs, the applicant can be granted an Expedited process, which can save the applicant roughly 2 weeks in a major phase and for a multi-phase project up to 4 weeks PER PHASE. Furthermore, the applicant can begin development (and development phases) earlier in the Expedited process and has approval advantages (as the majority of the designs are already acceptable and understood by the reviewing entities, they are more likely to be approved rapidly).

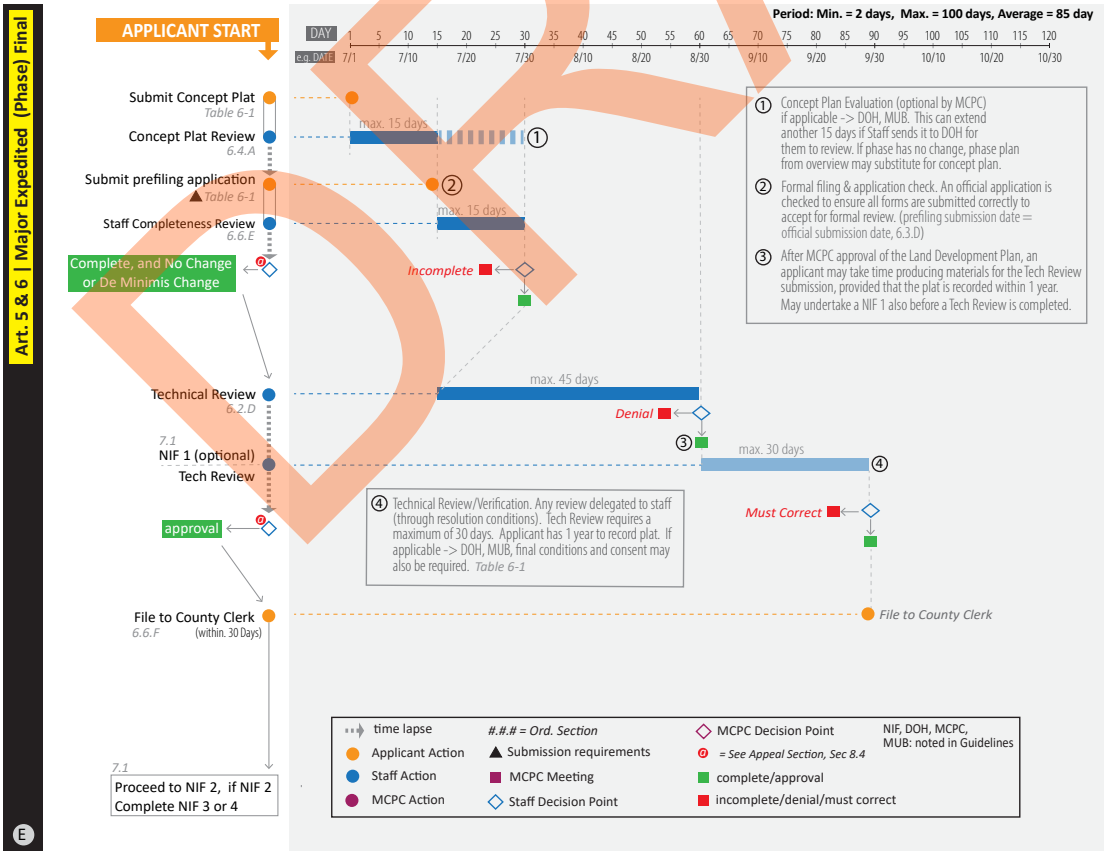
As can be seen in the flowcharts at right, the Expedited process per phase is simpler and consumes less time (as shown in the flowcharts ~90 days vs. ~135). Furthermore, Preferred Design enables more units per lineal foot of roadway AND allows smaller roads than the Standard process. The developer also has site management advantages with the Preferred Design/Expedited process. The applicant can await approval of the Land Development Plan BEFORE finishing the rest of the engineering drawings. Finally, probably the biggest incentive for Preferred Design is the ability to get a NIF 1 which allows site work (i.e. earthwork and underground infrastructure) BEFORE having to record the plat (though obviously the developer could not subdivide or sell lots before the plat is recorded). This allows an applicant to gain site knowledge and make small changes to a Subdivision Plan before it is recorded, saving the headache of going back through the process for small changes and having to re-record the plat.

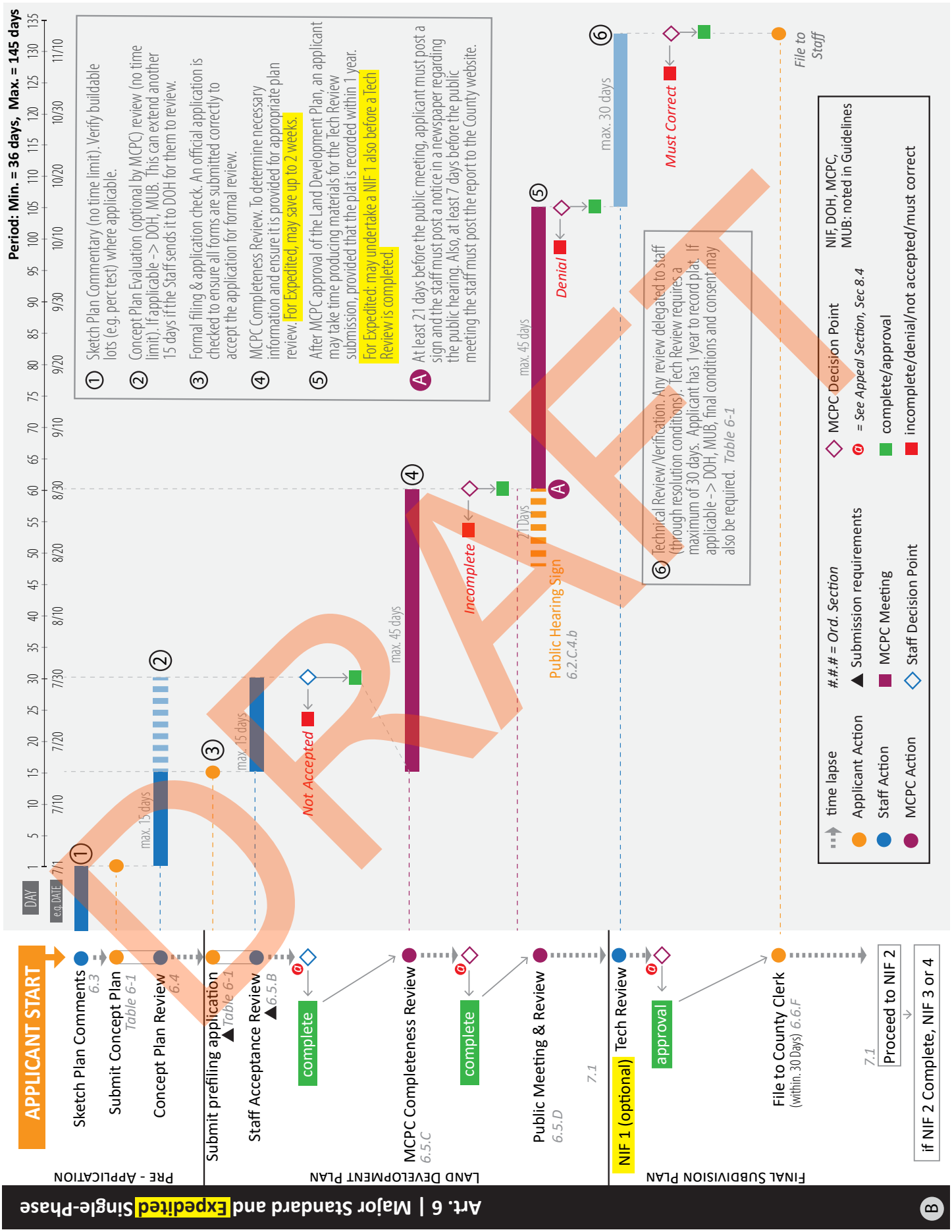
For more details for Preferred Design, the reader is referred to Chapter VII

Standard Process - Per Phase (pg III-15 for full-size)

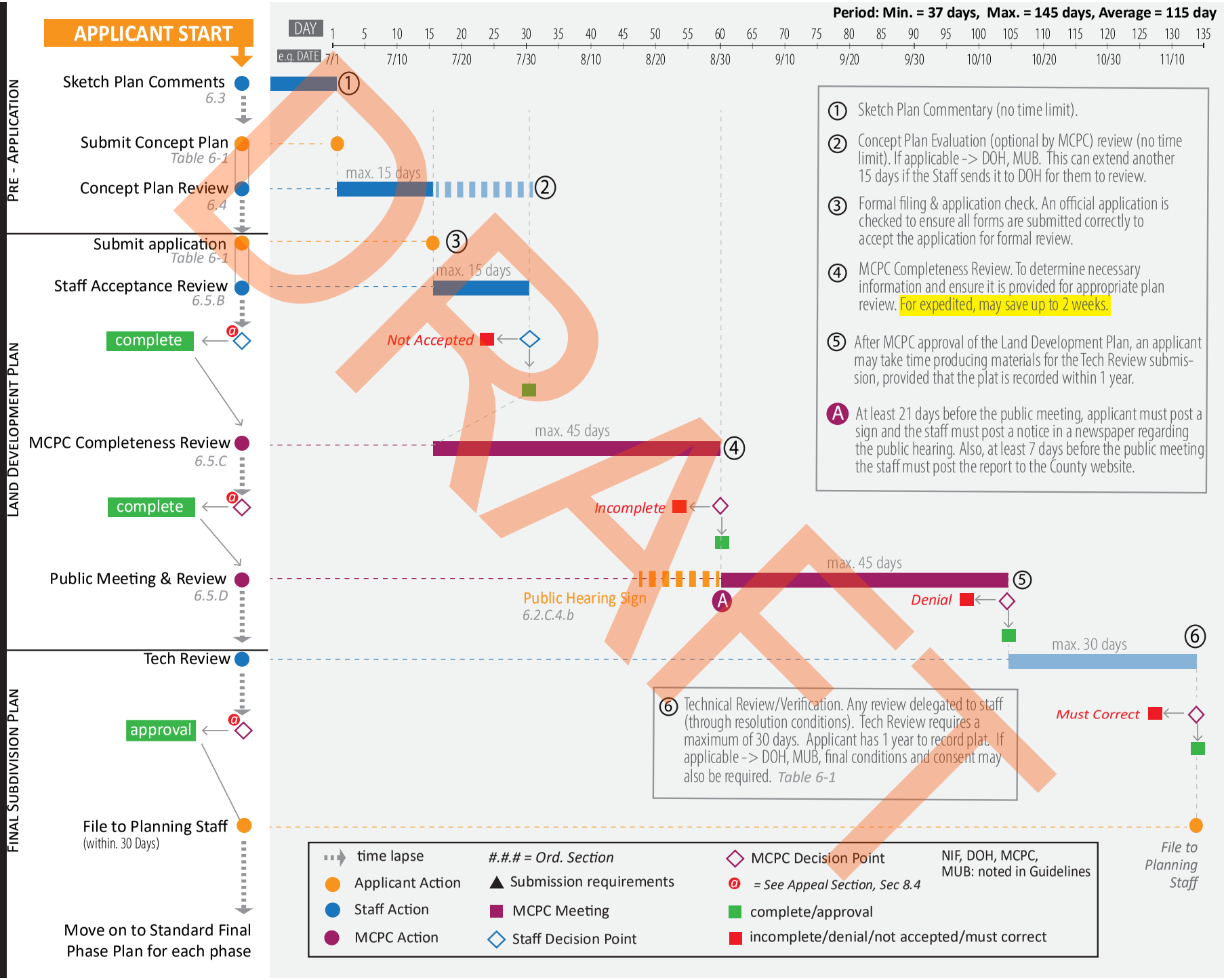


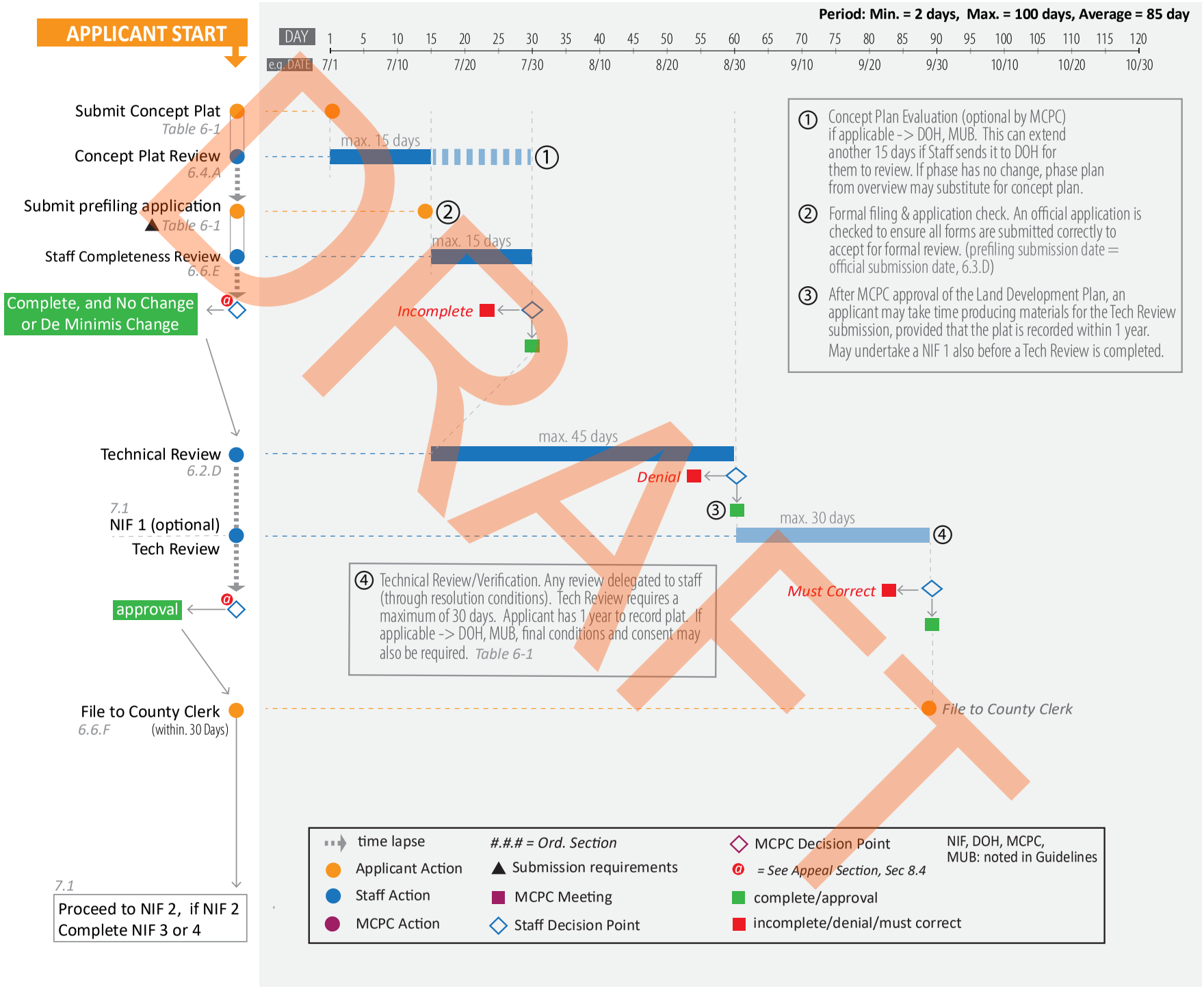
Expedited Process - Per Phase (pg VI-11 for full-size)




Art. 6 | Major Standard and Expedited Single-Phase
B
Period: Min. = 36 days, Max. = 145 days
DAY
e.g. DATE
APPLICANT START
PRE - APPLICATION
LAND DEVELOPMENT PLAN
FINAL SUBDIVISION PLAN
Sketch Plan Comments 6.3
Submit Concept Plan Table 6-1
Concept Plan Review 6.4
max. 15 days
Submit prefiling application ▲Table 6-1
Staff Acceptance Review ▲6.5.B
max. 15 days
complete
Not Accepted
MCPC Completeness Review 6.5.C
max. 45 days
complete
Incomplete
Public Meeting & Review 6.5.D
21 Days
Public Hearing Sign 6.2.C.4.b
7.1
NIF 1 (optional) Tech Review
max. 45 days
Denial
approval
max. 30 days
Must Correct
File to County Clerk (within 30 Days) 6.6.F
File to Staff
7.1
Proceed to NIF 2
if NIF 2 Complete, NIF 3 or 4
① Sketch Plan Commentary (no time limit). Verify buildable lots (e.g. perc test) where applicable.
② Concept Plan Evaluation (optional by MCPC) review (no time limit). If applicable -> DOH, MUB. This can extend another 15 days if the Staff sends it to DOH for them to review.
③ Formal filing & application check. An official application is checked to ensure all forms are submitted correctly to accept the application for formal review.
④ MCPC Completeness Review. To determine necessary information and ensure it is provided for appropriate plan review. For Expedited: may undertake a NIF 1 also before a Tech Review is completed.
⑤ After MCPC approval of the Land Development Plan, an applicant may take time producing materials for the Tech Review submission, provided that the plat is recorded within 1 year. For Expedited: may undertake a NIF 1 also before a Tech Review is completed.
Ⓐ At least 21 days before the public meeting, applicant must post a sign and the staff must post a notice in a newspaper regarding the public hearing. Also, at least 7 days before the public meeting the staff must post the report to the County website.
⑥ Technical Review/Verification. Any review delegated to staff (through resolution conditions). Tech Review requires a maximum of 30 days. Applicant has 1 year to record plat. If applicable -> DOH, MUB, final conditions and consent may also be required. Table 6-1
time lapse
Applicant Action
Staff Action
MCPC Action
#.#.# = Ord. Section
▲ Submission requirements
MCPC Meeting
Staff Decision Point
MCPC Decision Point
= See Appeal Section, Sec 8.4
complete/approval
incomplete/denial/not accepted/must correct
NIF, DOH, MCPC, MUB: noted in Guidelines
DRAFT

Art. 5 & 6 | Major Standard and Expedited Multi-Phase (Overview)




APPLICANT START
Period: Min. = 2 days, Max. = 100 days, Average = 85 day
DAY 1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
e.g. DATE 7/1 7/10 7/20 7/30 8/10 8/20 8/30 9/10 9/20 9/30 10/10 10/20 10/30
Submit Concept Plat
Table 6-1
Concept Plat Review
6.4.A
max. 15 days
①
Submit prefiling application
▲ Table 6-1
②
Staff Completeness Review
6.6.E
max. 15 days
Complete, and No Change or De Minimis Change
Incomplete
① Concept Plan Evaluation (optional by MCPC) if applicable -> DOH, MUB. This can extend another 15 days if Staff sends it to DOH for them to review. If phase has no change, phase plan from overview may substitute for concept plan.
② Formal filing & application check. An official application is checked to ensure all forms are submitted correctly to accept for formal review. (prefiling submission date = official submission date, 6.3.D)
③ After MCPC approval of the Land Development Plan, an applicant may take time producing materials for the Tech Review submission, provided that the plat is recorded within 1 year. May undertake a NIF 1 also before a Tech Review is completed.
Technical Review
6.2.D
max. 45 days
Denial
③
7.1
NIF 1 (optional)
Tech Review
max. 30 days
④
④ Technical Review/Verification. Any review delegated to staff (through resolution conditions). Tech Review requires a maximum of 30 days. Applicant has 1 year to record plat. If applicable -> DOH, MUB, final conditions and consent may also be required. Table 6-1
Must Correct
approval
File to County Clerk
6.6.F (within. 30 Days)
File to County Clerk
7.1
Proceed to NIF 2, if NIF 2
Complete NIF 3 or 4
time lapse
Applicant Action
Staff Action
MCPC Action
#.#.# = Ord. Section
▲ Submission requirements
MCPC Meeting
Staff Decision Point
MCPC Decision Point
= See Appeal Section, Sec 8.4
complete/approval
incomplete/denial/must correct
NIF, DOH, MCPC, MUB: noted in Guidelines

IV.1.c Steps Involved for Preferred Design and Expedited Review

(Note all required submissions for steps are listed in Table 6-1 of The Ordinance)

Below is the outline of Preferred Design Compliance (Expedited Review Process). This compliance process is only for those who have elected to expedite their subdivision by following a strict set of policies and standards pre-approved by the Planning Commission. It is this pre-approval which allows for an accelerated process. The steps of the process are largely the same as for Standard Review with the exceptions as noted below:

Major Steps:

Sketch Plan and Prefilings

As described in Chapter III.2.a, The Sketch Plan is intended to get a development on the correct design path from the start, avoiding expensive engineering or rework further down the line to address County requirements. Thus, since so much of Preferred Design involves designing in a way that has already been proven effective and is familiar to the MCPC and Staff, the Sketch Plan is mandatory to qualify for Expedited Review (but not thereafter - see flowcharts).

Potential applicants, if they so choose, can first come in with a Sketch Plan for discussion with the Planning Office. The Sketch Plan does not need to be professionally drawn. It must, however, depict the site in its entirety including all phases and showing possible:

1. Access roads.
2. Approximate number of dwelling units/ amounts of non-residential square footage.
3. Any special project goals such as mix of housing types and other uses, environmental features, viewshed, community facilities, affordability, or special transportation considerations.

Concept Plan and Meeting

This step is critical to coordinate all the design-dependent advantages (e.g. bonuses) AND to ensure that WVDOH and other outside entities have seen the layout/design and are okay with it before all the expensive design and engineering take place. That way, the application for the Land Development Plan will have been shown to meet the Preferred Design and layout parameters making it so much easier to approve the Land Development Plan with minimal rework.

An applicant must submit an overview of the development showing the entirety of the proposed development in all its phases, covering all phases of the project for discussion with the Planning Office and, if requested by the applicant, Planning Commission review.

This Concept Plan will be submitted to WVDOH for review and preliminary approval (and the State Fire Marshal if applicable). This is intended so that if significant changes are needed based on their review, it will prevent needless Planning Commission review and design expenditures. This Concept Plan should also allow for the applicant to finance design and pre-engineering more cost-effectively.

Application Check

After the Concept Plan review, the applicant will move into the Expedited Major (Single and Multi-Phase Overview) Land Development Plan. This will involve submission of a full-scale set of plans including exact information to allow for Staff review and review/approval of all (sub)phases. Please see Table 6-1 in The Ordinance. Expedited Review also allows an advantageous hearing arrangement, which is set up during this step, further expediting the process. Time will be saved in the Expedited Review process.

Submissions: As there are no different types of requirements for a particular kind of development, other than the

Preferred Design Form (a part of the application), there are no additional forms needed to qualify. However the pre-reviewed patterns, and easier proofs of meeting the requirements are more straightforward with Preferred Design.

Completeness
In the case of Expedited Review, it is principally performed by Staff, with only a confirmation by the MCPC if necessary, saving the applicant time over standard review.

Land Development (LD) Plan Review
As the process is tied to a regular monthly meeting schedule that is already attempting to process applications as quickly as possible, there is not a lot of room for time-savings in review time. Time that can be saved will be saved in the Expedited Review process. Typically, depending of when in the month an application is submitted, an applicant may save up to 2 weeks out of a 9 week process with expedited review - both for a single phase and the overview phase of a multi-phase subdivision, but the bigger time savings arises in the phases of a multi-phase project.

Single-phase and Multi-phase overviews will go before the Planning Commission for review at which point, they will approve, approve with conditions, deny, or table for additional information.

Once the Planning Commission approves the Multi-Phase LD Plan, the applicant can then start applying for approval of each individual phase. As this is Expedited, the Planning Director can review each final subdivision plat application for each phase in house without it having to go back before the Planning Commission. Each approved final subdivision plat for each phase must be filed with County Clerk.

- *Multi-Phase*
  For a Multi-phase overview, again an applicant may save up to 2 weeks (of a 9 week process) over standard review due to the ease of review/pre-approved development patterns, but the bigger savings are encountered in the individual phases. Phase reviews can save months over a standard process.

Subdivision Plan/Final Verification Review
In the case of Expedited Review, this is performed by staff, based on tried and tested development types and patterns, and consequently, takes far less time to get to final approval, especially for the phases.

- *NIFs*
  One of the biggest incentives from a time/process standpoint for expedited review is the Notice of Improvement (NIF) I (Site Work Plan). A NIF I is for grading in preparation of infrastructure placement, removal of trees/ shrubbery, demolition of existing structures, installation of underground utilities and stabilization on the property (i.e. cannot impact DOH or other ROWs or connections to other ROWs). A NIF I also allows for the applicant to do grading on a phase currently not under construction to allow for moving of dirt from one phase area to another. The Site Work Plan approval allows a developer to work on site work, including underground infrastructure, before the final subdivision plan has been approved, but ONLY site work that is NOT within the interest of outside entities (DOH, MUB, etc.) to take place while awaiting the approvals from the outside entities. A NIF 1 also can allow, as a result of what is learned from the site work, small changes (see below) to the plat before recording, saving time and money.

  The other NIFs (2-4) take place after final Subdivision Plan approval, so Expedited Review has no bearing on them.

  When the applicant is ready to begin construction on a particular phase, the applicant will apply for the necessary permits.

  Other (Surety and bonds behave the same as standard)

Changes and Appeals

As is shown in more detail in Chapter V, with Expedited Review, there are a number of possible changes allowed to an approved Land Development Plan before the final Subdivision Plan has been approved (and before recording the plat, see NIFs above) without having to go back to a public hearing. Furthermore, if making more significant changes, an applicant may be able to skip the Sketch and Concept Plan steps with Expedited (Re-)Review.

Final Verifications

As the result of Preferred Design is to encourage better performance for development, including often new and better ways to do and design developments, there will often be a need to verify that the design went in as specified and is performing as it is supposed to. This requires final verification to be executed by Staff.

IV.2 Process for Preferred Design and Review

IV.2.a Minor

Typically only small advantages in "time" are gleaned from a Minor Subdivision as Staff is reviewing the application for both Standard and Expedited. The bigger advantage comes from the 'design advantages' which are described in the Chapter VII. Nonetheless, respecting Preferred Design makes the review process much easier and hence an applicant is likely to get in and out faster as they do not have to demonstrate as much - since the designs and patterns of development are well-outlined and understood. Answering questions and understanding unfamiliar designs are the biggest hold-up to most development reviews.

2.b Major Single Phase -Outline of Preferred Design Compliance (Expedited Review Process)
Similar to a Minor, the biggest timeline advantages are gained by ease of approval of Preferred Designs as the design and patterns of development are familiar and fewer questions arise requiring substantiation. However, with a single phase major review, typically this can lead to getting on a review docket more quickly and can save an applicant up to two weeks versus a Standard Review (depending on when the application falls in the course of the month), as deadlines and mandatory posting requirements only have so much variation.

However, there are two big time savings in a different sense than the review itself. The engineering time savings from the review process and the NIF 1, which may not save overall time of review, but works better with the timeline of engineering and development of the site:

Engineering advantage: Submittal of most engineering drawings can wait till after the LD Plan approval.
NIF 1 can save in a few ways: 1) familiarization with the site (less need to rework and resubmit based on site discoveries), 2) engineering changes based on site discovery, and 3) some work can be done without having to wait for final approvals from outside agencies like DOH and MUB, which often have longer lead times than the review process itself.

See flowchart at the beginning of the chapter.

IV.2.c Major with phases

Overview

As a process, the Overview is similar in timeline to the single phase review. However, the big time savings arises from the timeline for each phase. Nonetheless, the same timeline review advantages are obtained with the Overview review that the applicant receives from Expedited Review of the single phase: viz. the speed of getting on the MCPC docket (i.e. up to 2 weeks out of a 9 week process) and access to the NIF 1 (Chapter V).

See flowchart at the beginning of the chapter.

The initial review will examine the Multi-Phase (Overview) Land Development (LD) Plan with every lot and road proposed to be shown, along with conceptual grades and preliminary drainage, stormwater, and erosion control plans. These preliminary plans will be finalized as part of the application process during each individual phase. This Multi-Phase (Overview) LD Plan will be approved by the MCPC. Each phase is reviewed solely by Staff (with MCPC confirmation). The Multi-Phase (Overview) LD Plan must be followed, but allows for some flexibility where final parcel and road placement are concerned. Changes are allowed in the Expedited Review. These are described in more detail in VI, but as a quick example, the overall number of units proposed on the Multi-Phase LD Plan cannot be increased during the individual phases (e.g. in lieu of proposed 20 units over 2 phases on the Multi-Phase LD Plan, a final submission of 12 units in phase one and then 13 units for phase two would be denied as above the original proposed 20 units).

Yet, other changes are allowed and are classified as: De minimis, Limited, or Substantive changes. During review for completeness for a phase, these shall also be reviewed. See next section

Phases

Unlike with Standard Review, with each phase of Expedited Review, there is no need for a public hearing, nor MCPC review, provided that the applicant does not change or only makes de minimis changes (see below) to the LD Plan. So the timeline is much faster. Staff performs all the review AND as the patterns are familiar, even routine, the approval process can be quite rapid. The biggest delay is probably the engineering of the development and proving the approvals and documentation themselves, rather than the review process itself per se. See flowchart at the begining of the chapter.

Furthermore, if there are small changes after the LD Plan has been approved, then review of these changes are also Expedited for Preferred Design developments.

If no or De minimis changes are made, Staff has an additional 45 days to review the project in house and approve or deny the application. If the application is approved, they have 30 days starting to file the application with the county clerk. If the application is denied, a denial notice must be sent out no later than 10 days after the denial.

If Limited changes are made the MCPC has an additional 45 days to hold a public meeting and approve or deny the application. At least 7 days before the public meeting Staff has to post the report to the county website. If the application is approved, they have 30 days starting to file the application with the County Clerk. If the application is denied, a denial notice must be sent out no later than 10 days after the denial. A reconsideration of the decision may be submitted no later than 14 days after the date of the denial notice. The MCPC has 45 days to reconsider the application where a vote to approve or deny the application will take place. No further requests for reconsideration may be submitted.

If Substantive changes are made the MCPC will have to re-review the application, BUT Staff can waive the Conceptual Plan step if appropriate. The MCPC will still require an additional 45 days to hold a public meeting and approve or deny the application. At least 21 days before the public meeting the Staff has to post a notice in a newspaper regarding the public hearing. At least 7 days before the public meeting the Staff has to post the report to the county website. If the application is approved, they have 30 days starting to file the application with the county clerk. If the application is denied, a denial notice must be sent out no later than 10 days after the denial. A reconsideration of the decision may be submitted no later than 14 days after the date of the denial notice. The MCPC has 45 days to reconsider the application where a vote to approve or deny the application will take place. No further requests for reconsideration may be submitted. More details on changes are provided in Chapter VI.

Note on NIF 1, for phases, one of the 'Expedited' advantages (i.e. for 'Preferred Design' development) is that a development, once it has an approved LD Plan, can ask for a NIF 1 for a later phase to allow dirt from a later phase to be used on an earlier phase. With Standard, final Subdivision Plan approval of the entire details of design are required before any site work can be performed, so NIF 1s are not available for Standard at this earlier stage of the development.

IV.3 Other Considerations

State agencies and other entities allow and encourage more compact development patterns because it costs less and works better for them and for everyone in the County, but it is more complex. As time is so important to developers, we have provided tried and tested templates for developers to use so that it is quicker and easier for good development to occur. Those will also be pre-reviewed by those outside agencies and entities, which will also help speed approval along. Templates are found in Chapter XII.

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CHAPTER V: After Subdivision Approval

This chapter provides guidelines for all procedures that take place after a subdivision plan has been approved. It also addresses any change or amendment to subdivisions and their components as well as providing scenarios that explain these different aspects and their ultimate performance. It also describes the appeal process.

CHAPTER V: After Subdivision Approval

Section 1 addresses Notice of Improvement Forms (NIFs). Section 2 addresses Surety (aka bonding) Section 3 addresses validity and vesting rights for all kinds of development, when a development can continue as approved and when they need to make alterations because of legal requirements having changed..

V.1. Notice of Improvement Form (NIF)

This form can be a little confusing to those unfamiliar with WV8A , the State legislation that, in this case, enables subdivision regulations. The requirement for a Notice of Improvement Form (NIF) comes directly from WV8A (§8A-4-2a, 14) - there called an Improvement Location Permit. Further, the requirements for improvement notification are taken from the definition section of WV8A (§ 8A-1-2,o) which are for the construction, erection, installation, placement, rehabilitation or renovation of a structure or development of land.

The new NIF will be part of the County's broader movement towards one-stop-shop type permitting. Currently, the NIF will also fold in both the Assessor Real Property Improvement Form and the County Floodplain Ordinance Requirement.

There will be four levels to the NIF: I, II, III, and IV.

NIF I : (Optional-preferred design only) Includes developments/improvements that are: Residential and Commercial Fees, but do not apply to single family developments, duplex and exempt as they do not have pertinent infrastructure:
Grading in preparation of infrastructure placement, and;
Removal of trees and shrubbery, and;
Demolition of existing structures, and;
Installation of installation of below-ground utilities, sewer and water systems, stormwater drainage systems and stormwater management systems.

[It does not include other above-ground infrastructure such as roads, curb, gutter, sidewalks, and any above-ground utilities, sewer and water systems, stormwater drainage systems and stormwater management systems other than connection points to below-ground infrastructure.] and;

Stabilization ON THE SUBJECT PROPERTY (i.e. not off-site, connecting area to off-site or under the purview of other (State) agencies - e.g. DOH)

A NIF I also allows for the applicant to do grading on a phase currently not under construction to allow for moving of dirt from one phase area to another.

NIF II: (Required) Includes developments/improvements that are: Residential and Commercial Fees, but do not apply to single family developments, duplex and exempt as they do not have pertinent infrastructure: NIF Level I activities

NIF Level I

Permit applications for:
- *Grading of a parcel of land*
- *Removal of trees and shrubbery*
- *Demolition of existing structures*
- *Installation of utilities only*
- *Stabilization on the subject property.*

A NIF I can only be applied for if the project follows the Preferred Design outlined in Chapter D.

NIF Level II

Permit applications for:
- *NIF Level I activities (only if apply for both in conjunction with one another)*
- *Offsite Improvement as approved by the appropriate agencies*
- *Installation of other infrastructure beyond utilities.*

Exceptions to NIF Requirements:

(1) use of land for agricultural purposes;
(2) an improvement or addition without footprint increase;
(3) the addition of windows, doors, or steps;
(4) normal maintenance and repair;
(5) construction of a fence or clothesline;
(6) sign installation of less than nine square feet;
(7) additions to detached single-family structures;
(8) accessory structures to residential uses; and
(9) construction of a private driveway no greater than twenty (20) feet in width, a walkway that is not enclosed or covered by a roof, or a patio no greater in size than twenty (20) feet by twenty (20) feet and not enclosed or covered by a roof.

Installation of roads and other infrastructure not allowed under NIF I
Offsite improvement as approved by the appropriate agencies

NIF III: (Required) Includes developments/improvements that are:
Residentially (no fee):
Additions to detached single-family (optional), and;
Accessory structures to residential uses (optional), and;
New detached single-family and two-family residential structures (independently built or minor subdivisions), and;
Habitable accessory structures to principal residences, and; Additions to townhomes and two-family residential structures.

Commercially (fee):
Primary non-residential structures of no more than 5,000 sq ft, and; Accessory structures to non-residential uses of no more than 5,000 sq ft, and; Additions to non-residential structures where the new total square footage is less than 5,000 sq ft.

NIF IV (Required) Includes developments/improvements that are:
Residentially (fee):
Single-family and two-family residential structures being built by a single developer as part of a major subdivisions, and;
New Multi-family residential structures, including townhomes.

Commercially (fee):
Primary non-residential structures of greater than 5,000 sq ft, and;
Accessory structures to non-residential uses of greater than 5,000 sq ft.
Additions to non-residential structures where the new total square footage is greater than 5,000 sq ft.

A NIF offers one-stop-shop advantages (i.e. an applicant currently must collect/fill-out multiple other forms anyway). Also, it ensures that the footprint that is on the recorded plat is actually what is present on site. It helps to ensure that the development of a given site conforms to any other demands and conditions that might be on or needed by the site (e.g. utility easements, setbacks, etc.) so that the applicant does not create a non-conforming lot later when they want to do something with the lot. It does NOT regulate WHAT use (that would be zoning) nor the structure (building code) proposed for that site. Neither of those is regulated by The Ordinance. It also coordinates development to ensure correct and safe addressing so that emergency services can find a property if needed.

NIF Level III

Simple reviews involving permit applications that are:

- *Part of an Exempt Subdivision (family, cemetery, agricultural/resource extraction, division pursuant to a court order, minor boundary adjustment, merger, creation of utility/emergency services lot)*
- *Part of a Minor Subdivision (5 lots or less, including the parent tract)*
- *Part of a Major Residential Subdivision where parcels are to be sold to and developed by individual owners*
- *Parcel(s) or lot(s) that predates The Ordinance which would fit into one of the three above categories.*

NIF Level IV

Detailed site plan review involving permit applications that are:

- *Part of a Major Residential Subdivision where parcels are to be sold and developed by a singular entity*
- *Any Other Major Subdivision (5+ lots, including the parent tract)*
- *Involve a parcel(s) or lot(s) that predate The Ordinance and which would fit into one of the two above categories.*

V.2. Surety

Surety refers to the guarantees to protect landowners and the County in the case of development gone awry.

V.2.a What Form Can Surety Take

Bonding, Letters of Credit and TriPartite Agreements

There are several mechanisms to ensure that even in default, the appropriate infrastructure will be provided in the County. Bonds (essentially an 'insurance policy') and Letters of Credit ('guarantees' of available funding) are the traditional methods for providing 'Surety' or guaranteeing that needed infrastructure will be put in place, even if a developer does not finish the job. The language from the Regulations regarding these is included in 6.1 below. Usually, inspection is required along the way to make sure that all is being built properly and cost-effectively. That inspection is discussed in 6.2 below.

Another mechanism that was added to the methods for 'Surety' is a tripartite agreement (See 2.d). This was added to address the case where a developer is only selling buildable lots - the loan from a bank being exclusively made available to fund the infrastructure itself. Thus, if the County asked for a guarantee like a bond for that situation, when the bank already asked for guarantees for the loan itself to build the infrastructure, developers felt that was asking for the same guarantee twice. The Regulations allows the developer, the bank and the County to enter into a "tripartite agreement" to ensure that IF a developer should NOT complete the infrastructure, the bank and the County can guarantee that the infrastructure is built to the satisfaction of each (cf. 6.2 Inspection). Sample language is provided for a typical tripartite agreement in 6.4.

V.2.b What Does It Cover

The surety covers the following items:

The estimated construction cost (as proposed by the applicant's Registered Engineer and determined by the County Commission based on the recommendation of the County Engineer) of water and sanitary sewer infrastructure and any other improvements (such as, by way of example and not limitation, streets and roads, sidewalks, curbing, and storm water controls) that are (a) depicted on the approved plat and supporting documents or (b) required by conditions of approval.

Such bond(s) or letter(s) of credit must: (a) be forfeitable or payable to the County Commission; (b) have adequate surety and be in a form satisfactory to the County Commission; (c) specify the time for completion of the improvements; and (d) specify the date and/or conditions for release of the bond or letter of credit, consistent with the requirements of the Regulations including Section 6.8.E.

The principal sum of the required surety must be one hundred fifteen percent (115%) of the estimated cost of constructing the required improvements. The fifteen percent (15%) contingency fee shall be required and must be retained by the County Commission until the final release is approved. In the event that a previously released component fails before the final release, no other releases will be granted until said component is corrected and approved.

Money from any such bond or letter of credit must be used by the County Commission only for the completion of the required improvements (including associated administrative costs) in the event they are not completed as contemplated on the approved plats. The County Commission may require the developer to enter into a Subdivision Improvement Agreement in connection with the required improvements, in a format developed and approved by the County Commission.

To ensure smooth construction, all improvements guaranteed by a bond or letter of credit must be completed within 2 ½ years (30 months), or such shorter period of time as the County Commission may require when approving the bond or letter of credit. The County Commission may extend the period for completion of improvements for up to 1 ½ years (18 months) provided that:

1. All dwelling units are served by a road that is totally improved with the exception of the top coat of asphalt;
2. All erosion and sediment controls are in place and functioning properly;
3. Stormwater Management (SWM) facilities are in place either as temporary silt traps per plans or as permanent SWM facilities protected from silt from undisturbed areas in the project. The SWM facility itself must be stabilized;
4. Applicable fees are paid;
5. The surety amount is re-evaluated to determine if the amount is still appropriate;
6. Additional surety is added if the original amount is not adequate;
7. Existing infrastructure must be reconstructed or redesigned if failing or substandard and the estimated cost for same must be added to the surety;
8. Elements of the subdivision plat that have not been constructed must be reviewed for compliance with current design standards and modified as necessary to meet current standards.

When it comes to sanitary sewage and potable water, and other public water facilities all fire hydrants and water supply improvements must be approved by the applicable utility service provider, the Planning Director, and any other required governmental inspection and approval agency before release of bonds. To facilitate this, the location of all fire hydrants, all water supply improvements, and any changes to public service district boundary lines, indicating all improvements proposed to be served, must be shown on all final plats. The cost of installing same must be included in the performance bond to be furnished by the developer.

All subdivisions must also grant easements to local utilities, as required in Article 5 of the Regulations. During the planning process, the developer must consider needed easements for presently identified utilities and potential future utilities that may affect the subdivision. Utilities must not infringe upon the floodplain unless absolutely necessary to provide service as determined by the County Engineer, and in all cases, utilities must comply with the Floodplain Ordinance. Bond release must not be granted until utilities have been installed to serve each lot and easement agreements with all applicable utility entities have been filed with the Planning Office and recorded in the County Clerk's Office.

V.2.c Inspections

As mentioned above, verification is often a critical part of surety processes. Verification that construction is built correctly is critical to ensuring good development. Furthermore, building often involves work that is only temporarily visible during the construction process.

Mon County offers these services both as a part of the application (for required final verification) AND as an optional addition (for verification along the way). This latter inspection type helps to verify work that is only temporarily visible. Also, as a part of the financial process enables verification 'along the way', i.e. during the course of the development, which can allow a developer to reduce the amount of the surety or release the surety earlier by having the County's inspection serve as third-party verification. The additional inspections are handled separately on a per-visit basis or agreement to that effect.

V.2.d Sample Tripartite Agreement

TRIPARTITE AGREEMENT

AGREEMENT made this _ _ _ _ _ _ day of _ _ _ _ 20____ by and between the COUNTY OF MONONGALIA, a West Virginia public corporation by and through the MONONGALIA COUNTY PLANNING COMMISSION, having its principal place of business at 243 High Street, Morgantown, Monongalia County, Morgantown; and _ having its principal place of business in hereinafter referenced as the "Applicant" and a West Virginia Banking Corporation, having a principal place of business at _, hereinafter referenced as the "Lender";

To secure the construction of ways and the installation of municipal services in a portion of the subdivision of land shown on a plan entitled "______________________________________" dated _ _ _ _ _ _ _ _ _ _ _ _ _ _ , prepared by _ _ _ _ _ _ _ _ _ _ _ _ _ _ and filed with the Monongalia County Clerk Office as Map Book____ at Page _____ which premises are owned by_______________ and relative to land located in the Subdivision called "_________________"

KNOW ALL MEN BY THESE PRESENTS

That the Applicant and the Monongalia County Planning Commission have executed a Covenant dated______________________________________ and recorded in the Monongalia County Clerk's Office in Book _ _ _ _ _ _ _____________ at Page _ _ _ _ _ _

That the Applicant has recorded a first mortgage with the Lender dated_________________ and recorded with the said Monongalia County Clerk's Office in Deed of Trust Book _ _ _ , Page_____, covering said Subdivision, as shown on the above-referenced Plan, as security for the payment of a certain Note in the principal amount of $ _____________________

This Agreement shall apply to the improvements to be constructed by the Applicant on _ _ _ _ _ _ _ _ _ _ _ Street (Road or Way) at Stations_______________________(if Applicable), based on a Vote of the MONONGALIA COUNTY PLANNING COMMISSION.

The work called for in constructing improvements to ___________________ Street (Road or Way), as set forth herein, shall be completed on or before _ _ _ _ _ _ _ _ _ _ . In the event such

TRIPARTITE AGREEMENT | Page 1 of _____

work is not completed on or before the date set forth herein, any funds remaining undisbursed shall be made available to the MONONGALIA COUNTY COMMISSION, a West Virginia public corporation for completion.

Jointly and severally, the COUNTY OF MONONGALIA, a West Virginia Public Corporation by and through the MONONGALIA COUNTY PLANNING COMMISSION, having its principal place of business at 243 High Street, Morgantown, Monongalia County, in the sum of $_____and have secured this obligation by the Lender retaining said sum of money of said principal sum otherwise due the Applicant to insure the performance by the Applicant of all covenants, conditions, agreements, terms and provisions contained in the following:

The Monongalia Planning Commission may, at the request of the Applicant from time to time, authorize a reduction of the security as provided herein and in such case shall deliver a written certificate specifying such reduction to the Applicant and Lender. The Lender in such case shall have the right to rely on said written certificate without further inquiry and shall be relieved of liability to the Applicant and the Monongalia County Commission, a West Virginia Public Corporation by and through the MONONGALIA COUNTY PLANNING CORPORATION of its action in reliance thereon.

Notwithstanding anything contained herein to the contrary, the Lender shall have the right at any time prior to completion of the work, to deposit the balance of undisbursed funds in a savings account in the name of the Monongalia County Commission, a West Virginia Corporation by and through the MONONGALIA COUNTY PLANNING COMMISSION, and shall be released from further liability to the Town and to the Applicant of its obligation under this Tripartite Agreement.

Monongalia County, acting through its Planning Commission, hereby agrees to release lots within said subdivision upon the operation of the above-referenced Covenant given, if applicable, pursuant to West Virginia Code Chapter 8A Article 8 Section 1 et. seq., without receipt of a bond or deposit of money; and further, to accept this Agreement and the funds in the amount specified hereto to be retained by the Lender as security for the performance of the project as aforesaid. Upon the delivery of this Agreement to the Monongalia County Planning Commission, said lots shall be released as set forth on said Certificate of Release.

Any amendments to this Agreement and to the aforesaid security shall be agreed upon, in writing, by all parties to this Agreement.

[Signature page follows, may be multiple pages depending on the participating parties to the aggreement]

IN WITNESS WHEREOF, we have hereunder set our hands and seals this _____.day of_____, 20____

APPLICANT

B y:_ _ _ _ _ _ _ _ _ _ _ _ _

LENDER

By: . . . . . .

_____

_____

Signatures of a Majority of the Monongalia Planning Commission:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

COUNTY OF MONONGALIA, TO-WIT:

The foregoing instrument was acknowledged, sworn and certified, before me this ___ day of_____________________________ 20_ _ _ _ _ _ _
by _

My Commission expires: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

____

(SEAL) NOTARY PUBLIC

V.2.e Completion/Release of Funds

A developer may request a bond reduction when bonded improvements are at least thirty percent (30%) complete. This Bond Reduction Request must be submitted to the Planning Director. The Planning Office, with the assistance of the County Engineer as needed, will determine whether the bond may be reduced and by what amount.

A bond reduction will not be granted for any section of roadway where there exists any failing pavement or for a project that is in default and not current to any obligation owed to the county (See below). The bond will also not be reduced to an amount insufficient to achieve total completion of the project, plus the amount of the original fifteen percent (15%) contingency.

The County Commission may release the surety in its entirety when the required improvements have been verified and signed-off on by the County Engineer (see next page). Furthermore, all as-built drawings satisfying the requirements below and those in Article 17 must have been submitted to the Planning Office and filed with the County Clerk:

1. Drawing 24 inches x 36 inches and at a scale of 1 inch equals 10 feet to 1 inch equals 50 feet
2. Submitted in AutoCAD, DXF or DWG or other authorized file format
3. Show all revised contours and appropriate “spot elevations”
4. Show location, length and sizes or capacities of improvements installed

V.2.f Surety in Default

In the event required improvements are not constructed according to the terms of the bond, the County Commission may declare the bond in default and request funds from the Surety sufficient to complete the unfinished construction. The Surety must, without delay, inspect the subdivision for unfinished construction and immediately thereafter release the funds requested by the County Commission or complete the unfinished work.

Improvements to the subdivision alleged by the subdivider to have been made after inspection by the Surety shall not be grounds for a re-inspection, or for a reduction of the funds to be released by the Surety as requested by the County Commission. The County Commission shall be authorized to contract for the completion of required improvements and to enter upon the subject property for the purpose of completing such improvements.

With respect to incomplete required improvements, the County will collect under a bond, letter of credit, or other security and utilize the proceeds to complete the improvements, as provided in Section 6.8 of the Subdivision Regulations.

SITE PLAN OF LAND

ENGINEER'S CERTIFICATE OF COMPLETION

(to be executed by an engineer)

Site Plan known as: _____

I hereby certify that all improvements required for the above referenced site plan have been completed in all respects in accordance with the MONONGALIA COUNTY PLANNING COMMISION Subdivision Ordinance and the approved plans entitled _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ prepared by _____ and dated _____, the said Monongalia Planning Commission on _____ 20_____ as approved by

_____

Signed this _ _ _ _ _ _ day of _ _ _ _ _ _ _ _ _ _ _ _ 20___

By _ Reg. C.E.

STATE OF WEST VIRGINIA

COUNTY OF MONONGALIA, TO-WIT:

The foregoing instrument was acknowledged, sworn and certified, before me this

_ _ _ _ _ _ _ _ _ _ day of _ _ _ _ _ _ _ 20____ , by

My Commission expires:_____

_____

(SEAL) NOTARY PUBLIC

V.3 Additional Information After Approval

V.3.a Validity of Land Development Plan

Once a Land Development Plan has been approved, the applicant is automatically granted 1 year before having to record the plat, or s/he may have to address any new codes that have arisen in the interim. The applicant has 5 years without having to re-apply. This is to enable the developer more time to produce the submission materials for technical review/ verification and also to benefit from a NIF 1 (if applicable, which see). Developers noted that they would have to prepare a lot of drawings that were dependent on the subdivision being approved. This way they have time to prepare those 'approval-dependent' materials for the Tech Review AND sample the site to ensure that they can build what they planned (i.e. with a NIF 1) before they recorded the final details of the plat.

V.3.b Vested Rights

Once an application has been approved, the applicant is automatically granted a 5 year vesting period with which to construct the subdivision. This includes multiple vesting periods for phased subdivisions, as each phase will require its own final plat. A landowner's rights vest in a plat and cannot be affected by a subsequent amendment to a subdivision or zoning ordinance or action by the Planning Commission when, during the five-year vesting period, the landowner incurs extensive obligations or substantial expenses in pursuit of the specific project approved. Please see below for more information on what extensive obligation is and is not, as well as how it affects development.

V.3.c Extensive Obligations

If the landowner incurs extensive obligations or substantial expenses in pursuit of the project associated with an approved final subdivision plat within five (5) years of the approval of the plat by the Planning Commission or the Planning Director, the landowner's right to pursue the project to completion continues indefinitely.

Extensive Obligations and/or Substantial Expenses include, but are not limited to:

1) Payments made to outside governmental entities in pursuit of the specific project approved.
2) Construction drawings or other engineering work done.
3) Delays due to requirements from outside governmental entities such as a need for an environmental review or an archeological study.
4) Payments made to contractors and sub contractors.

Extensive Obligations and/or Substantial Expenses DO NOT include the purchase price of the property.

If the landowner does not incur extensive obligations or substantial expenses in pursuit of the project within five (5) years of the approval of the plat by the Planning Commission or the Planning Director, then the division of land into lots as depicted on the approved subdivision plat remains valid, but the right to implement the subdivision through the Notice of Improvement Forms as approved is suspended.
Any landowner who wishes to carry out construction or land development activities within the area covered by the previously approved plat must seek a determination from the Planning Director as to whether the approved plat, as it affects the landowner's proposed construction or land development activities, is consistent with the Regulations and any applicable zoning regulations in effect at the time.

If no inconsistencies are identified, the landowner may apply for the appropriate Notice of Improvement Form and start construction. See next section.

If any inconsistency is identified, the landowner must seek approval for an amendment to the approved final subdivision plat, which will bring the plat, or at a minimum the portions of the plat within that landowner's control, into compliance

with all applicable laws and regulations. Such an amendment must be approved before the landowner may apply for a Notice of Improvement Form or initiate any construction or land development activities. If the landowner finds that compliance with one or more standards in effect at the time of the proposed amendment creates practical difficulties, the landowner may request approval under the Alternative Compliance provisions.

V.3.d Transition Period Vesting

The transition period exemption pertains to the exemption of development begun during the phase-in period of the Subdivision Ordinance, i.e. 180 days after its effective date. The vesting functions the same way as the vesting described above EXCEPT that the period is 2 years, rather than 5.

V.3.e Examples

A development has been approved and begun work and has consistently worked on the subdivision, but it has taken longer than 5 years to complete. In the interim, other regulations that pertain to subdivisions and zoning have gone into effect. The developer may proceed without any changes.

A development has been approved but NO extensive obligations/substantial expenses (i.e. no work) have been done on it in 5 years. Since the development approval, subdivision laws had changed and DOH has changed requirements for road edges and drainage. The Subdivision changes, however, cannot be implemented without changing the number of lots. An amendment to the original plan must be filed. The development may proceed with the development as approved EXCEPT that the development must be updated in regards to the road edges and drainage as that has not affected the approved layout in general. It is then determined that the development may proceed with the original layout, however, the new grading changes impact the development in a De minimis way and the subdivision must make the small changes that are involved to the lots affected but not yet begun.

CHAPTER VI: Changes, Amendments and Appeals

This chapter addresses any change or amendment to subdivisions and their components as well as providing scenarios that explain these different aspects and their ultimate performance. It also describes the appeal process.

CHAPTER VI: Changes, Amendments and Appeals Guidelines

Section 1 addresses changes and amendments and how to apply for such. Section 2 addresses the classifications of changes: De minimis, Limited and Substantial, addresses the process for petitioning for a change or amendment and provides examples. Section 3 addresses appeals and other re-dos.

VI.1 Changes and Amendments to Land Development Plans and Subdivision Plats

Changes happen, and things do not go as originally planned. Thus, changing a land development plan, a subdivision plan, or a recorded plat becomes necessary. For many of these, especially if the change is small, it is not necessary to start over. Sometimes extenuating circumstances require special consideration in the form of an appeal to the more standard reviews. This chapter deals with these changes and circumstances.

A proposed subdivision may change from an approved Land Development plan before it becomes a final plat (change), or property owner may apply to change an already approved plat (amendment). All changes and amendments are classified as De minimis, Limited, or Substantial (See the distinction for these types of change in the next section).

Example: A development after it has begun discovers in the course of a NIF 1 that a portion of the lots cannot be executed as anticipated as sitework has unearthed a huge slab of stone. So, the developer would like to alter the design of the subdivision. As the plat has not been recorded, no lots have been sold, this is considered a CHANGE.

Example: A multi-phase development has begun its 2nd phase and discovers that it would prefer to modify the original design for the streets - including for phase 1, but it has not sold any lots, yet, in either phase. As phase 1 has already been recorded, it will still require an AMENDMENT. Phase 2 qualifies as a CHANGE.

Changes and amendments can be encountered in different subdivision situations, as listed below:

Transition Period Exemption
These are plats approved during the first few months of The Ordinance being active, and for all intents and purposes, they are grandfathered as approved. (See Vesting V.3)

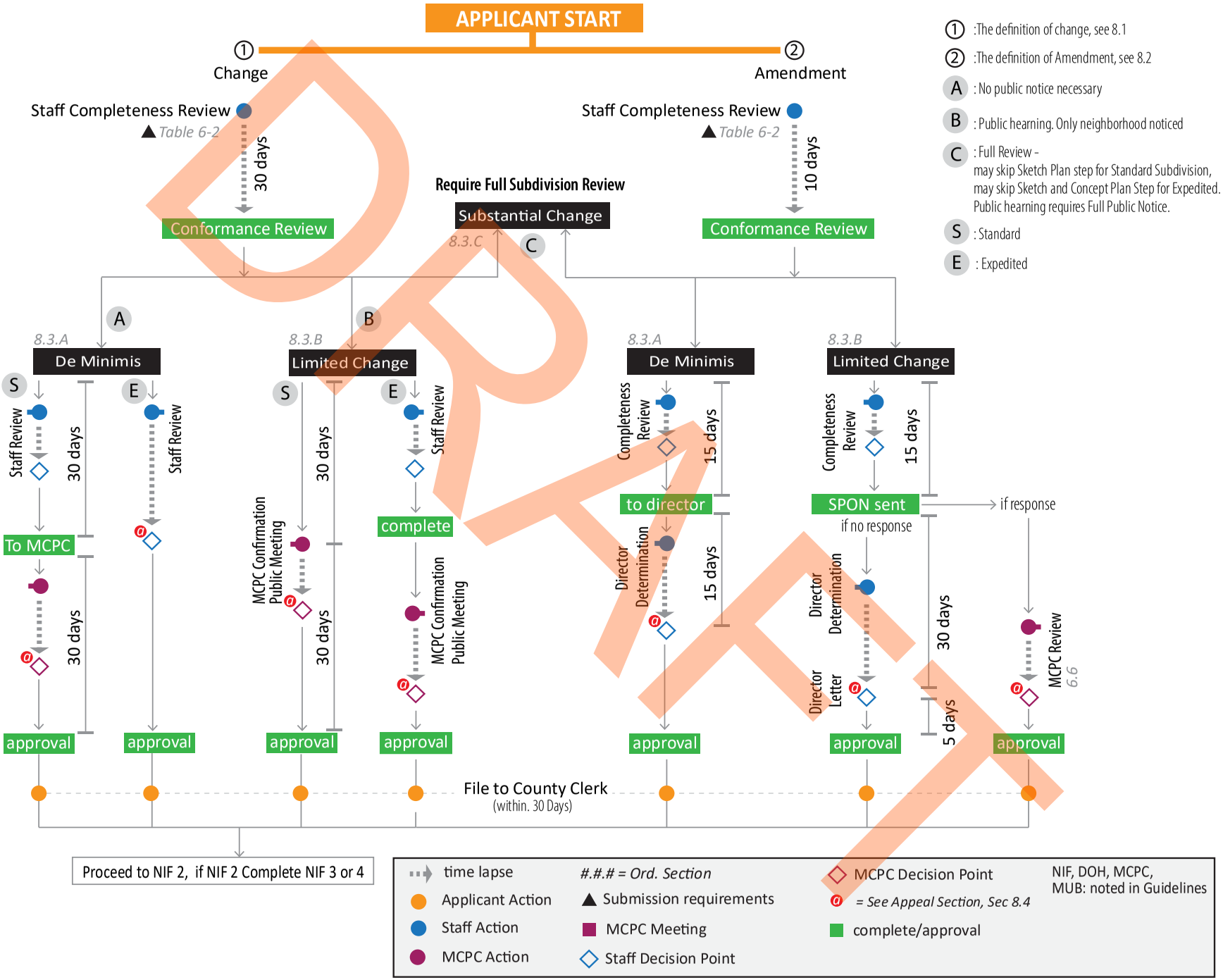
Exempt
These are plats approved under the exempt status. If any changes are made to these plats, the changes must be resubmitted to the planning office for review. They will also follow the same requirements as outlined in the Regulations as previously done for an exempt subdivision application. (Again See Vesting V.3)

Minor
These are plats approved under the minor status. If any changes are made to these plats, the changes must be resubmitted to the planning office for review. They will also follow the same requirements as outlined in the Regulations as previously done for a minor subdivision application.

If the minor subdivision included a variance the first time around, it might also need approval, again by the Planning Commission, unless the change is to remove the variance.

Major (See below)
These are plats approved under the major status. If any changes are made to these plats, the changes must be resubmitted for review but how they are reviewed differs based on if it was approved as a standard subdivision or an expedited subdivision.

If the plat was approved as a standard subdivision, it must go back through the process in its entirely as outlined in the Regulations as previously done for a standard major application. This includes going before the Planning Commission again, reposting a notice of public hearing and sending out notices to the surrounding property owners.


APPLICANT START
① Change
② Amendment
① :The definition of change, see 8.1
② :The definition of Amendment, see 8.2
A : No public notice necessary
B : Public hearning. Only neighborhood noticed
C : Full Review -
may skip Sketch Plan step for Standard Subdivision,
may skip Sketch and Concept Plan Step for Expedited.
Public hearning requires Full Public Notice.
S : Standard
E : Expedited
Staff Completeness Review
Table 6-2
30 days
10 days
Conformance Review
Require Full Subdivision Review
Substantial Change
8.3.C
C
A
B
8.3.A
De Minimis
8.3.B
Limited Change
S
E
Staff Review
30 days
To MCPC
MCPC Confirmation
Public Meeting
complete
Completeness Review
15 days
to director
Director Determination
SPON sent
if response
if no response
Director Letter
5 days
MCPC Review
6.6
approval
File to County Clerk
(within. 30 Days)
Proceed to NIF 2, if NIF 2 Complete NIF 3 or 4
time lapse
Applicant Action
Staff Action
MCPC Action
#.#.# = Ord. Section
Submission requirements
MCPC Meeting
Staff Decision Point
MCPC Decision Point
= See Appeal Section, Sec 8.4
complete/approval
NIF, DOH, MCPC,
MUB: noted in Guidelines

VI.3 Classification of Changes for a Major Subdivision

There are three types (or degrees) of changes which can be made to Major Subdivisions: De Minimis, Limited, and Substantial. De Minimis changes are those that affect the subdivision, are slight, but are less impactful than what was proposed originally, and can be administratively approved by Planning Staff. Limited changes are those that make minor, and nominally less impactful, modifications but do not significantly affect the subdivision. Yet, these kinds of changes must be approved by the Planning Commission, though they do not require a public hearing. Substantial are those changes that significantly affect the subdivision and must be approved by the Planning Commission and also require a public hearing. See subsection 7 of this chapter for more information. These will show scenarios of what might happen after approval of a plat where changes might be made. Which scenario you fall under depends on how your record plat was originally approved. See below to get a better understanding of what you might need to do based on how you were approved.

V.3.a Change Types

A. De Minimis Change. These are changes that have negligible impact on the subdivision. A final subdivision plat for one or more phases that includes de minimis change(s) from the approved Land Development Plan must be administratively reviewed by the Planning Director in accordance with the applicable procedures and requirements set forth in Article 6. For purposes of this Section, a de minimis change is one that has a negligible impact on the subdivision, including:

1. Correction to drafting or other errors or omissions in the approved Land Development Plan, Final Subdivision Plan, or Record Plat, provided that correcting such errors or omissions will have no more than a de minimis impact on the approved Land Development Plan, Final Subdivision Plan or Record Plat.
2. Reduction in the number of lots by up to five percent (5%) or ten (10) lots, whichever is less, due to (a) a condition or requirement imposed by a governmental or quasi-governmental entity such as a utility service provider; or (b) new technical information such as the results of a geotechnical review.
3. Reduction in footprint of one or more buildings or driveways.
4. Reduction in impervious surface other than buildings or driveways of up to ten percent (10%).
5. Reduction in number of parking spaces by up to five percent (5%), provided that such decrease has no effect on ingress/egress locations, impervious area, magnitude of stormwater runoff, or location and direction of stormwater runoff.
6. Displacement of a road or driveway centerline by up to five (5) feet for each one hundred (100) feet in road length (e.g. a 50-foot-long driveway may be displaced by up to 2.5 feet).
7. Reduction in length of a road or driveway by up to ten percent (10%).
8. Reduction in square footage of steep slopes disturbed by up to five percent (5%). Any land area with a slope of ten percent (10%) or more will be considered a steep slope for purposes of this section. Any change affecting the geotechnical design of the site such as a retaining wall, steeping of slopes, or reinforced soil slopes will not be considered de minimis.
9. Landscaping change (where a landscaping plan has been submitted to address a regulatory requirement or governmental agency condition, or has been proffered by the applicant) that results in no change in landscaped square footage or an increase in landscaped square footage of no more than five percent (5%); does not result in changing the location of any landscaping; and has either no impact or a beneficial impact on water management (e.g., increase in the size of a landscaped island without changing its location).
10. Change in order of phases in a multi-phase subdivision that results in no more than de minimis changes to the subdivision plan.

B. Limited Change. A final subdivision plat for one or more phases that includes limited change(s) from the approved Land Development Plan must be administratively reviewed by the Planning Director in accordance with the procedures

and requirements set forth in Article 6, provided that such approval must be confirmed by vote of the Planning Commission. Such vote must take place at a public meeting, but does not require newspaper notice or a public hearing. For purposes of this Section, a limited change consists of the following:

1. Reduction in the number of lots by up to ten percent (10%) or twenty (20) lots, whichever is less, due to (a) a condition or requirement imposed by a governmental or quasi-governmental entity such as a utility service provider; or (b) new technical information such as the results of a geotechnical review.
2. Use of improved technology or materials that better meets the goals of The Ordinance without changing any basic element of the subdivision (e.g. a new version of a package plant that does not change sewer/water pipeline layout or layout/size of package plant).
3. Displacement of a road or driveway centerline by up to ten (10) feet for each one hundred (100) feet in road length (e.g. a 50-foot-long driveway may be displaced by up to 5 feet).
4. Reduction in length of a road or driveway by up to twenty percent (20%).
5. Reduction in impervious surface of up to twenty percent (20%).
6. Reduction in number of parking spaces by up to ten percent (10%), provided that such decrease has no effect on ingress/egress locations, magnitude of stormwater runoff, or location and direction of stormwater runoff, and causes no increase in impervious surface.
7. Reduction in square footage of steep slopes disturbed by up to ten percent (10%). Any land area with a slope of ten percent (10%) or more will be considered a steep slope for purposes of this section. Any change affecting the geotechnical design of the site such as a retaining wall, steeping of slopes, or reinforced soil slopes will not be considered a limited change.
8. Landscaping change (where a landscaping plan has been submitted to address a regulatory requirement or governmental agency condition, or has been proffered by the applicant) that results in no change in landscaped square footage or an increase in landscaped square footage of no more than ten percent (10%), and which has either no impact or a beneficial impact on water management. The Planning Director or Planning Commission may require additional drawings, calculations or studies to assist in assessing impact.
9. Change in order of phases in a multi-phase subdivision that results in limited changes to the subdivision plan.

C. Substantial Change. If the final subdivision plat for one or more phases includes substantial change(s) from the approved Land Development Plan, the final subdivision plat must be reviewed by the Planning Commission in accordance with the applicable procedures and requirements set forth in Article 6. For purposes of this section, a substantial change includes:

For purposes of the Subdivision Regulations, a substantial change or amendment is any other change that does not qualify as de minimis or limited.

MCPC
MONONGALIA COUNTY PLANNING COMMISSION
243 High Street, Suite 026, Morgantown, WV 26505
Phone 304.291.9570 Fax 304.291.9573 www.monongaliacounty.gov

Permit No.: _____
Zoning ID: _____
Zoning Name: _____
Tax District: _____
Map No.: _____
Fee: _____

GENERAL APPLICATION FOR SUBDIVSION PLAT REVISION APPROVAL

Application Fee:

This application shall be used for all Subdivision Plat Revision reviews provided that:

- The changes do not constitute a shift from one subdivision type to another; and
- The changes do not go beyond the requirements of a De minimis or Limited Change; and

Specific requirements and specifications may be found in Article 8 of the Subdivision Ordinance.

Date of Submittal ____/____/____

Property Owner:

_____
Name

_____
Mailing Address (Street, City, State, Zip Code)

_____
Daytime Phone

_____
Email Address

Agent (if applicable):

_____
Name

_____
Mailing Address (Street, City, State, Zip Code)

_____
Daytime Phone

_____
Email Address

ID of Original Application:
(As given by Planning Staff, for example VAR 001-2022)

_____

Subdivision Type:
(Exempt, Minor, Major, Phase of Major)

_____

Scope of Work (what is changing):

_____

_____

I certify that I am familiar with the information contained in this application, and that to the best of my knowledge such information is true, complete and accurate. I understand that applying for a Subdivision Permit does not guarantee approval and that the fee associated with the application is non-refundable. I give permission for on-site visits as required.

I understand that my presence is mandatory at any meetings regarding this application.

Signature of Applicant: _____ **Date:** _____

SUBDIVSION REVISION PLAT REVIEW REQUIREMENTS:

Subdivision Revision are those who have previously submitted and/or been approved by the MCPC and wish to make changes. All applications for a subdivision revision shall be accompanied by the following:

1. A site plan, size of:

   Exempt and Minor: at least eight and one-half (8 ½") inches by fourteen (14") inches having margins of one-half (½) to one (1) inch, or;

   Major: twenty-four (24) inches by thirty-six (36) inches including a one and one-half (1 1/2) inch margin for binding along the left edge, with a scale of fifty (50) feet or less to the inch for lots averaging less than two (2) acres, and one hundred (100) feet or less to the inch for lots averaging two (2) acres or more,

   and following general surveying and engineering practices for plats and to scale, that includes the following:

   a) The clear demarcation of what areas are proposed to be changed;
   b) The location, square footage, and dimensions of the proposed parcels;
   c) The location of the proposed parcels with respect to adjacent rights-of-way.
   d) The existing and proposed uses of the land.
   e) The location and dimensions of all existing and proposed means of ingress and egress to the site;
   f) Setbacks or building envelopes, as required;
   g) Layout and designs of all internal roadways, as may be required by Article 10 "General Standards for Roads" of this Ordinance;
   h) Utility lines and easements;
   i) Statement indicating the type of subdivision as listed in Sec. 4.2.B; and,
   j) Signature of applicant.

2. Approval from any such other agency, such as DOH, MUB or the WV DEP, where such changes proposed affects previously approved or issued permits from said entities.

3. Any other such information concerning the lot or neighboring lots as may be required by the Planning Official to determine conformance with, and provide for the enforcement of, this Ordinance.

VI.3.b Process for Changes (cf. a from Flow Charts)

Petition for change (shown on the flow chart at beginning of chapter)

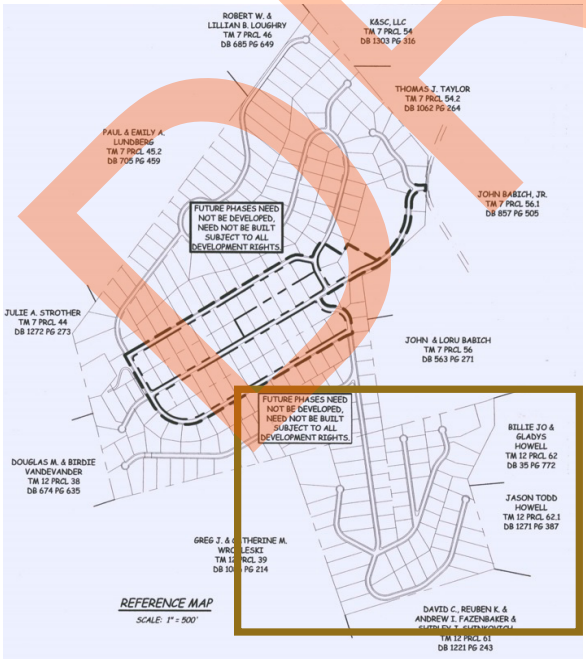
When an applicant applies, it may be quickly determined that an application is incomplete or there is a glaring need for a change to the plan. Though the materials are different (with an amendment, one is changing a recorded plat, and with a change, nothing has been recorded), the process for a change or an amendment is similar. An applicant requests a change/amendment. Staff ensures that all the submission materials are provided (i.e. completeness check). The classification of the change is determined: De Minimis, Limited or Substantial. Then, the change is reviewed accordingly. With Expedited Review, a change review is faster, principally because most of it is handled by Staff, rather than by the MCPC and/or public hearing process. Nonetheless, if the change is substantial, the applicant must go through a complete public review.

VI.3.c Example of Change Process

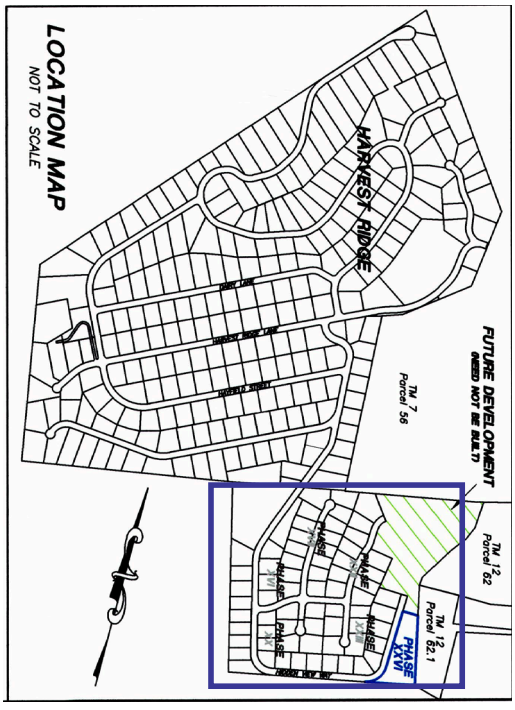
If an applicant submits a phase, it would be reviewed by Staff and just confirmed by the Planning Commission. A change proposed such as that below in the area of the blue box would likely be allowed but would require further review directly by the Planning Commission. These are scenarios of what might happen after approval of a plat where changes might be made. Which scenario you fall under depends on how your plat was originally approved. Refer to the figures below for a better understanding of what you might need to do based on how you were approved.

The initial review will examine the overall Master Plan with every lot and road proposed to be shown, along with conceptual grades and preliminary drainage, stormwater, and erosion control plans. These preliminary plans will be finalized as part of the application process during each individual phase. The Master Plan must be followed, but allows for flexibility where final parcel and road placement are concerned. The overall number of units proposed on the Master Plan cannot be increased during the individual phases (e.g. in lieu of proposed 20 units over 2 phases on the Master Plan, a final submission of 12 units in phase one and then 13 units for phase two would be denied as above the original proposed 20 units).

A change proposed such as that below in the area of the blue box would likely be allowed as long as the final plat reflected the final situation.



Orignal Multi-Phase Plat



Revised Multi-Phase Plat
Note the changes to the road network and the layout of the lots. This plat shows an under development subdivision.

VI.4 Other Re-takes: Appeals, Resubmissions and Reconsiderations (cf. a from Flow Charts)

Resubmissions (not shown on the flow chart)

When an applicant applies, it may be quickly determined that an application is incomplete or there is a glaring change that is needed. If the application were submitted as is, chances are that it would be denied. Consequently, an applicant MAY opt to resubmit the application. The time clock would be the only impact of this decision - namely, the application filing date would change to the resubmission date, and all other official dates would adjust accordingly. So, if there is any doubt in the mind of the applicant, s/he is strongly encouraged to re-submit - everything else stays the same.

Reconsideration (not shown on the flow chart)

If, and only if, the project is a Major Subdivision, the applicant may request, one time only, a reconsideration of the decision of the Planning Commission. Reconsideration would benefit the applicant most if the applicant has additional information for the Planning Commission which was not available at the time of the original pubic hearing. The request for reconsideration must be in writing and received by the planning commission no later than ten days after the decision of the planning commission is received by the applicant. If after a reconsideration, an applicant feels a project has been unfairly denied, there is still an option for appeal.

Appeals and the Appeals Process

Any decision made may be appealed. If at any point, an applicant or other member of the public feels a project has been unfairly approved or denied, there is an option for appeal. The PC reviews an appeal of a staff decision. The Subdivision Review Board (SRB) reviews appeals of a PC decision. After that, any appeal would be handled through the Court System.

Subdivision Review Board

The SRB operates similar to the Board of Zoning Appeals (BZA) and is bound by the same requirements as the BZA per WV8A. It is listed as a 'board of subdivision and land development appeals' in WV8A, but staff have decided on an alternate name so as to not cause confusion with our currently operating BZA. The SRB has five members which meet semiannually, but may meet for special meetings inbetween as the need occurs.

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CHAPTER VII: Design Requirements - Standard Compliance and Preferred Design Overview

This chapter describes the design requirements for standard subdivisions, but further provides an overview of and verification procedures for the criteria for subdivisions to qualify as Preferred Design. Preferred Design provides development advantages (viz. bonuses and incentives) to encourage developers to pursue more context-sensitive designs. Preferred Design also allows an applicant the ability to follow the Expedited Review process, which is described in Chapter IV.

CHAPTER VII: Standard Compliance and Preferred Design Overview

Section 1 introduces the concept of design requirements, and why there is the need to differentiate between standard and preferred design. Section 2 provides an overview the categories and criteria that are considered 'Preferred'. Section 3 shows some design requirements that all subdivisions, including standard design, must meet. Section 4 introduces the form to be completed by the applicant in order to qualify for Preferred Design and Expedited Review. Section 5 discusses briefly how this process may evolve as developers become more comfortable and familiar with Preferred Design and how it can improve their subdivision designs and their bottom lines.

VII.1 Standard Compliance

Table VII-1 shows the requirements that all subdivisions must meet. They must reserve areas that have been identified by extant plans for infrastructure. In other words, those areas must be free of other built structures. However, in the case of standard compliance, they must still be purchased through the state-sanctioned process. This is contrasted with preferred design wherein the ROW for such infrastructure is either gifted or the developer builds the infrastructure. This may seem like a disadvantage for preferred design, but in fact, the amount of bonus that is provided and the value of the amenity far outweighs any near term cost saving or purchase.

If a development will add sufficient traffic load such that the principal roadway onto which the development traffic with flow has a lowering of level of service, then the developer must follow DOH procedures for Traffic Studies and road upgrades. If the developer wants to look at more innovative ways to address traffic loads, then they should pursue preferred design methods which offer more flexibility.

All roads must be built to standards including ensuring that the edges and drainage of the roadways are preserved. The roads with poor edge and drainage management, have to be completely rebuilt in a couple of years and are a great waste of everyone's resources. Similarly cul-de-sacs, as will be discussed in Chapter IX are discouraged.

Finally, all development must respect the slope, floodplain, site and stormwater management practices established by the DEP and MUB. Bonuses can be obtained, however, if an applicant meets preferred design standards.

Note: Standard Compliance just needs applicant to indicate WHICH plan requirements (from 'Supplementary Table' below Standard Process Checklist) are being followed/complied with.

Standard Process Checklist

All applications must meet these criteria. Any application will be denied unless it meets all applicable criteria listed in the following table. This table is not all inclusive of all requirements.

Category	Description		Yes	No	N/A	Not Sure
Global Considerations	The subdivision meets ordinance requirements?					
	The development is consistent with the Comprehensive Plan and/or additional plans? Check which one(s) in Supplementary Table (below).					
	The development meets requirements of any other plans, laws, or regulations at a federal, state, or local level?					
	LOS does not change (Note: LOS may go down a grade and still be acceptable, but will require a review by DOH and Staff)					
	Proposed Alternative Compliance (Sec 2.8):					
Transportation and ROW Management	Street have protected edges (choose one)[1]	Protected edges (curb and gutter, gabion basket, sidewalk, etc.)				
		Rolled edges/Berm				
		Proposed Alternative Compliance (Sec 2.8)				
	Proper considerations for roads? [1]	At least 18 feet wide				
		Proposed Alternative Compliance (Sec 2.8)				
	Are all terminated roads hammerheads or keyhole-design cul-de-sacs?					
	Proposed Alternative Compliance (Sec 2.8):					
Site Slope and Water Management	R-o-W is reserved	Utilities?				
		Broadband?				
	Identifies steep slopes per Art 10 and complies with Table 10-1					
	Adhere to all federal, state and local floodplain guidelines (within the 100-year flood plain).					

1) Choose one to comply with criteria. Review done on individual basis.

Please check which part of the plan application is addressing. For Comprehensive Plan, applicant must choose at least one objective to show application is meeting the requirement w/o negatively affecting other Plan elements.

Description			Yes	No	N/A	Not Sure
Comprehensive Plan[1] (Examples Shown)	Concentrated Development, obj 3.1.1					
	Protect Sensitive Areas, obj 3.1.2					
	Within Designated Growth Area, obj 3.2.1					
	Variety of Growth, obj 3.2.2					
	Access Management, obj 4.1.2					
	Encourage housing diversity, obj 7.1.4					
	Develop neighborhoods in welcoming manner, obj 10.2.1					
	Other objective:					
Additional Plans[2]	Any plan which includes a map or verbiage clearly outlining certain requirements	Bike/Ped map				
		Broadband map				
		Mon County Trails map				
		Other Plan:				
Water Management Plans[1]	MUB Plan (Stormwater Management, see Sec. 12.1 of Ordinance)					
	First Energy Plan					
	Other Plan:					
Transportation Plans[1]	Metropolitan Transportation Plan					
	MPO Bike/Ped Plan					
	Mountain Line Transit Plan					
	Utility Plan					
Additional Plans[1]	Parks and Rec Plan					
	Guide for the Preparation of Mine Reclamation Designs					
	Other Site and Small Area Plans					
	Other Plan:					

1) Need not meet all supplementary items to comply. Review done on individual basis.
2) Need only meet those that are required. Review done on individual basis.

VII.2 Preferred Design Standards

To achieve bonuses and possibly expedited review, an applicant must meet the criteria as described in Table VII-2 .

Table VII-2- Qualification for Preferred Design

To meet "Preferred Design" applicant must address at least one criterion under each category to qualify for expedited process. If no criterion is available to address under Global Consideration, applicant may choose a second item from Transportation or Site criteria instead. Note: Compliance with the requirements of the Subdivision Ordinance is necessary but not sufficient to qualify for expedited process.

Category	Description			Yes	No	Not Sure
Global Consideration	Meets non-required goal of one or more plans listed in the Supplementary Table (below).					
	Helps meet parks and rec goals[1]		Creates new community park			
			Provides updates/improvements to existing park			
			Other means of meeting parks and rec goals:			
	Addresses another plan, please list:					
	Traffic load considerations[2]		Traffic load/LOS will be maintained at Grade A or B (determined by submitting a TIS –show existing vs. future)			
			Traffic load/LOS will improve through added connectivity (determined by submitting a TIS –show existing vs. future)			
			TIS provided showing no unacceptable adverse impact			
			Proposed facilities will ease current congestion through connectivity (must have a least 2 connections and show easement via traffic study/letter)			
	Off-site roadway improvements such as the net performance will compensate for the additional traffic through _____[3]		Spot improvements - Q			
			Roadway improvements to provide good, connected roads (connecting two major roads, adding a lane at an intersection, providing a traffic/pedestrian signal, etc.) - Q			
	Other contribution to quality of life for county residents (please provide measures in a separate attachment):					
Transportation and Roadway Design	Street network allows more than one way in/out[3]		More than one way in/out			
			Multiple connections/hammerhead future connections			
			Connects to hammerhead/other connection point in adjacent subdivision			
			Other contribution to the street network or method of meeting the destination criterion (please explain):			
	Subdivision proposes multimodal facilities through or near the subdivision that are recommended in a plan listed in Supplementary Table B below	Improve existing or proposed facility[3]	Connects to an existing facility such as a bike or ped path, etc.			
			Dedicates R-o-W for a proposed facility			
			Dedicates additional R-o-W to connect to existing R-o-W for an existing/proposed facility			
		There is a route (existing, planned, or potential) for transit to stop at or come through (less than 500 ft away).				
		Provides a bicycle facility/route on this or an adjacent corridor OR proposes a street with ≤ 20 mph[3]	Sharrow (≤ 20 mph) must mark/signs			
			Dedicated bike lane			
			Separate bike path			
		Subdivision design allows pedestrians (including wheelchair) to travel safely and comfortably to a destination on or near to the proposed development in all conditions (e.g., icy roads) (within 500 ft)				
		Other proposed multimodal facilities (i.e. "complete streets" concept):				
	Use of Preferred Design templates[1]		Use all templates on all roads within the development			
			Some templates on some roads within the development - Q			
			Use of equivalents (please specify) - Q			
			Other proposed design template: Q			
	Other contribution to achieving county transportation connectivity and efficiency goals (please provide measures in a separate attachment):					

1) Choose one to comply with criteria. Review done on individual basis.
2) LOS may be determined by MPO/DOH online map and DOH standards or TIS. Choose one to comply with criteria. Review done on individual basis.
3) May meet multiple standards. Review done on individual basis.

Q – Must qualify design through Staff evaluation

Category	Description		Yes	No	Not Sure
Site Slope and Water Management	The layout avoids steep slopes and floodplains[1]	Avoid all steep slopes/floodplain and leave all flora and matte not required to be removed			
		The applicant is achieving a minimal footprint, avoiding some steep slopes/clearcutting (at least 30%) - Q			
		Geotech Report, if provided, showing no impact on slopes over 10%			
		Others (please provide measures in a separate attachment):			
	Ways to meet additional utilities goals[2]	Integrates extra capacity into existing storm water facilities			
		Utilities are proposed underground or otherwise handled in a way that free up above ground R-o-W (i.e. no above-ground lines).			
		Upgrades existing facilities (provide sign-off by utility company)			
	Subdivision proposes **parking** arrangement that provides adequate parking without negative impact to stormwater management[3]	Demonstrates no new parking is needed or all is pervious (pervious concrete, grass/moss-crete, etc.) through parking study or similar			
		Portions are pervious (at least 20%) - Q			
		Upgrades existing surfaces (i.e., pervious increase of 20% or reduction of superfluous parking) - Q			
		On Street (i.e., use of existing) - Q			
		Off Street (i.e., shares existing) - Q			
		Other contribution to achieving county parking goals: Q			
	Other contribution to county slope and water management goals (please provide measures in a separate attachment):				

1) Choose one to comply with criteria. Review done on individual basis.
2) Need not meet all standards to comply. Review done on individual basis.
3) May meet multiple standards. Review done on individual basis.
Q – Must qualify design through Staff evaluation

The list of 'off the shelf' Preferred Design criteria is in Table VII-2. The Table shows each of the Design "Elements": Global Considerations, Network and Transportation Layout, and Site Design/Management. Each of these elements has a selection of eligible 'criteria' to choose from to 'meet' good design for that Preferred Design 'Element'. To qualify for Preferred Design and Expedited Review, the applicant must address at least one criterion from each of the elements, unless there are no Global Considerations to address. In that case, the applicant must meet one more criterion from one of the other elements. Thus, we avoid "penalizing" developers that happen to have a "Global Considerations" to address, when they address them.

Note: For Preferred Design, Applicant can get credit for meeting Global Considerations from the 'Supplementary Table' pg. VII-3 above and beyond the requirements. Applicant just needs to demonstrate how they are meeting that requirement 'above and beyond'. Please see VIII for details.

Table VII-3- Design Advantage Requests: Bonuses and Incentives

Preferred Design Criteria enable design advantages apart from Expedited Review itself. Table VII-3 shows the advantages. These are granted as a function of meeting preferred design criteria as indicated in the table and these will be described in more detail in Chapters VIII-XI. Nonetheless, a developer must REQUEST the Design Advantage or Bonus on the form/Table below. Developers should strive for the biggest bonus that they can foresee, for it is easier and probably will not entail much delay if they end up asking for less. Asking for more, if even possible at a later date, is likely to incur significant delays.

Development Advantages

The following table lists the development advantages an application MAY request if it is pursuing PREFERRED DESIGN (please Preferred Design Checklist). For each request, an application must demonstrate what advantages it is seeking in order to receive the requested advantage. An applicant may not request any of these development advantages utilizing a Standard Design! [] designates Toolkit Chapter and Section as reference

Category	Request[1]	What request is based on	Ways that can be accomplished[1]	Yes	No	N/A	No. Requested
Housing	Additional Housing Units[2]	Based on Connectivity [IX.1]	Additional routes to and from development				units
	Localized Housing Density Approval[3]	Based on Sloping of the Property [X.1]	Staying out of high slope areas				units
	Setback Reduction	Based on other infrastructure location [X.2]	Locate behind houses, underground				feet
	Alternate Housing Request	Must show how request can be met					
Road	Road Frontage Reduction	Based on speed and road design [IX.3]	Lower speed roads, more highly developed roads				feet
	Road Width Reduction	Based on speed and road design [IX.3]	Lower speed roads, more highly developed roads				feet
	Alternate Road Request	Must show how request can be met					
Other	Parking Additions	Based on lot design and pervious surface [XI.2-3]	Use of pervious concrete, grass/moss-crete				spots
	Other Alternate Request	Must show how request can be met					

1) The requests and ways listed are not all-inclusive, applicant may suggest other ways to meet the request, reviewed on an individual basis. Review may need to be approved by the MCPC prior to inclusion on the pre-approved list of requests and how they can be met.
2) There is a maximum number of additional units applicant can request. SALDO Table 9-1 lists max number of additional units per case.
3) Only available in areas with topographical challenges. Final result based on other factors such as setback capabilities and road width.

VII.3 Future Evolution of Table and Alternative Compliance

There is an evolving list of additional credits for Preferred Design as well as suggestions for methods for alternative compliance. Furthermore, it is envisioned that there will be a point system akin to that offered by the International Building Code to ensure compliance with preferred design methods and improving overall design of subdivisions.

VII.4 Overview of Standard and Preferred Design

Standard Compliance refers to designs that most developers currently pursue (cf. sprawl). They are familiar designs and as such are easy to replicate and finance. They often, unfortunately, entail inefficient designs that are costly in infrastructure per dwelling unit. They create more stormwater runoff and require more driving to get everywhere, increasing traffic. Nonetheless, these regulations allow these kinds of developments as they are often common. It is anticipated that many developers will wish to continue to develop these older patterns of subdivisions and so, the standard review process will review those developments in a standard way. However, as these patterns are costly to the County, do not provide enough housing or amenities in areas where they are needed, these developments are not given any advantages over better designed subdivisions.

As mentioned earlier, the County has struggled to address pervasive transportation and stormwater management issues. Part of the challenge is certainly that the designs of developments could be more sensitive to these issues and their context - viz. their neighborhoods. Preferred design rewards development that addresses these issues better within the subdivision and in the subdivision's regional context. This is provided through bonuses, design advantages, and an expedited review

Why have preferred design?

The County has to move forward, managing and improving development over time to achieve what it wants to achieve overall. To do so, it must integrate plans that define this - such the Metropolitan Transportation Plan and the Comprehensive Plan. Furthermore, the traffic and stormwater issues often stem from poorly designed and/or poorly managed development in the County. Even the best designs, if focused exclusively on their development alone, would not address infrastructure needed to serve a region unless there were a mechanism to do so. For instance, one development builds a road to serve its 10 houses, and then is followed by another and another. Soon, over 100 houses are on an undersized road that cannot handle the traffic nor the stormwater generated. Thus, "Preferred Design" is intended to provide the mechanisms to elicit designs that address a fuller picture of what is needed in the area in which a new development is found.

Therefore, regulating to prevent bad development seems like a good idea. However, WV, in general, does not like heavy-handed government telling people what to do. So, Mon County is using Preferred Design more as an incentive to get better designs and better development – i.e. more carrot, than stick. This Chapter will describe an overview of what constitutes Preferred Design and how to qualify, though details may be left to the specific chapters discussing Global Considerations (Ch. VIII), Transportation Network and Road Design (Ch. IX), and Site Design and Management (Ch. X).

Preferred Design offers advantages for both developers and the County. For developers, they are offered more units and less required infrastructure per unit. As discussed in Chapter IV, there are also time advantages for the Expedited Review offered for subdivisions that meet Preferred Design, as well as being easier to approve with less rework as they would be using designs and templates that the MCPC would be familiar with. The County would get better, safer connected roads, less sprawl and its associated costs, easier reviews and review time. The actual buildings would be better due to wiser use of land.

How can we offer these as incentives?

Since the focus of The Ordinance is creating development, the most popular and efficient method to develop subdivisions is in urban and suburban areas, and according to their related standards. This means smaller lots, smaller streets and smaller setbacks with more easily accessible common amenities like parks and shopping. To do this well can be a bit complex. However, since it is better for the County and its residents to develop efficiently and responsibly, the County makes it easier and faster to do so. In this way, the County has already vetted good development types, and developers can simply pull those designs off the shelf or easily adapt them to make good, efficient developments in the County.

VII.5. How to Qualify for Preferred Design (Overview)

VII.5.a Requirements for all subdivisions

There are some requirements that ALL subdivisions must meet. As with Preferred Design, there are 3 categories or areas of context-sensitivity that all subdivisions must address: Global Considerations (GC), Transportation Network and Roadway Design (Trans), and finally Site Design and Management (Site). For instance, with GC, all development must reserve area for required infrastructure (e.g. a easement for a power line, a Shared Use Path planned in the Bike/Ped Plan, or a broadband tower or line), no matter whether Standard or Preferred Design. For Trans, cul-de-sacs are allowed only if they are designed to be of the 'keyhole' type (see Ch IX). The hole eliminates absolutely needless impervious surface in the center of the round portion of the cul-de-sac, which is expensive and just adds to stormwater runoff without any advantages. All roads must address in some way the safe passage of all transportation modes. All roads must protect road edges. For Site, clear cutting an entire property is strongly discouraged for all subdivisions etc. Table VII-1 and Chapters VIII-X show the specific design requirements for all developments unless specifically targeted (and designated) for Preferred Design alone.

VII.5.b Global Consideration Checklist

The list of currently qualifying Preferred Design criteria is listed in Table VII-2 and is broken into three categories (as alluded to above): Global Considerations, Transportation Network and Roadway Design, and finally Site Design/Management (Details in Chapters VIII-X). Each of these categories has a selection of eligible 'criteria' to choose from to 'meet' good design for that Preferred Design category'. To qualify for Preferred Design and Expedited Review, the applicant must address at least one criterion from each of the elements, unless there are no Global Considerations to address. In that case, the applicant must meet one more criterion from one of the other elements. Thus, we avoid "penalizing" developers that happen to have a "Global Considerations" to address, when they address them.

"Global Considerations" includes items like building in areas appropriate for development, respecting future plans and regional needs for connections through the area. Global Considerations include: integrating land management (as described in the Comprehensive or Comp Plan, but possibly others such as a Parks and Rec Plan), regional transportation improvements (those described in the Metropolitan Transportation Plan or MTP) and other infrastructure plans (e.g. MUB, Broadband). Though this mostly affects large developments in key areas, it actually can be a benefit to all developments. Such future plans are required by State law to be put in when possible, but it is expensive to do so after the fact. Preferred design enables the County to better dialog with a development to ensure a development can take full advantage of these future amenities for the least cost to both the development and the County. For more details see Chapter VIII.

Why is credit required for Global Considerations?

To ensure that someone that is not 'punished' for meeting requirements from regional plans, the County wanted to give credit to a developer for the provision of nominally public amenities. If there are no 'global considerations', that credit can easily be selected from the list of criteria from 'Transportation' or 'Stormwater'. Again, all applicants must meet the requirements for Standard unless otherwise specified. To qualify for 'Preferred Design' (which would allow review under 'Expedited Review', an applicant must meet at least one criteria from each of columns A, B and C of the Table V-1 (Section V.3). Note: Even if the applicant does not qualify as "Preferred Design", but meets a criterion that has a bonus, the bonus is still available to them, even if Expedited Review is not.

What if there are no Global Considerations to include?

As mentioned earlier, it is quite possible that there would be no reference to a specific area in any extant plans of the County. In that case, it would not be possible to meet Global Considerations as a criterion for Preferred Design. So, if

this is the case, an applicant must meet one additional criterion from the other two areas below.

VII.5.c Transportation Network and Road Design Checklist

The next category is Transportation Network and Roadway Design. For a subdivision, the development should be designed responsibly for 'itself' - but this includes connections outside the development itself as well: good, connected roads, responsible layout of lots. Essentially an 'infrastructure envelope' that defines the relationship of a development to everything else in the County. This provides scale, connections and performance of a development site - providing critical information for a development to be a good neighbor. Essentially roads and infrastructure will access and define the 'envelope' for a given development.

With the natural steep slopes of the County, roadways are also often steep creating unsafe travel and high speed water coming off the road. Furthermore, developments often make roads that are wider than necessary, leading to the same effect. Better design generally SAVES a development money as well as redressing these issues. Thus, Preferred Design helps address roadway slope and width issues, minimizing dirt and slope work necessary, creating safer and friendlier neighborhood designs. To reward such designs, the County offers housing and other bonuses to developments that pursue these designs.
More details are provided in Chapter IX and X for the impact on stormwater and road slope.

VII.5.d Site Design and Management Checklist (Application and NIF 1)

Finally, the last category of Preferred Design is Site Design/Management. The applicant should have quality design and management of the sites/lots themselves to ensure that stormwater is not a problem. When laying out a development, a design should avoid steep slopes and floodplains, and manage them scientifically when it cannot avoid them. There are also advantages and bonuses for developers when they use better designs and technologies in site management and parking lot design. More details are provided in Chapters X (and XI which addresses Parking design specifically), but following are some 'overview' examples.

VII.5.e Examples

Example I: An applicant hopes to qualify for Preferred Design and there is a Multi-Use or Shared Use Path (MUP) according to the Regional Bike/Ped Plan that passes near to her property. The applicant could offer to 'reserve' ROW (i.e. not build anything on that strip to allow it to be purchased later without having to remove any build structures), which would qualify as 'Standard', OR the applicant could 'gift' the ROW to the appropriate entity or build the MUP herself and offer it as an amenity for her development. She builds her development with 2 means of ingress and egress with a safe pedestrian travel via a wide shoulder, qualifying for the 'Transportation' category. The built area stays clear of a bluff and leaves that entire area in its natural state, qualifying for the 'Stormwater' credit. Her application would be considered as Preferred Design and would allow her an Expedited Review.

Example II: An applicant hopes to qualify for Preferred Design, but there are no global considerations to meet. The developer avoids the steep slopes on the backside of the property, meeting the 'Stormwater' criterion. He also makes multimodal roadway connection (based on one of the templates in this manual) between 2 important roads, meeting TWO criteria from 'Transportation', qualifying as Preferred Design. Furthermore, he might spot fix the dangerous curve on the DOH road near the entry of the development, getting credit for the development AND meeting DOH criteria for not making a LOS worse.

Example III: An applicant reserves ROW for a planned high-voltage line at the back of the property, but expects to be paid for the ROW in the future if it is built. The applicant leaves that area alone, meeting 'Stormwater', and adds a con-

nected network, but does nothing else. He qualifies for the housing bonus, but does not qualify for Preferred Design and Expedited Review.

CHAPTER VIII: Global Considerations

As mentioned in Chapter VII, to qualify for Preferred Design, an applicant must address global considerations, transportation network and roadway design, as well as site and stormwater management. This Chapter addresses the criteria for meeting global considerations, sometimes referred to as 'off-development-site' impacts. Global Considerations include: integrating land management (as described in the Comprehensive or Comp Plan) and regional transportation improvements (those described in the Metropolitan Transportation Plan - MTP). Though this mostly affects large developments in key areas, it actually can be a benefit to all developments. Such future plans are required by state law to be put in when possible, but it is expensive to do so after the fact. Preferred Design enables the County to better dialog with a development to ensure a development can take full advantage of these future amenities for the least cost to both the development and the County.

CHAPTER VIII: Global Considerations

Section 1 introduces the concepts behind Global Considerations as well as why and how they apply to subdivision development. It contextualizes one of the principal reasons the County needs a Subdivision Ordinance, which is a global consideration of the steep topography of the County. Section 2 discusses existing plans approved by County residents that may impact subdivisions and development, including how subdivisions and developments relate to each other - an important consideration before making decisions about a new development. Section 3 discusses regional transportation and how it impacts subdivisions and development. Section 4 discusses other infrastructure like power lines and broadband. Finally, Section 5 provides some takeaways from this chapter to keep in mind for the following chapters.

VIII.1 Global Considerations - Filling out the Form

So, when applying, how does one address these global considerations. The portions pertaining to Global Considerations from the form shown in the last chapter are shown below. Applicants simply need to verify which, if any, of the plans listed in the following tables have elements that the development is addressing and check the appropriate box. Note it is quite possible there will be NO pertinent 'global considerations'. Then, an applicant must simply meet 2 criteria in either Transportation (Chap IX) or Site (Chap X).

Category	Description		Yes	No	Not Sure
Global Consideration	Meets non-required goal of one or more plans listed in the Supplementary Table (below).				
	Helps meet parks and rec goals[1]	Creates new community park			
		Provides updates/improvements to existing park			
		Other means of meeting parks and rec goals:			
	Addresses another plan, please list:				
	Traffic load considerations[2]	Traffic load/LOS will be maintained at Grade A or B (determined by submitting a TIS –show existing vs. future)			
		Traffic load/LOS will improve through added connectivity (determined by submitting a TIS –show existing vs. future)			
		TIS provided showing no unacceptable adverse impact			
		Proposed facilities will ease current congestion through connectivity (must have a least 2 connections and show easement via traffic study/letter)			
	Off-site roadway improvements such as the net performance will compensate for the additional traffic through _____[3]	Spot improvements - Q			
		Roadway improvements to provide good, connected roads (connecting two major roads, adding a lane at an intersection, providing a traffic/pedestrian signal, etc.) - Q			
	Other contribution to quality of life for county residents (please provide measures in a separate attachment):				

Supplementary Table

Please check which part of the plan application is addressing. For Comprehensive Plan, applicant must choose at least one objective to show application is meeting the requirement w/o negatively affecting other Plan elements.

Description			Yes	No	N/A	Not Sure
Comprehensive Plan[1] (Examples Shown)	Concentrated Development, obj 3.1.1					
	Protect Sensitive Areas, obj 3.1.2					
	Within Designated Growth Area, obj 3.2.1					
	Variety of Growth, obj 3.2.2					
	Access Management, obj 4.1.2					
	Encourage housing diversity, obj 7.1.4					
	Develop neighborhoods in welcoming manner, obj 10.2.1					
	Other objective:					
	Any plan which includes a map or verbiage clearly outlining certain requirements	Broadband map				
		Mon County Trails map				
		Other Plan (please identify):				
Water Management Plans[1]	MUB Plan (Stormwater Management, see Sec. 12.1 of Ordinance)					
	First Energy Plan					
	Other Plan (please identify):					
Transportation Plans[1]	MPO Metropolitan Transportation Plan					
	MPO Bike/Ped Plan					
	Mountain Line Transit Plan					
	Utility Plan (if/as done by local utilities)					
Additional Plans[1]	BOPARC Parks and Rec Plan or Community Recreation Study					
	DEP Guide for the Preparation of Mine Reclamation Designs					
	Other Site and Small Area Plans (if any)					
	Other Plan, federal, state and/or local:					

1) Need not meet all supplementary items to comply. Review done on individual basis.
2) Need only meet those that are required. Review done on individual basis.

Note: For Preferred Design, Applicant can get credit for meeting Global Considerations from the 'Supplementary Table' above. To do so, an applicant must demonstrate that s/he is meeting the objective above and beyond the requirements.

For instance, a requirement might be to leave a wetland alone. That is required. IF and applicant restores a wetland, that would be above and beyond the requirement.

VIII.2 Introduction

Mon County topography (steep slopes and floodplains) has naturally led to certain areas being better for development than others. Development will naturally gravitate to flatter areas proximate to the City of Morgantown and the other smaller municipalities. This was considered in the last Comprehensive (Comp) Plan as urbanizing areas and as planned growth and development districts (see following combination of the 2 maps from the Comp Plan).

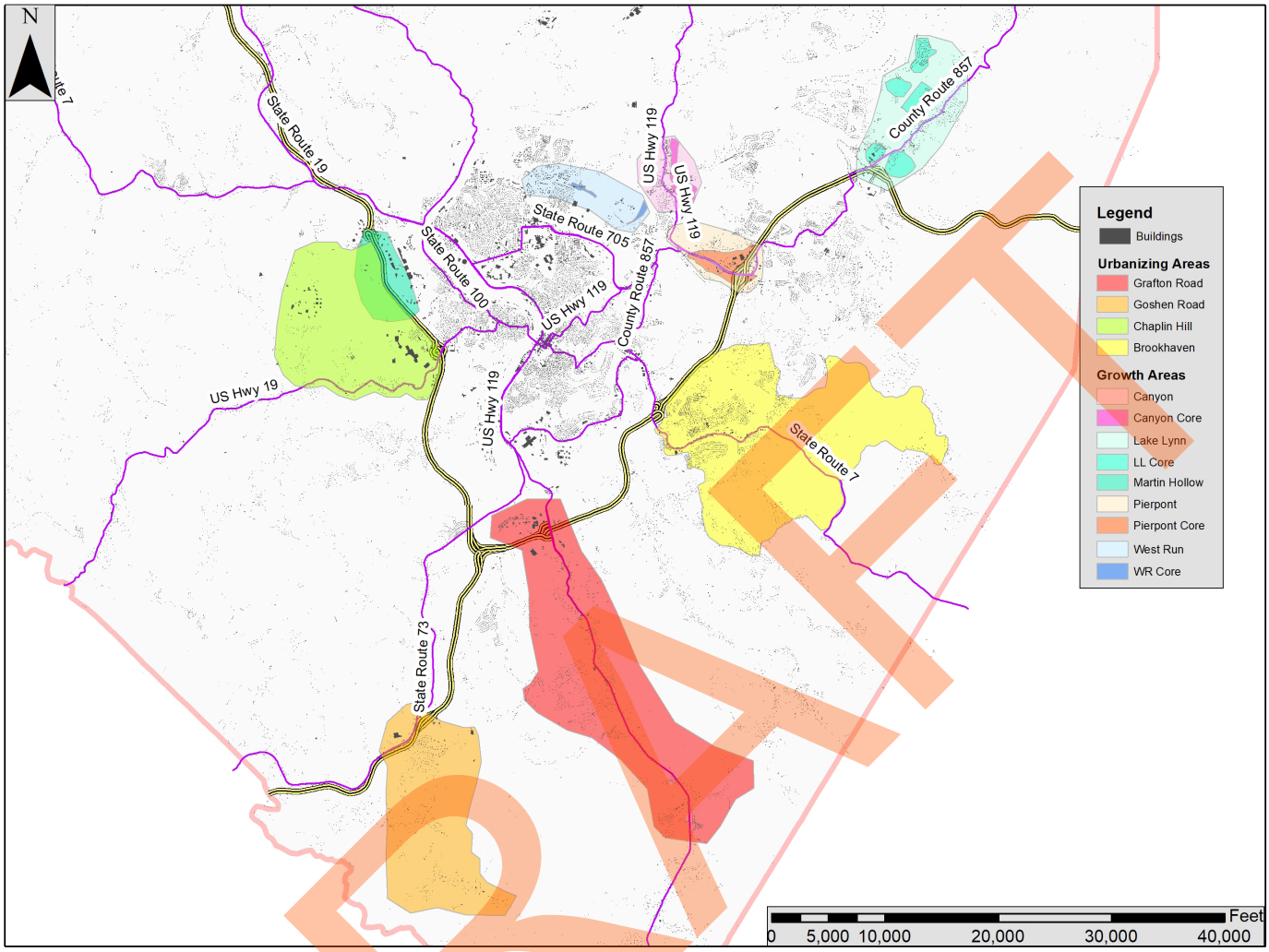
VIII.2.a Future Development From Comp Plan

Monongalia County topography (steep slopes and floodplains) has naturally led to certain areas being better for development than others. Development will naturally gravitate to flatter areas proximate to the City of Morgantown and the other smaller municipalities. This was considered in the last Comprehensive (Comp) Plan as urbanizing areas and as planned growth and development districts (see following map for projected land use plans).

It is important to enable developers that wish to move TOWARD what the future plans advocate. With the State's enabling legislation, the Comp plan (if explicit) can allow a developer to develop something that meets any explicit designations from the Comp Plan, EVEN IF the current regulations do not explicitly allow it. Though unusual, Mon County has only devised a Comp Plan for certain areas of the County, NOT the County as a whole. Any prescriptions designated by the Comp Plan for these areas can and should allow for a developer to meet those prescriptions EVEN IF they are at odds with other land uses (e.g. current zoning) for that area.

Example: Area is zoned 1 DU/ac. Comp Plan says its future target is 4 DU/ac. The developer may go up to 4 DU/ac - and is, in fact, encouraged to do so, but will need to address this in a zoning process.

Growth and Urbanizing Areas of Monongalia County Per The Comprehensive Plan



Created By: Patricia Booth, AICP, Mon County Planning Commission 6/2/2021; Utilizing Figure 2, Pg 22 and Figure 3, Pg 25 of the 2013 Comprehensive Plan

VIII.2.b Future Transportation From the MTP

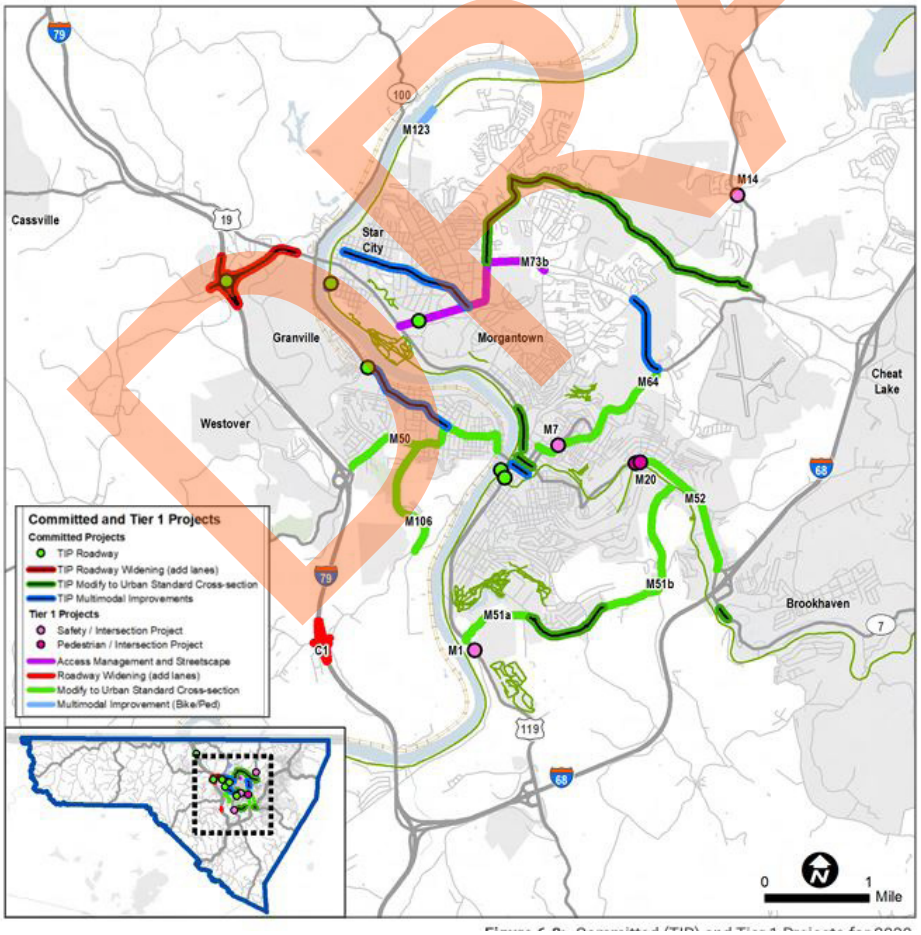
Coordination of transportation and land use is critical. Having the right facilities for the right place is the only way to ensure well-managed transportation and access. Having connected and distributed trips is currently touted as the best way to address traffic management throughout the country and provides not only less congestion, but safer and more efficient transportation. Thus, development should coordinate with its neighborhood so that all benefit. Everyone that lives in a development uses other roads and infrastructure - they should allow access to theirs.

To that end, the Metropolitan Transportation Plan (MTP - last updated in 2022) has identified key projects to keep a connected and flowing transportation for all users. Their recommendations should be integrated into all developments.

Example: Plans for a new connection between two major thoroughfares appears in the MTP. A potential development should ensure that one of its roads acts as a connector road. This does not mean that the road needs to be high speed. On the contrary, the development may enable a connection that enhances life for its residents, but can do so without opening up to high speed through traffic. Many ways to accomplish this are described in IX.

2022 Metropolitan Transportation Plan Update - excerpt

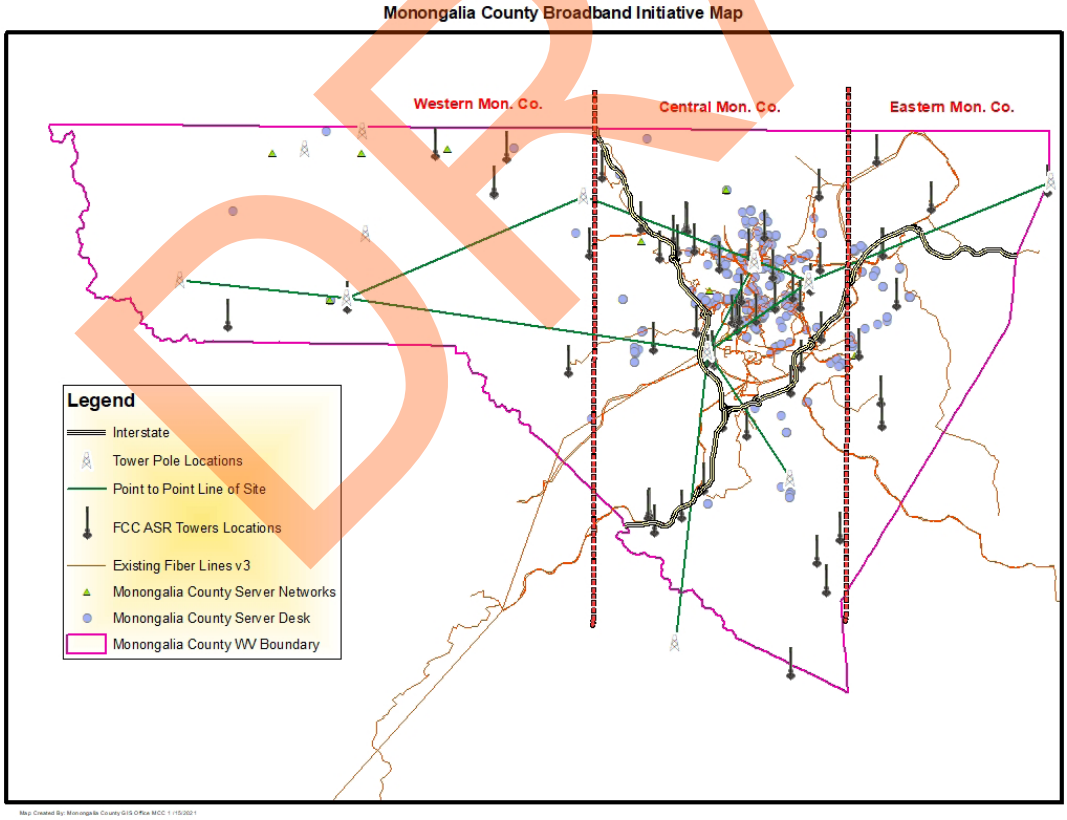
Tier 1 Projects (TIP + Interim Year 2030)



VIII.2.c Other Infrastructure

As with transportation infrastructure, a development must be sensitive to regional needs for other types of infrastructure described in any publicly reviewable plans, including but not limited to: power/electric, water/stormwater and so forth. In fact, the County's current initiative plan for broadband provision is shown below.

Example: Plans for a new High Voltage line exist for a property prior to a new development application. The line is projected to have a 50ft swath cutting across the property. For the proposal to be accepted/approved, the property would have to avoid this swath for any parcels or houses, REGARDLESS of whether the easement has been purchased/arranged. Streets and/or paths MAY (and perhaps should) be allowed in discussion with the appropriate entities - e.g. a multi-use path running along under the power lines.



VIII.2.d Global Considerations: Difference between Standard and Preferred

In the case of Standard Compliance, a development must set aside or "Reserve" an area for a Global Consideration. That means no building or obstruction can be put in the way of the future planned facility. However, that area (usually a Right-of-Way) must be purchased through standard methods for procuring such a 'public' Right-of-Way. Everyone must comply in this way.

To "Count" as a "Global Consideration" credit, the area in question may be gifted: either as constructed, gifted or dedicated Right-of-Way for the future facility. There are a number of advantages to this. Often, in the case of Rights-of -Way for roads and paths, the developer might be responsible anyway or would prefer NOT to wait to put in the facility. The facility is often an amenity for the development, and the developer might as well get credit for providing the facility (but on their timeline and often using a design more conducive to their development).

Example: A mixed use main street could encourage more investment in a new development. The owners of retail would obviously prefer more outside traffic coming to their stores, without discouraging the neighborhood (the prime audience for most retail) from frequenting their establishments.

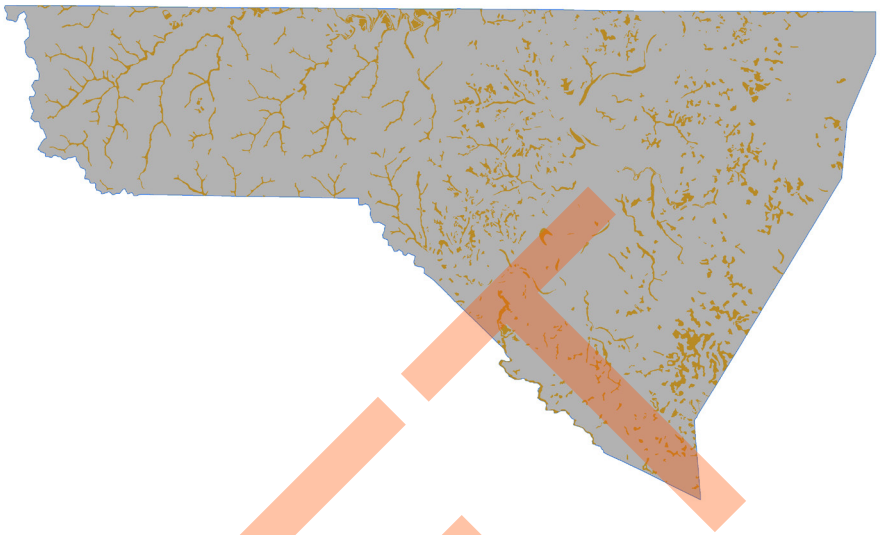
VIII.3 Topography

Monongalia County topography heavily impacts all aspects of planning in the County and is, in fact, probably the major driving force behind the need for The Ordinance in the first place. This section will discuss slopes, steep slopes, and slope management briefly with a view to demonstrating how it is a global consideration in much of the development that goes on within the County.

VIII.3.a Slopes

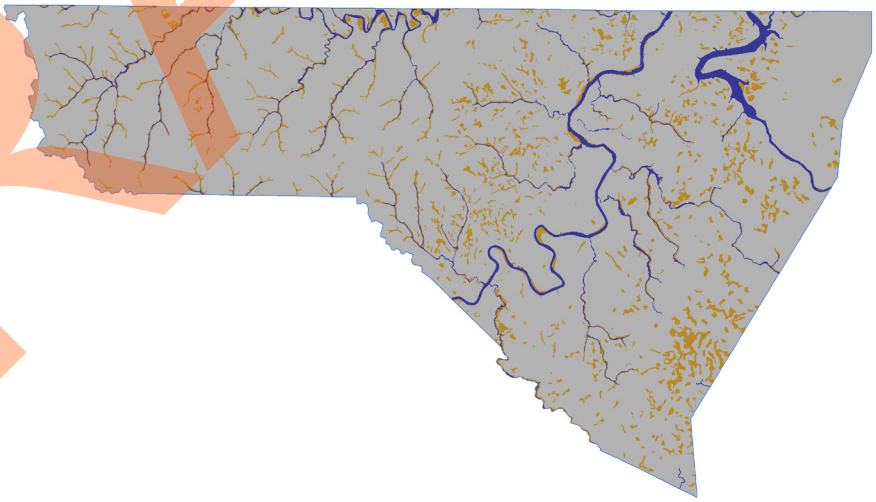
Monongalia County is steep. Most communities prevent building on slopes over 10%. Building on slopes often leads to sloughing, slippage, drainage problems, and more. This is clearly the case in Mon County as well, but, this would restrict the possible buildable area to less than 10% of the County (gold area in map).

Figure at Right: Area less than 10% slope in Gold.



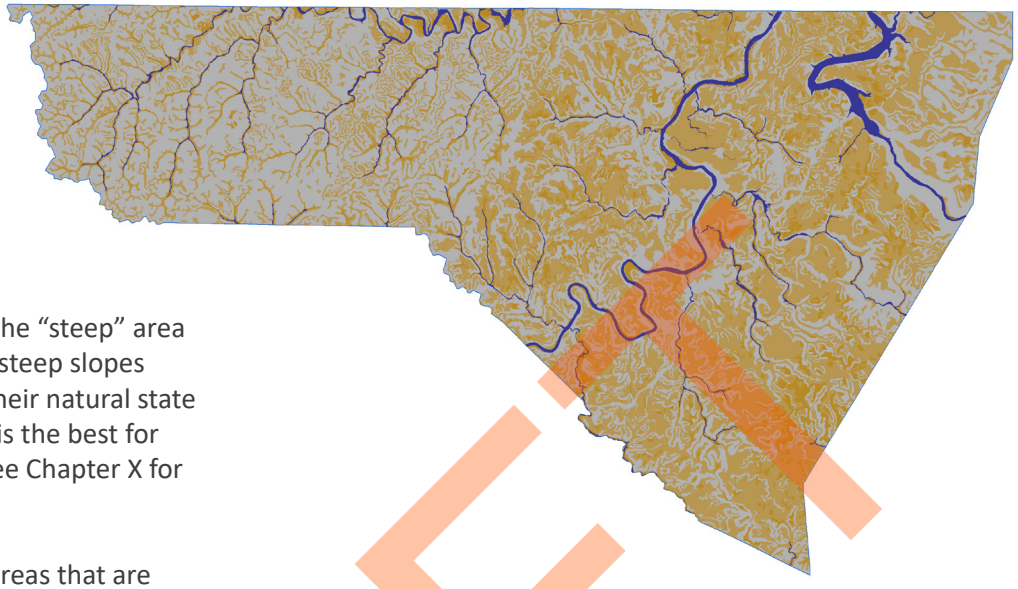
To compound the issue, nearly half of this 'flat' land is located in the floodplain, adding more restrictions to construction (blue). Furthermore, many of the remaining 'buildable' properties would be unbuildable due to shape and size, once the slope restriction is in place.

Figure at Right: Area less than 10% slope in Gold. Area in flood plain in Blue



Thus, The Ordinance has 'extended' the range by ensuring that with engineering analysis resulting in any necessary engineered designs and techniques, that up to 25% slopes can be safely built upon. This would increase the available land for building to 43% of the County. If special care and engineering practices are respected, it may be possible to build safely and responsibly on slopes over 25%.

Figure at Right: Area in gold adjusted to less than 25% slope.



Though the County has expanded the “steep” area available for development to 25%, steep slopes should still be avoided and left in their natural state where possible. This natural state is the best for absorbing and managing runoff. See Chapter X for examples of slope management.

Generally, as a function of this, in areas that are more suited to development due to better topography and proximity to resources, everyone benefits from MORE development. More details on slope avoidance are described in Chapter X.

Similarly, traffic distribution is widely known to be beneficial to everyone and is the best, most cost-effective means of moving cars. That requires connectivity. When traffic is managed via a dendritic system (i.e. cul-de-sacs), that channels all traffic onto one or two roads that cannot handle that traffic. No amount of widening can change that fact, even IF after the fact, the road could be widened (which is terribly difficult, if not impossible, cf. Mileground). A connected network has also been shown nationally to be much safer for emergency access, so emergency responders support it as well. Thus, every opportunity to add connection needs to be supported, as we will see in the next section.

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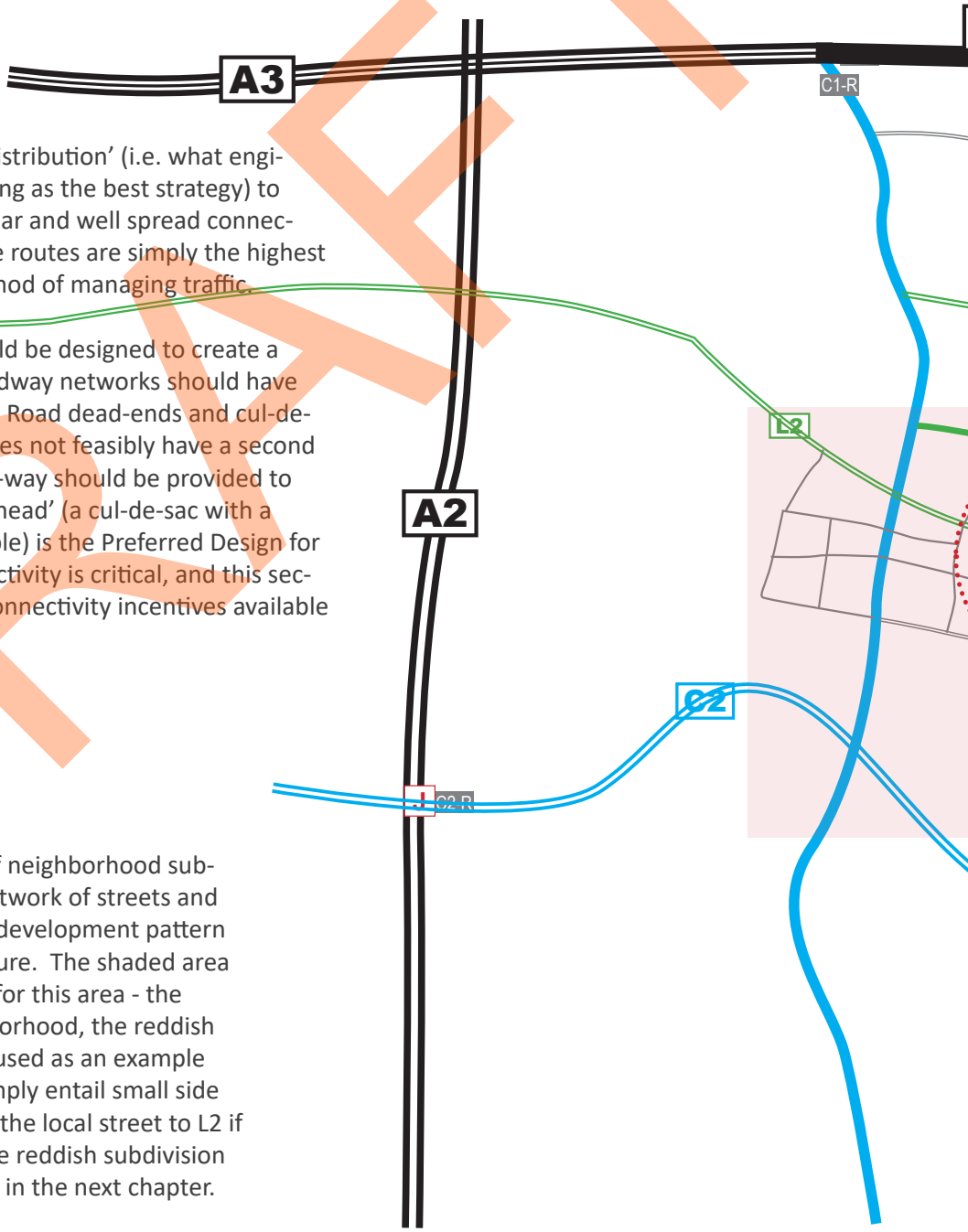
VIII.4 Complete Networks and Connectivity

A connected road network is safer, more efficient, and more cost-effective for communities. It is better for fire and police protection. Utilities and roadway costs per lineal foot are also better for a connected network. Lots can be subdivided more efficiently with less odd shapes and leftover landblocks, yielding more effective County services, tax revenue, reduced County costs, as well as leaving more land available for greenspaces and green infrastructure, protecting the environment.

Street networks serve many functions, but connectivity serving all modes is the principal one. As discussed above, connectivity also serves to provide safe access for emergency and travel options when trees are down or construction slows a principal corridor. Most importantly for daily network performance, it provides alternative travel routes that avoid channeling ALL traffic down just a couple of roads, which leads to huge traffic problems (and is also the current state of affairs here in Mon County).

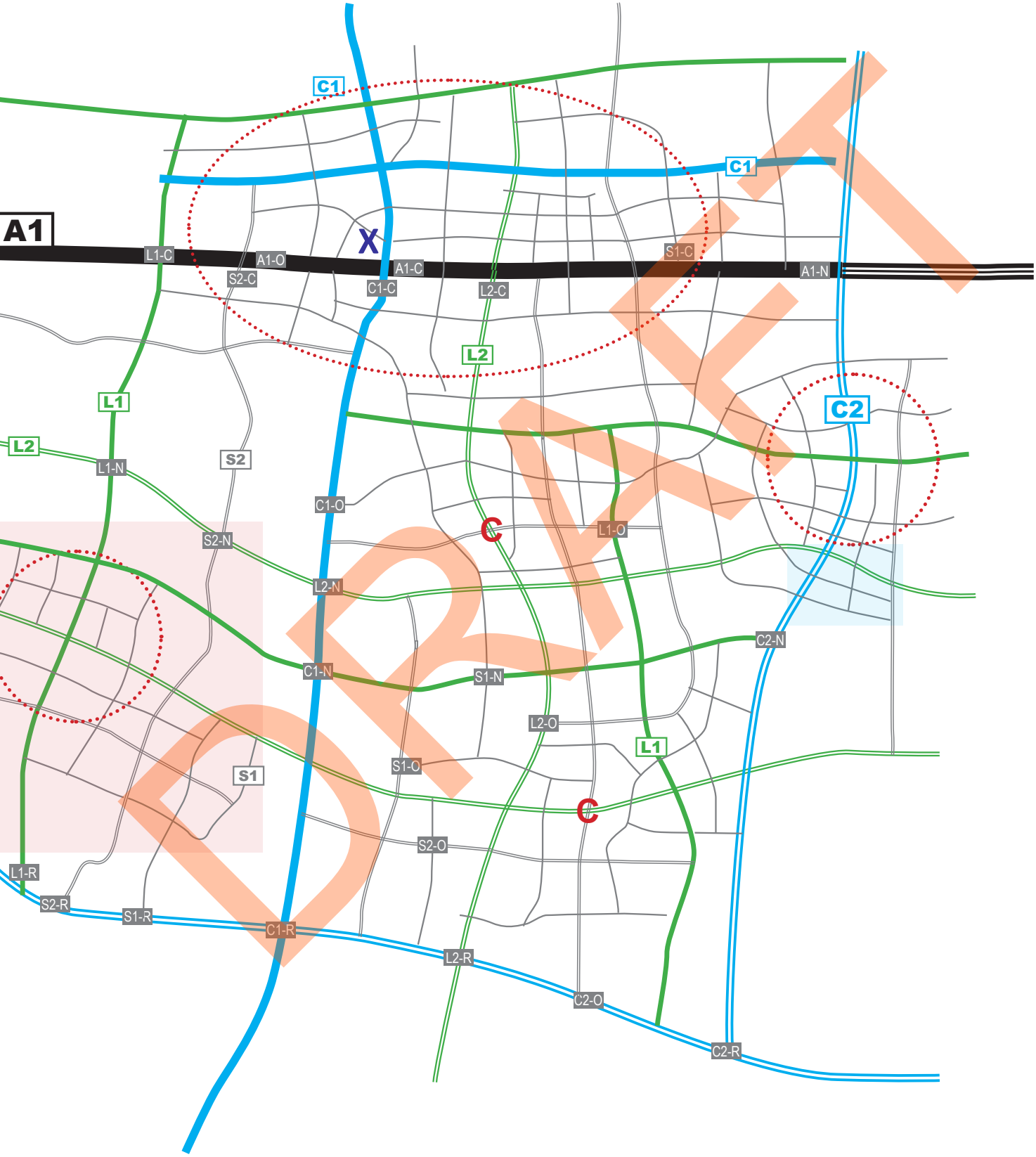
Thus, Mon County is looking to 'traffic distribution' (i.e. what engineers across the country are now pursuing as the best strategy) to solve traffic congestion problems. Regular and well spread connections providing many realistic alternative routes are simply the highest performing and most cost-effective method of managing traffic.

Consequently, all roadway systems should be designed to create a connected network. To that end, all roadway networks should have more than one way in and one way out. Road dead-ends and cul-de-sacs should be avoided. If a roadway does not feasibly have a second connection possible, design and right-of-way should be provided to connect in the future. Thus, a 'hammerhead' (a cul-de-sac with a through-road potential may be acceptable) is the Preferred Design for this termination. So, encouraging connectivity is critical, and this section seeks to demonstrate a couple of connectivity incentives available to new developments .



Example: Network Diagram

The diagram at right shows a network of neighborhood subdivisions of varying types served by a network of streets and intersection type that exemplify what a development pattern of subdivisions might look like in the future. The shaded area represents potential 'new' subdivisions for this area - the blu-ish one being part of a larger neighborhood, the reddish one more of a stand-alone subdivision [used as an example in Chapter IX]. The bluish one would simply entail small side streets and possibly the enlargement of the local street to L2 if it was a smaller street to begin with. The reddish subdivision will be treated as an example separately in the next chapter.


C1
C1
A1
X
L1-C
A1-O
S2-C
A1-C
C1-C
L2-C
S1-C
A1-N
L2
L1
C2
L2
L1-N
S2
C1-O
C
L1-O
S2-N
L2-N
C2-N
C1-N
S1-N
L2-O
L1
S1-O
S1
C
S2-O
L1-R
S2-R
S1-R
C1-R
L2-R
C2-O
C2-R

VIII.4.a Street Performance

What is meant by street performance? Design Speed, Multimodal Capacity, Safety, Capacity, Drainage (i.e. curbing and swales) along with some of the design standards (horizontal curve, superelevations, etc.) are often the descriptors of performance. These are often distinguished from the measures that assess the performance: Level of Service (LOS), Volume to Capacity ratio, 90th percentile speed, meeting standards and so forth. Often the standards and their measures, unfortunately, do not lead consistently to good or safe design, due to many factors, not least of which is cost or the tradeoff between metrics (e.g. safety vs. speed). A couple of these merit specific attention.

LOS and Substandard Streets

Street performance is evaluated in a number of ways: LOS, Safety, Capacity, Volume, Speed/flow and more. What is LOS? What is substandard? What is the difference between unsafe and substandard? DOH would not allow a road to be unsafe. However, easy and comfortable passage is often a function of traffic volume. If volume increases precipitously without changes in a road design, a road can actually become less safe. Conversely, if a road is too open and easy to speed on - it can encourage drivers to speed, again creating a potentially bad situation.

LOS D signifies a flow that is constrained where the volume of cars is approaching the capacity of the thoroughfare and traffic delays become frequent. At this point, the DOH usually expects a development that adds to this delay to make modifications to increase capacity since they are adding to the volume of traffic. Unfortunately, this is a little late. What often happens is that development continues to increase, but developers avoid tripping the standards that would require fixes and/or the burden is completely placed on the back of the development that 'broke the camel's back'. That is not particularly fair or effective.

Thus, Mon County is attempting to put in a mechanism to start designing and financing thoroughfare improvement BEFORE traffic delays start becoming a real problem. Thus if multiple developments contribute to road improvement, then it will be much less of a burden on ONE development, encouraging steady improvements over time rather than forcing a major redo, which often requires major shutdowns of traffic. Furthermore, it might encourage developments to go where the infrastructure has the capacity to absorb the additional traffic. So, if a road LOS is at A or B, there is clearly capacity for more development and those areas should be made easier to develop than LOS C or worse.

Consequently, Mon County is putting the level of encouraging road improvements at LOS C or worse as the trigger, rather than wait until D.

Right of Way (ROW) vs. Travelway discussion

Even though most of the roads in the County are not regularly maintained by DOH, DOH standards for them still apply. Consequently, the needs that a reservation of ROW serve include providing a road that might be needed by DOH in the future AND ensuring responsible development in the case of abandonment by a developer in mid-course. In other words, if a development has begun, there needs to be a guarantee (see bonding) that the appropriate infrastructure (cf. DOH standards) is provided to serve the development even if the developer does not finish constructing the infrastructure (e.g. developer goes bankrupt).

The reason for DOH standards goes far beyond the need for car lanes on a roadway. There needs to be clear sight lines, safe passage for modes other than cars, room for other infrastructure AND the ability maintain and/or modify all of these over time. As a result, DOH likes to ensure that the necessary infrastructure all runs through their ROW, if at all possible. If a development put power lines adjacent to, but outside the DOH ROW, then there would need to be a separate easement and a lot more coordination and cost are associated

with moving that infrastructure. As an example, supplemental costs (ultimately to the taxpayer) for a DOH ROW expansion and/or move of power lines NOT in the ROW (but adjacent to it) could be many times the cost of the same layout, but all of it having been in the original DOH ROW.

Furthermore, minimum grading limits clarify how much a developer must provide 'flat' for infrastructure [excepting future development].

So, though it is certainly allowed to provide the infrastructure outside the DOH ROW, it is strongly discouraged from being adjacent or near the ROW. Power lines in the backyard, for instance would be unlikely ever to impinge upon the DOH ROW, so that would not be of concern.

Street Upgrade Performance

Even if we are able to appropriately measure, determine and design for higher transportation performance, the infrastructure still has to be built. It is often extremely difficult to get appropriate and appropriately-scaled infrastructure built, even if the infrastructure is in an undeveloped area. If it is 're-doing" infrastructure that is already extant, expanding or improving infrastructure is exceedingly problematic. Time, money, ROW acquisition, responsibility are all complicating factors. Thus, it is preferable to have all facilities and ROW in mind as early as possible, even if it is never actually built.

Private Roads

These are a mixed blessing. Private roads must be privately-built (e.g. by a developer) and privately maintained (usually by an HOA or equivalent). On one hand, private roads usually only serve a small amount of people, and as a result can be designed as smaller and for lower speeds than allowed on public streets. Unfortunately, even at the smaller-scale, it is a sizeable burden, and proper maintenance is often neglected as a result. Thus, this information needs to be conveyed to (future) residents, when opting for private street (e.g. Side Roads) design.

IF a development is going to pursue private roads, they will be encouraged to handle them in the following manner. Meet a minimum of pertinent DOH standards AND ensure that sufficient funds are set aside to allow for the road to last appropriately and be repaired/refinished when necessary - either through an HOA or other mechanism.

Other Roadway Design Considerations

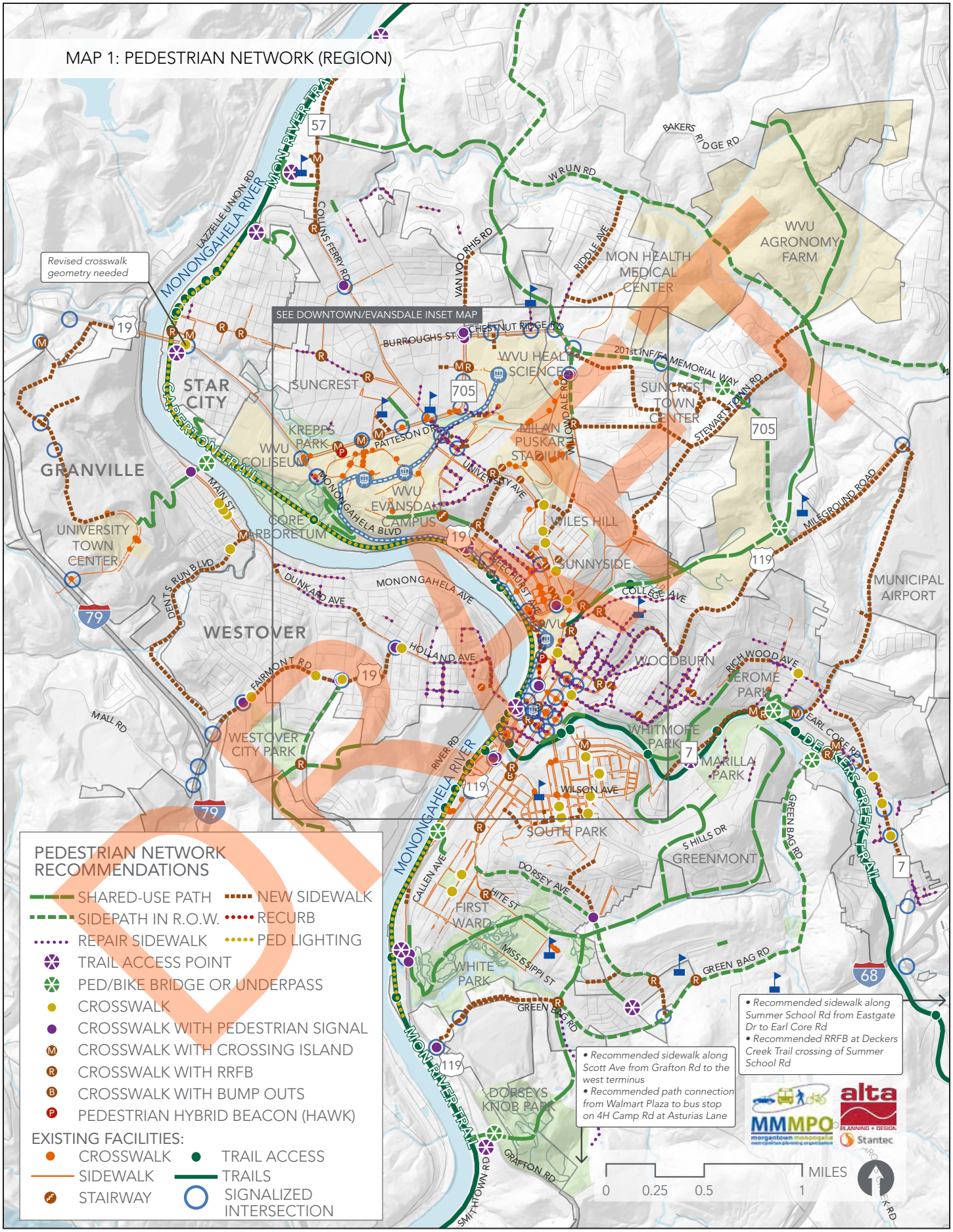
These include traffic calming, landscaping (including lighting), road resilience (sub-base), provision of street parking and sidewalks allowing flexibility in the other requirements (e.g. a sidewalk or parking decoupled from the travelway can allow narrower streets as 'shy distance' and on street parking will no risk occlusion of the travelway).
Mon County has attempted to codify the most important standards in most normal situations. These are shown in the parameters in the tables in Chapter IX.

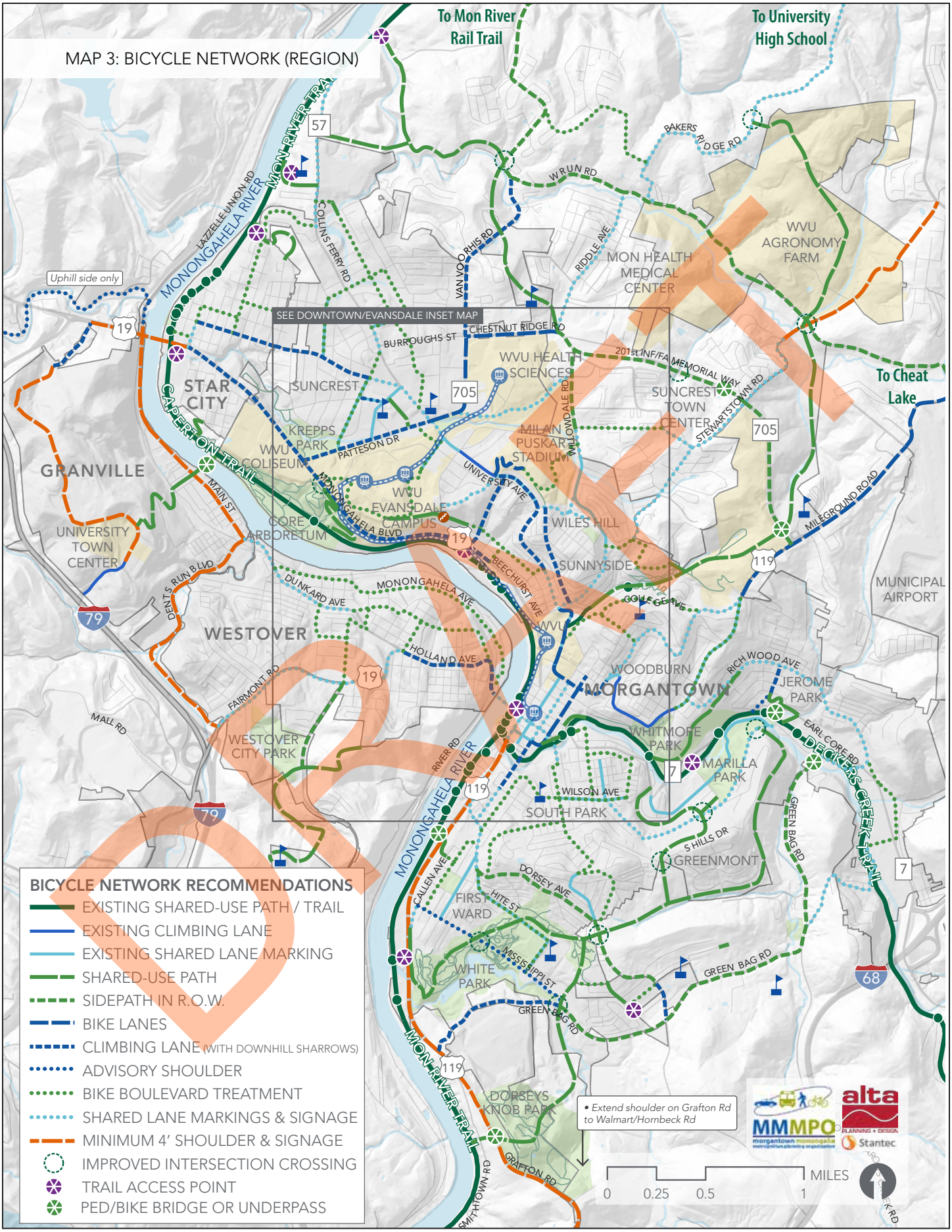
VIII.4.b Regional Networks - Multimodal

IF regional needs have been established (in an adopted plan like the Bike/Ped Plan) PRIOR to a development application, then the applicant is required to respect the requirement or facility specified (either in full or in part as the case warrants). Included among these requirements and facilities are (but not limited to): road needs, bicycle, pedestrian, transit, other infrastructure, as discussed earlier in the Chapter.

Example: Development is proposed for a 10 unit subdivision in an area that designated there is to be a regional multi-use path for that area. The development must provide that path as a part of their subdivision infrastructure. IF the termini have not been specifically determined, the applicant has the latitude to design cost-effective termini for the path provided it meets the regional requirements. Furthermore, the applicant may take full advantage of grants, partnerships with DOH, transit and utility organizations and agencies (and is encouraged to do so) and other means to share or defer the cost or obligations of putting in the facility.

The currently adopted infrastructure for bicycles and pedestrians is shown on the following pages.


MAP 1: PEDESTRIAN NETWORK (REGION)
Revised crosswalk geometry needed
SEE DOWNTOWN/EVANSDALE INSET MAP
MONONGAHELA RIVER TRAIL
CAPERTON TRAIL
DECKERS CREEK TRAIL
STAR CITY
GRANVILLE
WESTOVER
SUNCREST
WVU HEALTH SCIENCES
MON HEALTH MEDICAL CENTER
WVU AGRONOMY FARM
KREPPS PARK
WVU COLISEUM
MILAN PUSKAR STADIUM
SUNCREST TOWN CENTER
UNIVERSITY TOWN CENTER
CORE ARBORETUM
WVU EVANSDALE CAMPUS
WILES HILL
SUNNYSIDE
WVU
WOODBURN
JEROME PARK
WHITMORE PARK
MARILLA PARK
GREENMONT
MUNICIPAL AIRPORT
WESTOVER CITY PARK
SOUTH PARK
FIRST WARD
WHITE PARK
DORSEYS KNOB PARK
PEDESTRIAN NETWORK RECOMMENDATIONS
SHARED-USE PATH
SIDEPATH IN R.O.W.
REPAIR SIDEWALK
TRAIL ACCESS POINT
PED/BIKE BRIDGE OR UNDERPASS
CROSSWALK
CROSSWALK WITH PEDESTRIAN SIGNAL
CROSSWALK WITH CROSSING ISLAND
CROSSWALK WITH RRFB
CROSSWALK WITH BUMP OUTS
PEDESTRIAN HYBRID BEACON (HAWK)
NEW SIDEWALK
RECURB
PED LIGHTING
EXISTING FACILITIES:
CROSSWALK
SIDEWALK
STAIRWAY
TRAIL ACCESS
TRAILS
SIGNALIZED INTERSECTION
• Recommended sidewalk along Scott Ave from Grafton Rd to the west terminus
• Recommended path connection from Walmart Plaza to bus stop on 4H Camp Rd at Asturias Lane
• Recommended sidewalk along Summer School Rd from Eastgate Dr to Earl Core Rd
• Recommended RRFB at Deckers Creek Trail crossing of Summer School Rd
MMMPO
alta PLANNING + DESIGN
Stantec
0 0.25 0.5 1 MILES
DRAFT


MAP 3: BICYCLE NETWORK (REGION)
To Mon River Rail Trail
To University High School
To Cheat Lake
SEE DOWNTOWN/EVANSDALE INSET MAP
Uphill side only
MONONGAHELA RIVER TRAIL
CAPER ON TRAIL
DECKERS CREEK TRAIL
STAR CITY
GRANVILLE
WESTOVER
MORGANTOWN
WVU EVANSDALE CAMPUS
WVU HEALTH SCIENCES
MON HEALTH MEDICAL CENTER
WVU AGRONOMY FARM
SUNCREST TOWN CENTER
MILAN PUSKAR STADIUM
WVU COLISEUM
KREPPS PARK
CORE ARBORETUM
UNIVERSITY TOWN CENTER
WILES HILL
SUNNYSIDE
WOODBURN
JEROME PARK
WHITMORE PARK
MARILLA PARK
SOUTH PARK
GREENMONT
FIRST WARD
WHITE PARK
DORSEYS KNOB PARK
WESTOVER CITY PARK
MUNICIPAL AIRPORT
BICYCLE NETWORK RECOMMENDATIONS
EXISTING SHARED-USE PATH / TRAIL
EXISTING CLIMBING LANE
EXISTING SHARED LANE MARKING
SHARED-USE PATH
SIDEPATH IN R.O.W.
BIKE LANES
CLIMBING LANE (WITH DOWNHILL SHARROWS)
ADVISORY SHOULDER
BIKE BOULEVARD TREATMENT
SHARED LANE MARKINGS & SIGNAGE
MINIMUM 4' SHOULDER & SIGNAGE
IMPROVED INTERSECTION CROSSING
TRAIL ACCESS POINT
PED/BIKE BRIDGE OR UNDERPASS
• Extend shoulder on Grafton Rd to Walmart/Hornbeck Rd
MMMPO
alta PLANNING + DESIGN
Stantec
0 0.25 0.5 1 MILES

VIII.4.c Connectivity Scenarios

As mentioned previously, the County is seeking to provide as much connectivity as possible. This section intends to demonstrate how connectivity can hopefully be achieved. If a development is already in an area that is appropriately scaled and connected in terms of infrastructure, then there is no need for special changes for off-site infrastructure. If the thoroughfare is operating at an LOS A or B, then that infrastructure is likely to be sufficient to handle the additional development load. Nonetheless, connectivity and road standards should be respected or updated to ensure that future capacity can be appropriately handled.

When/If a development goes in where there is NOT appropriate infrastructure, then the development is responsible to bring the infrastructure up to appropriate standards. There are 5 ways that a development can address a traffic load standard:

1. Bring access roads up to full standards to handle the new load
2. Demonstrate that WV DOH is doing so (an attestation or confirmed plan will suffice)
3. Fix critical sections (i.e. 'spot fixes') that are appropriately scaled to address only the incremental load from the new development* (See 3.f for examples)
4. Demonstrate an appropriate 'fix' or addressing via a Traffic Impact Study (TIS)
5. Add connectivity (that way each road only needs to handle a smaller load - shown in more detail in IX)

*Note that a critical section fix is intended to be scaled only to the need generated by the development such that the infrastructure would perform 'at least' as well as it did prior to the development going in. It would not be appropriate to expect 3 miles of road to be fixed for a 30 small-unit subdivision. Improvements are simply intended to prevent loss of level of service for infrastructure or to maintain acceptable road standards based on induced travel/usage.

As mentioned above, if a street is operating and/or sufficient currently (LOS A or B), no off-site improvement is necessary. If it is or would be operating at level C or D then the developer should consider making improvements to enable better performance and safety. Developers can tilt the approvability of a subdivision in an area that does not have appropriate infrastructure by bringing it up to standards (which they can often do more cost-effectively themselves - i.e. vs. the State doing so) or by payment in lieu. Nonetheless, as a rule of thumb, a payment in lieu or a cost should not exceed 5% of the per unit sales price for the total number of units in the subdivision. This figure is meant as a scale for how an economic/financial model might work for a development; it is not intended to provide an additional or undue burden to a proposed development.

To illustrate and clarify how a development might address connectivity to its advantage with The Ordinance, a number of scenarios are provided as examples in Chapter IX.

The figure on the right is contrasting a cul-de-sac subdivision with a mildly connected street grid. Traffic queues and wait times are less than 1/3 for the grid than the cul-de-sac, not to mention having to travel all the way around to get anywhere with the cul-de-sac increasing VMTs and travel times to get anywhere.

VIII.4.d Trip Generation

Trips generated by a development are calculated using the ITE Trip Generation manual as a standard. As mentioned above, IF a development over 5 units is proposed that impacts the traffic performance of the area, not only does the development need to meet/respect the transportation needs/requirements established by existing plans, BUT it must also address appropriately the impact of the development (i.e. so a farm road does not all of the sudden have lots of traffic on it). Preferred Design and expedited review must meet these criteria as well as standard compliance. However, Preferred Design was conceived to address traffic distribution such that it will generally be the solution to the traffic impact issue in the first place. (See IX)

A proposed development that locates on a road that has an LOS of A or B is already in an area that can handle its capacity, so the additional trip generation will not need traffic mitigation. If a development that locates on a road with an LOS below B, but its trip generation does not alter the LOS, it will not need mitigation.

However, if a development locates on a road where it WILL lower the LOS a grade, then it will need to address the traffic mitigation in some way. The best way is to add connectivity to distribute traffic. Any road that connects other roads of a certain capacity must at least match the capacity of the other roads. This is described in more detail in Chapter IX.

Nonetheless, should the applicant choose, s/he could elect to do a 'spot fix' or some other traffic mitigation technique to restore the level of the impacted thoroughfare (see below).

VIII.4.e Traffic Impact Studies and Related

Sometimes, either because the potential numbers of trips generated are large or because it is in an area already challenged by traffic congestion, the applicant will have to study and demonstrate, with a study, the origin of the traffic as a whole AND the solution to the potential traffic problem. This is referred to as a Traffic Impact Study or TIS. Any applicant must follow DOH guidelines for this situation, even if the road is not one that is maintained by DOH. A spot fix may need a TIS to demonstrate its effectiveness. A connectivity fix can elect to perform a TIS to verify the solution OR use the guidelines provided in Chapter IX to demonstrate addressing the trip generation from a given development.

VIII.4.f Spot Fixes

A large development is proposed on a Local road that is already struggling under the burden of existing traffic. Developer can propose a TIS that identifies a mix of connections and spot improvements of the existing local road to improve overall traffic flow and safety versus the existing condition – (e.g. including fixes of the dangerous curve and traffic calming in one section and a passing section in a portion of the road where topography and ROW allow). This allows for greater improved service over a wider area, rather than just creating an additional burden which could further create negative impacts such as increased traffic time, ancillary vehicle collisions, and increased road damage.

Between 2 developments

A development being constructed in between 2 other developments is connecting 2 local class roads in those developments. The road segment in between should also be of local class standards (i.e. not a side class road even if only 5 RDUs are added, NOR should it be upscaled to a collector if the number of additional RDUs do not require it, and handle any transitions in accordance with DOH standards. However, it is anticipated by DOH that the road will eventually become a Collector – then sufficient ROW MUST be provided to allow for that later upscaling, even if the developer is not the one to be building that scale of road.

VIII.5 Takeaways

Thus, once a development has established what, if any global considerations, i.e. facilities needed from off-site considerations, will translate into required or needed facilities in their development design - e.g. multi-use path, neighborhood scale connector road running through their subdivision, key roads the development will need to connect to or whatnot. That facility must be added to the design for their subdivision as a whole. Now, once that is addressed, the developer can concentrate on the majority of their subdivision's design.

CHAPTER IX: Transportation Network and Road Design Guidelines

This chapter provides guidelines for all transportation aspects of subdivisions and their components as well as providing scenarios that explain these different aspects and their ultimate performance.

CHAPTER IX: Transportation Network and Road Design Guidelines

IX.1 Filling out the form - Standard, Preferred and Bonuses

When filling out the form, it is incumbent on the applicant to state clearly whether s/he would like to apply for a standard compliance or preferred design and whether or not s/he would like to apply for any bonuses.

IX.1.a Filling out the form - Standard Compliance

All applicants must address the following criteria:

Transportation and ROW Management	Street have protected edges (choose one)[1]	Protected edges (curb and gutter, gabion basket, sidewalk, etc.) 1				
		Rolled edges/Berm 2				
		Proposed Alternative Compliance (Sec 2.8) 3				
	Proper considerations for roads? [1]	At least 18 feet wide 4				
		Proposed Alternative Compliance (Sec 2.8) 5				
	Are all terminated roads hammerheads or keyhole-design cul-de-sacs?					
	Proposed Alternative Compliance (Sec 2.8):					

See the following examples for how a development might address this criterion based on the following choices:

1 and 2 All applicants must meet one or the other (unless 3) - See IX.4 on Complete Streets

3 Examples must provide materials demonstrating that they have the same or better performance

4 All applicants must meet (unless they demonstrate alternative compliance)

5 All applicants must meet unless all streets connect (or unless they demonstrate alternative compliance)

IX.1.b Filling out the form - Preferred Design

The following table shows Preferred Design Criteria for Transportation. Applicants must meet at least of of the criteria to be considered 'Preferred'.

Transportation and Roadway Design	Street network allows more than one way in/out[3] a			More than one way in/out			
				Multiple connections/hammerhead future connections			
				Connects to hammerhead/other connection point in adjacent subdivision			
				Other contribution to the street network or method of meeting the destination criterion (please explain):			
	Subdivision proposes multimodal facilities through or near the subdivision that are recommended in a plan listed in Supplementary Table B below	b 1	Improve existing or proposed facility[3]	Connects to an existing facility such as a bike or ped path, etc.			
				Dedicates R-o-W for a proposed facility			
				Dedicates additional R-o-W to connect to existing R-o-W for an existing/proposed facility			
		2	There is a route (existing, planned, or potential) for transit to stop at or come through (less than 500 ft away).				
		3	Provides a bicycle facility/route on this or an adjacent corridor OR proposes a street with ≤ 20 mph[3]	Sharrow (≤ 20 mph) must mark/signs			
				Dedicated bike lane			
				Separate bike path			
		4	Subdivision design allows pedestrians (including wheelchair) to travel safely and comfortably to a destination on or near to the proposed development in all conditions (e.g., icy roads) (within 500 ft)				
		5	Other proposed multimodal facilities (i.e. "complete streets" concept):				
	Use of Preferred Design templates[1] c			Use all templates on all roads within the development			
				Some templates on some roads within the development - Q			
				Use of equivalents (please specify) - Q			
				Other proposed design template: Q			
	Other contribution to achieving county transportation connectivity and efficiency goals (please provide measures in a separate attachment):						

1) Choose one to comply with criteria. Review done on individual basis.
2) LOS may be determined by MPO/DOH online map and DOH standards or TIS. Choose one to comply with criteria. Review done on individual basis.
3) May meet multiple standards. Review done on individual basis.
Q – Must qualify design through Staff evaluation

See the following examples for how a development might address this criterion based on the following choices:

- a An applicant may meet any of the five selections - See IX.2
- b An applicant may meet any of 'b1 - b4' through either an accepted design or an attestation from a qualified entity (e.g. Mountain Line for b2)
- c See IX.5 - Applicant may demonstrate with road/network diagram labeled with appropriate template IDs, plus for any that are not templates, the applicant must demonstrate alternatives qualify as equivalent or better

IX.1.c Development Advantages and Bonuses

Development Advantages

The following table lists the development advantages an application MAY request if it is pursuing PREFERRED DESIGN (please Preferred Design Checklist). For each request, an application must demonstrate what advantages it is seeking in order to receive the requested advantage. An applicant may not request any of these development advantages utilizing a Standard Design! [] designates Toolkit Chapter and Section as reference

Category	Request[1]	What request is based on		Ways that can be accomplished[1]	Yes	No	N/A	No. Requested
Housing	Additional Housing Units[2]	Based on Connectivity [IX.1]	1	Additional routes to and from development				units
	Localized Housing Density Approval[3]	Based on Sloping of the Property [X.1]	2	Staying out of high slope areas				units
	Setback Reduction	Based on other infrastructure location [X.2]	3	Locate behind houses, underground				feet
	Alternate Housing Request	Must show how request can be met						
Road	Road Frontage Reduction	Based on speed and road design [IX.3]	4	Lower speed roads, more highly developed roads				feet
	Road Width Reduction	Based on speed and road design [IX.3]	5	Lower speed roads, more highly developed roads				feet
	Alternate Road Request	Must show how request can be met						
Other	Parking Additions	Based on lot design and pervious surface [XI.2-3]	6	Use of pervious concrete, grass/moss-crete				spots
	Other Alternate Request	Must show how request can be met						

1) The requests and ways listed are not all-inclusive, applicant may suggest other ways to meet the request, reviewed on an individual basis. Review may need to be approved by the MCPC prior to inclusion on the pre-approved list of requests and how they can be met.
2) There is a maximum number of additional units applicant can request. SALDO Table 9-1 lists max number of additional units per case.
3) Only available in areas with topographical challenges. Final result based on other factors such as setback capabilities and road width.

See the following examples for how a development might address this criterion based on the following choices:

1 A1) See IX.3 - ensure the number of units is less than the maximum AND that meeting this criterion does not violate another criterion - e.g. adding houses, one cannot violate minimum frontage as applicable

2 A2) See Chapter X

3 A3) ibid

4 B1) See Road Type table - See IX.5

5 B2) See Road Type table - See IX.5

6 C) See Chapter XI

IX.2 Introduction - Integrating Global Considerations into Transportation

One of the principal problems facing Monongalia County is traffic management. Better transportation facilities, roads and their networks are critical to a brighter future and the minimization of many of our current problems. Whereas The Ordinance could not possibly solve all of the problems facing the County, it can do a better job at improving those facilities, roads and networks for new developments.

To that end, this chapter seeks to provide explanations, examples and illustrations of how The Ordinance attempts to do so and hopefully to present it in a manner that makes it easy for new development to implement better transportation. The chapter commences with a discussion of transportation facilities in the context of "Complete Streets", i.e. those that consider ALL the possible facilities to allow better transportation for all users of the streets.

Next, the chapter describes how to create a better network of these facilities, describing what is planned for the County, how to implement the planned facilities and do a better job of ensuring that the facilities connect in a high-performing and safe manner, as well as the incentives to encourage better connections.

Once the context for a street's needs and performance of a street (i.e. including connectivity) have been described and the facilities are understood as tools to achieve this performance, the roadways can be appropriately designed. How this is achieved, examples thereof, and the advantages of doing so are shown. The process for applying these design strategies for the transportation portion of a development is described.

Parts that impact transportation include location to a lesser extent, but slope, distance all impact the road and connection network - and costs for that matter. Similarly as utilities and much of the regional infrastructure and services are impacted by this, site and water management, police and emergency response - child access to schools. Regional transportation network. Trip generation.

State agencies and other entities allow and encourage more compact development patterns because it costs less and works better for them and for everyone in the County, but it is more complex. As time is so important to developers, we have provided tried and tested templates for developers to use so that it is quicker and easier for good development to occur.

As discussed in the last chapter, once they have been stipulated and applied to a development, global considerations often make the difference between a good development and a bad one. These considerations thus not only provide credits for the developer in "Preferred Design", they are also the starting point for designing a good development on the ground - one that is a 'good neighbor'. Thus, any connections raised when examining global considerations for transportation and other infrastructure should be laid out as a part of the Sketch Plan and integrated into any proposed design.

IX.2.a Motor Vehicle Connections

If a proposed development is in a key location, there is the possibility that a road that makes a key connection for the County could be developed in cooperation with WVDOH. Consequently, part or all of the costs may be defrayed for that thoroughfare. Typically, those are more important roads and access points, so these roads might otherwise be a large burden for a lone developer. Furthermore, by designing a key road as an important connection can help distribute traffic and may help a development get accepted. Contrast adding a hundred peak hour trips to an already failing intersection - a development might be denied as a result. So, working with the County and the State could have large benefits to a potential developer.

IX.2.b Multimodal and Other Connections

Furthermore, by respecting pedestrian, bicycle and transit connections, the number of imputed trips can be lowered, and a development that incorporated those connections might be accepted that would otherwise be rejected. Plus, consider if a powerline from an infrastructure plan was required for a development, a multiuse path co-locating under it would benefit the maintenance of the powerline and also the development as it has been estimated that access to quality trails has been shown to add up to $30K or more to the value of a house with easy access to it.

Thus, the global considerations are a good place to start for any development design process, especially in regard to transportation infrastructure.

IX.3 Connectivity, Connections and Related Bonuses

This section focuses on the details of how to design for connectivity and quality connections and receive the bonuses for doing so. As mentioned in Chapter VIII, if a development will have a negative impact on traffic in a critical area, the developer has several options:

1. Improve the road
2. Show WVDOH will improve the road
3. Fix critical sections to maintain or improve the overall performance of the road
4. Demonstrate with a TIS a way to ensure that the development will not create a problem for the road, and
5. Add connections.

This last is the subject of this section.

IX.3.a Complete Network Design

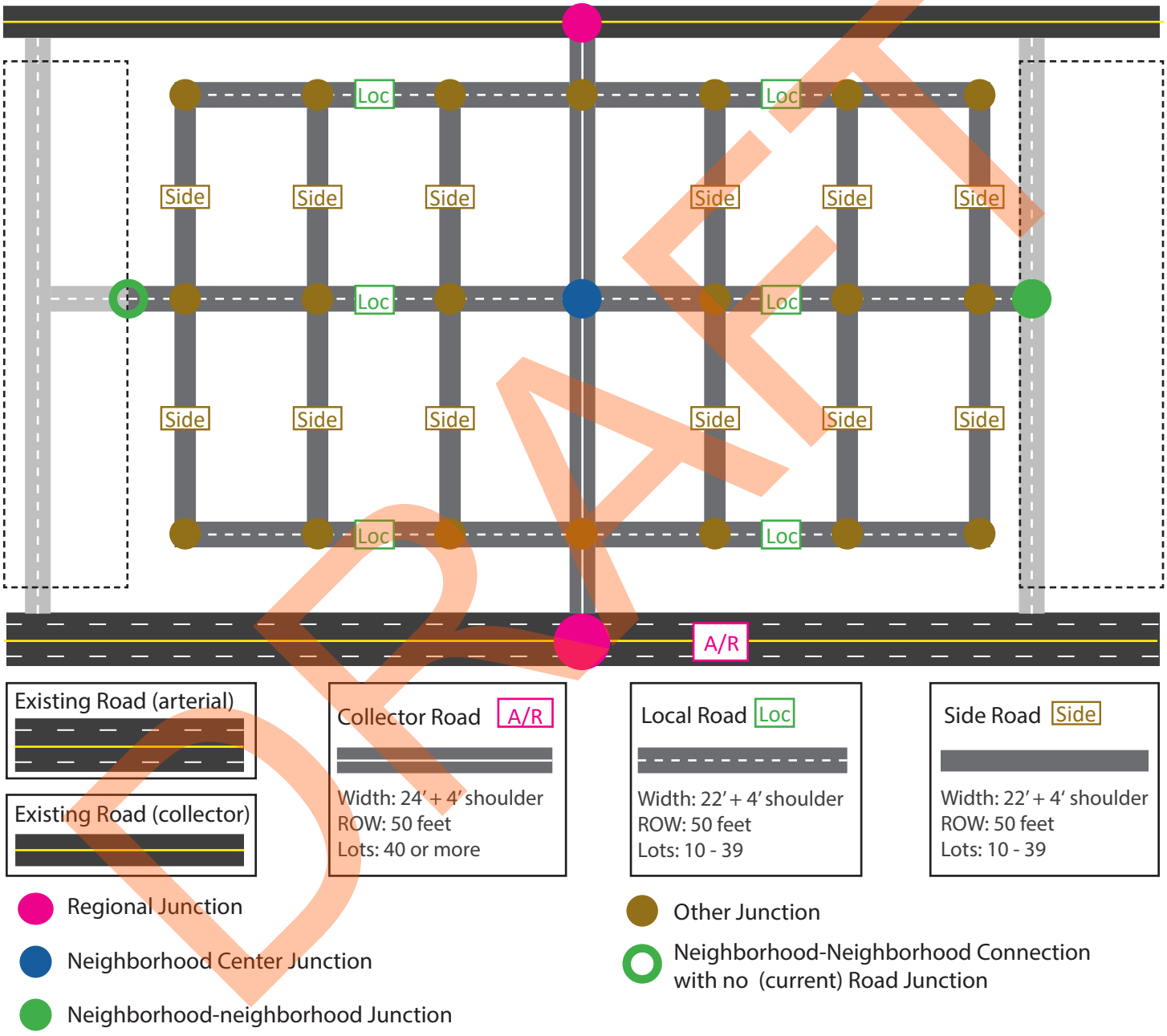
The best way to improve transportation performance, recognized by all state DOTs, is traffic distribution - i.e. connected network for trip distribution. As discussed in Chapter VIII, a connected road network is safer, more efficient and more cost-effective for communities. Thus, a given subdivision is a part of a whole network such that even if the subdivision proposes facilities for itself, scaled to its size and its size alone, the reality is that it forms an important part of the neighborhood and the region. The subdivision should therefore seize every opportunity to connect to other areas and other areas to it - respecting neighborhood and regional needs in terms of roads, infrastructure and green connections. This applies to ALL the connections of a roadway in other words.

Hence, whereas a subdivision might only need a sidewalk by itself - if it is in a key location, it may need to have a wider sidewalk or replace the sidewalk with an MUP to address regional needs. The multimodal maps from Chapter VIII show the regional demand for bicycle and pedestrian facilities. These proposed facilities should be integrated into any subdivision that is traversed by or within proximity of such a proposed facility. Maps showing the regional needs for multimodal facilities are shown in the following pages.

IX.3.b Road and Junction Type Illustration

The schematic below illustrates a network of subdivision street and intersection types most development patterns might use to connect the subdivision. The intersection or junction types are shown relative to an idealized complete or stand-alone subdivision neighborhood, similarly for the road types. At the 'Center', the neighborhood would have 'some' retail and/or office uses, ranging from a convenience store to a restaurant to a fully developed 'Main Street'.

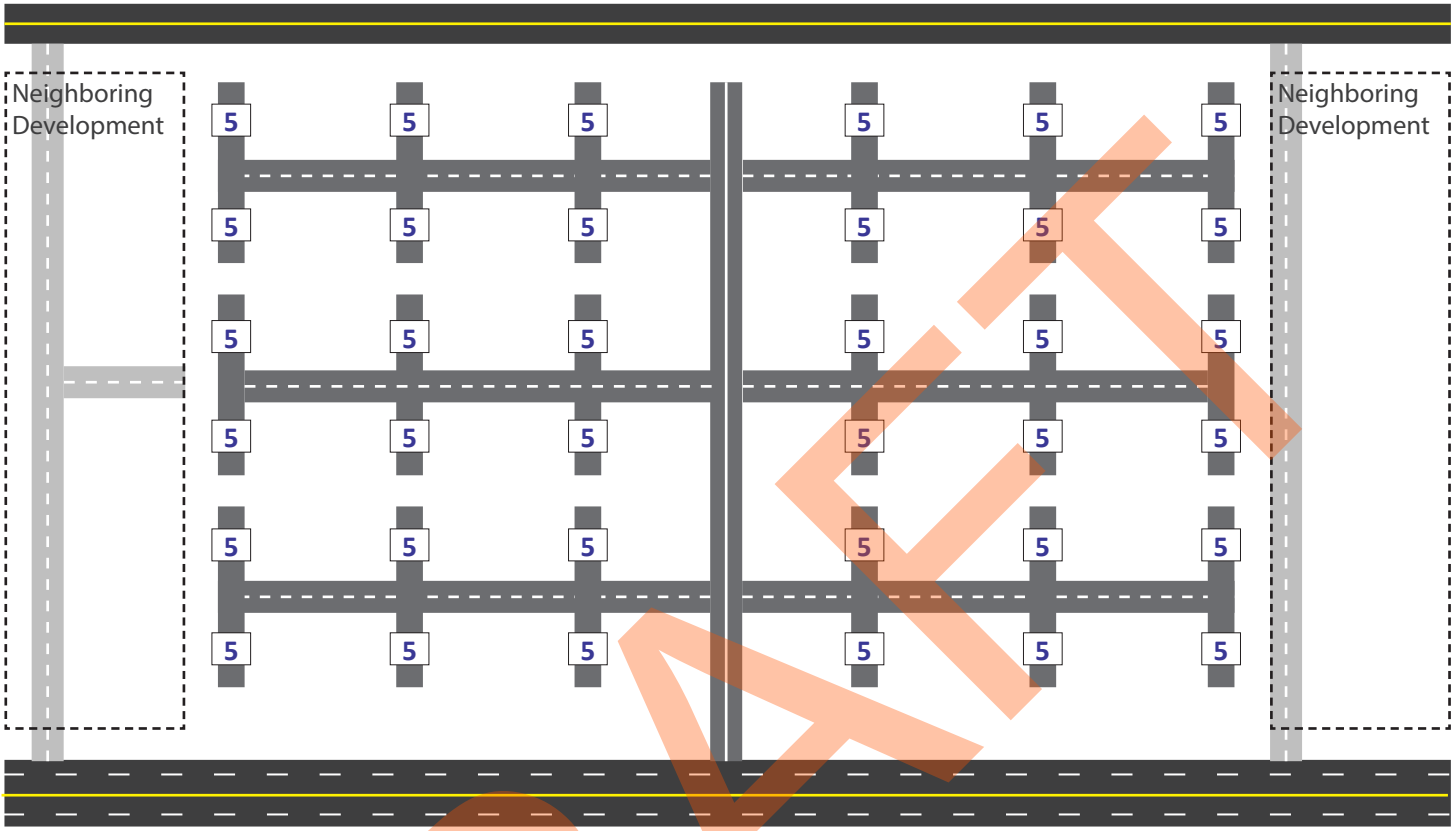
Road and Junction Type Network Illustration



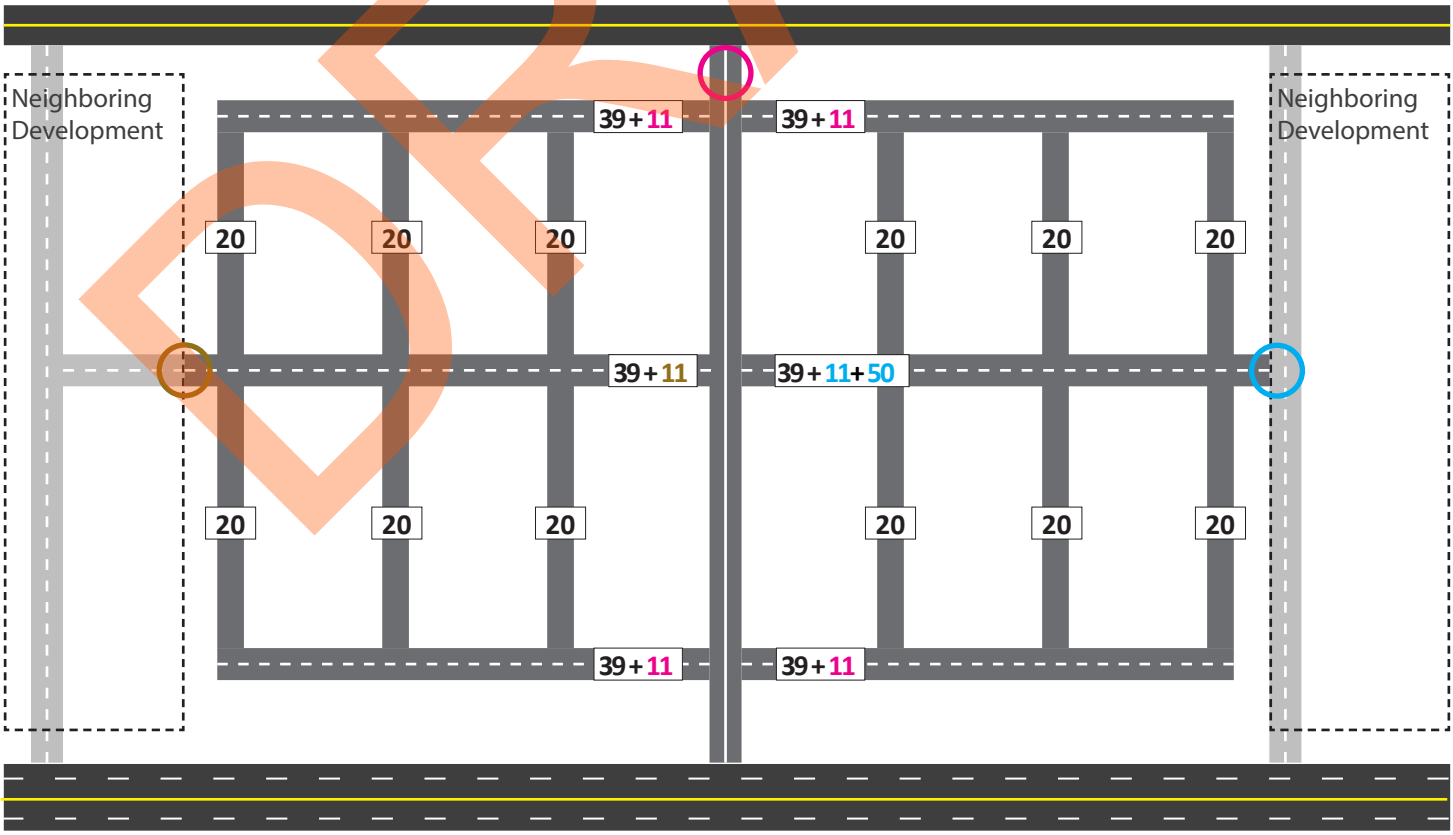
Figures on following pages: Facing shows WV DOH classification hierarchy of streets and their required dimensions. Following page shows that same classification in schematic diagrams with number of allowable units for the exact same length of roadway: above cul-de-sac, below connected network. Note that in this case, an applicant would have the potential to have up to 230 additional units with the connected network. Also note that the gold denotes a future connection enabled by design (gaining 11 extra units), the blue shows an actual connection allowing an additional 50 units as the developer made a true through connection.

Connected vs. Cul-de-Sac Development Diagrams

Cul-de-Sac Development Diagram



Connected Development Diagram



IX.3.c Connected Network Diagrams

The schematic diagrams on the preceding page(s) contrast the amount of lots that can be safely serviced by a disconnected network (exemplified by the cul-de-sac diagram) versus the amount for a connected network. Again, the regular shape is intended to demonstrate that the length of streets is the same in both instances, but the number of units is increased in the latter as emergency services and traffic queues are less burdensome with the connected network - as such a 'bonus' of units is available for the connected network for the identical length of road and consequently the cost/unit of infrastructure is thus dramatically less.

In this example, the connected development can handle up to 420 units easily with a network of small side streets, and 4 locals connecting to the existing larger streets. The designations can be looked up in the Network Table to tell the developer what the standards are for the streets and intersections. Illustrations for the street and intersection (junction) types are provided in Section 4.d and Chapter XII. Furthermore, the cost per unit difference will be provided to the developer at a pre-meeting assuming a conceptual layout, hopefully encouraging easier financing for the engineering and the project as a whole - AND certainly a more expedited and easier review by the County.

The cost per unit versus a disconnected network of the same size is nearly 50% reduced thanks to it using a mostly connected network.

Scenario Critical Section Other calculations follow:

Connectivity Sample Calculations: A 50 RDU development wants to go in on a farm road with 3 houses on it. The farm road with minor improvements falls under the characteristics of a "side road" class. (NB Side roads can serve 9 RDUs, Locals 39 RDUs, and Collectors 40 or more – in this case we must serve 53 units PLUS any additional road connection RDUs). So, the developer can propose:

- Redevelop the farm road to a collector class (>39 RDUs)
- Redevelop the farm road to a local class (39, leaves 14) AND add an additional local class road connection to a different road (serving at least 14, plus any RDUs on that road).
- Develop a principal connection to a different road of at least a local class (39, but that road has 5 houses on it) and then would require an additional connection to 1 other road (e.g. one Side serving 9 with 4 houses already on it –> Totals: 50+3+4 or 57 – 39-9) and upgrade the original farm road to a Side Road (9) – handling the balance.

IX.3.d Future Connectivity and Dead-Ends

When creating a development, engineering and building the actual subdivision's own roads and utilities are usually considered the main concern. Proper road design, however, requires coordination of a number of factors outside the development: the parts of the networks where the project is located, current and future land use, and the resultant evolution of the roadway over time.

As the vast majority of subdivisions address residential development, it is critical to be sensitive to the needs of residents when designing the streets that serve the subdivision.

Consequently, all roadway systems should be designed to create a connected network, i.e. should have more than one way in and one way out. Road dead-ends and cul-de-sacs should be avoided. If a roadway does not feasibly have a second connection possible, design and right-of-way should be provided to connect in the future. Thus, a 'hammerhead' (a cul-de-sac with a through-road potential may be acceptable) is the preferred design for this termination.

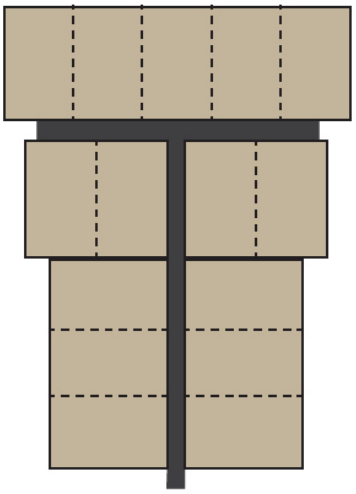
Cul-de-sacs occur frequently in recent development. However, cul-de-sacs are more costly, generate more traffic (VMT), and more congestion (channel all traffic onto a few roads), AND are more dangerous than connected grid roads (principally because people assume they are safer and do not pay attention). They are also more land consumptive per unit - so they are less cost-effective. They are a key element of sprawl, destroying more greenspace and requiring more pavement, as well as longer runs of road and infrastructure per capita.

So, the hammerhead is a preferred option as it enables future connections more easily. A hammerhead may need only one potential egress, forming more of an "L" shape. In any circumstance, the design must comply with the roadway standards in these guidelines.

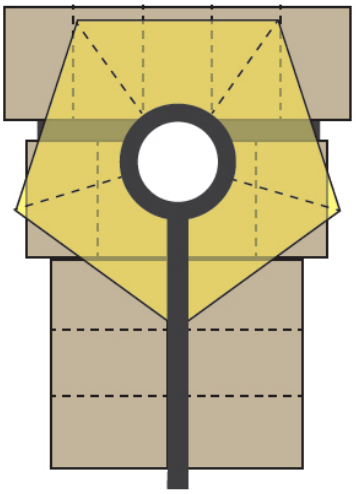
Note that more lots (>33%) can fit on a hammerhead design for an equivalent roadway due to the irregular shape of lots adjacent to a cul-de-sac, combined with mandatory frontage requirements (see schematic below).

Despite this, cul-de-sacs do have a reason that they have been historically needed, and that reason still exists today - topography. With the hills, bluffs and dells of WV, cul-de-sacs will still be necessary from time-to-time. Nonetheless, improved design of cul-de-sacs can address some of the issues associated with them: drainage/impervious surface, frontage and turning radius of fire vehicles, etc. The 'keyhole' design, with a landscaped interior for better stormwater management, illustrated below is preferred if a cul-de-sac is needed due to topography (designs are shown ***in 4.c***).

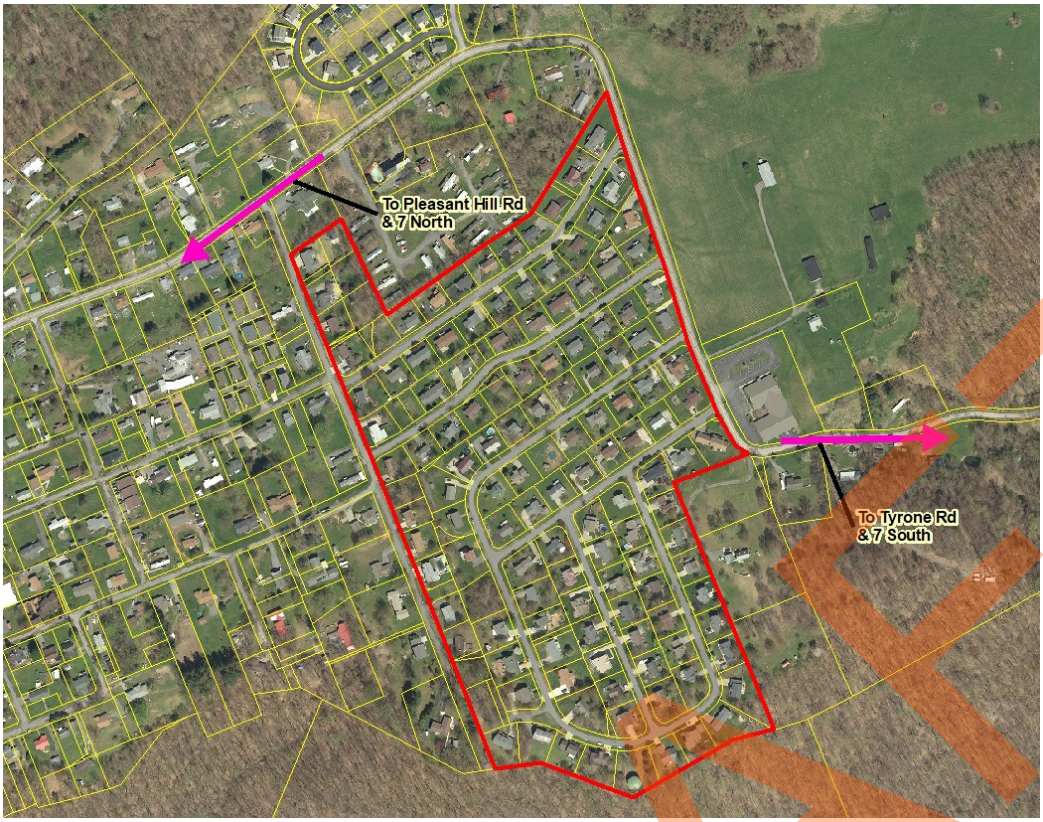
Examples of connectivity scenarios and calculations will be shown next.



Hammerhead Cul-De-Sac
33% More Lots



Traditional Cul-De-Sac



Subdivision in Mon County with some degree of connectivity.

IX.3.e Connectivity Scenarios

The diagrammed aerials above and on the next page show how a better development is relatively well-connected, AND how another set of developments can be improved in regards to connectivity. To illustrate and clarify how a development might BETTER address connectivity to its advantage with The Ordinance, a number of scenarios are provided as examples below:

The figure on the next page shows an overview of possible interventions available to a development in order to bring the infrastructure up to a 'predevelopment level' of service and appropriate scale: A developer could bring the access 'main' road up to standard, have DOH do so, add connections including potential future ones (cf. the terminated road segments off of roundabouts or hammerheads), or 'spot fix' by moving the entrance to a safer spot - one that could have a 4-way/ traffic light if needed (i.e. versus a dangerous sight line curve entry onto the main road).

Concerning a payment in lieu 'spot fix', the rule of thumb might apply in the following manner. Let us say that there were 100 lots and consequently a 100 dwellings at an average price of $200K, yielding 5% of 200 is 10K per each of 100 units or $1 million dollars. WVDOH wants a more sophisticated traffic signal that makes the moved intersection cost $1.3 million as performed by an independent contractor. WVDOH provides the signal itself supplying it to the developer whose crew installs the signal and the intersection for an internal cost of $700K, plus the cost of the signal. Everyone wins, theoretically.

Subdivision in Mon County with poor connectivity along with suggestions/opportunities for better connectivity [Conceptual Only. Does not reflect real world conditions.]

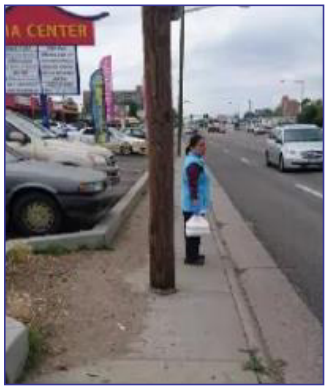
IX.4 Complete Street Concepts

A Complete Street is designed to accommodate all potential users. In residential and commercial development, a Complete Street is a thoroughfare that is safe, comfortable and convenient for travel via foot, bicycle, transit and automobile for anyone regardless of age or ability. Offering safe alternatives to car-exclusive travel is critical for all modes including improving travel for cars.

Complete Streets alternatives are needed because:

- Every trip begins and ends with a pedestrian trip.
- American men live on average 7 years and American women 13 year beyond their safe driving age.
- 54% of older Americans say that they would like to walk/bike more often.
- 1/3 of all Americans do not drive because of age, ability or economic status.
- Complete streets reduce isolation and dependence and allow greater access to a greater diversity of activities.
- The CDC has determined that the diabetes-obesity epidemic, the most widespread and impactful health issue facing the nation, prior to Covid, is directly the result of our car-exclusive lifestyle.
- The US seeks to mitigate impacts of climate change and reduce harmful air pollution.
- The US seeks to reduce dependency on foreign oil.

A Complete Street addresses all traditional modes on a given thoroughfare: auto, pedestrian, bike, transit, as well as parking and pedestrian activity zones (e.g. outside cafe seating - see diagram). This does not mean that all modes MUST have facilities on that thoroughfare, but it is the point of departure. How does one address cars? If a street for cars was needed, would we allow a pole to be placed in the middle of the car lane? If transit runs down the next parallel street, it might not be necessary down this street. Yet, if the question is not asked, a needed transit line might be precluded. Bikes might be better accommodated on the next street, but can a cyclist get all the way from destination to destination safely and easily? These are the questions that a Complete Street and Complete Network must answer satisfactorily.

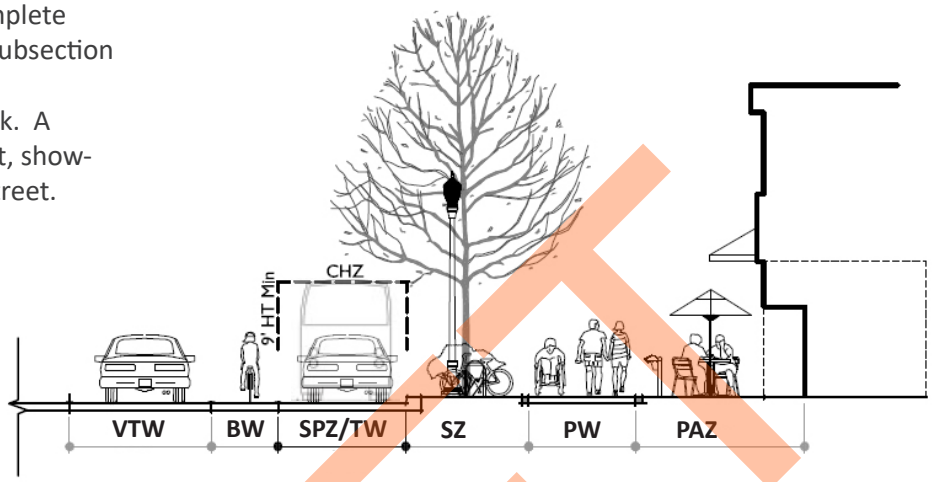


And yet...

Complete Streets must therefore have the ability to serve those modes that are deemed necessary after such an analysis. Consequently, a Complete Street has a number of component parts or facilities that share a given right-of-way (see diagram on next page). More detailed illustrations of how to design these components can be found in the next section (4). A number of additional examples are illustrated in the chapters X and XII as well.

IX.4.a Examples of Complete Street Components

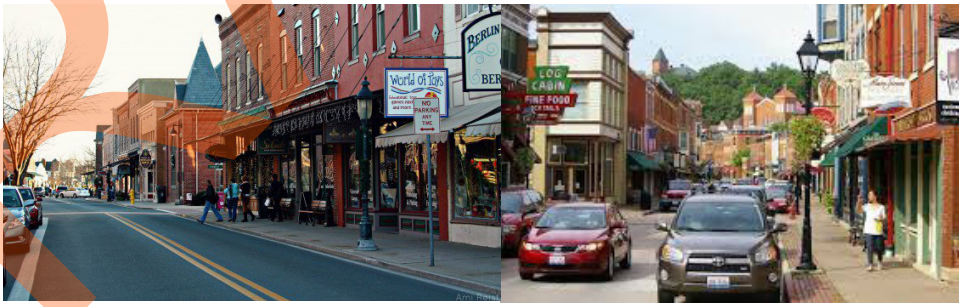
The concept of Complete Streets and Complete Network was previously described. This subsection will show examples of how to design Complete Streets and a Complete Network. A Complete Street Diagram is shown at right, showing the component parts of a Complete Street.



BW - Bike Way
PAZ - Pedestrian Activity Zone
PW - Pedestrian Way
SPZ - Street Parking Zone
SZ - Separation or Buffer Zone
VTW - Vehicle Travelway
CHZ - Clear Height Zone

Design of Complete Street Components:
Each of the components of the Complete Street will be described below along with important considerations for its design.

Vehicle Travel Way



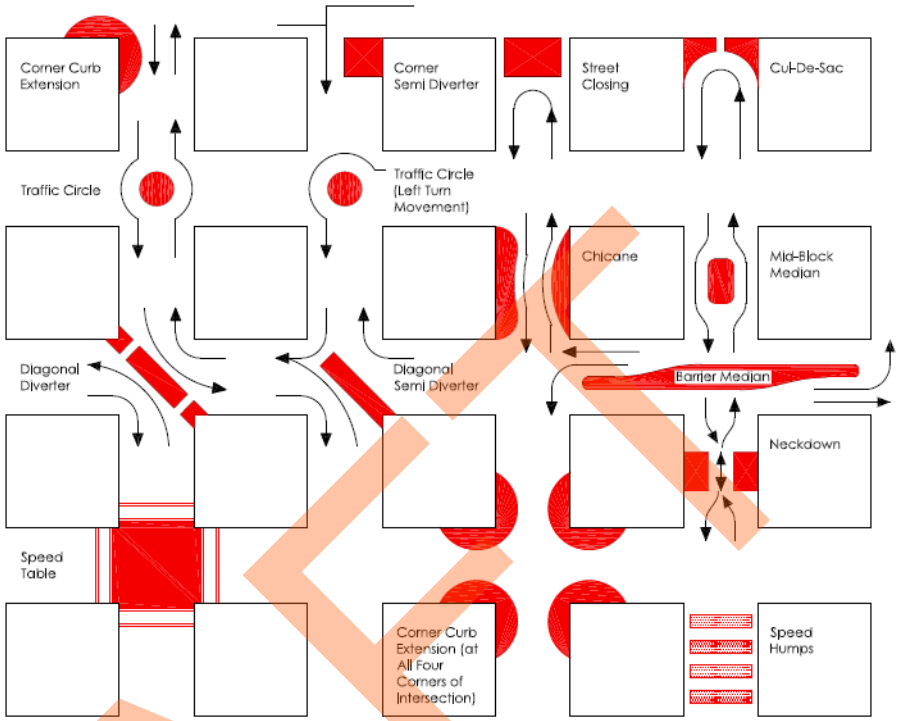
In today's society, car travel predominates. Thus, the focus of most transportation planning is the car and its travelway. That should not be construed to mean that it is the only way to travel.

In fact, it is not actually a terribly efficient way to travel, having the largest per unit cost of any mode other than possibly flying. Nonetheless, it is a key part of the travel system, but needs to be designed properly to ensure safety of drivers and other modes. The US (and the region as well) has one of the highest incidents of pedestrian deaths due to cars in the developed world. For most streets, 10' per lane is a good width to maintain slow speeds and to make it flexible over time, e.g. to add bike facilities or increase size of sidewalk as usage increases for these modes.

Wider lane widths can preserve right of way for later facilities, but the wider the lane, the faster cars tend to travel, endangering those around them. Also, designing for pedestrian safety actually improves car travel efficiency. Encouraging the right mode for the right kind of trip eliminates the need for unnecessary car trips increasing capacity for necessary car trips.

Various Traffic Calming Techniques

Diagram at right shows a number of traffic calming techniques. Most frequently encountered techniques in Mon County are roadway narrowing, traffic humps and chicanes.

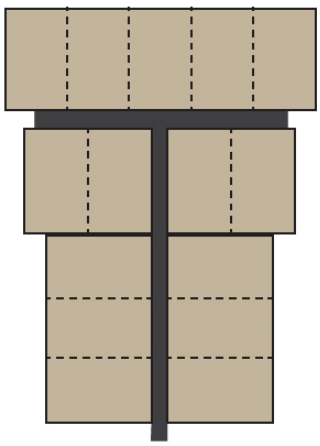


Traffic Calming

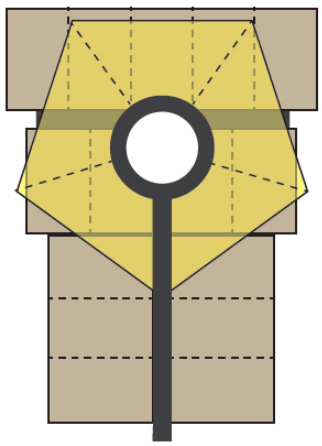
One of the important "other elements" of Complete Street Networks that requires a little additional conceptual understanding is traffic calming, and why it is critical to Complete Streets and Networks. Traffic calming is a technique whereby (mostly car) traffic is either slowed, forced to slow, or traffic behavior is modified to improve overall transportation performance, safety and/or the quality of life of those interacting with that traffic. The most prevalent reason is to slow traffic. Cars tend to travel at the highest speed at which the driver feels comfortable. So, efforts to make roads safer at higher speeds inevitably lead NOT to increased safety, but actually higher speeds - or distracted driving. These behaviors make it MORE dangerous for all other modes of traffic and diminish the quality of life of those living and working nearby (e.g. noise, avoiding that road, cafe tables being unused near the cars, etc.). Thus, traffic calming is critical to all other aspects of a Complete Street or Network functioning. Traffic is 'calmed' using many different facilities. Some of these techniques are shown above; scenarios involving traffic calming will also be addressed later with the other facilities.

Cul-de-Sacs vs. Hammerheads

Cul-de-sacs have been used as a means to 'render neighborhoods safe' in recent years. However, research has shown that they are actually much LESS safe than a connected grid of streets. Furthermore, as can be seen at right, they diminish the efficiency of land use by forcing unusual shaped lots, versus a hammerhead design. Hammerheads also allow for future connectivity.



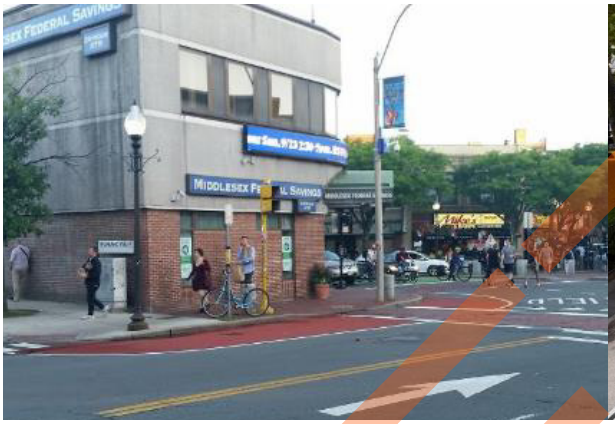
Hammerhead Cul-De-Sac
33% More Lots

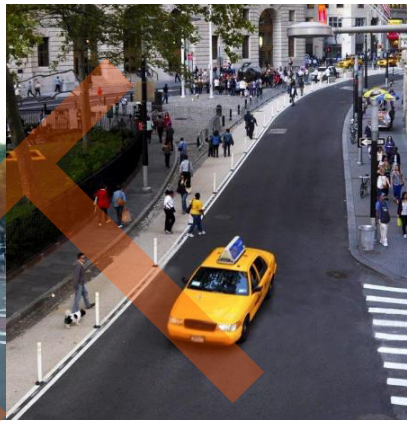


Traditional Cul-De-Sac

Traffic Calming - Narrow Roadways Treatment

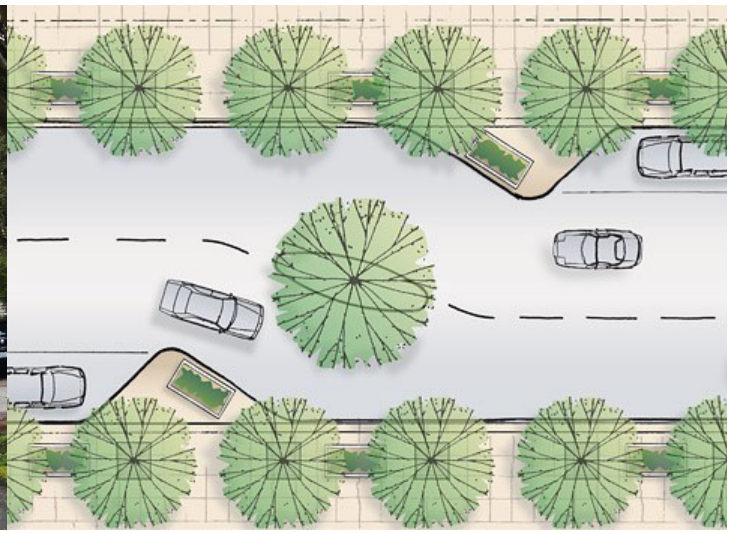
Numerous types of traffic calming are in widespread use ranging from neckdowns to medians. Narrowing roadways and restricting roadway use is often a useful and cost-effective way to encourage more multimodal use, as well as to increase the safety of the thoroughfare.





Traffic Calming - Humps and Chicanes

Other techniques encountered in the region are traffic humps and chicanes. Humps are the more frequently used technique, but their usage has some important caveats. They are dangerous for snowplows. They should not be located too near an intersection or they can be dangerous for turning vehicles. They work well when used as a midblock crossing as well as traffic-calming. Chicanes force drivers to deviate from a straight path in order to stay in the travelway. They are not used as often, but do a good job of forcing drivers to pay attention as well as slowdown.



Bike Way

Bicycles can be a key element in a Complete Street Network. It is one of the fastest growing modes as it has been shown that it can be the fastest way around an urbanized area, naturally calms traffic, and, most importantly, increasingly caters to millennials and an entrepreneurial economy. Bikes are usually handled in the following ways: Bike Lanes, Shared/Multi-Use Paths (MUP), Sharrows and Shared lanes. Bike lanes are used in more urbanized areas, and are usually 5 feet in width. If traffic is traveling at speeds higher than 25 mph, then buffering is recommended. These buffers range from painted strips to 'candlesticks' (photo at right) to cycle tracks which put hard barriers between traffic and cyclists. MUPs tend to be used in less urbanized, more suburban or rural areas (although Urban Greenways like the Indianapolis Cultural Trail are great examples of Urban MUPs). MUPs perform best when they are at least 10 feet wide to allow for cyclists to pass each other comfortably. MUPs are also used in these less urban contexts for pedestrians as the amount of traffic does not conflict between cyclists and pedestrians. Sharrows are often used on slow streets to accentuate where bikes are likely to share the road (i.e. toward the edge of the lane). On very slow streets, bicycles can share the lane with cars without special facilities or marking.

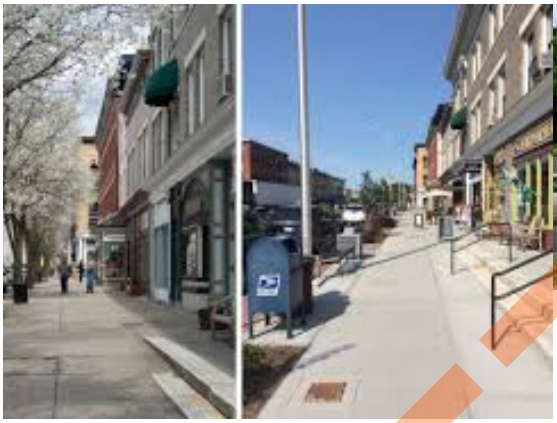
Bike Lanes vs Shared/Multi-Use Paths (MUPs)

- *Bike lanes are more for urbanized areas where cars are traveling more slowly and there are lots of turns and interaction. Seeing bicyclists constantly forces drivers to think about them and are thus less inclined to be surprised by one in the ROW.*
- *MUPs are more for areas with less car interaction (APBP recommends for areas with less than 8 intersections per mile). They are separated to make it more comfortable for cyclists, but as a result, it can lead to a false sense of security on the part of both drivers and cyclists. The best design for a MUP makes the path well-visible to drivers before the path crosses the road so that drivers are well aware of approaching cyclists.*

Street Parking Zone/Transit Way

Street parking is the lifeblood of active centers and destination clusters, allowing quick access to a favorite store or a quick bite. Street parking also enables traffic calming for cars and buffers pedestrian from car traffic. As transit is not widespread throughout the County and current development patterns are not conducive or likely to lead to much transit, smarter design should encourage transit to evolve over time to serve more urbanizing areas of the County. With transit availability, parking is less necessary. Transit can then easily convert a street parking lane into a transit lane as the need for more transit develops. These areas adjacent to curbs serve many purposes and should, as a result, respect a CHZ (see diagram on IX-15).

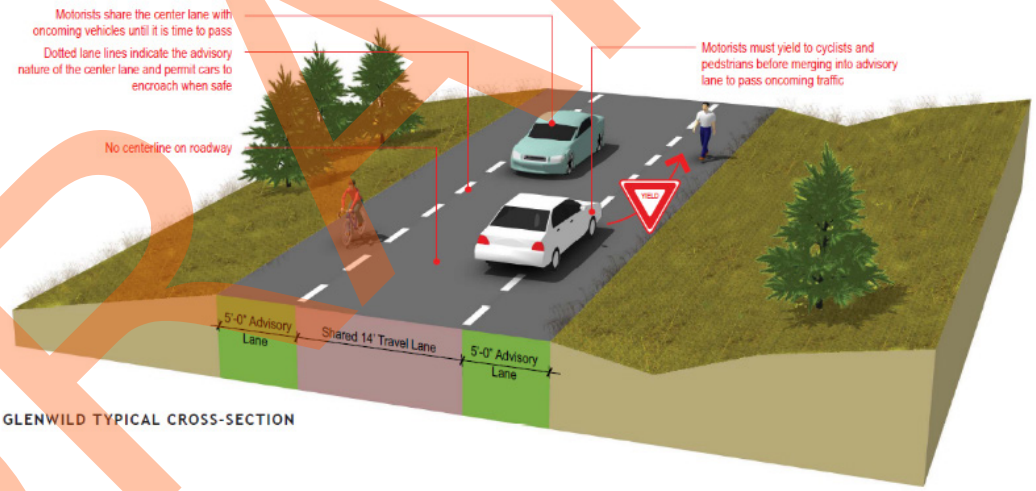
Pedestrian Way



All trips begin and end with a pedestrian trip. Sidewalks and MUPs are the principal facilities to allow for pedestrians to access where they wish to go. Sidewalk width is a function of where it is in the Complete Network. Centers and destination clusters should have the widest walkways (>10ft), and rural paths having the narrowest: 5ft or even Wide Shoulders, Pedestrian Lanes (See below), or on some small, flat rural roads, even sharing the street with slowspeed cars. Shoulders allow for protection of pavement from traffic damage and increase bike and pedestrian safety in more rural areas where sidewalks and other multi-modal uses are not feasible or warranted (See below and Road Edge Treatment).

Wide Shoulders - Advisory Shoulders

For roads 24'-28' wide with <6,000 Average Daily Traffic (ADT), the shoulders of the road can be used by pedestrians and bicyclists when costs and/or ROWs are restrictive. For bikes, see evolving bike lane scenario later in this section. For pedestrians in the shoulder see pictures below.



GLENWILD TYPICAL CROSS-SECTION

Wide Shoulders - Pedestrian Lane

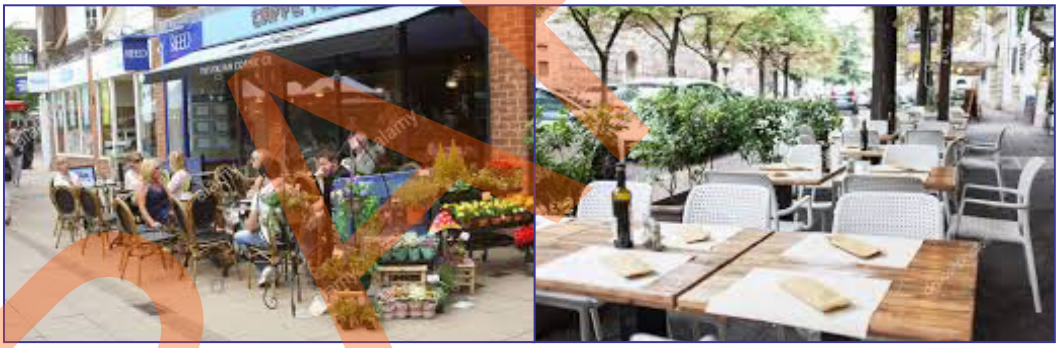
Sometimes, there is not enough right-of-way on a given road to allow for a sidewalk, particularly on existing street retrofits. As a result, other techniques to provide cost-effective facilities arise. Particularly along a relatively low trafficked, low-speed street, a pedestrian lane presents a useful alternative, especially on a street with a car-travel lane that would otherwise be too wide.

Separation Zone - Roadway Buffer

The Separation Zone serves as a roadway buffer. It is particularly useful for a major street - i.e. one that has more traffic, including more multimodal traffic as well. Thus, its buffering role makes the busy street more appealing to pedestrians. It is also a useful place for landscaping, poles, bus shelters, newspaper boxes, etc. It should be sensitive to CHZ.

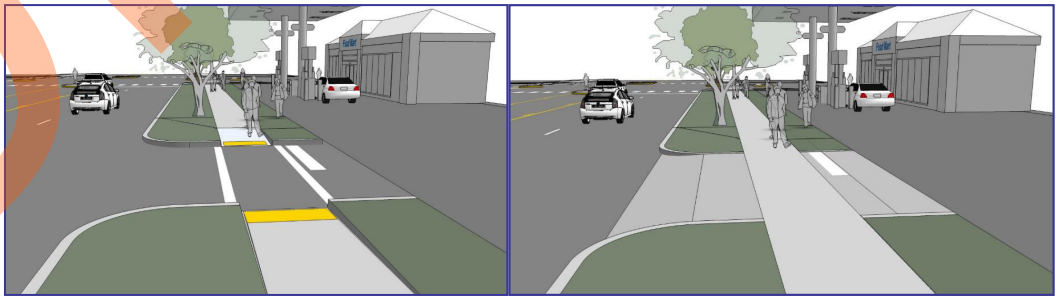
Pedestrian Activity Zone

In a Complete Street Network, the centers or clusters of destinations are where pedestrians want to 'hang out', shop, eat, play. They often work and live nearby these active areas. Consequently, designed zones or areas are needed that allow pedestrians to have the quality of life they desire, connected to other active people ('brain-bumping' is a new term). This lifestyle values cafe and restaurant tables outside of businesses where people can meet up and participate in the flow of life.



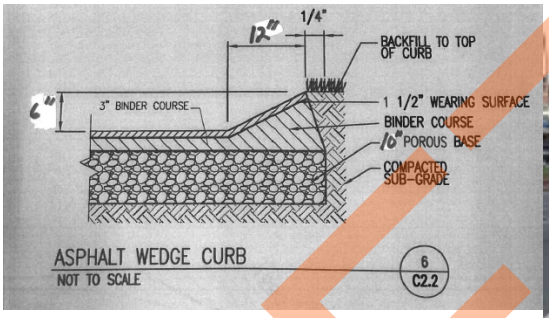
Driveways

Driveways are pertinent to Complete Streets as line of sight during egress and ingress, distance from intersection, and angle of access for a driveway can all impede the functionality of a street. Driveways abound in developed areas. Each driveway interrupts all modes of the streetscape: car entry, sidewalk disruption, stormwater management on the site, etc. Each driveway also increases the cost of facilities as a result. Consequently, it is important to consider the impacts a driveway and its design have on the facility it is interrupting: does it allow water to pool where people walk? Does it encourage cars to turn rapidly at the expense of the safety of the pedestrian? Does the number of driveways act as an impediment to car travel such that they should consider access management (e.g. consolidating driveways so that one driveway can serve multiple lots), etc.?



Clear Height Zone (CHZ) *In order to ensure that vehicles, especially fire trucks, can safely pass trees and sidewalk furniture, it is critical to keep an area clear of impediment from ground level up to the lowest obstacle. The CHZ should maintain a zone of at least 13.5 feet clear of branches, signage, etc.*

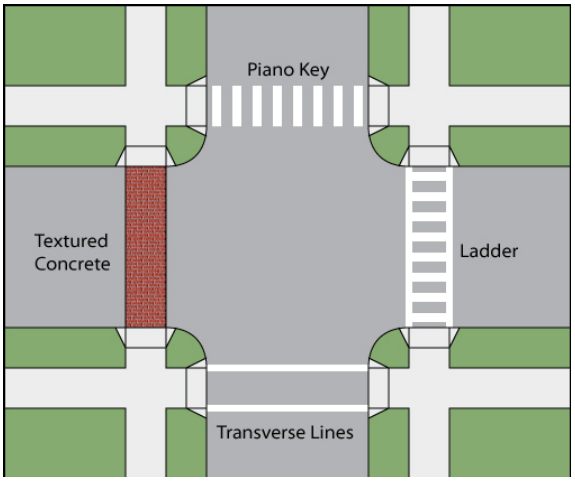
Road Edge Treatments, Curb and Gutter



Mon County, as is frequently mentioned in these guidelines, due to its steep slopes, suffers from difficult terrain to construct roads. The drainage of this steep infrastructure further undermines the quality of the roads. This is readily seen in the crumbling road edges all over the County. Consequently, extra attention is given in these guidelines to providing and preserving road edges to ensure safe passage for all travelers and longer-lasting roads overall. Mon County wants to ensure that road edges remain in tact and do not push hazards into the travelways. Many edge treatments to achieve this are possible.

Thus, more resilient edge treatments are recommended ranging from curbs and gutters, to rolled edges with gabion baskets to better valley gutters.
Some examples are shown at right.

Crosswalks



Crosswalks serve a number of functions and consequently have a number of designs that can be used to better serve those functions. Crosswalks designate areas where pedestrians are likely to cross (not to be confused with being the ONLY place they cross), so high-visibility is key to a safe crosswalk. Crosswalks can also provide wayfinding through the use of design elements (e.g. thermoplastic insets, brick-pavers, etc.) to convey that the path that uses the crosswalk is a part of a larger entity (e.g. cultural trail, pedestrian district, etc.). These should be designed for pedestrian ease, with a max crossing width of 50 feet where possible. Lighting, direct line, turning radius of vehicles, median cut throughs, and crosswalk width are also important to crosswalk safety for both driver and pedestrian. Crosswalks should also be marked with an appropriate sign to notify drivers of the presence of pedestrians.
Good crossing design often entails bumpouts as well (see traffic calming section as well as templates). Bumpouts are a traffic calming technique at intersection corners. In addition to slowing traffic at intersections (improving safety for all travelers). They reduce the distance a pedestrian needs to cross an intersection improving flow for everyone. They make the pedestrian more visible before they cross, again improving safety. They also provide more and better areas for proper stormwater management and when designed properly, direct water away from the crossing area, improving safety in icy conditions.

Complete Street Scenarios

To illustrate and clarify how a development might address Complete Streets to its advantage with The Ordinance, a number of scenarios are provided as examples below:

- Sidewalk to nowhere – change to lake access MUP
  A lovely development of expensive homes is proposed. A narrow sidewalk is proposed on the streets of the subdivision and wide roads. The sidewalks will simply terminate at the end of the development along the main entry road because the existing neighboring development has no sidewalk.

  The preferred solution is to narrow the road a little and widen the sidewalks a little (taking advantage of less road to improve upon the original stormwater management). Rather than designing the sidewalks to go nowhere, the sidewalks are now designed to lead to a Multi-Use Path that provides residents access to a lovely lake down the hill, where there happens to be a regional rail trail. This will allow for access to additional services while preventing a deterrent to use of the sidewalk and burdening upkeep of the road.

- MUP Subdivision
  A developer wants to develop a beautiful, if remote, bit of land. The distance is such that 'walking to civilization' is not realistic, but a half hour bike ride could deliver residents to many interesting destinations within the County. The developer proposes to replace the default sidewalks with Multi-Use Paths accessible to all which connect into the existing road network.

- Walk-In-Street, Steep Slope Sidewalk
  A remote development proposes to build a small number of houses along two small streets: one is steep, the other not. An acceptable multimodal facility (since there are so few houses) is to allow a wide shoulder of the road for pedestrians on the flat street. Right-of-Way is set aside for later should more development go in and sidewalks become necessary, but they are not required to be built by the developer. The steep street would be dangerous for pedestrians to share the road in winter ice conditions – so for that street, a sidewalk along one side of the street is preferred.

- Evolving bike lane
  A developer is looking at developing an urbanizing area. She doesn't know how well the development will sell or what amenities to offer, so she doesn't want to overbuild or over-commit. She must start with a design for a 50ft ROW for the road, plus a front yard setback. A sidewalk can go in the setback. However, she opts to provide two 10' lanes and a fixed sidewalk on one side and a wide shoulder to allow for any bikes to ride safely with little street traffic, but which are convertible later to a bike lane should the area become increasingly urbanized. She does not have to build the bike lane, but just ensure the ROW is available for one to go in at a later time. She can also add, or a later entity can add, an additional sidewalk at a later time.

- Minor Subdivision sidewalks
  Between 2 existing subdivisions with sidewalks – build the sidewalk.
  Between 2 existing subdivisions without sidewalks or one with sidewalks – at a minimum guarantee the ROW for a future sidewalk.

IX.5 Subdivision Road Network Layout and Design

Once the connections to and provisions for needs and requirements OUTSIDE the development have been addressed and met, then a development must also provide for a responsible development that meets the needs of ITS users and residents directly. Thus, a development must provide facilities (e.g. roads, sidewalks, etc.) that meet the needs of ITS residents PLUS the needs of those using the development. After all, both residents of this development and other users use roads outside of the development. Similarly, it is only fair that this development provide for its residents and those passing through. Consequently, this will impact the design of the development.

Armed with network demands and requirements for components of a streetscape to provide safe and usable facilities for ALL users of infrastructure, we can design the area that contains the infrastructure - the streetscape. The streetscape involves the area from building face to building face across a street. By knowing what facilities should be provided on a thoroughfare, along with the appropriate treatment of each of those facilities in that context, good design can adapt a streetscape and network to the desired performance (as described in VIII.3.a). This section addresses the design and layout WITHIN the development - i.e. layout of lots and the network of roads, intersections, sidewalks, etc.

Table 5-1 shows the characteristics and design requirements of the street types BASED on DOH Standards AND Preferred Design Standards. If an applicant does not follow the Preferred Design, then they are required to meet the DOH standards. A summary of the requirements is provided below as a reminder and convenience, BUT the standard follows the DOH's Driveway Manual requirements which are subject to change. An applicant should always refer to the Manual and requirements as the final word.

Once the road networks are clearly shown, it is relatively straightforward to design the roads and intersections. For each road, the applicant simply shows the type/classification of each road, what and how modes other than vehicles will be addressed - similarly for all intersections. All trip generation from WITHIN the site AND expected throughput of trips from outside the site must be shown. If the applicant designates a template road and/or intersection (see VII) along with the trip generation numbers - that will suffice. Acceptable designs are provided in Chapter XII Templates. These designations can be placed on the line representing the road and will suffice for the early reviews. Even if the applicant does not want to use the templates provided in Chapter XII per se, s/he can identify the template that serves as the basis (i.e. has the desired performance) and then simply show the modification and why.

It is an iterative process finishing the design, but the Table 5-1 shows the parameters that the applicant must respect. Note in particular that the applicant can benefit from more lots per lineal foot of infrastructure AND smaller roads if s/he is using Preferred Design (cf. highlighted difference between Preferred Design (PD) frontage and what DOH would otherwise accept. Also note that in a more 'urban' or commercial setting, IF the parking is shared and access is to the rear, then driveway spacing is no longer the determinant of lot frontage.

With the Mon County Preferred Design, developers can design for smaller, more connected, slower speed streets, which translates into smaller distances between driveways, easier turnarounds, less wide streets and so forth. Thus, a smaller, more neighborhood-friendly street network provides advantages to everyone and the County rewards such development with less costly infrastructure PER UNIT. Neighborhoods get safer streets, emergency vehicles can respond more quickly and reliably to calls, and such infrastructure can support more families per area. Preferred design reflects this.

IX.5.a Roadway/Intersection Design and Streetscape

The intersection or junction types are shown on the facing page for those street types, based on street type AND the location of the junction relative to a neighborhood: viz. Is it in the Center ("C" - main street) part of the neighborhood where commercial uses are likely to be (e.g. store)? Does it link a street to a Regional connection - "R"? Is it located at the transition from one Neighborhood to another - "N"? or, Is it simply some other intersection? The principal advantage is the higher densities and smaller roads available to the developer: which is better for the County as well in terms

of slow speeds, safety, less cost and less impervious surface per dwelling unit than the standard method.

Furthermore, it helps to define neighborhoods more clearly and their organization. Destinations can then be clustered more accessibly to traffic and pedestrians and not generate unwanted traffic on side streets.

Network Application Sample and Modes

The diagram below shows a network of potential neighborhood streets in a new subdivision (taken from the reddish area subdivision in the Network Diagram shown in Chapter VIII. The developer comes to a pre-meeting with some general knowledge of the area and a rough minimum number of units intended for the subdivision. Working with the County, the developer's choice of a mildly more urban subdivision provides a more connected network that is currently more in demand than the traditional cul-de-sac type. It also is more cost effective in many ways as discussed earlier in terms of cost to the public to provide public services and safety. Furthermore, the developer gains advantages in more units and less cost of infrastructure per unit.

Connectivity. The road network must be clearly shown. For each road, the type/classification of each road, what and how modes other than vehicles will be addressed - similarly for all intersections. All trip generation from WITHIN the site AND expected throughput of trips from outside the site must be shown. If the applicant designates a template road and/or intersection (see XII) along with the trip generation numbers - that will suffice. We will show how this is applied to the sample neighborhood at right in the example in IX.5.e.

Table 5-1.Table of Road Types and Characteristics

Road Type			Driveway 1 (D1)	Driveway 2 (D2)	Side 1 (S1)	Side 2 (S2)	Local 1 (L1)	Local 2 (L2)	Collector 1 (C1)	Collector 2 (C2)	Arterial 1 (A1)	Arterial 2 (A2)	Arterial 3 (A3)
Function			Drivway	Alley-like	Alley-like	Cnxn	pkg	cnxn	distrib	thru	main	cnxn	thru
Example					Winona Ave	Briarwood St	Cottonwood St	Riddle Ave	West Run Rd	Baker's Ridge	Main St	Kingwood Pike	WV 705
Location Type					Subdiv	Subdiv	Nbhd	Nbhd/Reg	Community	Cmnty/Reg	Community	Regional	Regional
# Units to Junction (w/bonus)			5 max	5 max	5 max	9 (10)	4-39 (50)	4-39 (50)	up to 52	up to 52	up to 52	52 plus	Limited
Road Segment Treatment	Dimension	Min. ROW Width	50	50	50	50	50	50	50	50	70	60	80
		Min. Grading Limits	25	25	25	25	30	30	35	35	60	30	60
		Travelway Width	12	20	20	20	24/22	24/22	24	24	44	30	60
		Min. Lane Width	12	12	9	9	10/9.5	10/9.5	11/10	11/10	11/10	12/11	12
		Shoulder Width/Side	1	1	1	1	1.5	1.5	2	2	2	4	6
		Frontage Width/Unit	N/A	N/A	50	50 (75)*	50 (75)*	50 (75)*	50 (90)*	50 (110)*	25 (75)*	150	185
		Front Yard Setback (DOH)	75	75	25 - SE	25 - SE	75 - SE	75 - SE	75 - SE	75 - SE	75 - SE	75	75
		DOH Frontage/Unit	105	105	105	105	105	105	125	150	105	150	185
		Max. Length to Junction	N/A	N/A	500-1000	500-1000	200-1300	200-1300^	1300	1300^	<1320	>1320	>1320 nbhd spe.
	Construction	Max Average Grade %	N/A	N/A	15	15	12	12	12	12	12	DOH	DOH
		Acceptable Material	N/A	N/A	Asp, Con, Gra	Asp, Con, Gra	Asp, Con	Asp, Con	Asp, Con	Asp, Con	Asp, Con	Asp, Con	Asp, Con
		Sub-Base (in.)	N/A	N/A	6	6	6	6	6	6	8	8	8
	Multimodal Operation	MPH	<15	<15	<15	<20	25	25	30-35	35-45	25-35	35-45	40-50
		Transit	N	N	N	N	N	Schl	TrS**	TrS**	TrS	Regional	Regional
		Truck	N	N	N	N	N	sm truck	Y	Y	Y	Y	Y
		Bike Facility	N (sh)/PedL	PedL/N(sh)	PedL/sh	PedL/sh	PedL/sh	MUP/L(RO	L/MUP	MUP/L	L/sh	MUP	MUP
		Walk Facility	PedL	SW	PedL	SW	1SW(ROW*), MUP	1+ROW, MUP	1+ROW, MUP	MUP, 2SW, Bus	2SW	MUP->2SW in urb	MUP
		On Street Parking (Rec)			1 side(8'L)	1 side(8'L)	in nbhd	in nbhd	in nbhd	in nbhd	2 side	not recommentded	not recommended
		Traffic Calming	hump	hump	hump	hump	neck/chic	neck/chic	nck/bmp/rbt	nck/rbt	bmp/med/P	in urb only	strips

Guidelines NOT Required by DOH

Preferred

LEGEND FOR BOTH TABLES
() = usually designates option
(#)* - minimum driveway spacing in ft
Asp = Asphalt
Con = Concrete
Gra = Gravel,
in nbhd = in neighborhood
in urb = in urban area
hump = traffic hump
Pkg or P = Parking
MUP = Shared/Multi-Use Path
ROW-> DOH, HOA = Right of

The basis for most of the advantages that preferred design offers arises from slower more connected streets. WV DOH (the basis for the Standard transportation requirements) bases its requirements on rural roads (the vast majority of roads in the State. They are constrained by the design of such roads that cater to longer distance travel at higher speeds. They cannot design a roadway, in fact, at speeds less than 25 mph. Furthermore, these roads have to handle emergency vehicles no matter where the roads are found. Again, they have to provide width for higher speeds, turnarounds in rural areas, low visibility, etc.

Table 5-2. Table of intersection Types and Characteristics

Junction Treatment by Location Type											
	Regional Connection (R)	Junction Type	J-S1-R	J-S2-R	J-L1-R	J-L2-R	J-C1-R	J-C2-R	J-A1-R	J-A2-R	J-A3-R
		Traffic Calming	Rt i/o (w/L)	Rt i/o (w/L	P	P	Rbt, P	Rbt, P	Rbt, P	P	P
		Control Device	no cnxn	Stp	Stp	Stp (Lt)	Lt	Rbt	Rbt, Lt	Rbt, Lt	Rbt, Lt
		Management				(sigT)	lane, sigT	lane	lane, sigT	lane, sigT	lane, sigT
		Parking	1 side	1 side	*2 side	2,1 side	in urb	in urb	2 side	no	no
		Multimodal	PedL	1SW	1SW(1ROW), MUP	2SW, MUP, Schl	2SW, Schl	MUP, Schol	2SW, Bus	MUP	MUP
		Misc	ROW->DOH	ROW->DOH	ROW->DOH	ROW->DOH	ROW->DOH	ROW->DOH	ROW->DOH	ROW->DOH	ROW->DOH
	NBHD Center (C)	Junction Type	J-S1-C	J-S2-C	J-L1-C	J-L2-C	J-C1-C	J-C2-C	J-A1-C	J-A2-C	J-A3-C
		Traffic Calming	Chic	Chic	sqr, table	sqr, table	sqr, table	bump, Rbt	bump, Rbt	Rbt	Rbt
		Control Device	Stp	Y	Stp	mRbt	Rbt	Rbt	Lt, Rbt	Lt, Rbt	Lt, Rbt
		Management					pkg	pkg	VillCntr	ROW	ROW
		Parking	1 side(8'L)	1 side(8'L)	*2 side	2,1 side	in urb	in urb	2 side	no	no
		Multimodal	PedL	1SW	1SW(1ROW), MUP	Schl, 2SW, MUP	2SW, Bus	MUP, 2SW, Bus	2SW, Bus	MUP	MUP
		Misc	ROW->HOA	ROW->HOA	ROW->HOA	ROW->HOA	ROW->DOH	ROW->DOH	ROW->DOH	ROW->DOH	ROW->DOH
	NBHD-NBHD (N)	Junction Type	J-S1-N	J-S2-N	J-L1-N	J-L2-N	J-C1-N	J-C2-N	J-A1-N	J-A2-N	J-A3-N
		Traffic Calming	Neck, P	Neck, P	Chic, neck, P	Chic, neck P	Neck, chic, P	Neck, chic, P	P, Med	P, Tree	P, Tree
		Control Device	Stp	Y	Stp	Stp	Lt	Rbt	Lt, Rbt	Rbt, Lt	Lt, Rbt
		Management			sigT	sigT	sigT	sigT			
		Parking	1 side	1 side	*2 side	2,1 side	in urb	in urb	2 side	no	no
		Multimodal	PedL	1ROW	1SW(ROW), MUP	1SW(ROW), MUP	2SW, MUP (ROWW)	MUP	2SW	MUP	MUP
		Misc	ROW->HOA	ROW->HOA	ROW->HOA	ROW->HOA	ROW->DOH	ROW->DOH	ROW->DOH	ROW->DOH	ROW->DOH
	Other (O)	Junction Type	J-S1-O	J-S2-O	J-L1-O	J-L2-O	J-C1-O	J-C2-O	J-A1-O	J-A2-O	J-A3-O
		Traffic Calming			hump	Neck, chic	bump	bump	no cnxn	no cnxn	no cnxn
		Control Device	Stp	Y	Stp	Stp	Lt	Rbt	Lt, Rbt	Rbt, Lt	Lt, Rbt
		Management					lane, sigT	lane,	sigT, Buf	Buf, sigT	sigT, Buf
		Parking	(*1 side)	(*1 side)	1 side(*2)	1 side(*2)			2 side	no	no
		Multimodal	PedL	1SW	1SW(1ROW), MUP	2SW, MUP	2SW	MUP	2SW	MUP	MUP
		Misc	ROW->HOA	ROW->HOA	ROW->HOA	ROW->HOA	ROW->DOH	ROW->DOH	ROW->DOH	ROW->DOH	ROW->DOH

Way controlled by DOH or HOA
Med = median
sqr, table = square or raised intersection
TrS = Transit Stop
**Optional/conditional

Buf = Buffering,
bmp = bumpouts,
Lt = traffic light
nck = neckdown,
sh = shared,
sigT = signal timing control
Stp = stop
PedL = Pedestrian Lane,
N =no special facility required
rbt = Roundabout
Tree= tree-lined street

1 side (8'L) = 8ft on-street parking on 1 side
(*1 side) = opt. on-street parking 1 side
1 side (*2) = opt. parking on 2nd side
1 or 2SW = 1 or 2 side sidewalk
Bus = bus can travel on street
no cnxn = no thru connection
L = lane

IX.5.b Street Typologies

In the following section, examples of streets that efficiently meet our guidelines for different contexts (cf. 4.a and VIII.3 above), as well as the expected performance of such streets are provided as potential templates for developers. Developers are encouraged to provide proposed streetscapes with their plans for major subdivisions. The templates shown used freeware (in our case, Streetmix was used) to illustrate these examples to demonstrate how easily this is accomplished. The following templates are provided from largest and most complex to the smallest and least complex. Where the particular street templates would fit into a larger context are shown in the Network Map (VIII.3). The appropriate context for various street typologies and streetscapes along with appropriate intersection treatments are shown as templates as follow:

List of Street Typologies:

Main Street(s) (Arterial 1)
Collector Streets
Local Streets -

- Suburban Street
- Local Urban Street
- Suburban Main
- Suburban Residential

Side Streets -

- Urban
- Suburban

Other Cross-Sections -

- Infrastructure Behind
- Private Street Network

For a more complete list of road templates, see Chapter XII.

Example - ROW reservation: A developer wants to build a Rural Side Street (S1-O, Scenario B). He has no idea whether the area will develop a lot or a little. He has a wide shoulder on one side of his street and reserve ROW with a swale in case LATER they wish to install an MUP.

Example: Applicant proposes to build a small village center block with shared parking accessible via an alley in the rear. Then, the buildings and lots can be spaced as with a traditional mainstreet (cf. High Street).

Example (Concept): A developer is building a large local road off of a collector, she looks up the street type that she thinks would work for her - a local road that acts as the entry to her subdivision. She selects L2-N, and selects an L2-N intersection on her road and a C1-N intersection pattern for the road she is accessing, choosing a traffic light for the management of the intersection. (4.a map)

Example (Application drawing): See IX.5.e

Street Type: Main Street

Dimension and Speed
Right of Way: 50-60 up to 90 feet
Building to Building Width: 90 feet
Posted Speed Limit: 25 - 35 mph

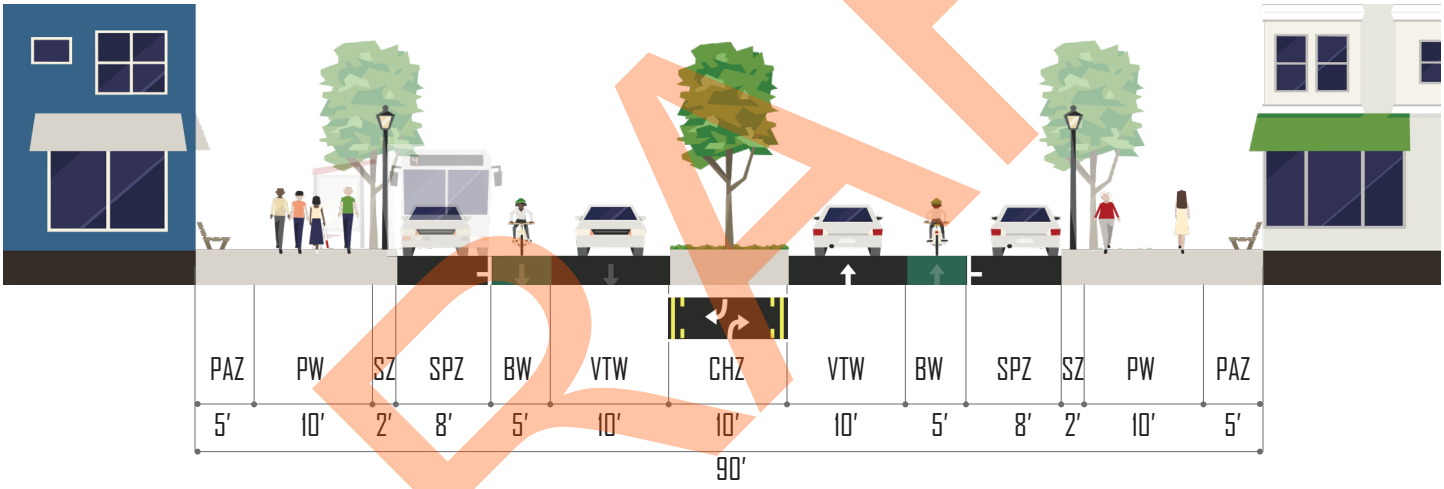
Multi-Modal Transportation
Pedestrian: SW
Bicycle: BW
Transit: Operate in VTW. Stop in SPZ if needed.

Land Use
Characteristics: Commercial, Mix-Use, Medium/High Density Residential
Parking: 2 sides (can be 1 side if off street parking offered)

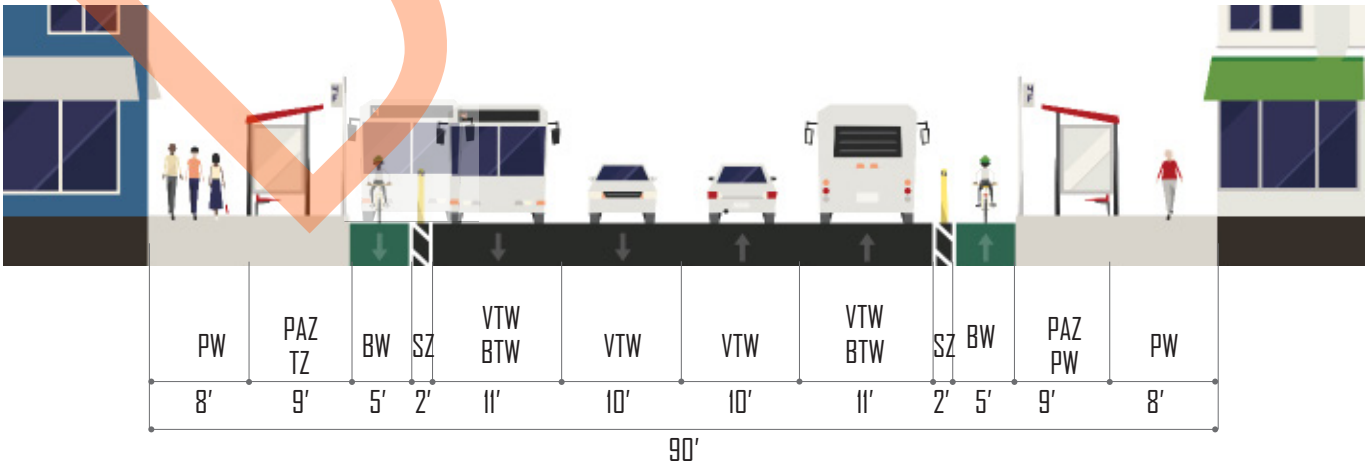
Infrastructure
Utilities: Underground utility lines
Sewer Systems: Separate sewer system (stormwater, sanitary sewage)

Others
PAZ encouraged

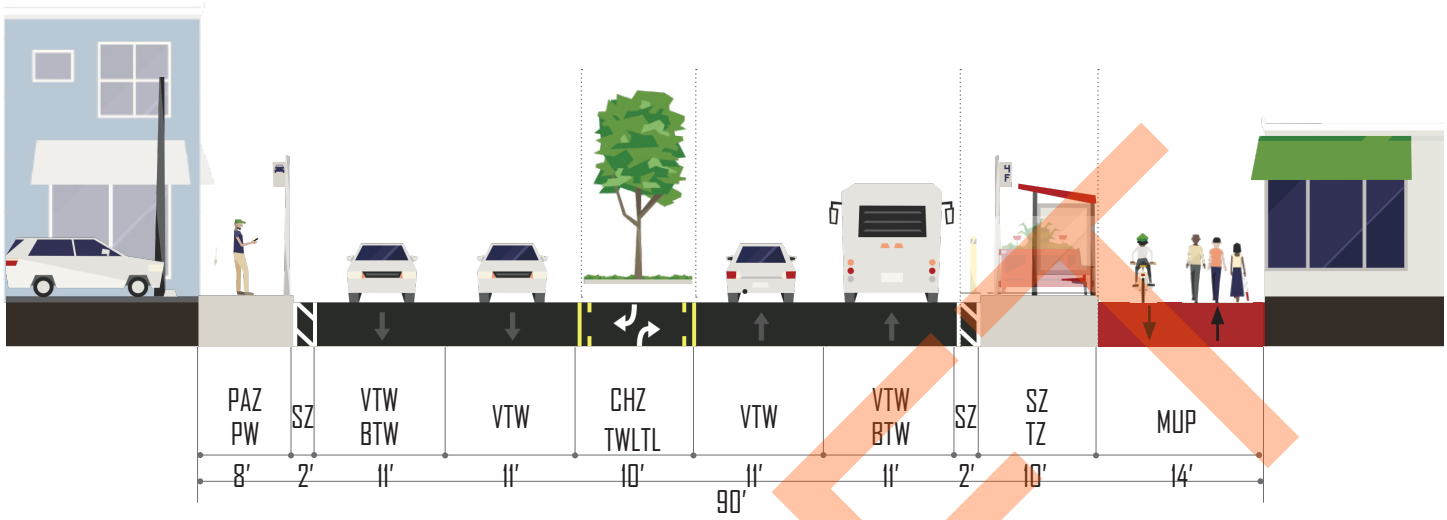
Scenario 1: Pedestrian + Street Parking [cf. A1-C]



Scenario 2: Pedestrian + Transit (if transit corridor - urban area) [cf. A1-C]



Scenario 3: Multi-Use Path + Vehicle (if transit corridor - suburban area) [cf. A1-N]



Aerial View of Scenario 1

Street Type: Collector Street-Suburban Street

Dimension and Speed
Right of Way: 50 feet
Building to Building Width: 50-100 feet
Posted Speed Limit: - A 25 mph, B 35 mph

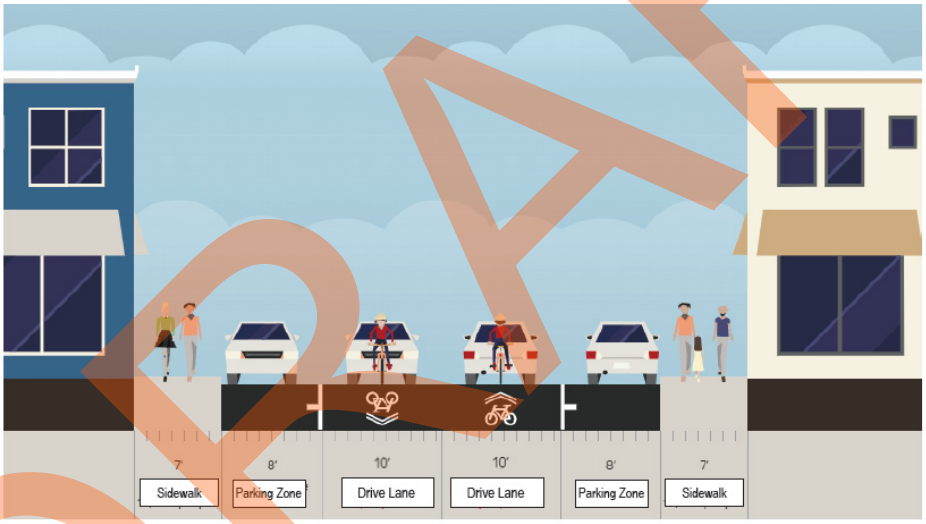
Multi-Modal Transportation
Pedestrian: SW, MUP
Bicycle: Sharrow in Center only, MUP
Transit: Not recommended, except for school bus possibly.

Land Use
Characteristics: Low/Medium Density Residential
Parking: in neighborhood only.

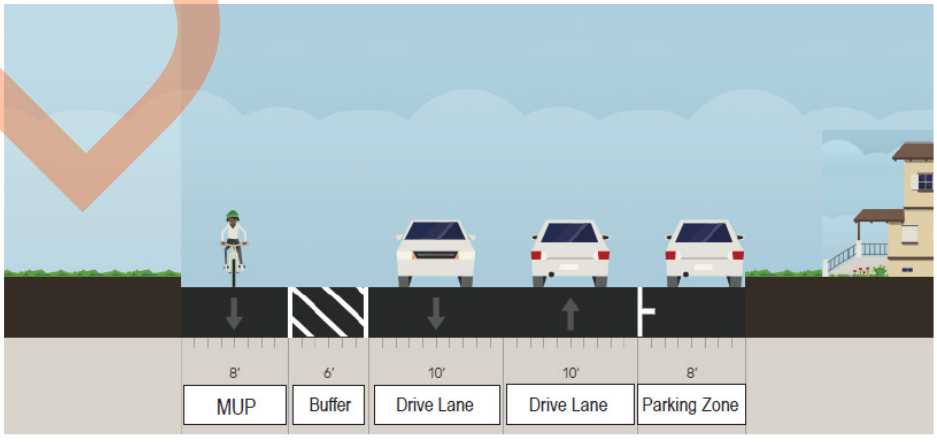
Infrastructure
Utilities: Underground utility lines, unless in rural areas.
Sewer Systems: Separate sewer system (stormwater, sanitary sewage), unless in rural areas

Others
PAZ discouraged, unless at important intersections.

Scenario A: Collector Street in Urban Area [cf. C1-C]



Scenario B: Collector Street in Single Family Detached Area , Suburban Street [cf. C2-N]



Street Type: Local Street-Suburban Street

Dimension and Speed
Right of Way: 40-50 feet
Building to Building Width: 50 feet
Posted Speed Limit: 15 - 25 mph

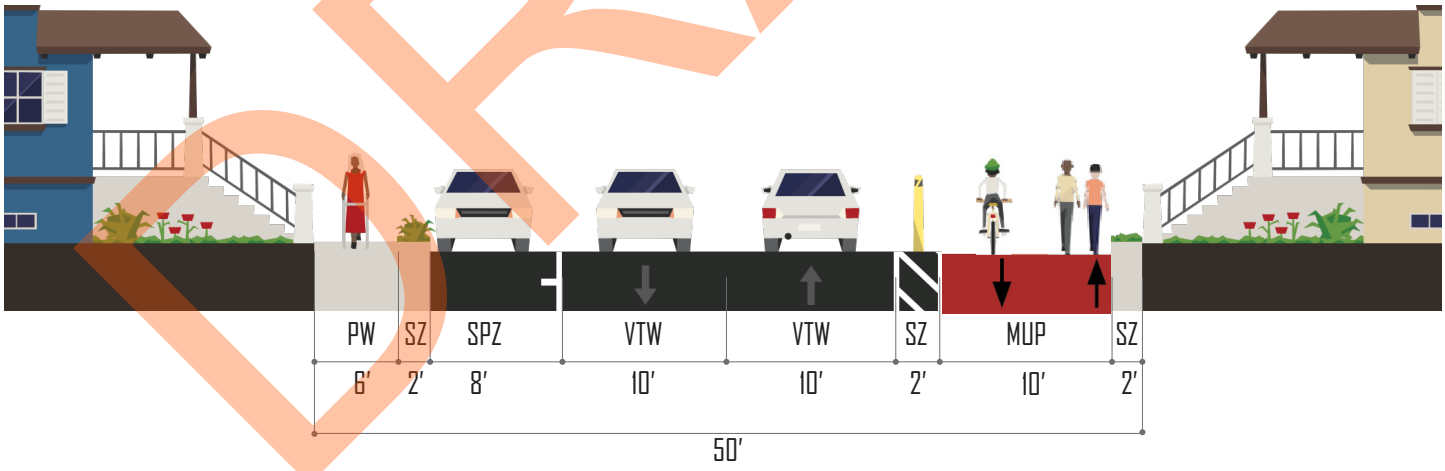
Multi-Modal Transportation
Pedestrian: SW, MUP
Bicycle: MUP
Transit: Not recommended.

Land Use
Characteristics: Low/Medium Density Residential
Parking: 1 side recommended. Could be reduced if off-street parking meets demand.

Infrastructure
Utilities: Underground utility lines, unless in rural areas.
Sewer Systems: Separate sewer system (stormwater, sanitary sewage), unless in rural areas

Others
PAZ discouraged, unless at important intersections.

Scenario 1: local Street in Single Family Detached Area , Suburban Street [cf. L1-N]



Street Type: Local Street-Urban Street/Suburban Main

Dimension and Speed
Right of Way: 40-50 feet
Building to Building Width: 50 feet
Posted Speed Limit: 15 - 25 mph

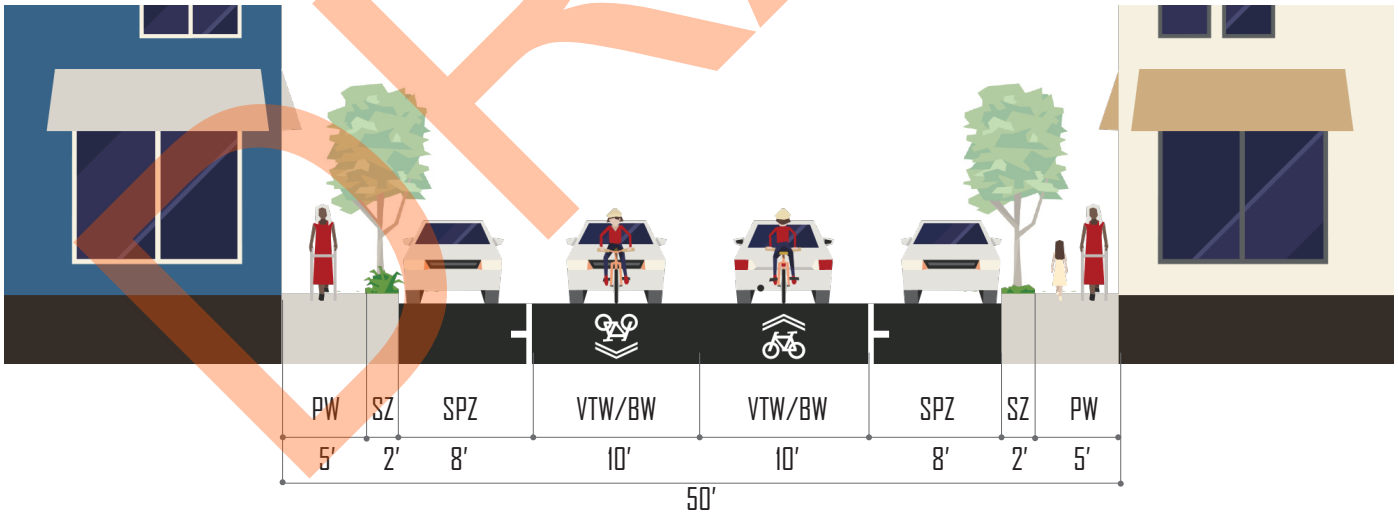
Multi-Modal Transportation
Pedestrian: SW, MUP
Bicycle: BW, MUP
Transit: Not recommended.

Land Use
Characteristics: Medium/Medium High Density Residential
Parking: 2 sides recommended. Could be reduced if off-street parking meets demand.

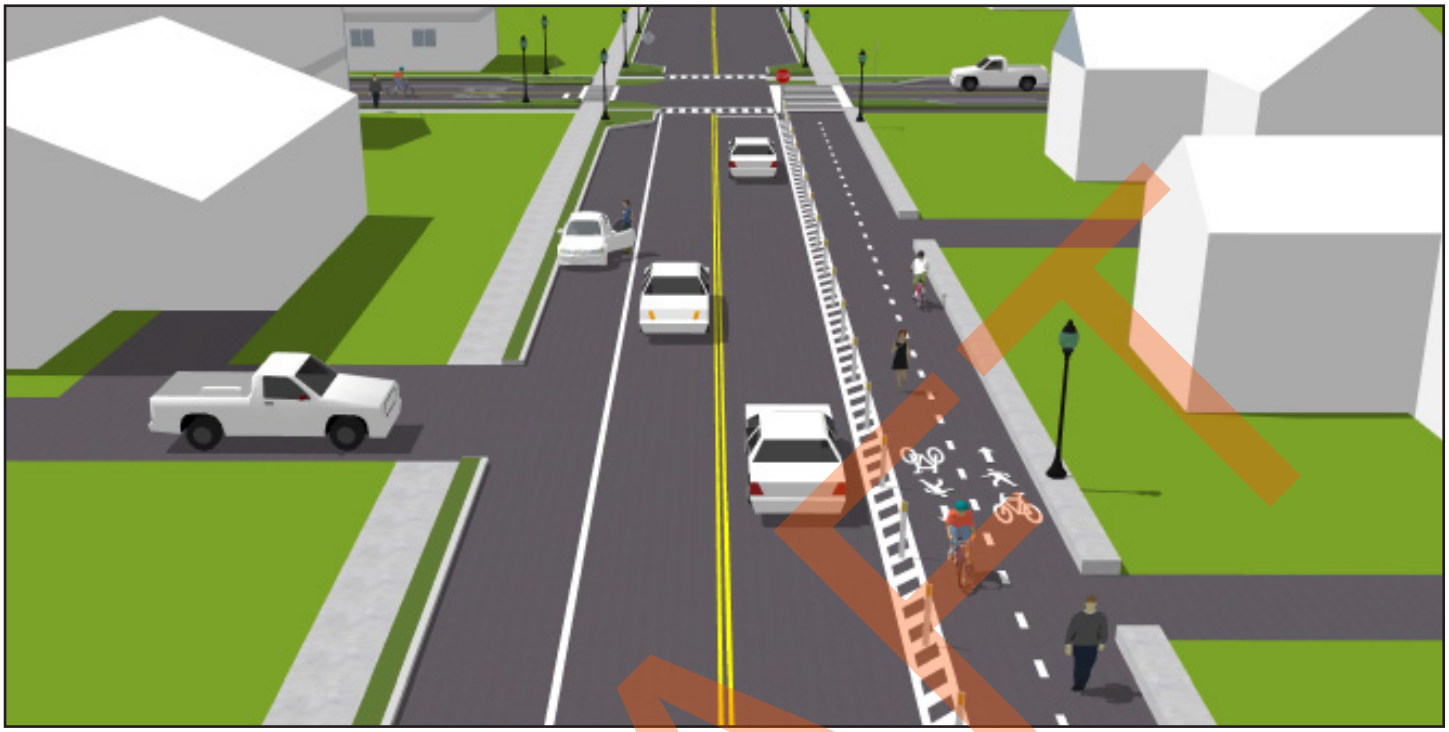
Infrastructure
Utilities: Underground utility lines.
Sewer Systems: Separate sewer system (stormwater, sanitary sewage)

Others
PAZ encouraged on main streets. PAZ not encouraged on local streets, unless at important intersections.

Scenario 2: Urban Street/Suburban Main [cf. L1-C]



Aerial View of Scenario 1



Aerial View of Scenario 2

Street Type: Side Street (A Urban, B Rural)

Dimension and Speed

Right of Way: 30 feet
Building to Building Width: A 30 feet, B 50 feet
Posted Speed Limit: 15 mph or lower

Multi-Modal Transportation

Pedestrian: A SW, B MUP
Bicycle: A Shared Lane, B MUP
Transit: A Nearby, B None

Potential Alternatives

Can decrease further by one-way street pairs if conditions allow.
Can decrease if pedestrian and bicycle facilities are behind buildings.

Land Use

Characteristics:

- A Medium Density Residential
- B Low Density Residential

Parking: None recommended on street (at this ROW - can add parking lane)

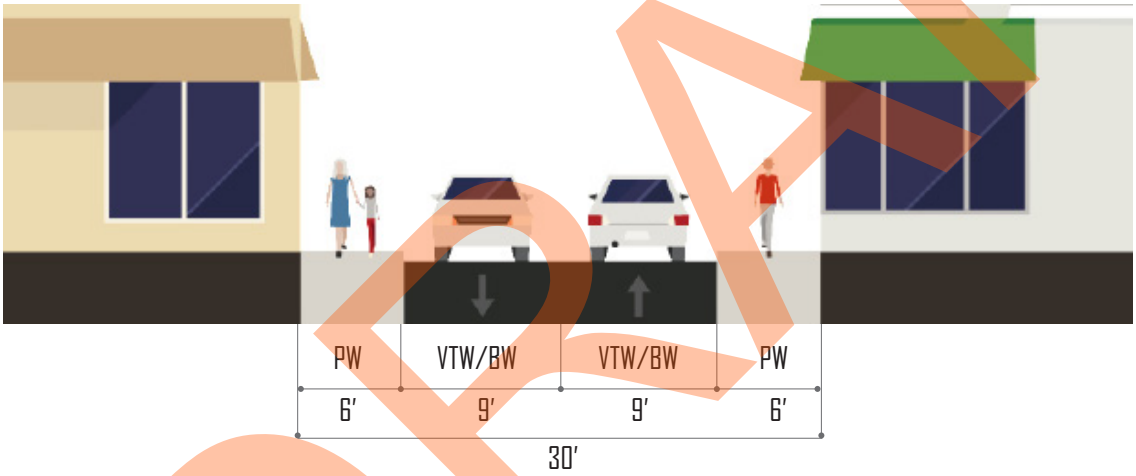
Infrastructure

Utilities: Underground utility lines, or behind buildings (or B, within/under setback)
Sewer Systems: Separated sewer system (stormwater & sanitary sewage)

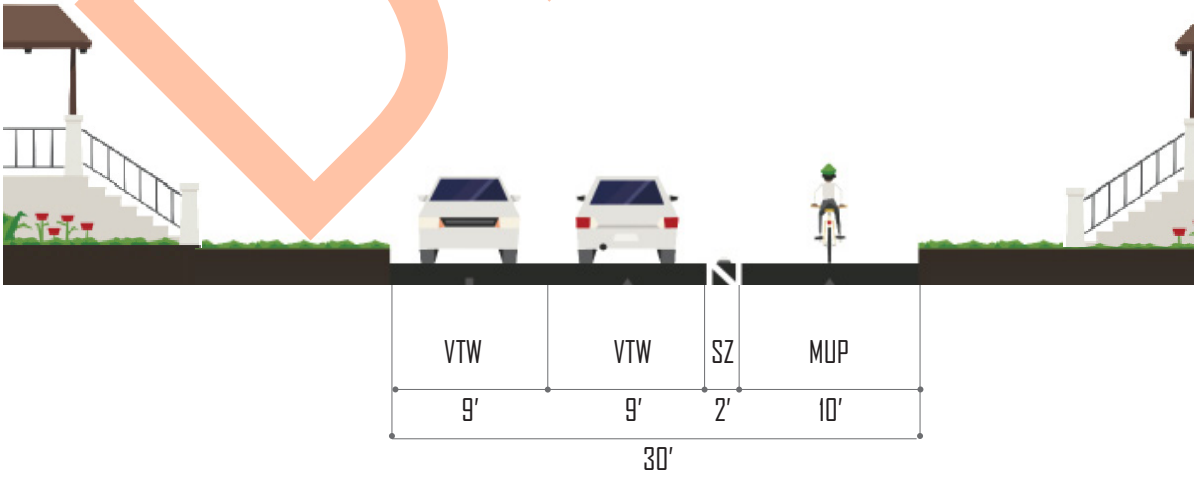
Others

PAZ discouraged

Scenario A: Side Street-Urban [cf. S1-C]



Scenario B: Side Street-Rural [cf. S1-O]

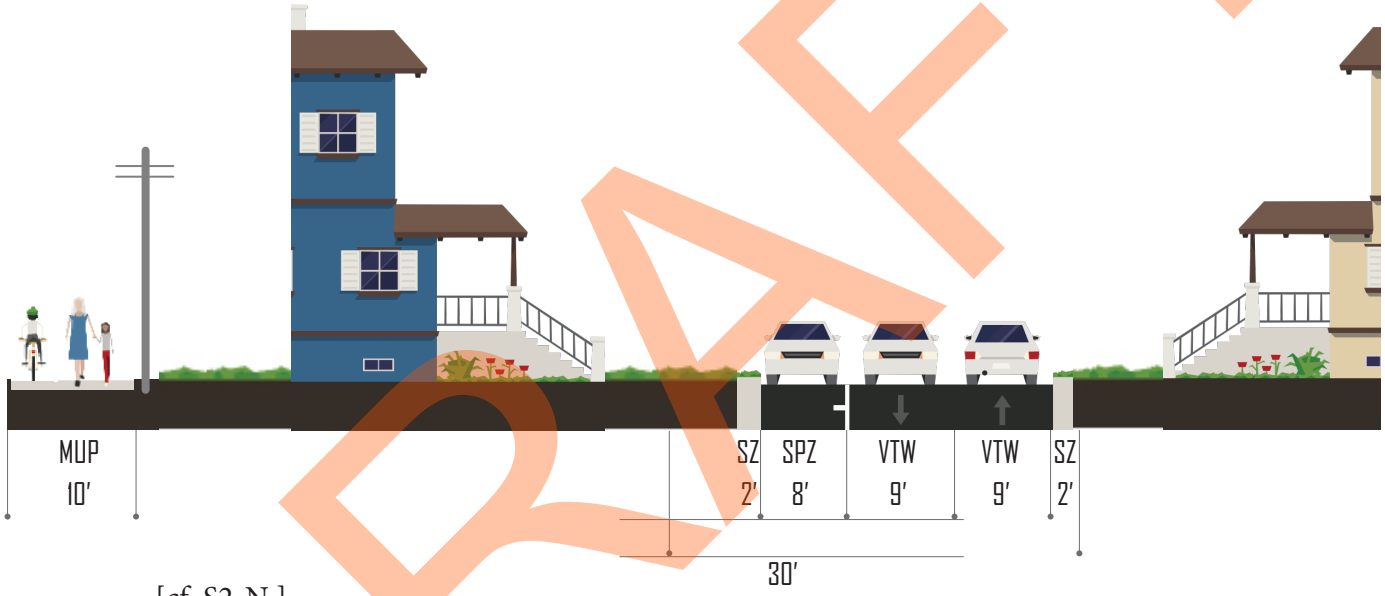


Some Infrastructure behind Buildings

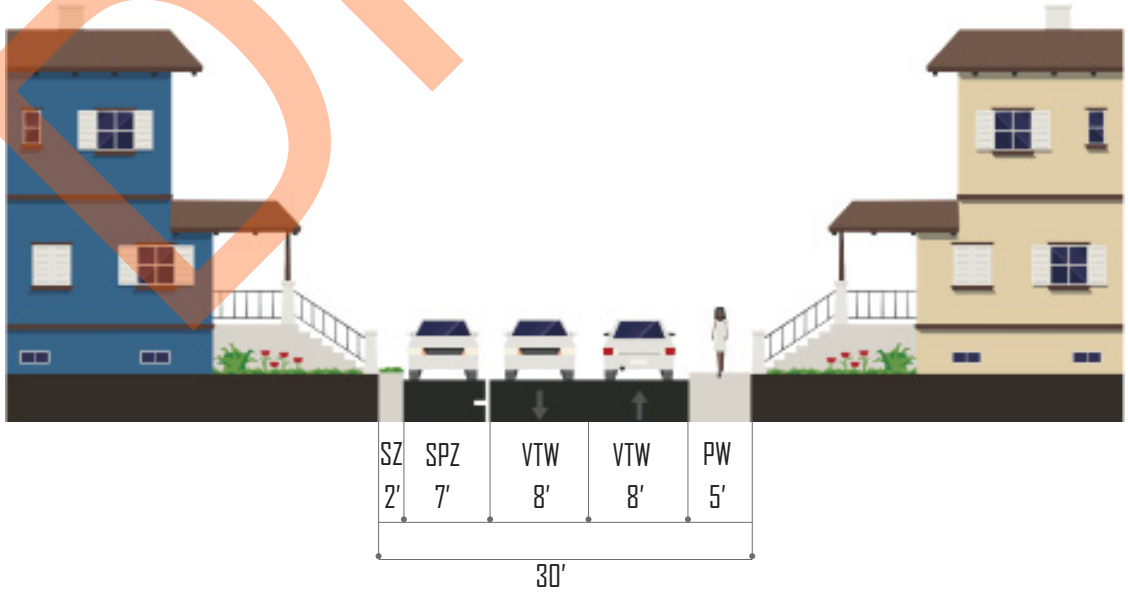
A given subdivision is a part of a whole network such that even if the subdivision proposes facilities for itself, scaled to its size and its size alone, the reality is that it forms an important part of the neighborhood and the region. The subdivision should thus connect (see connectivity) to other areas and other areas to it - respecting neighborhood and regional needs in terms of roads, infrastructure and green connections.

Hence, whereas a subdivision might only need a sidewalk by itself - if it is in a key location, it may need to have a wider sidewalk or replace the sidewalk with an MUP to address regional needs. The following maps show the regional demand for bicycle and pedestrian facilities. These proposed facilities should be integrated into any subdivision that is traversed by or within proximity of such a facility. Maps showing the regional needs for multimodal facilities are shown in the following pages.

[cf. S2-R]

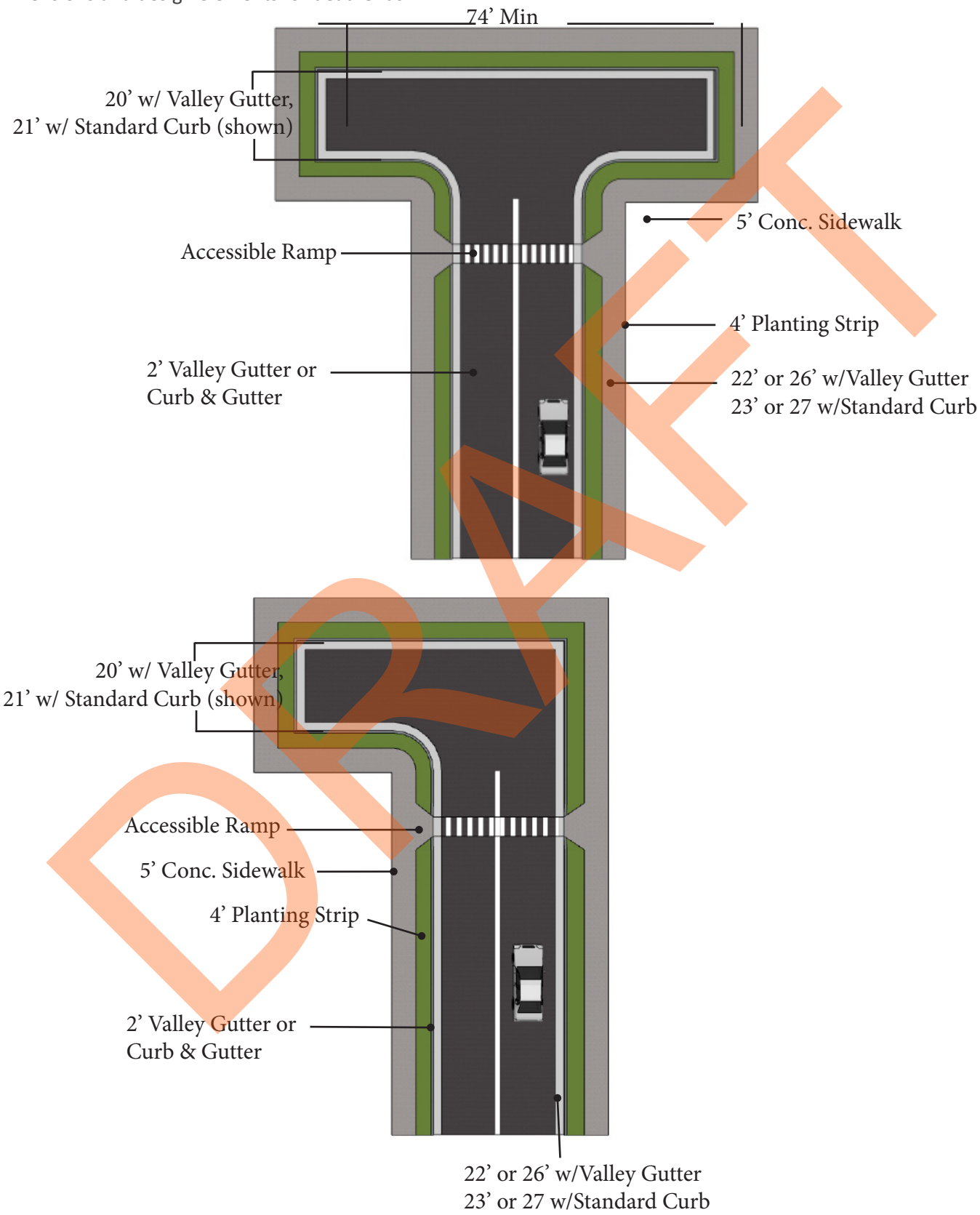


[cf. S2-N]

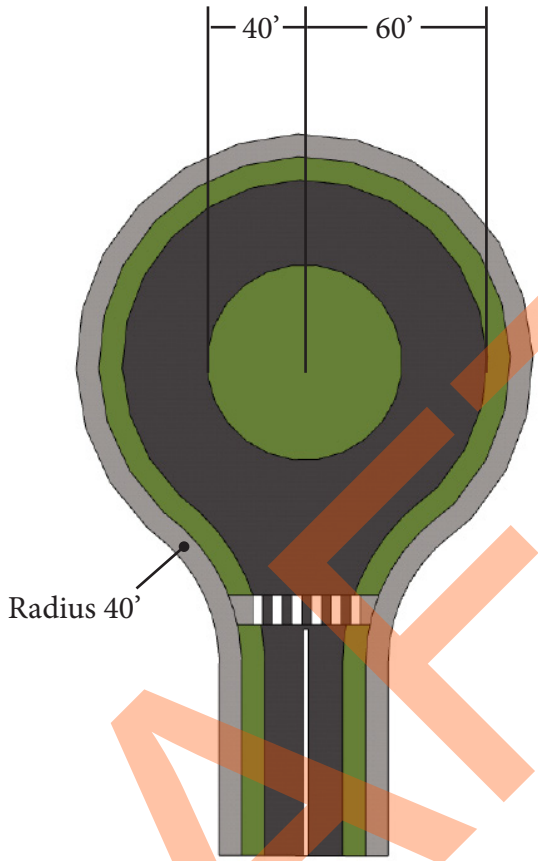


IX.5.c Dead End Illustrations

Dimensions and design elements for dead-ends



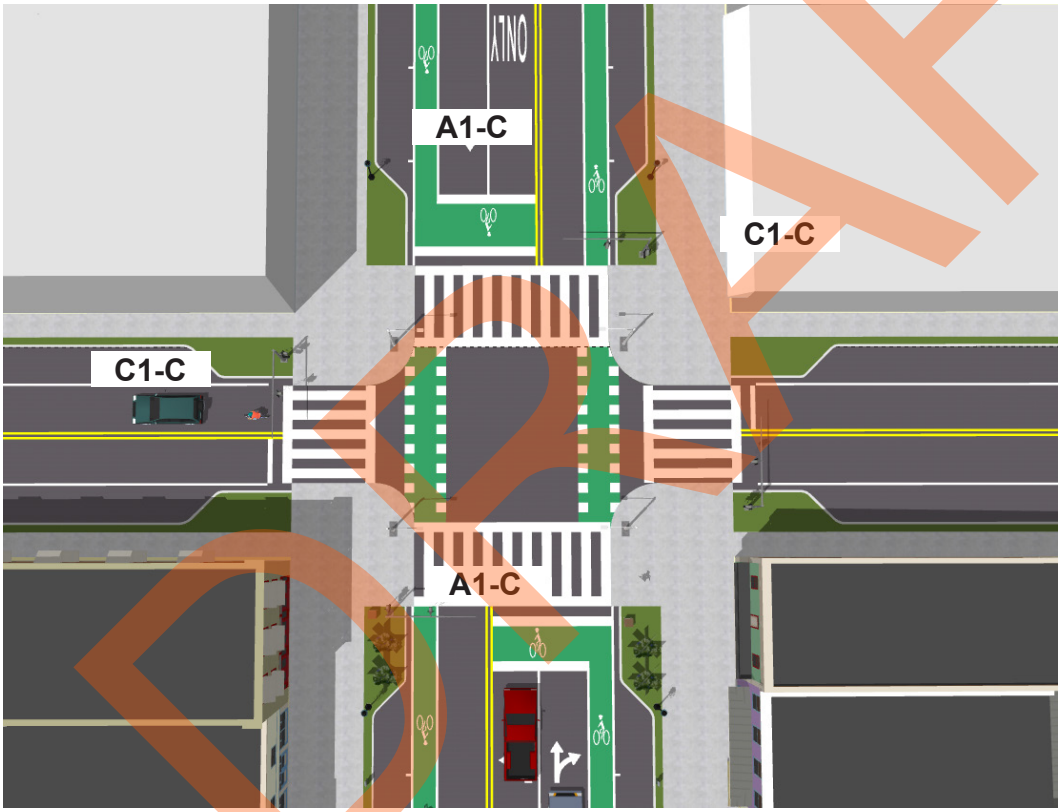
Keyhole Design is the preferred Cul-de-Sac if a cul-de-sac is warranted.



IX.5.d Sample intersection or Junction Illustration [More examples in Chapter XII]

A sample of 2 of the 28 junction types forming a single intersection is shown below. It demonstrates where a large-capacity Main Street (a low-speed arterial) intersects with a collector street at the center of a sizeable neighborhood consistent with X from the Network Diagram (Chapter VIII.3). Though this would be one of the rarest kind of intersections encountered in a subdivision, it is a good example of the complexity of features needed by a developer when creating a subdivision that would entail significant mixed use development. The Network Diagram shows where intersection types ideally work best and the Tables 4-1 and 4-2 provide better densities. Though recommended, this is not required for a Standard Subdivision. The templates provided in E.2 work better than many of the intersections otherwise designed and already accepted for Subdivision Review.

Junction Type: C1-C, A1-C



C1-C

Traffic Calming: Square, Bump
Control Device: Roundabout
Management: Parking Management
Parking: On-street Parking, at least one side
Multimodal: Sidewalk on two sides. Bus stops.
Misc: Right-of-Way by DOH

A1-C

Traffic Calming: Bump, Roundabout
Control Device: Traffic Light, Roundabout
Management: Village Center
Parking: On-street Parking, two sides
Multimodal: Sidewalk on two sides. Bus stops.
Misc: Right-of-Way by DOH

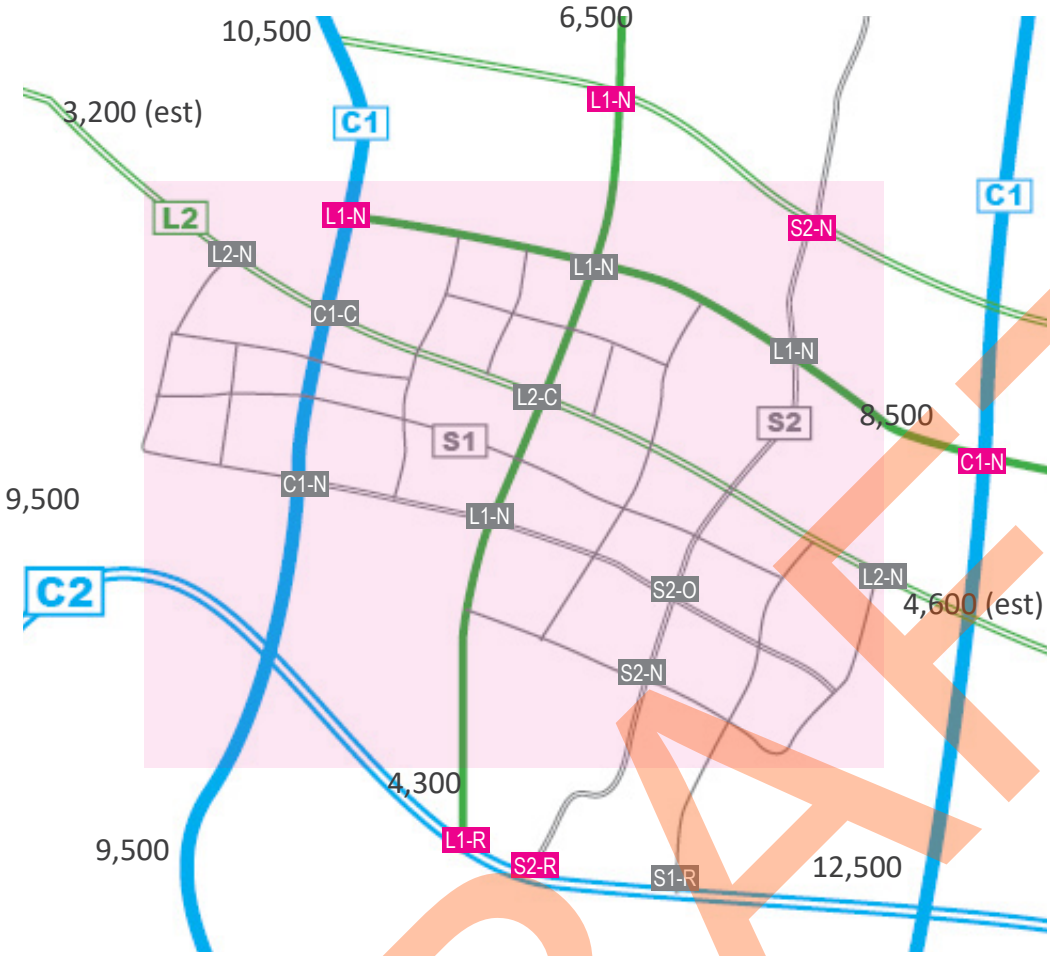
IX.5.e Road Design Scenario

Again, using the reddish area from the Network Diagram in VIII.4 and reprised in Section 4.a in IX-5a, the developer wishes to have six major connections and several minor, more than required. She wishes to maximize the amount of house lots possible, given topography (cf. Road Slope Scenarios in Chapter X) and avoid the large frontage constraints that DOH sets if she were NOT following Preferred Design. The C1, C2 and L1 streets as well as the redbox intersections already exist. She wants one large suburban Local L2 road and 2 smaller suburban local L1 roads, the balance being suburban Side streets connecting as shown. With the number of connections and intersections, she meets State Fire Marshal turnaround standards everywhere with her connected grid of streets, but she could have added a hammerhead to a potential future development to the west. She'd just have to ensure a 'T' of clear area for a fire truck to turnaround at that hammerhead.

She is interested in a small village center from the junction of the C1 along the L2 to the L1 road where she wants to have small restaurants and stores with some apartments above. On the segments in this area at this intersection, she wants sidewalks, street parking. She selects the intersection from the template C1-C and L2-C and the corresponding street segments. She anticipates either shared lanes (sharrows) handle bicycles in this stretch. She proposes side streets and MUPs to handle the other road, bike and pedestrian needs in her neighborhood. She uses the corresponding N templates for the streets near to where the roads enter the reddish area (to keep speeds down) as well as at the intersections along the west side C1 (which existed before her development) without significantly modifying the C1 interchange, except making it C1-C from C-1-O). She uses O (Ch. XII) templates for the other streets in the neighborhood. She does not develop along the C2 or the L2 that crosses the NE corner of her neighborhood. The cost per unit versus a disconnected network of the same size is nearly 50% reduced thanks to it using a connected network, not to mention the premium from offering more of a village feel.

In this example on the following page , the area in the reddish square [taken from the Network Diagram in VIII.3 and reprised in Section 4.a above is being used again], thanks to having 8 major connections, can handle up to 420 units easily with a network of small side streets, and 4 locals connecting to the existing larger streets (in blue). The designations can be looked up in the Network Table to tell the developer what the standards are for the streets and intersections. Illustrations for the street and intersection (junction) types are provided in the Chapter XII. Furthermore, the cost per unit difference will be provided to the developer at a pre-meeting assuming a conceptual layout, hopefully encouraging easier financing for the engineering and the project as a whole - AND certainly a more expedited and easier review by the County.

Component design: The road network must be clearly shown. For each road, the type/classification of each road, what and how modes other than vehicles will be addressed - similarly for all intersections (as shown). All trip generation from WITHIN the site AND expected throughput of trips from outside the site must be shown. If the applicant designates a template road and/or intersection (see VII) along with the trip generation numbers - that will suffice. Example shows how this might look.

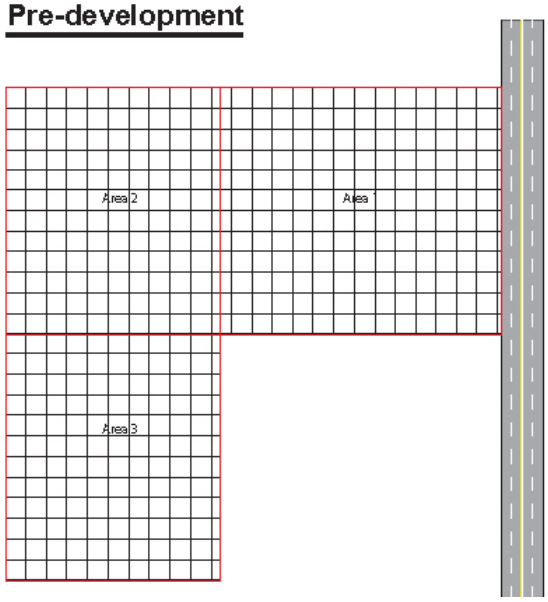


IX.5f Phased Development Example

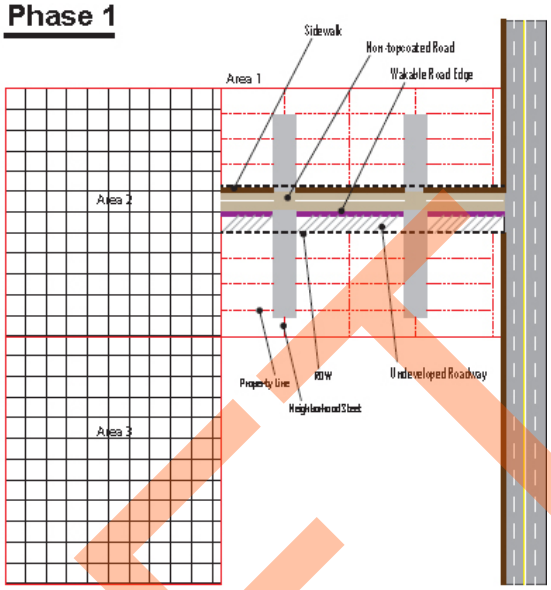
The Ordinance encourages large subdivisions to break a project down into phases. This enables flexibility allowing a development to adjust to market forces or circumstance, and avoids leaving anyone holding the bag for unnecessary development costs. Bonding can be more efficiently directed AND a NIF I with a stabilization bond can allow dirt from later phase areas to be used in earlier phases cost-effectively.

A development proposes a set of properly scaled and connected roads, BUT does not wish to build all of the capacity from the start. The developer proposes to build in 3 phases. Phase I guarantees the ROW, but only builds the main access road to the capacity of a local road MINUS the topcoat (to keep construction vehicles from destroying the top coat). A bond is posted for the remainder of the infrastructure. Phase II files to have a NIF I to allow its dirt to be used in Phase I. Phase II completes phase 1, widens the road to full width, BUT leaves the "new half" for construction vehicles, AND top coats 1st half, running un-topcoated roads in the Phase II section, with a NIF I taken from Phase III. Phase III is not going to be built afterall, and is re-seeded, possibly from the stabilization bond's money. So, the developer finishes the existing infrastructure except the last part of Phase II and the topcoat as it is still under construction. The developer can ask for a reduction of the bond to ensure that enough balance is there to guarantee that the Phase II is completed, but the remainder is remitted to the developer.

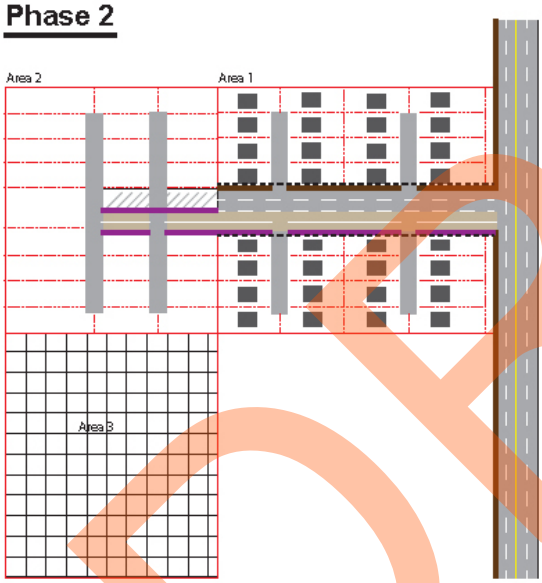
Pre-development



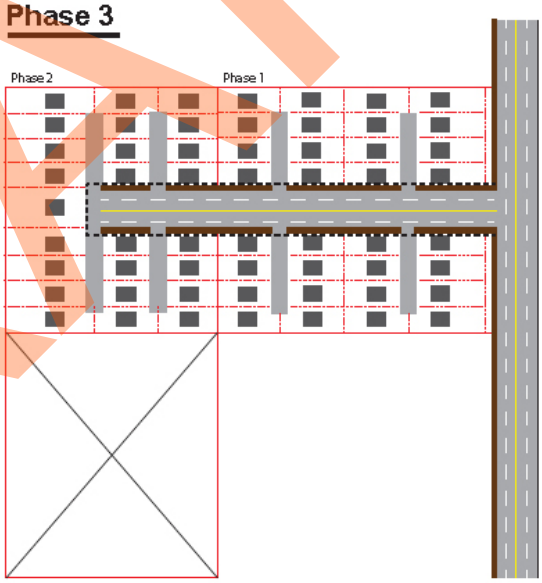
Phase 1



Phase 2



Phase 3



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CHAPTER X: Site and Site Management Guidelines

This chapter elaborates on design concepts in use for sites and parcels in The Ordinance and how best for development to address those concepts. These concepts and their approaches and strategies involved include: Setbacks and Steep Slope development, in particular with a view to reducing stormwater issues in the County.

CHAPTER X: Site and Site Management Guidelines

As discussed in Chapter VIII, Monongalia County topography heavily impacts all aspects of planning in the County and is, in fact, probably the major driving force behind the need for The Ordinance in the first place. The chapter will discuss, as far as The Ordinance is concerned, how to address slopes, steep slopes, stormwater and slope management, as well as how to layout a lot on a parcel. The major focus of this chapter is, however, the layout of buildings and infrastructure on a given lot itself. This chapter will address the reason behind setbacks and appropriate setbacks for buildings.

X.1 Filling out the Form

The following shows the Preferred Design form as it pertains to site and stormwater management. Here's how you do it. There are a couple of parts to the form. The first refers to design requirements for all subdivisions, which is all that 'Standard Compliance' must meet. The second refers to the credit a development can receive when respecting 'Preferred Design' criteria.

X.1.a Filling out the Form - Standard Compliance

Site Slope and Water Management	R-o-W is reserved	Utilities? 1				
		Broadband? 2				
	Identifies steep slopes per Art 10 and complies with Table 10-1 3					
	Adhere to all federal, state and local floodplain guidelines (within the 100-year flood plain).					

1) Choose one to comply with criteria. Review done on individual basis.

See the following examples how a development might address this criterion based on the following choices:

1 See examples in X.2.a

2 See scenarios in X.2.b

3 Self-explanatory, but applicant must submit report before receiving design credit

X.1.b Filling out the Form - Preferred Design

Category	Description		Yes	No	Not Sure
Site Slope and Water Management	The layout avoids steep slopes and floodplains[1]	Avoid all steep slopes/floodplain and leave all flora and matte not required to be removed 1			
		The applicant is achieving a minimal footprint, avoiding some steep slopes/clearcutting (at least 30%) - Q 2			
		Geotech Report, if provided, showing no impact on slopes over 10% 3			
		Others (please provide measures in a separate attachment):			
	Ways to meet additional utilities goals[2]	Integrates extra capacity into existing storm water facilities 4			
		Utilities are proposed underground or otherwise handled in a way that free up above ground R-o-W (i.e. no above-ground lines). 5			
		Upgrades existing facilities (provide sign-off by utility company) 6			
	Subdivision proposes **parking** arrangement that provides adequate parking without negative impact to stormwater management[3]	Demonstrates no new parking is needed or all is pervious (pervious concrete, grass/moss-crete, etc.) through parking study or similar			
		Portions are pervious (at least 20%) - Q			
		Upgrades existing surfaces (i.e., pervious increase of 20% or reduction of superfluous parking) - Q			
		On Street (i.e., use of existing) - Q			
		Off Street (i.e., shares existing) - Q			
		Other contribution to achieving county parking goals: Q			
	Other contribution to county slope and water management goals (please provide measures in a separate attachment):				

1) Choose one to comply with criteria. Review done on individual basis.
2) Need not meet all standards to comply. Review done on individual basis.

See the following examples how a development might address this criterion based on the following choices:

1. See examples in X.2.a
2. See scenarios in X.2.b
3. Self-explanatory, but applicant must submit report before receiving design credit
4. A developer adds or restores a wetland to process stormwater
5. See examples in X.3.b
6. Examples might include a developer providing a pump station scaled to handle the whole neighborhood or provide infrastructure such as a trunk line for a utility above and beyond what is necessary for the developer's subdivision.

X.2 Global Considerations, Transportation and Impact on Site Management

From Chapters VIII and IX, we know what considerations from off-development-site have an impact on a development, and we know what facilities must be addressed in a streetscape and other components that must be contained between one building face and another. Apart from State and MUB BMPs, which all developers must follow, there are some additional requirements AND incentives when developing sites themselves for Preferred Design.

This section addresses the design and layout WITHIN the development - i.e. layout of lots and the network of roads, intersections, sidewalks, etc. There are numerous other site designs such as buildings fronting on or near the street, avoiding slopes and disturbing natural conditions of a site, and efficient parking arrangements which can improve transportation and stormwater management. All these lead to better transportation and less stormwater impacts - one of the key objectives of The Ordinance and the focus of this chapter.

X.3 Avoiding and Managing Steep Slopes

Examples from the online video(s) show an overview of avoiding slopes. In this section, we will provide more reasoning, details, and examples.

At right. Franciscan friars look at the sea and city landscape from a terrace in Rio de Janeiro, Brazil, c. 1816

Below. More recent examples of office parks and other subdivisions built with the contours.

One of the best and simplest ways to lessen stormwater and other site layout issues is simply to avoid steep slopes, or if that is not possible, then to manage or treat the slope in a way to help it to behave as a less steep slope. Building away from or building with the contour of a slope is a centuries old technique to manage slopes in areas where steep slopes present building challenges all over the world. This section gives examples that are typical of local issues. One of the simplest methods is simply to build on the 'green' areas of the slope map for the County, avoiding any red or yellow areas on that map. If the development is able to fit the same number of houses it would reasonably be able to fit using the property as a whole onto this green area, meeting the rest of the design parameters from these guidelines, then the applicant will be allowed to do so (benefitting from a smaller footprint and less dirt-moving). Another example was provided in the minor subdivision how-to video.

X.3.a Slope Management Scenarios

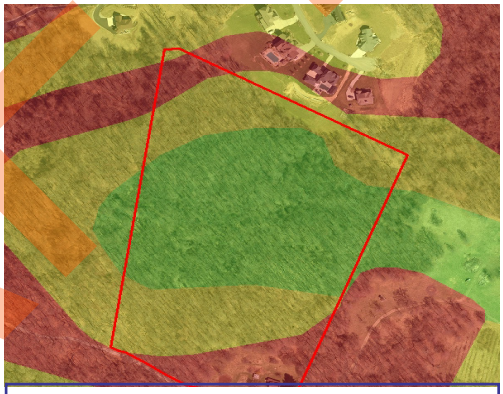
To illustrate and clarify how a development might address steep slopes in Mon County to its advantage with The Ordinance, a number of scenarios are provided as examples below:

Complex slope development sample

The developer who files the permit needs to contact and visit the Planning Office where they can then access GIS software/Digital Elevation Model (DEM - which determines slope)* with staff.

A particular 100 acre site has sections fall with the following slope range:

A. 0-10%	40% of the site or 40 ac
B. 11-25%	35% of the site or 35 ac
C. Greater than 25%	25% of the site or 25 ac



Sample Site:
Green is A, Yellow is B, Red is C

The subdivision is encouraged to be principally located within 'A' (shown in green on sample). The developer will require, however, 20 acres of the area B (yellow) to complete the project. 20 acres of B is less than 15% slope requiring that 25% of that area be set aside or roughly 4 acres, but that leaves 4 acres still for the development. The rest of B is 10 acres of 15-20% slope and 5 acres 20-25%. The developer proposes that he can use the less than 20% area, but would then need to leave 4 acres in a natural condition, leaving 2 acres to spare and not requiring any really steep sections. Staff suggests instead that the developer use the less than 15% slope area in full and associate the reserve area with the balance of the site for a couple of reasons. First, the County would prefer to avoid the steeper slopes rather than carving up the bits (less overall disturbance), and second, that avoiding the steeper slopes would avoid having steep access roads, which would in turn require more disturbance. The preliminary approval is given with the caveat that there will need to be monitoring through site inspections AND a geotechnical report by a licensed engineer before completion/final approval of the development assessing all aspects of slope, disturbance and runoff.

If in any portion of the site being developed, the slope is found to be greater than 25% a Geotechnical study will need to be included in the application.

*By utilizing the GIS software and the datasets from the USGS soil files and the DEM that was created from the 2ft contour data we were able to perform a slope analysis from these particular datasets showing the slope range which follow the above percentages

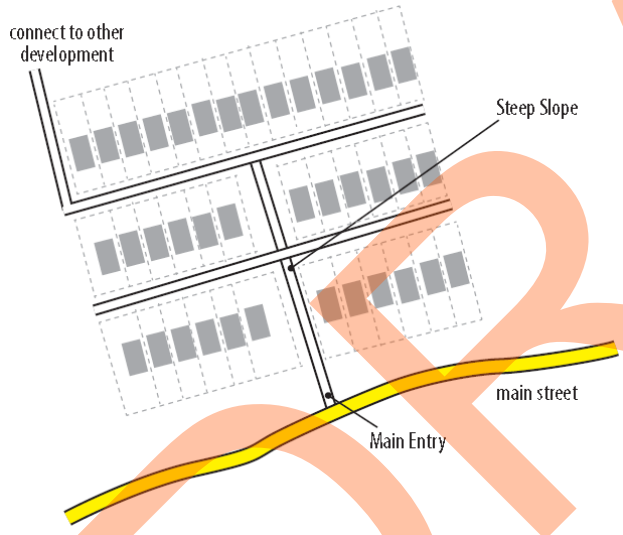
X.3.b Road Slope Scenarios (Cf. D. Transportation Guidelines - Road Design Section)

A cursory look at development in the county suggests that road slopes are one of the largest challenges. So, a couple examples are provided addressing road slopes specifically.

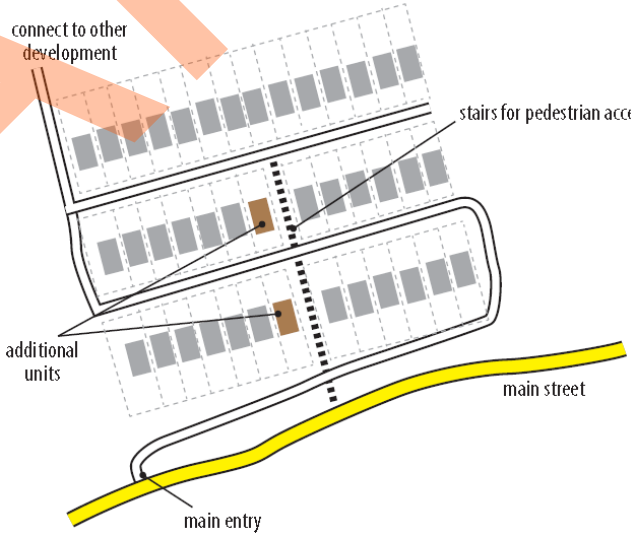
Switchback

A small development proposes to develop down a descending slope with rows of houses parallel to the main road terraced down the hill. The original design proposes an entry road down the center, perpendicular to the main road with dead end access streets parallel to the main road. All works relatively well, except that the entry road is too steep. The preferred solution simply moves the entry closer to the edge of the development (rather than the center) and transforms the access street into a gentle switchback arrangement that leaves the houses more or less where they were originally planned, but takes advantage of the longer run to meet the acceptable slope. The original entry road center line is shrunk and becomes a staircase that allows pedestrians to bisect the switchback access.

Before



After

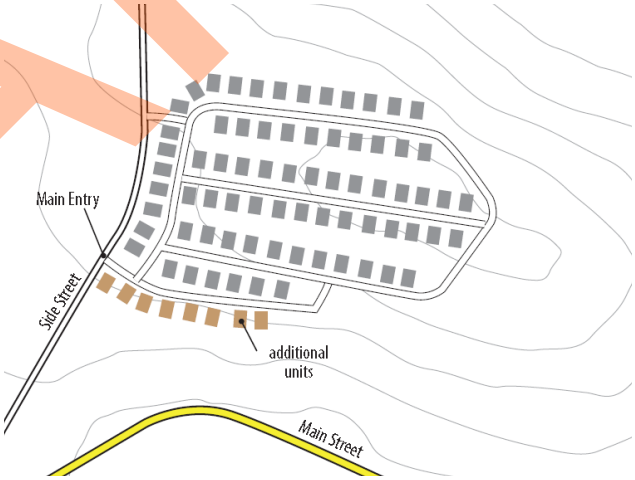


Different access road

A medium sized development is slated for a lovely hilltop with a climbing access road lined by rows of houses. The hilltop development proposed is satisfactory, but the access road proposed is exceptionally steep and dangerous. A preferred solution is to move the access road to a different side street. The additional row of houses now run laterally at a similar elevation (rather than stair-stepped along the former access road) actually allowing additional houses to fit on the property. Less overall road length and the side street allows safe ingress and egress. With the space savings the original access point can be planted with trees to allow some privacy for the development without blocking the view for the residents.

Before

After



X.4 Stormwater Improvements through Site Management

In the preceding section, the Guidelines focused on overall site slope issues. However, additionally, there are some additional considerations offered by Preferred Design. This section will show some other ways to improve stormwater management.

X.4.a Forest Management, Natural State and Disturbed Area

Forest is incredibly valuable to Mon County. Preserving forest wherever possible improves air, water and runoff issues that the county can face, as well as preserving the inherent quality of Mon County as a 'Green' place. Thus, wherever possible, the Guidelines and Preferred Design gives advantages to those developments that preserves forests 'as is'.

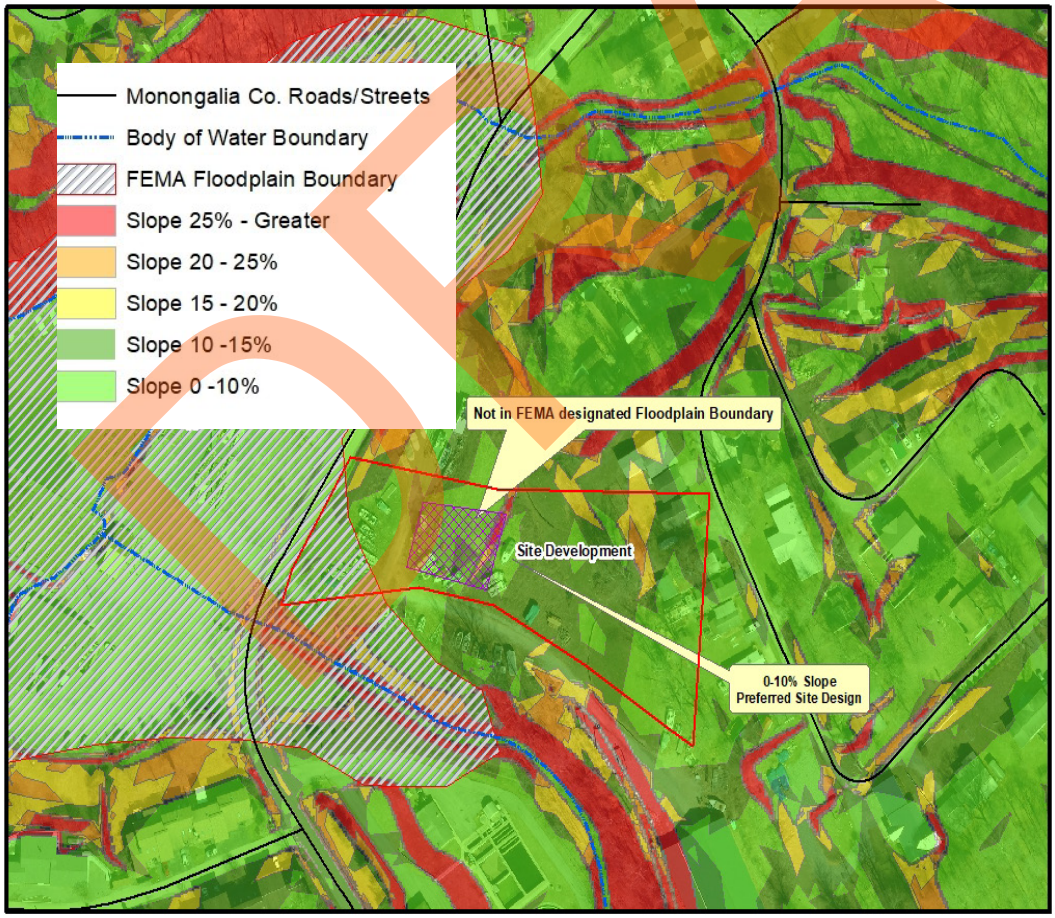
Minimizing disturbed area is one of the easiest and most cost-effective criteria to meet for Preferred Design. Nature does the best job of managing stormwater - it developed a whole system over time to deal with a particular portion of land. Thus, the best way to manage is to LEAVE THE LAND UNDISTURBED! i.e. in its Natural State, where one is not developing. OR, if the site WAS disturbed trying to allow it to go back to the way it was, is the best way to address site management issues if possible. This includes forest mat or 'detritus' - the debris of leaves and needles acts like a natural sponge - it may look untidy, but it is a natural way to absorb and process stormwater.

X.4.b Subsequent Site Management

The easiest way to manage stormwater issues and to develop a site is simply to pick the best area, and only build there. If developers 'could' build a certain number of units on the site as a whole, but would impact a steep slope and/or floodplain, then with Preferred Design, they would be allowed to build the same number of units in a smaller footprint on the area not in the floodplain or on steep slopes, other parameters permitting.

Furthermore, the Guidelines encourage disturbing as little area of development for as long as possible. Apart from the examples already mentioned, with Preferred Design, it is always possible to defer a given disturbance until it is necessary, as long as the requirement is guaranteed when it becomes necessary through bonding and surety (*which see*) and the like.

Example: A road is slated to be busy at some point in the future, such that sidewalks on both sides of the street WILL eventually be necessary. The developer may opt in an earlier timeframe to reserve the ROW and provide the one sidewalk, leaving the other sidewalk 'contruction-ready', in order to easily add the second sidewalk when traffic and tenants have attained a certain threshold level where the second sidewalk is useful. In our example, most of the commercial development is on one side of a street. The facing side consists mostly of residential and multifamily development. The facing side is slow to occupy AND residents already have easy access to cross the street at the street corner with their internal walkways that serve their site. The street sidewalk on that side should be graded (see Grading Limits) to add the sidewalk later (being a part of the lawn in the interim), but the sidewalk itself can be added when the dwelling units are over 50% occupied. The surety (which see - e.g. bond) must be in place to add the construction of the sidewalk to gain this deferral.



One might ask 'why,' if there are internal sidewalks would the development want to add a street sidewalk later. Several reasons come to mind. The street sidewalk is for 'everyone', and the development would prefer to reserve the internal sidewalks for residents and their guests. The street sidewalk is more direct for those who do not live in the development. Furthermore the facing commercial interests would like for clients and customers to have easy access to street parking and moving around, especially when the street becomes busier. However, in the beginning, it might be 'overkill' to provide a lot of multimodal infrastructure, when most of the future development has not occurred yet. However, it would be foolish to ignore the planned future growth and not put in the critical part of the infrastructure when it is cost-effective to do so.

Furthermore IF, for instance, an applicant were to present a design that IMPROVES runoff versus what is otherwise allowed, the design can go further to:
1) reduce hardscape or softscape in favor of the natural setting (as shown earlier - hard and softscape is discussed more in detail in the next chapter).
2) work under a NIF I to use dirt from elsewhere on the site or from another phase, begin laying infrastructure and utilities BEFORE the final receipt of permits or approvals that only pertain to OTHER areas of the site(e.g. DOH permits for road areas not affected by the infrastructure development). This minimizes the impact/disturbance over the area. When someone ships in or takes away dirt, they are disturbing ANOTHER site and impacting traffic while doing so.

Other possible Examples: Using the 'eye' of the keyhold design as a leachfield, building subdivisions but make them 'in the woods', rather than clearcutting, Using Arendt's Conservation design when building, building smaller front yards in favor of leaving rear yards in a natural state, and so forth.

At Right: Example of an Arendt Conservation Design

Facing Page Example showing best and easiest area to build is shown

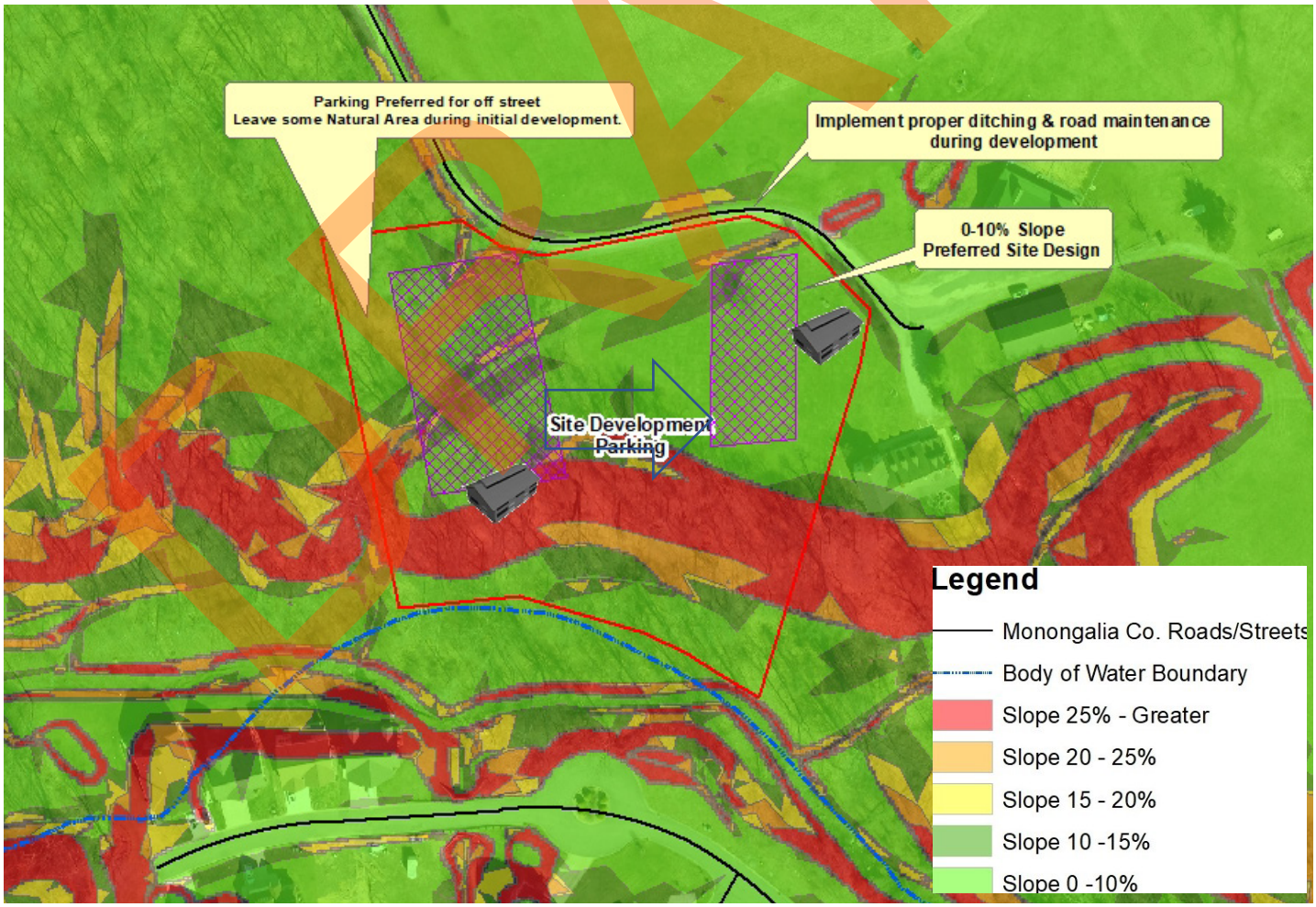
X.4.c Parking and Parking Lot Considerations

Parking lots involve the largest portion of impervious surface for developed land in the County. Consequently, another great way to manage stormwater on a site is often to manage the parking lot. Avoiding unnecessary parking and taking better advantage of existing parking is a great way to save money and manage stormwater at the same time. On street parking, sharing parking or simply NOT adding unnecessary parking (after all, on average less than 30% of off-street parking is actually used at any given time in Mon County) is simply an easy way to be responsible with site management.

Mon County does not wish to force unnecessary parking on anyone (for the reasons stated in Chapter XI), nor do they wish to force travelers to park in lawns regularly. Consequently, similar to the last examples, the Guidelines allow deferral of the provision of parking until it is known that the parking is necessary, as long as the applicant has the ability to meet parking needs. Surety is again a hedge to ensure that the needed parking will be available. Any combination of parking methods from Chapter XI as provisory measures are acceptable (e.g. shared parking, street parking, future designated parking, etc.).

Here we simply want to stress that selecting the right area to build a parking lot and building only what is necessary saves money and headache for developers and residents alike. See example below, where we show how better siting can avoid expensive to develop areas.

This is addressed in more detail in the next Chapter.



X.5 Setbacks

Setbacks guarantee room for infrastructure. They can also be intended to provide a consistent guideline for development creating what Da Vinci called a "street wall' or appealing line of facades - but the County is not regulating that. An HOA may, however. Once infrastructure is properly placed without impinging on a sensible lot layout or your neighbors' lots.

X.5.a Setback Origins

The origin of the starting point ROW and Setback come from the following: DOH asked for 50' of ROW for most roads, but they intend to run all the needed infrastructure within that ROW. This facilitates coordination of infrastructural work between gas, phone, electric, water, sewer AND roadway repair or expansion. A developer may choose to run some infrastructure in the setback. DOH asks for an additional 10' within the setback as a buffer. The electric company, for above ground electricity infrastructure wants an additional 15' for guy wires that support their poles. Hence, that forms the basis for the standard 25' of setback as a starting point. Also, the 25' allows for a car or pickup truck to park in a driveway without blocking a sidewalk.

However, IF a developer manages a design thoughtfully, there is absolutely NO reason that a combination of ROW, minimum grading limit and setback cannot be contrived to arrange 75' building face to building face streetscape using the Regulations (the layout most commonly encountered in Mon County).

Minimum Grading Limits define the width of ground that should be flat to allow for the travelway and any committed additional infrastructure (e.g. sidewalk, gas line, buried electric lines, etc.). However, nothing precludes infrastructure being placed in the setback (notably electric pole guy wires).

If ALL infrastructure needed for a given 'way' is provided within the grading limits PLUS an additional 10' buffer on each side (for future needs and legislated buffer conditions {e.g. for a gas line}, THEN that is all that is required for a ROW and setback.

This flexibility allows for the range of development from standard suburban to urban residential to mixed use - all the different needs for future development in the County. IF the County did not allow this flexibility, then everything would look like sprawl and be terribly expensive for developers AND unfriendly to residents (e.g. no ability to walk your dog safely).

HOWEVER, it should be noted that the DOH standard is a MINIMUM of 75 feet (See V-6 Road Standards). This is waived if you are following a local standard as we are in the case of The Ordinance.

X.5.b Setback Scenarios

A typical street in a subdivision has a travelway (i.e. the pavement/curb-to-curb - refer to the schematic below) that must fit in a Right-of-Way (ROW), which is often assigned (if not privately held) to DOH as the County cannot own roads. DOH prefers to have all the infrastructure (for many reasons) run within the ROW. That 'footprint' is usually less than the ROW as there is often a little room left for future expansion and changes. This footprint is referred to as the grading limits - the amount of land disturbance associated with the roadway. From the edge of the ROW to the building face (bldg face) is the 'setback'. This bldg face to bldg face defines the streetscape area (see D.4e).

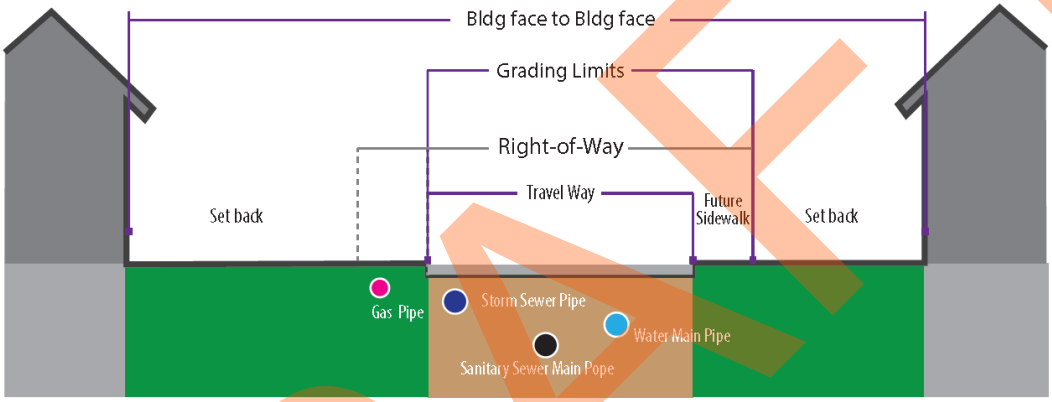
An inexpensive road in a rural subdivision

In our first example (again refer to the schematic above), the developer feels that as this is a rural subdivision not connected to any other place, there is no need currently for a sidewalk as traffic is low and slow. She can easily get all of the infrastructure within the ROW with the exception of the above-ground electric and phone. She needs 15 feet from the pole for the supporting guy wires. She allows for a future sidewalk just in case it is needed in the future, which she places in the ROW. A gas line may be run underground within the ROW in the future, so the grading limit is as shown. As

a result, she asks for no reduction of ROW or setback and the streetscape is approved as proposed.

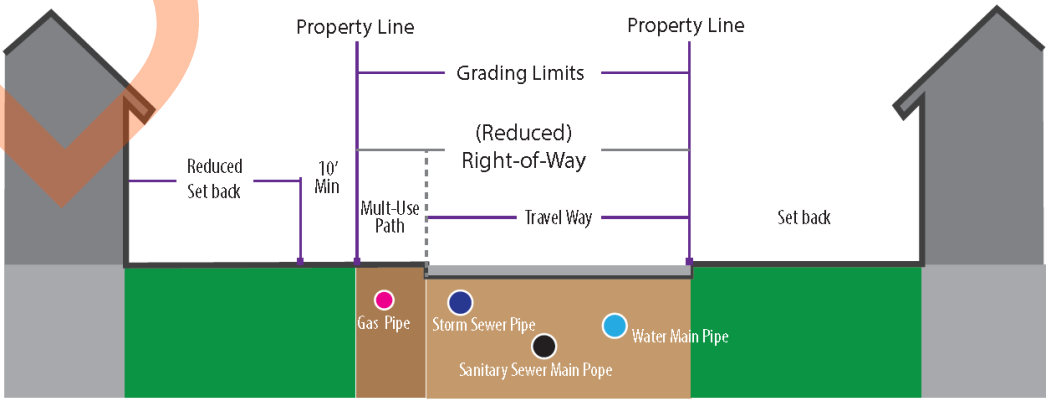
An average road in a suburban subdivision

In our next example, a developer wants to build a more traditional suburban development. He does not feel the development will be urban enough for a sidewalk and proposes an asphalt shared-use/multi-use path (MUP) to serve the community (he could also run this path behind the houses instead, see D.4.c last example). The MUP serves for both bike and pedestrian purposes as there will not be a lot of such traffic. He feels that he does not want to waste the land accommodating above-ground electric/phone, and proposed burying it. He can get all the infrastructure then, within the ROW. As he also wants to put a gas line in under the MUP, but it will be at the edge of the ROW, he needs to guarantee that there is a 10' buffer between it and the houses. Having accommodated all the infrastructure within the grading limits, he can reduce the ROW to the grading limits AND he can reduce the setback up to that 10' buffer on each side of the ROW and be approved.

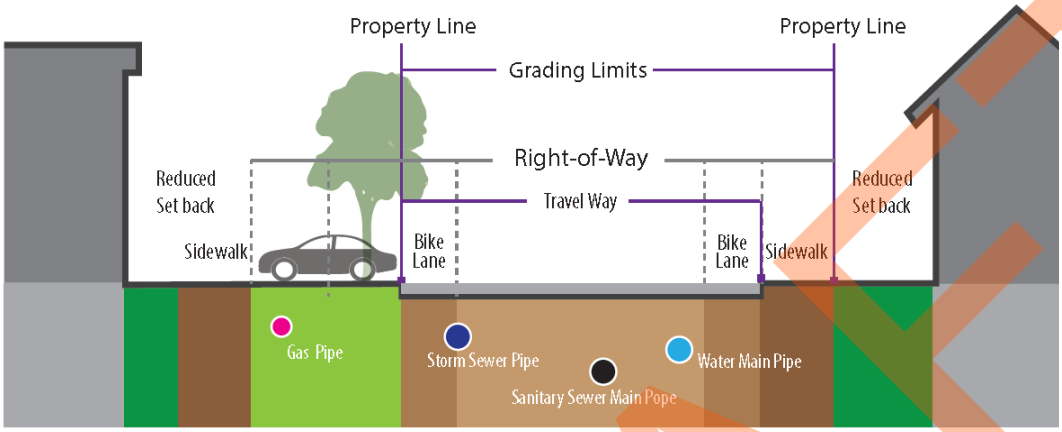


A narrow urban area street

A developer wants a more urban or village development with some mixed-use. She adds bikelanes and a traditional sidewalk on the more residential side of the street. On the mixed-use side, she wants a more mainstreet feel. She feels that she could eventually grow the development and wants to ensure she can expand the roadway. She reserves the future ROW by installing parking and separation zone plantings (see Complete Streets D.2). To cover the buffer zone for the

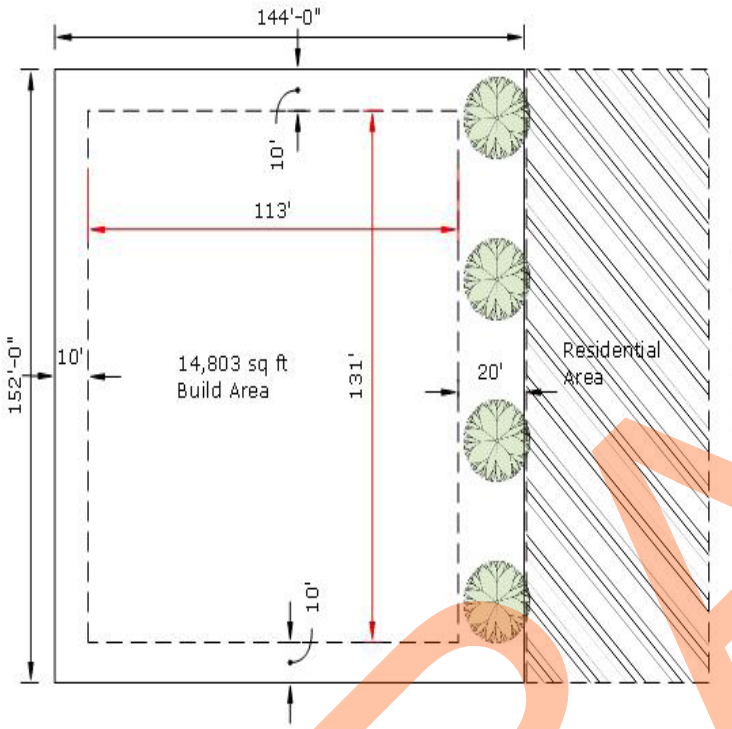


gas line, she places a large, more urban sidewalk in the setback on the mixed-use side of the street with all other infrastructure within the ROW, including buried electric and phone lines. She has residential parking and additional parking off-street behind the buildings. She can reduce the setbacks to 10’ and be approved.



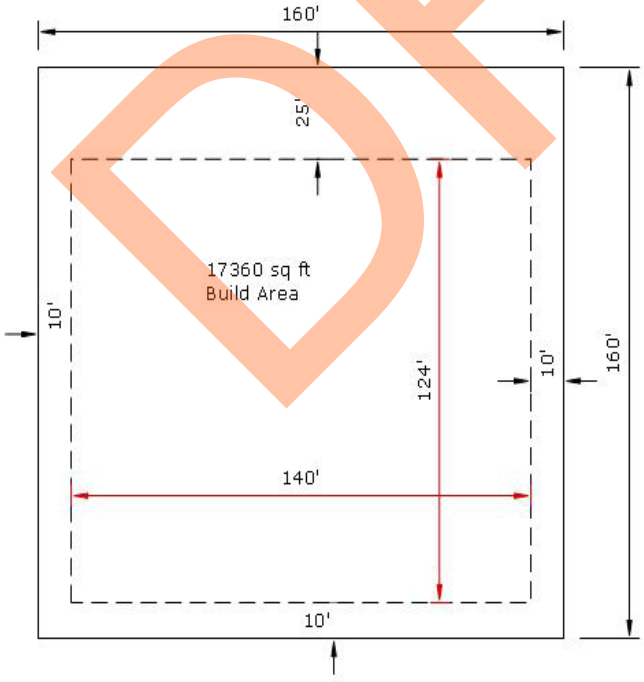
X.5.c Setback Illustrations

As just discussed, setbacks are intended to give needed room for infrastructure and to ensure that built structures are not in the way of each other, unless intended to do so. Sample illustrations are provided here to demonstrate the most constrained situation: viz. the minimum allowable lot size and the structure setbacks for many of the most common structures and subdivision types.



Commercial

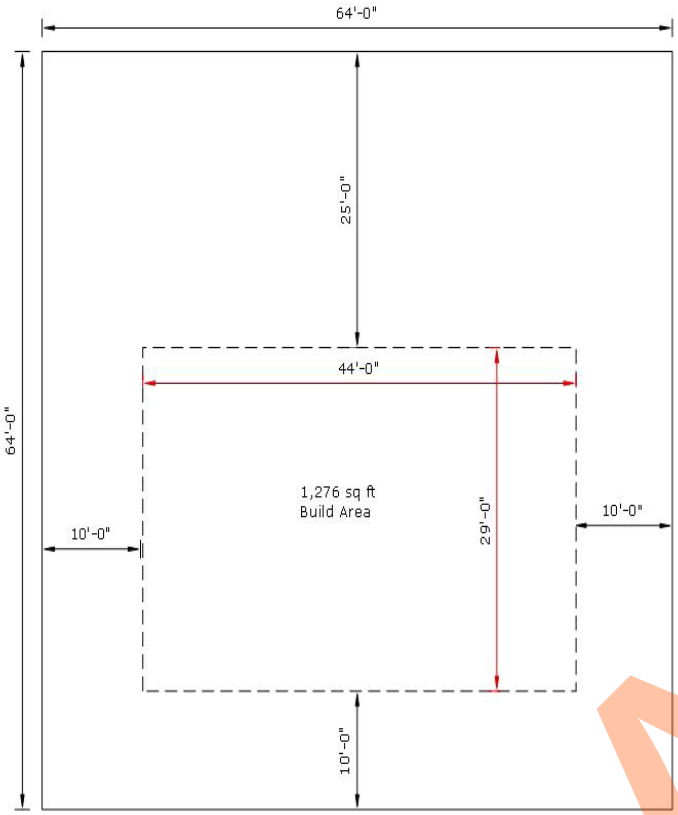
Lot needs to be appropriate for use (21,888 sq ft shown with 20 ft setback due to buffering)
All setbacks: 10 ft,
unless adj to residential, then 30 ft or 20 ft w/ buffering
Parking setback: 10 ft,
unless 10+ spaces and adjacent to residential, then 20 ft



Multi-Family

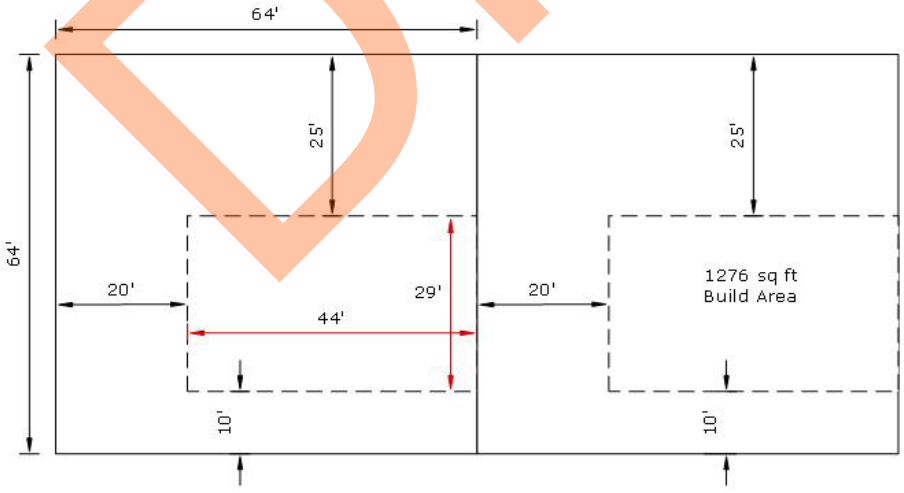
Lot Size: 25,000 sq ft minimum (25,600 sq ft shown)
Front Yard Setback: 25 ft
All Other Setbacks: 10 ft

Please Note: The build area must include the parking and buildings. A quadplex development on a single lot also follows these requirements. Quadplexes with each unit on a separate lot follows Low Density.



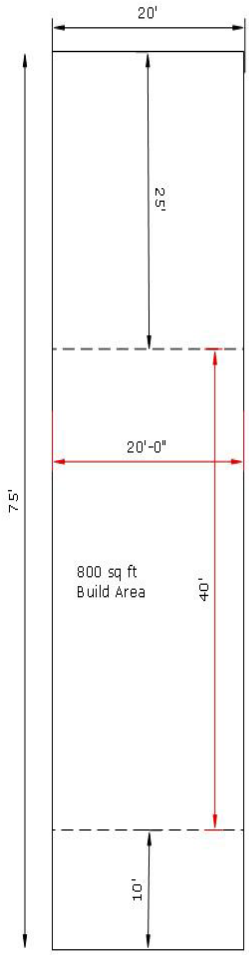
Patio Home B (at left)

Lot Size: 4,000 sq ft minimum
(4,096 sq ft shown)
Front Yard Setback: 25 ft
All Other Setbacks: 10 ft



Patio Home A (below)

Lot Size: 4,000 sq ft minimum
(4,096 sq ft shown)
Front Yard Setback: 25 ft
Rear Yard Setback: 10 ft
Side Yard Setback: 20 ft



Town Home 16' Width (at left)

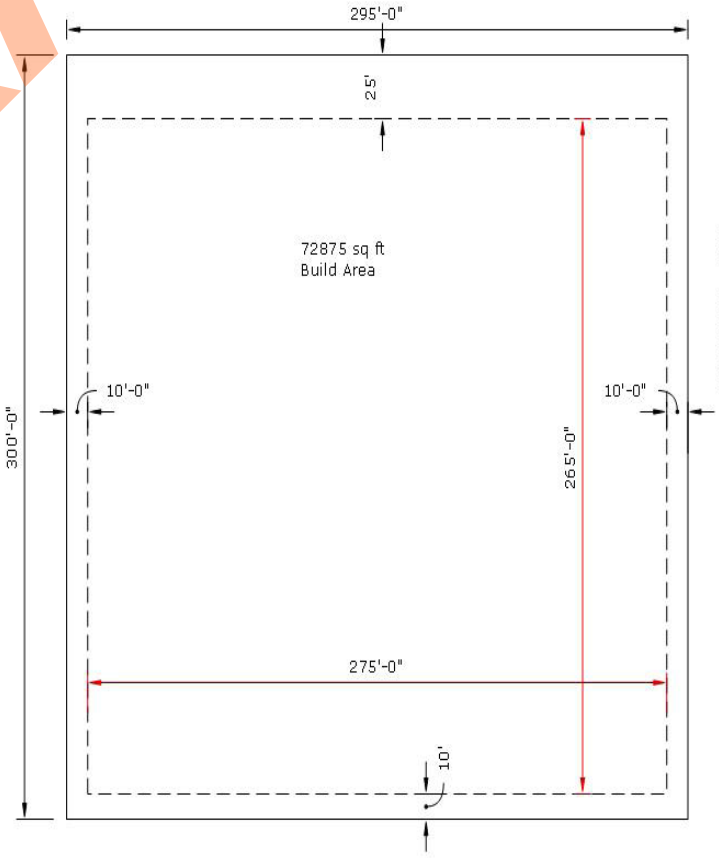
Lot Size: 1,000 sq ft minimum (1,500 sq ft shown)
Front Yard Setback: 25 ft
Rear Yard Setback: 10 ft

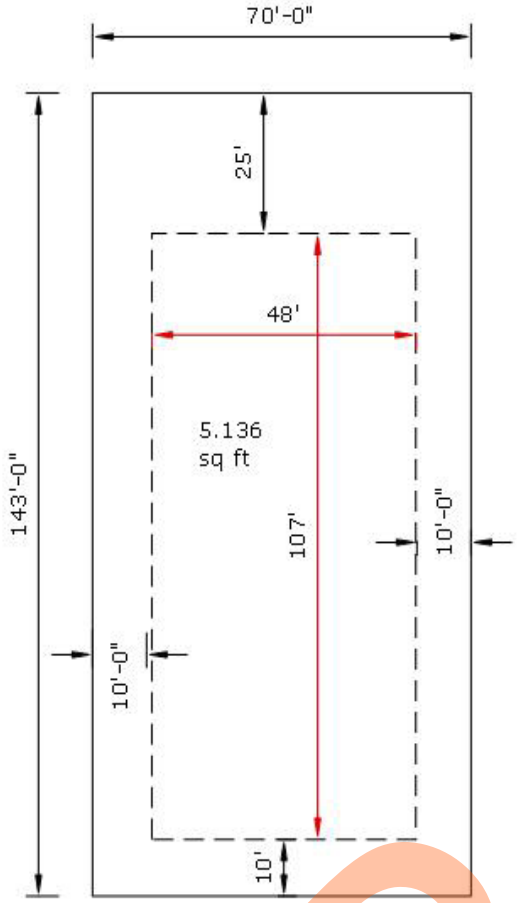
Estate Residential(at right)

Minimum Lot Size: 2 acre (87,120 sq ft) (88,500 sq ft shown)
Maximum Lot Size 9 acre
Front Yard Setback: 25 ft
All Other Setbacks: 10 ft

Agricultural Residential (Not Shown)

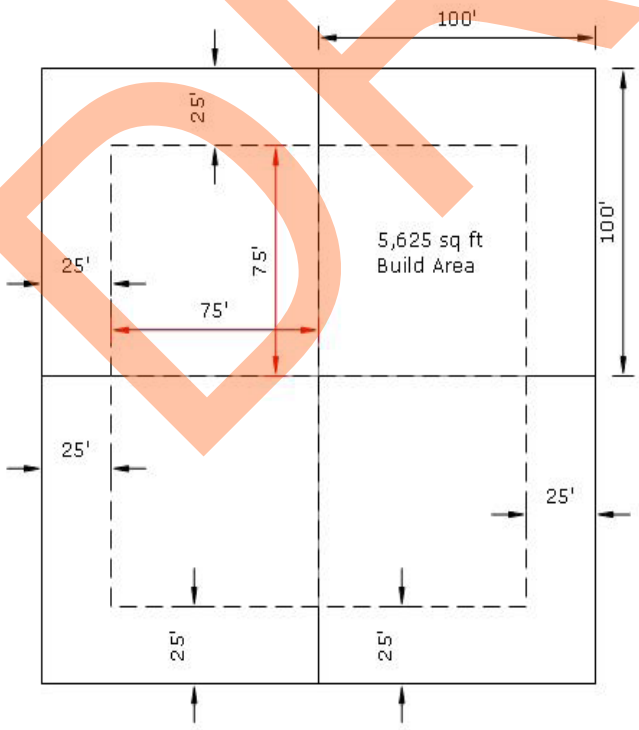
Minimum Lot Size: 10 acre
Front Yard Setback: 25 ft
All Other Setbacks: 10 ft





Low Density (at left)

Minimum Lot Size: 10,000 sq ft sewer (10,010 sq ft shown)
20,000 sq ft septic
Maximum Lot Size: 2 acre (87,120 sq ft)
Front Yard Setback: 25 ft
All Other Setbacks: 10 ft



Quadplex on Separate Lots (at left)

Lot Size: 10,000 sq ft minimum (10,000 sq ft shown)
Front Yard Setback: 25 ft

Please Note: Must be on Sewer. A quadplex development on a single lot follows Multi-Family.

CHAPTER XI: Parking Guidelines

This chapter elaborates on design concepts in use in The Ordinance related to parking. Parking impacts both transportation and site/stormwater management, which is why it is placed into its own chapter. However, for Preferred Design qualifications, it is principally considered in the site/stormwater management credits. These concepts as well as the approaches and strategies involve most aspects of parking, parking lot design, and impervious surfaces.

CHAPTER XI: Parking and Impervious Surface Guidelines

XI.1 Filling out the Form

Subdivision proposes on-street **parking** provided or is applicant demonstrated neighborhood already has adequate parking[3]	All is pervious 1			
	Portions are pervious (pervious concrete, grass/moss-crete, etc.) - Q 2			
	Upgrades existing surfaces - Q 3			
	On Street - Q 4			
	Off Street - Q 5			
	Other contribution to achieving county parking goals: 6 Q			

See the following examples how a development might address this criterion based on the following choices:

1 Use 3.b pervious surface for the entire parking lot.

2 See the Parking Scenarios in XI.8 and/or use the Templates in Chapter XII

3 A former industrial building and parking lot that is currently a impervious surface

4 gets redeveloped and transforms its parking lot into a landscaped lot like XI.4 or XI.9

5 Using a mix of on-street parking, multimodal access and shared parking arrangements where available.

6 Examples may include if executed properly:
Parking shuttle to off-site area that can take full advantage of greening the parking area, perhaps as a park and ride, or
building a parking structure to serve for shared neighborhood parking, or
valet parking, etc.

XI.2 Nature of Parking and Parking Types

Parking is always a large concern for residents. Too few available spots and not only do citizens complain, but many end up driving around just to search for spaces and create problems for other drivers. However, the major focus of this chapter is the other extreme. Too many spots and it encourages more driving than necessary to the exclusion of other modes of travel (e.g. walking) and quality places where people want to go AND too much time getting to places as everything gets spread out more as we accommodate more and more parking. Traditional parking norms require a building and a half of parking for every building that is built . Also see transportation management, Ch. V.

Consequently, efficient use of land is paramount. Care is needed when determining the type of parking needed. Often street parking is sufficient and should be considered first. It has the added benefit of shielding pedestrians from car traffic. Off street parking is also an important offering, but these tend to be overbuilt (see opposite). In off-street parking, there are surface lots, structured parking (i.e. parking garages and underground parking). The latter is often an order of magnitude more expensive than surface lots, which, though they are more land efficient, tend to have developers shy away from their use. One advantage of local topography is that structured parking can be built taking advantage of existing slopes and needed terracing for other reasons (e.g. runoff, need for retaining walls anyway, etc.)

The more pressing interest for Mon County in regard to parking lots, however, is stormwater management, as the County has experienced a number of expensive washouts in recent years directly attributable to poor development quality. Parking lots are the chief component causing most of these washouts. So this chapter seeks to show how to properly design development to address parking needs in a cost-effective, yet safe manner.

XI.2.a Street Parking Zone

As will be described more in detail in the next chapter - Street parking is the lifeblood of active centers and destination clusters, allowing quick access to a favorite store or a quick bite. Street parking also enables traffic calming for cars and buffers pedestrian from car traffic. As Transit evolves in the County, it may convert a street parking lane into a transit lane as the need for more transit develops.

When it comes to street parking there are typically two types (though there are variations): parallel and angled. Parallel is the most typical. Angled is also frequently encountered - with head-out angled becoming increasingly common as it is much safer for traffic and particularly bike traffic since it allows drivers to see better before pulling into traffic. On rare occasions, parking can be perpendicular, but conflicts with street traffic can be problematic.

Parallel on-street parking

Head-out angled on-street parking

XI.3 Surface Lots, Parking and Imperviousness

One of the biggest challenges for a flood prone area like Mon County is the impact of poor stormwater management practices. One of the biggest culprits in this challenge is impervious surfaces, that is surfaces that do not allow rainwater to be absorbed by the soil where the rain falls. Runoff from such surfaces washes out things downhill, even if the runoff is channelled. Increasing numbers of extreme rain events are surpassing the ability of the infrastructure to manage even properly engineered runoff infrastructure. Even if it were possible to provide built infrastructure that could manage this runoff, the cost would be prohibitive.

Monongalia County is thus attempting to better manage stormwater runoff from impervious surfaces in developments. Oversized parking lots constitute one of the chief contributors to this runoff. An aerial analysis shows that over 50% of nearly all parking lots in the County are unused nearly all of the time. Blacktop tends to heat up and heat up water on it, plus leaked oils and such often pollute the water on it. Thus, water falling on a parking lot gets hot, voluminous, polluted and fast-moving. Stormwater systems channel these large surface areas of water into relatively small pipes accelerating and increasing the power of the flow of water, spelling trouble for the downhill outlet of a pipe.

Mon County hopes then to avoid too much of that channeled, hot, fast-moving water, while being sensitive to frequency of use of a parking lot and convenience of hardscape (see Pervious Surfaces below and at XI.4.b). Whereas absorbing the water on-site avoids all of that.

As a result, impervious surfaces MUST be minimized and sites need to be developed handling as much of the rainfall on-site as possible. Consequently, The Ordinance is promoting greener, more on-site absorbing designs for development - in particular for parking lots. Though runoff is the principal reason for the County's concern about surface and parking lots, overbuilding parking ALSO generates unnecessary traffic congestion and as such the reader is encouraged to review the Transportation Guidelines in the next chapter.

At right is an example of an oversized parking lot, built by default in Mon County. It costs the development and the County a lot in treatment costs, and for what? No one is using the majority of the site. In fact, the owner hopes to re-use a portion of the unused lot for another building. In short, The Ordinance allows the County to have the dialog BEFORE the expense of too much parking is incurred.

Thus, the regulations are intended to provide efficient use of the applicants time, integrating good decisions about how to build the parking lot, with incentives to do so AND to encourage dialog with staff to come up with an adapted solution to the applicants' needs.

Angled on-street parking

This picture shows an oversized parking lot in Monongalia County.

XI.4 Parking Lot and Impervious Surface - Overarching Design

The parking lot standards attempt to minimize and manage runoff, while making it easier and more flexible for the applicant to get the proper design and size of the lot as needed, helping the applicant adjust to changes. As such, the parking lot standards attempt to:

1) Avoid too many parking spaces (avoiding unreasonable loads).
2) Avoid too much impervious surface.
3) Enable site absorption to accommodate the reasonable load.
4) Utilize onsite-water management.
5) Incentivize paving only as necessary.

1) To avoid too many spaces, they require less parking. Developments have to provide a much lower number of spaces. They can provide MORE spaces, but they have to demonstrate the need. Furthermore, they can easily provide fewer spaces if they can show any number of things:

- They have access to other parking
- They have area where they can add parking later if they need it
- They have access to transit and/or they provide alternative means to reach the site (e.g. bike parking, shared car parking, pedestrian access, etc.)
- They can show with a study how many spaces they actually need, and as well as other ways to reduce parking.

2) Since The Ordinance does NOT regulate LAND USE, there are differences in the number of spaces needed for specific uses (frequent turnover vs. longterm vs. cart access, etc.). For instance, a grocery store needs a lot more spaces per square foot than an office building AND a greater percentage of them to be hardscaped. Since we are not controlling the requirements per land use, we must provide flexible Regulations that facilitate good development no matter the land use. We want site to best satisfy area needs with its designs, INCLUDING that of the applicant.

3) To avoid impervious surfaces, the designs are more 'green'. Developments have to consider where water runs in their landscaping design. They are encouraged to use the State's and the local utility organization's Best Management Practices. Among these, there are many recommendations for on-site treatment ranging from engineered treatments (e.g. retention pond) to raingardens, grasscrete and other pervious paving options and more. This has additional benefits including more areas for snow storage and less property to maintain.

4) To enable site absorption, the parking and surfaces above the minimum MUST use on-site water management, rather than putting the runoff into a pipe whose water must be treated downstream. Furthermore, extreme rain events will have 'what to do if' practices integrated in the design to avoid major catastrophes downstream during such events.

5) The developments are incentivized to 'pave later' to make sure they NEED the number of parking above the minimum before they install them. IF they do not require the additional parking over time, they can permanently use the 'undeveloped portion of their lot for other purposes (cf. the community gardens shown in the illustration at right), including possibly fitting onto smaller, less expensive land (e.g. infill) or redeveloping the unused portion of the property for something else (e.g. another building).

Some examples are provided in IV.8

Well-Landscaped parking lots, samples replete with raingardens, softscape parking spaces and shading.

XI.4.a Imperviousness Surface Limit

Thus, The Ordinance sets an "Imperviousness Limit" to ensure that only the minimum hardscape per parking spot is provided. This can be increased sensibly through dialog, but the County hopes to err on the side of avoiding runoff, unless it is demonstrated to be necessary, rather than the reverse. This Limit was determined as the amount of paving necessary for a parking space along with the access to serve (e.g. aisles between rows of parking) that space. Access to and from the parking lot is exempt from the determination. The amount was conservatively at 700 sqft/space. If an applicant chooses to add a drive-through or loading spaces above the recommendation (see 5.c), this will be subtracted from the available impervious surface limit to be allocated to parking spaces.

XI.4.b Pervious Surfaces: Hardscape vs. Softscape

Newer designs and technologies have enabled much more choice in design and higher quality or more-adapted products when designing parking and transportation services. Apart from landscaping itself, which may include absorbent snow-dumping areas and raingardens, they also have a varied array of drivable surfaces that absorb water (see examples below). From right to left, the left side (softscape) is less adapted to frequent driving, but more absorbent and cost effective to the right (hardscape) where it allows water to pass through but is more resilient in frequent driving situations (but costs a bit more). Shopping carts would do poorly on the left side surface, but better on the right, for instance. ALL surfaces require maintenance, though they differ dramatically as to method. Getting the right performance makes ALL space valuable to owner and County.

Grasscrete

Pervious Paving

Porous Concrete

XI.5 Parking Spaces and Land Use

Whereas The Ordinance does not prescribe an amount of parking for a specific land use, the following table is an example of typical parking recommendations for different land uses as a guide for those who are subdividing land to bear in mind.

USE	Typical Minimum Off-Street Parking Requirements
Industrial	
Industrial Park (Light and Heavy Manufacturing/ Industrial)	1.5 spaces per 1,000 square feet of gross floor areas
Warehousing/Distribution Center	1.5 spaces per 1,000 square feet of gross floor areas
Vehicle Storage Including Boats, Trailers, RVs, Etc.	1 space per employee and 3 spaces for visitors in addition to number of storage parking spaces
Self-Storage Mini Storage	3 spaces per 1000 square feet of office and 1 space per 100 units
Salvage/Junk Yard/Outdoor Storage	1 space per acre and 1 space per employee
Institutional	
Church/ Synagogue or other place of worship	1 space per 4 seats in main auditorium (30% reduction allowed if shared parking agreement is signed with nearby commercial, institutional or industrial use)
Day Care Center	3 spaces per 1000 square feet gross floor area
Family Day Care (in home)/Group Care	1 space per non-resident employee plus required residential spaces
School (K-8)	1 space per employee plus 1 space per classroom
School (9-12)	1 space per employee plus 1 space per 4 students
Community College/University	1 space per employee at the highest peak of class sessions plus 1 space per 5 students
Dormitory	1 space per two beds
Library/Museum/Private, Civic, or Community Club	2.5 spaces per 1000 square feet of gross floor area
Instructional Studio/Dance Studio	1 space per student and 1 space per employee
Lodging	
Hotel	1 space per room, plus 1 space per largest employee shift , plus 1 space per 1000 square feet of ballroom or conference room
Motel/ All Suite Hotel	1 space per room plus 1 space per largest employee shift
Bed and Breakfast Establishment	1 space per room, plus 1 space per employee, plus 2 parking spaces for owner resident
Medical	
Hospital	2 spaces per 1000 square feet of gross floor area
Medical Offices (See Office)	
Clinic	4 spaces per 1000 square feet of gross floor area
Animal Hospital/Animal Clinic	3 spaces per 1000 square feet of gross floor area
Office	
General Office /Professional Office/Corporate Office/Government Office/Business Park/Office Park	3 spaces per 1000 square feet of gross floor area
Single Tenant Office Building/Real Estate Office	4 spaces per 1000 square feet of gross floor area
Medical-Dental Office/ Physical Therapy/ Diagnostic Services	4 spaces per 1000 square feet of gross floor area

Research and Development Office	1 space per 1000 square feet of gross floor area
Laboratories	2 spaces per 1000 square feet of gross floor area
Essential Services (i.e., Utility Co. office building)	1 space per employee plus 1 space per essential services vehicles in operation
Recreational	
City/County Park/ Fairground	2 space per 10,000 square feet area of park
Golf Course/Golf Driving Range	2 spaces per hole plus parking requirements for Quality Restaurants and General Retail Store if provided and open to general public (not exclusively members)
Multipurpose Recreational Facility	(1) 5 spaces per acre of non-programmed parkland
	(2) Recreation Centers: 1 space per 200 square feet of building.
	(3) Swimming Pool Facility: 1 space per 175 square feet of pool surface area
	(4) Multi-Purpose Fields: 30 spaces per backstop/ rectangular field in addition to other activities
	(5) Tennis Courts: 12 spaces per six courts, in addition to other activities
	(6) Basketball or volleyball court: 8 spaces per court, with other uses calculated separately
Movie Theater (All)	1 space per 4 seat
Health/Fitness Club	12 spaces per 1000 square feet of gross floor area
Arcades/ Pool and billiard rooms	10 spaces per 1000 square feet of gross floor area
Bowling Alley/ Skating Rink	15 spaces per 1000 square feet of gross floor area
Marina (Private and Commercial)	0.6 spaces per wet slip
	0.2 spaces per dryland storage bay
	0.2 spaces per swing mooring
	Plus 1 space per employee and 1 space per 2,000 square feet of retail supply establishment if provided
Residential	
Single Family Dwelling (Detached or Attached/Townhouse)	2 spaces per unit
Patio Homes/Duplex/Triplex/Quadruplex	2 spaces per unit
Multi-Family Dwelling:	
Efficiency apartment	1 spaces per unit
One bedroom	1.25 spaces per unit
Two bedroom	1.5 spaces per unit
3 or more bedroom	2 spaces per unit
Caretaker's Residence	1 space per residence
Nursing Home	1 space per 5 beds plus 1 space per 2 employees
Accessory Dwelling	1 space per unit
Mobile Home Park (13 Units or more)	1.5 spaces per unit plus 2 visitor parking spaces per 6 units
Mobile Home Park (12 Units or fewer)	2 spaces per unit
Senior Adult Housing (Attached and Detached)	1 space per unit
Assisted Living	0.5 space per unit

XI.6 Required Range of Parking Table and Sample Calculations

The following is the Required Parking Table from The Ordinance to facilitate better understanding of the sample calculations that follow:

Accessible Spaces

Accessible spaces may go up to maximum allowable even if 'overflow' spaces are not built until later. All accessible spaces must be hardscaped or impervious.

Range of Parking Allowed by the Subdivision Ordinance

LAND USE CATEGORY	MINIMUM PARKING REQUIREMENT	MAXIMUM PARKING REQUIREMENT
P1. Building with Tenants/Residents	1 space/ 1 dwelling unit or lodging room	2 spaces/1 dwelling unit or lodging room
P2. Building with Employees and Visitors	1 space/2 employee or 1.5 spaces/1000 sq. ft.	1 space/1 employee or 3 spaces/1000 sq. ft.
P3. Building with Visitors	1 space/4 seat or 1 space/1000 sq. ft. (indoor), or 10,000 sq. ft. (outdoor, i.e., park)	1 space/2 seats or 5 spaces/1000 sq. ft. (indoor) or 10,000 sq. ft. (outdoor, i.e., park)
P4. Special Events	0	Requires parking study or approved parking arrangement such as valet parking, contractual use of private parking, or permitted use of public parking

Sample

A parking lot proposes to build a lot with 100 spaces with the ability to expand to 150 if warranted. Though only 4 spaces would be required, 5 accessible spaces can be provided up front to avoid having to redo hardscape near the building upon expansion, even if the lot is never expanded.

Parking Spaces Accessible to Persons with Disabilities

Total Number of Spaces in Parking Lot	Minimum Number of Accessible Parking Spaces Required
1-25	1
26-50	2
51-75	3
76-100	4
101-150	5
151-200	6
201-300	7
301-400	8
401-500	9
501-1000	2% of Total
1001 and more	20 plus 1 for each 100 over 1000

XI.6.a Parking - Sample Calculations

- Retail building with 10 employees and 6000 sqft of retail: Min-14 spaces, Max-28 spaces
- Apartment building with one 'Super' and 20 apartments: Min-21 spaces, Max-41 spaces
- Mixed Use Building with 5000 sqft of 1st floor restaurant, 6 employees/shift, 20 4-top tables, 2nd floor office space, and 10 apartments above:
  Min=3+20+7.5+10 or 40-41 spaces,
  Max =6+40+15+20 or 81 spaces
- The same Mixed Use Building building near transit with 10 bike parking spaces : can reduce the minimum car parking by (1 for the bikes and up to 20% for proximity to transit or 8 spaces - total of 9) = 41-9 or 32 spaces.

XI.7 Other Space Recommendations

The following is the Required Parking Table from The Ordinance to facilitate better understanding of the sample calculations that follow:

XI.7.a Loading Space Recommendations*

Table 3. Recommended Minimum Number of Loading Spaces

Type of Land Use: Retail commercial, hotel, and other allowed uses

Total Gross Floor Area	*Loading Spaces Recommended*
3,500 to 15,000 sq. ft.	1
15,001 to 50,000 sq. ft.	2
50,001 to 100,000 sq. ft.	3
100,,001 sq. ft. and over	4

Type of Land Use: Manufacturing, research and development uses

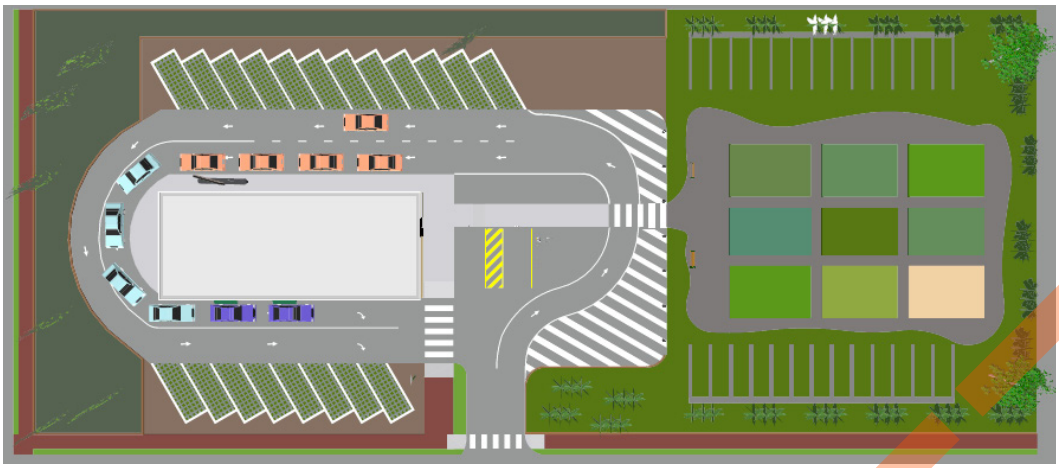
Total Gross Floor Area	*Loading Spaces Recommended*
3,500 to 50,000 sq. ft.	1
50,001 to 100,000 sq. ft.	2
100,001 to 150,000 sq. ft.	3
150,001 sq. ft. and over	4

* We recommend using minimum square footage as the trigger for a loading area requirement, as shown in the table, rather than the language suggested in earlier comments

XI.7.b Stacking Lane Recommendations

1. Stacking spaces provide the capacity of a drive-through lane to hold cars while transactions are taking place at drive-through stations. Stacking spaces should measure nine feet wide by 22 feet long. The position in front of a drive-through station (i.e., a restaurant service window, ATM, or station at a drive-through bank) is counted as a stacking space.

2. Uses that include drive-through service should provide not less than the following numbers of stacking spaces:
   a. Financial institutions drive-through convenience retail, or pharmacies: Three (3) stacking spaces per drive-through station.
   b. Drive through restaurants with two service windows (one for payments and one for pick-up):



Suggested Approach, Applicant used the impervious surface limit for the drivethrough, but the non-accessible parking spaces were easy to make softscape.

i. Four stacking spaces to each menu board;
ii. Four stacking spaces between the menu board and the first window (including the position at the first window); and two spaces between the first window and the second window (including the position at the second window).

c. Drive through restaurants with one service window for both payments and pick up:
i. Six stacking spaces to the menu board; and
ii. Five stacking spaces between the menu board and the service window.

d. Drive-through only uses in buildings with less than 300 square feet of gross floor area and no sepa rate menu board (e.g., coffee stands,): Three stacking spaces per service window.

e. Dry cleaners: Two stacking spaces, including the position at the window.

f. Vehicle Wash:
i. Three stacking spaces for each bay in a self-service vehicle wash facility;
ii. Five stacking spaces for each in-bay or conveyor vehicle wash facility; and
iii. If the facility provides detailing, manual drying or polishing, and/or vacuuming, sufficient area to provide those services without creating additional demand for stacking at the vehicle wash entrance.

3. Stacking spaces for other uses may be suggested by the Planning Commission or Staff as appropriate.

4. Stacking lanes should be clearly marked, and should not interfere with on-site or off-site traffic circulation.

5. Stacking areas should not be located between the facade of a building and the building's street frontage unless there is a grade change of at least five feet between the centerline of the street and the stacking area or, alternatively, there is a buffer area to screen neighboring land uses from effects of light and noise.

6. Stacking lanes should be designed and constructed with an abutting eight-foot wide by-pass lane.

7. Impervious Surface limits (which see - IV.3.a) must be respected. So if the applicant is choosing to provide drive through facilities, that area will be subtracted from the impervious area allowed for parking.

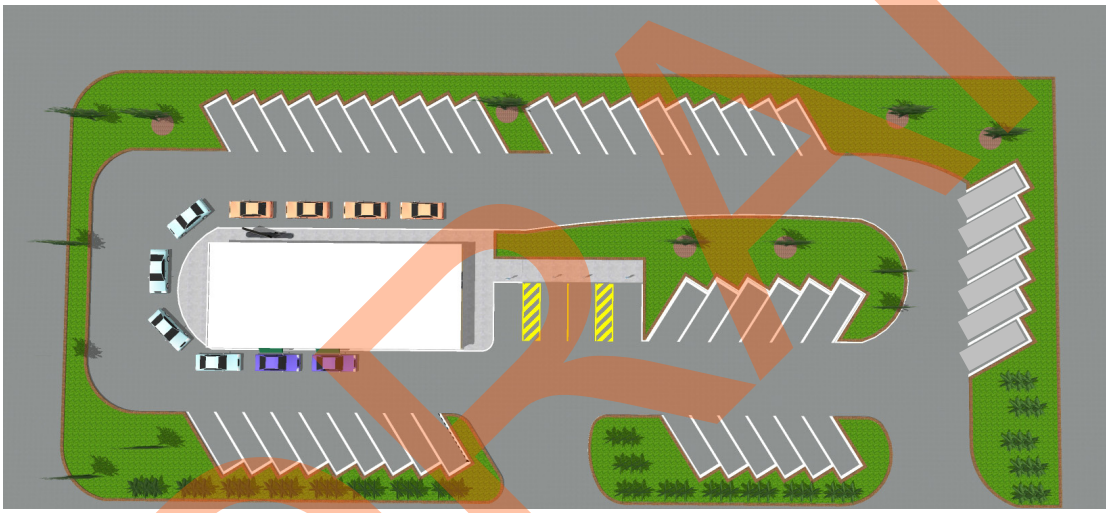
XI.8 Parking Scenarios

XI.8.a Impervious Surface and Parking Lots

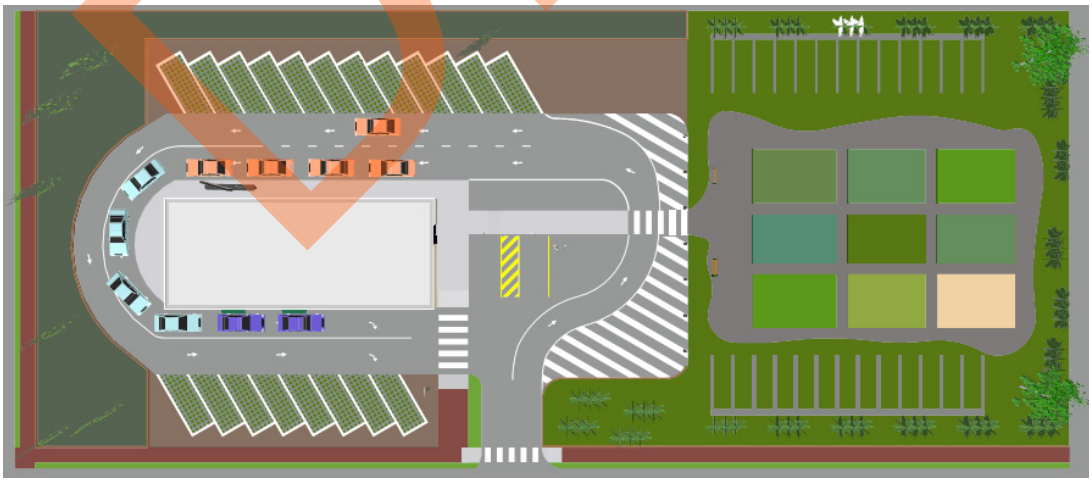
This scenario shows ways of avoiding oversizing impervious surface area and mitigating runoff through thoughtful design of parking lots.

A typical restaurant wants to have a drive-through in addition to parking - the traditional amount of spaces and layout is shown in the upper drawing. This can be allowed IF the parking on the far right is reserved, but not granted unless a study or a re-application based on demonstrable need after the restaurant is in operation. The parking other than the handicap spaces must have on-site treatment (e.g. porous paving, grasscrete, etc.) as the 'impervious allotment is provided with the drive through.

A suggested approach is demonstrated in the lower diagram. The parking provided is closer to the minimum with the capacity to expand if needed. The parking spots are all on-site treated. This layout has at least the traffic management performance in that this lot is pedestrian-friendly, far better water management, and allows the 'wasted parking area' to be used for other amenities - in this case a community garden. It also fits easily within most of the local city blocks. The upper example can only fit on a greenfield site.



Traditional
Layout "Improved"



Suggested Approach

XI.8.b Impervious Limits and Negotiated Solutions Example

As mentioned earlier, one of the biggest challenges in Mon County is managing stormwater runoff from oversized parking lots. So, this example involves an applicant coming in with the underlying parking lot below in mind. Rather than build that lot exclusively with impervious surface, with the help of The Ordinance, we might arrive at the following scenario.

A grocery store, arguably the highest parking need, is constrained by site and cost. As people shop with carts, the owner would prefer to keep hardscape (i.e. not grasscrete) where the carts are anticipated to run. By this random aerial and cursory counts, more than the minimum hardscape is needed. The owner is not requesting more parking overall (especially with all the potential shared parking arrangements nearby - a better connection would be desirable).

For example, a 120,000 sqft building with the projected parking lot shown below - it could have 360 spaces total, but only has proposed 300. According to the regulations, the amount of impervious allowed would nominally be 180 spaces. By impervious allocation, they would be allowed 180x700 sqft or 126,000 sqft.

The applicant, by providing this aerial from another store and its peak hour count average, asks to have 10% additional spaces hardscaped (especially for carts) - bringing the total to 200. Anyway, so their proposed 95,000 sqft designated would fall under the impervious allocation. In this instance, the center area could be impervious and/or hardscaped and either the rest would have an engineered treatment OR softscape for all the edge parking, shown in the green tint, for all the employee parking and overflow. This has an added benefit of snow storage and runoff from the surrounding hillside being absorbed by the edge spaces, helping with overall site management for the applicant. All participants agree that this is the best course and the application is approved.

Aerial photo showing routine loading of a given parking lot along with the recommendation for softscape (e.g. grasscrete). Applicant requests no additional parking, but needs more than the minimum hardscape to accommodate pushcarts.

XI.9 Sample Parking Lots

XI.9.a

This sample is intended to show how parking can be gradually increased from minimum needs to an expansion, should that prove necessary. The example displays an idealized parking lot for a grocery store or other store that requires a lot of parking and may entail carts for transporting goods to the car. The example shows a number of features:

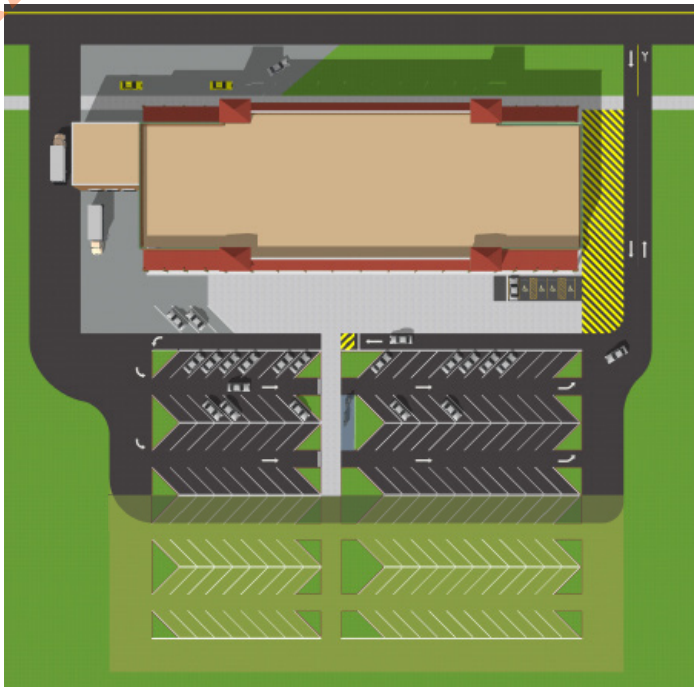
- Ingress and egress with a backup ingress and egress for trucks, emergencies and special traffic situations
- The minimum number of parking spots with provision to add more (in light green). The additional spots would have on-site treatment - in this case grass-crete.
- Pedestrians have raised walkways to ensure their visibility, safety and to keep car movement slow for pedestrians.
- Ample access for emergency vehicles
- Ample pickup and dropoff spaces (ride hailing services {on-demand transportation - e.g. Uber, Lyft} in front, grocery pickup and waiting area in back) that ensure that cars do not block pedestrian access
- Pedestrian access in front and back of building ensuring that store is a part of the neighborhood and welcomes walk-in traffic and avoid the tendency of sprawl design that makes walking in the neighborhood difficult
- Green design for the majority of the site improves stormwater management, cools the lot avoiding heat island, provides more snow storage area, ensures the ability for cost-effective-more-adapted later uses (i.e. on the undeveloped land) and provides a nicer amenity in the meantime.

Other conveniences for the owner include easier, more efficient truck management as well as convenience for easy-in, easy-out for drivers.

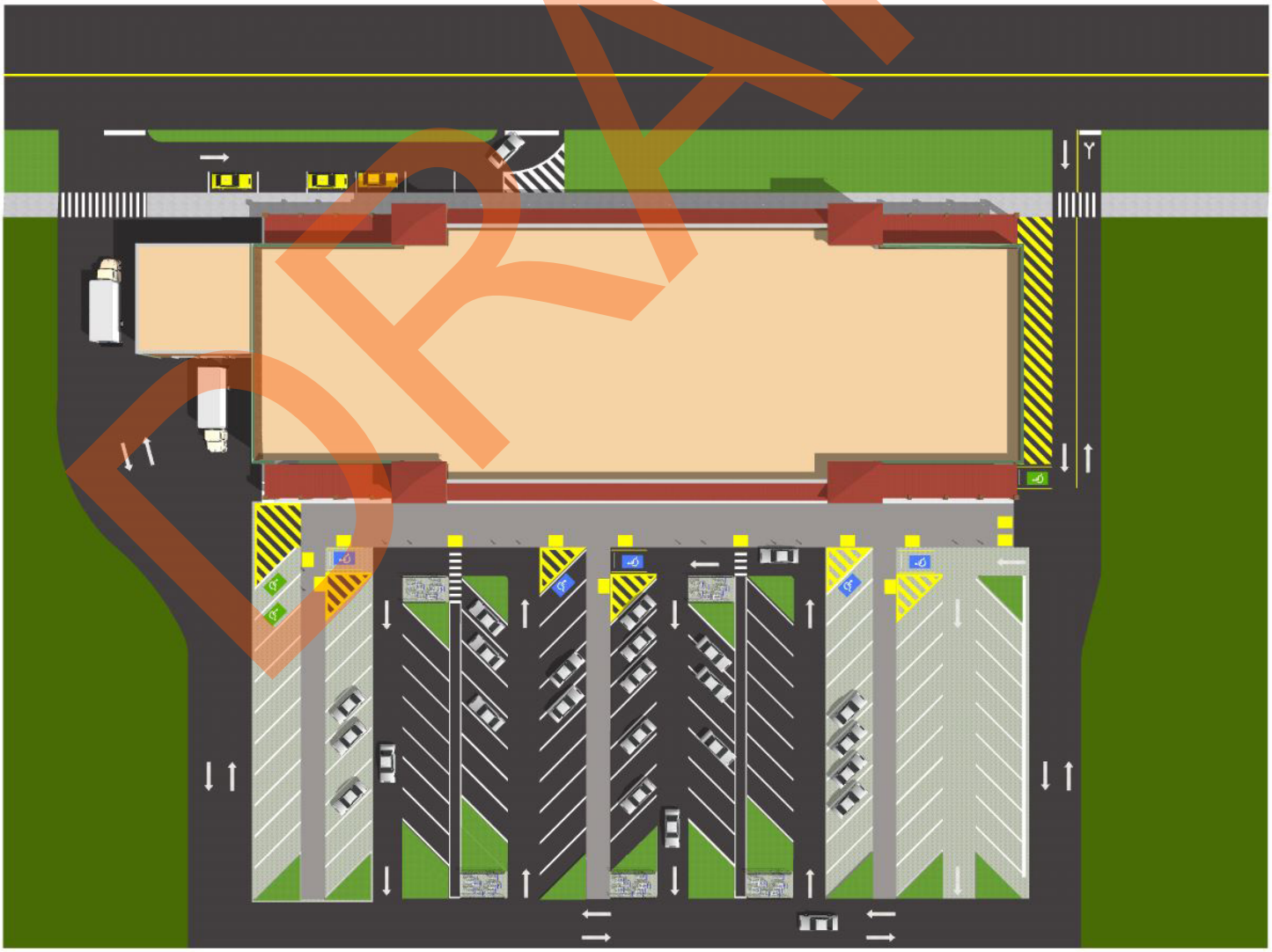
XI.9.b

This sample is intended to show how parking can be gradually increased from minimum needs to an expansion, should that prove necessary. The example on the right displays an idealized parking lot for a grocery store or other store that requires a lot of parking and may entail carts for transporting goods to the car. The example shows a number of features:

- Ingress and egress with a backup ingress and egress for trucks, emergencies and special traffic situations
- The minimum number of parking spots with provision to add more (in light green). The additional spots would have on-site treatment - in this case grass-crete.



8.c Or better still, another example where-in even less impervious surface is used (including hard {dark gray} and softscapes {light gray}) to improve absorption further.



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CHAPTER XII: Templates and Sample Forms

This chapter is intended to provide usable/modifiable models or templates of good versions of applications and designs - ones that meet the requirements of The Ordinance.

CHAPTER X: Templates

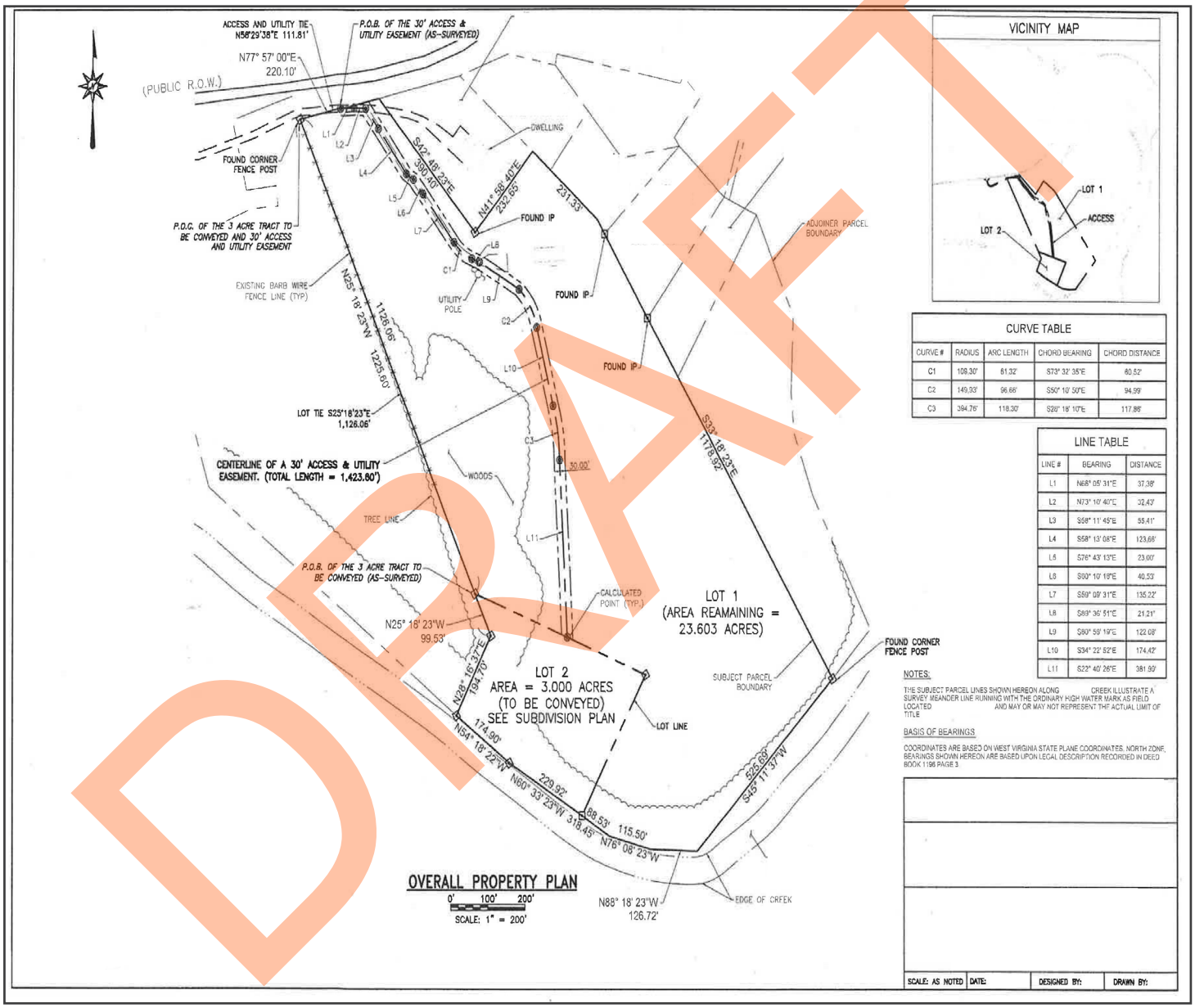
This chapter is designed to have examples and templates that applicants can directly use in their applications and in the application process. It is likely to evolve over time to incorporate new examples and templates over time as new developments, methods and ideas are introduced that achieve the goals that The Ordinance intended to achieve. Furthermore, it is hoped that the ease in which these templates can be physically accessed to help future development will also evolve. Currently, this chapter is a written catalog of these templates, but in the future, applicants will be able to ask the Planning Department for electronic file versions of anything in the Chapter that is desirable to serve as a template or starting point for their development.

XII.1 Subdivision Models

A number of good examples of subdivisions are included below that can be used as templates or models for the three (four - if a major subdivision is phased) types of subdivision: exempt, minor and major (major phased).

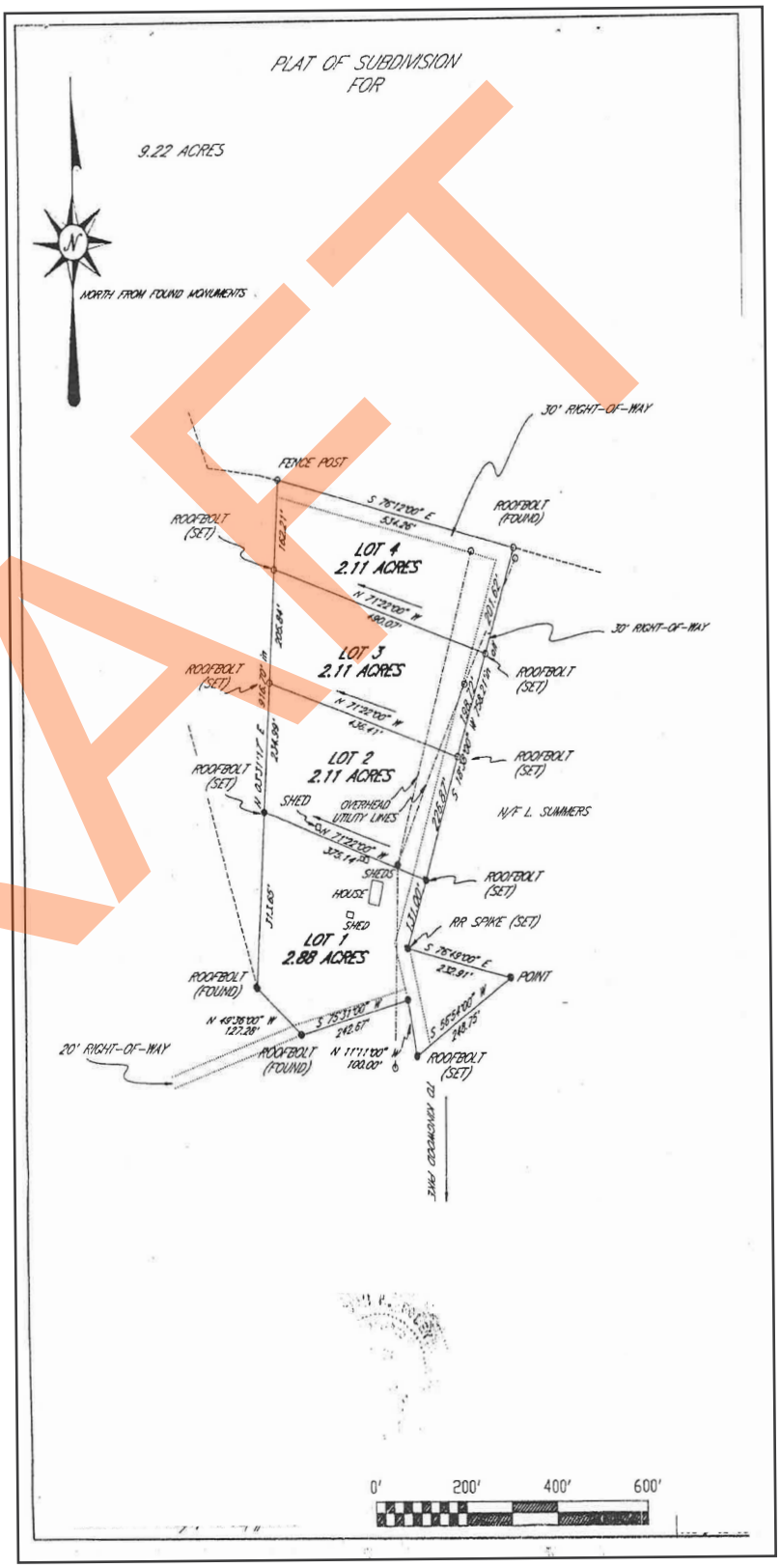
Exempt

This subdivision shows a one parcel split from parent parcel going from one relative to another. It properly shows the access easement, boundary line delinination, and adjoining parcel information.



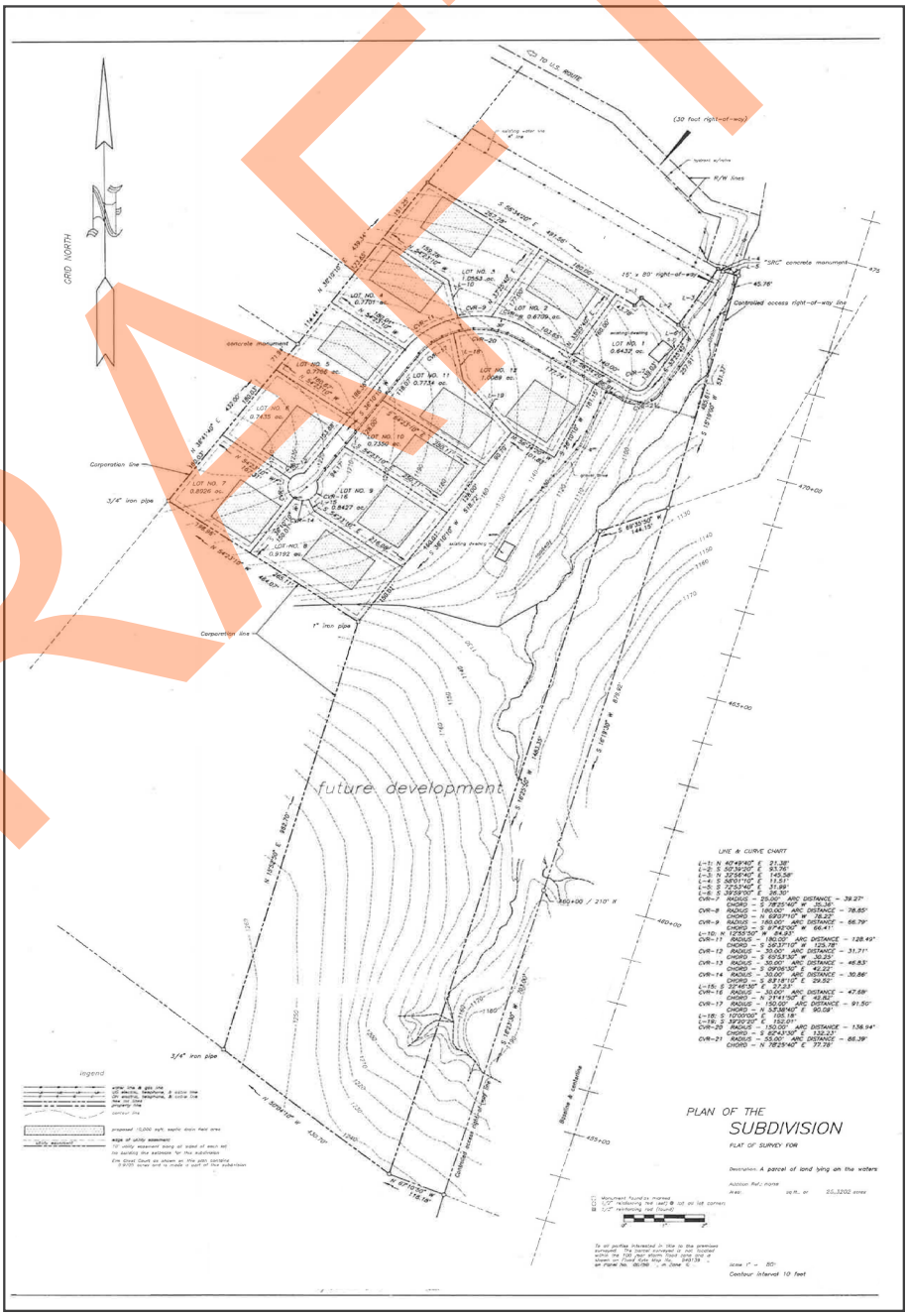
Minor

This subdivision shows a three parcel split from a parent parcel. It properly shows existing buildings on site as well as rights-of-way. As this sample subdivision predates The Ordinance it does not show delineation of pedestrian or bicycle rights-of-way. While construction of facilities for said rights-of-way is not always required, the appropriate easements must be shown on the plat for future consideration (See website video for an additional example).



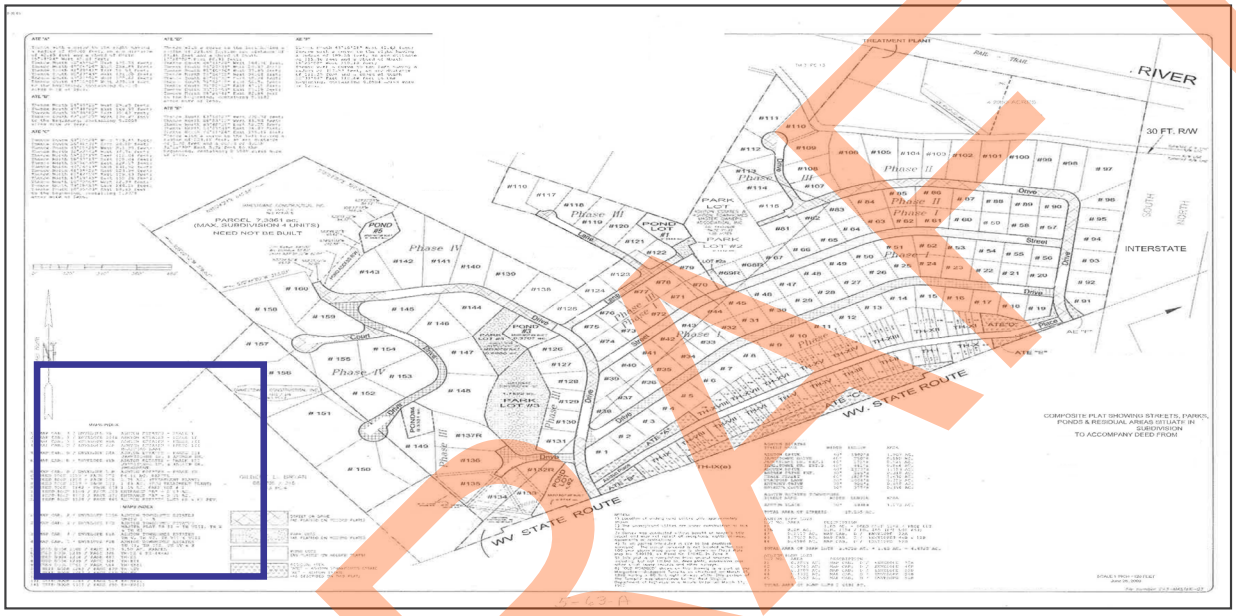
M ajor

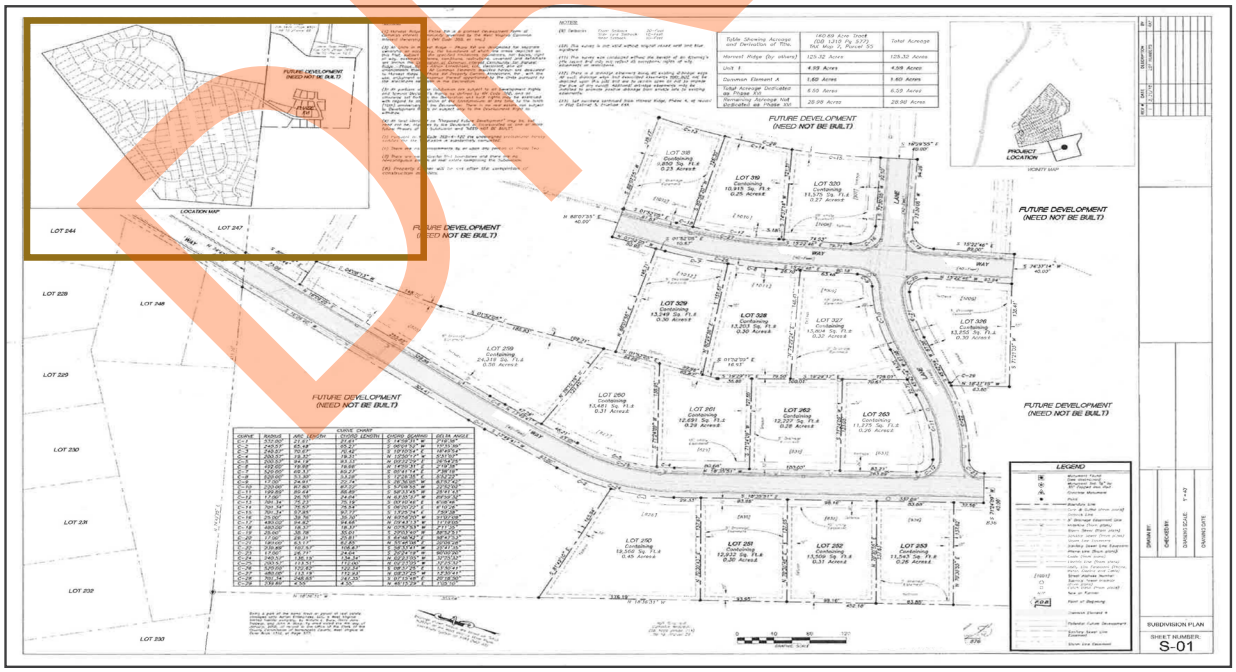
This subdivision shows a small scale development created from a parent parcel. It properly shows building setbacks on site as well as rights-of-way. In this particular case, it also shows the proposed location on each parcel for the septic drain field. As this sample subdivision predates The Ordinance it does not show delineation of pedestrian or bicycle rights-of-way. While construction of facilities for said rights-of-way is not always required, the appropriate easements must be shown on the plat for future consideration (See website video for an additional example).



Major (phased)

This subdivision shows two large scale developments created from a parent parcel. It properly shows building setbacks on site as well as rights-of-way. In this particular case, the top one also shows an index of prior plat maps related to the project in the blue box, and the bottom one shows the overall Multi-Phase Plat for the entire project, in yellow box, while delineating pertinent information about this particular phase. As these sample subdivisions predate The Ordinance they do not show delineation of pedestrian or bicycle rights-of-way, nor the capability to connect to future development through hammerheads and cul-de-sacs. While construction of facilities for said rights-of-way is not always required, the appropriate easements must be shown on the plat for future consideration (See website video for an additional example).





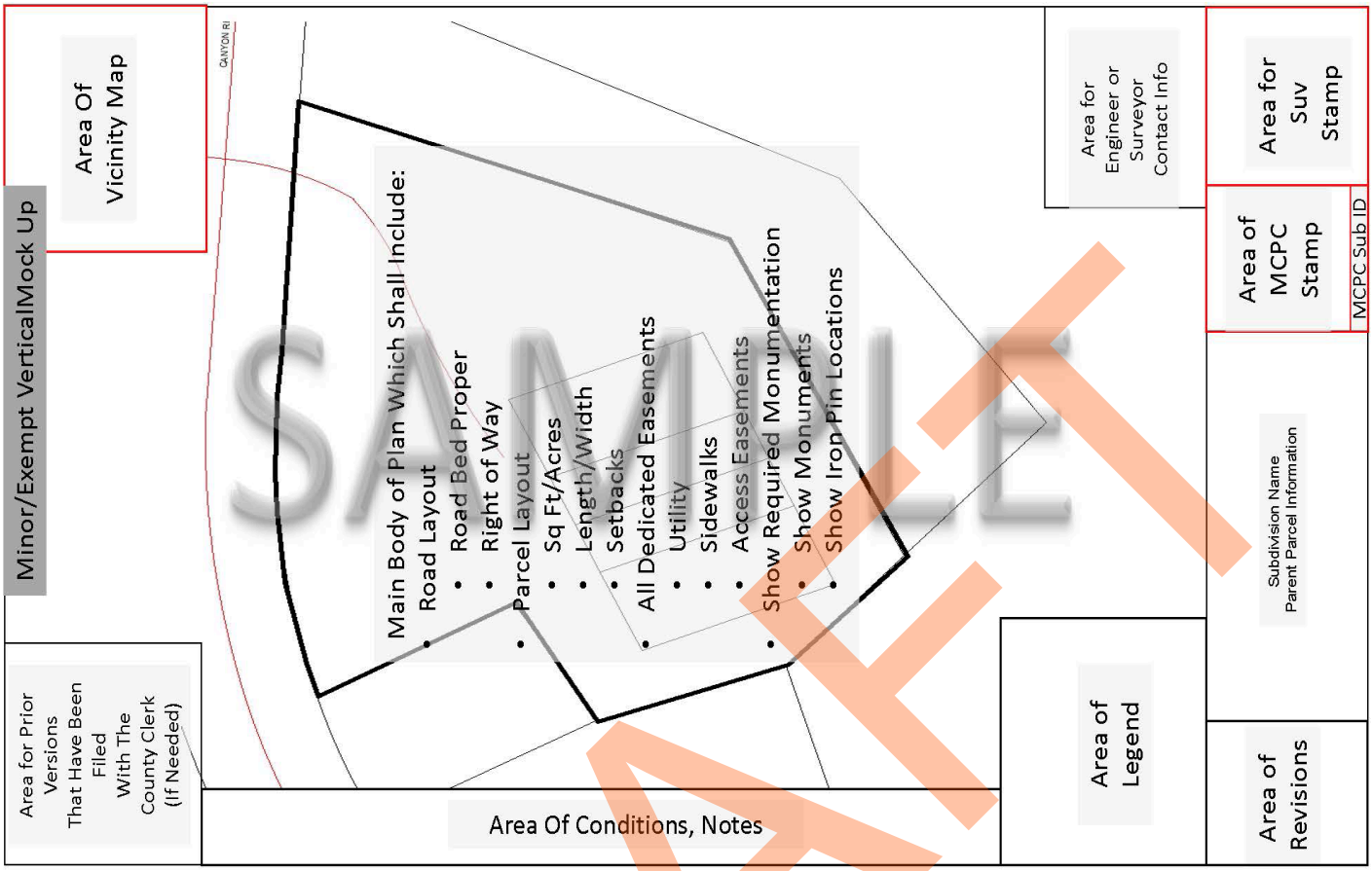
XII.2 Sample Drawing Format

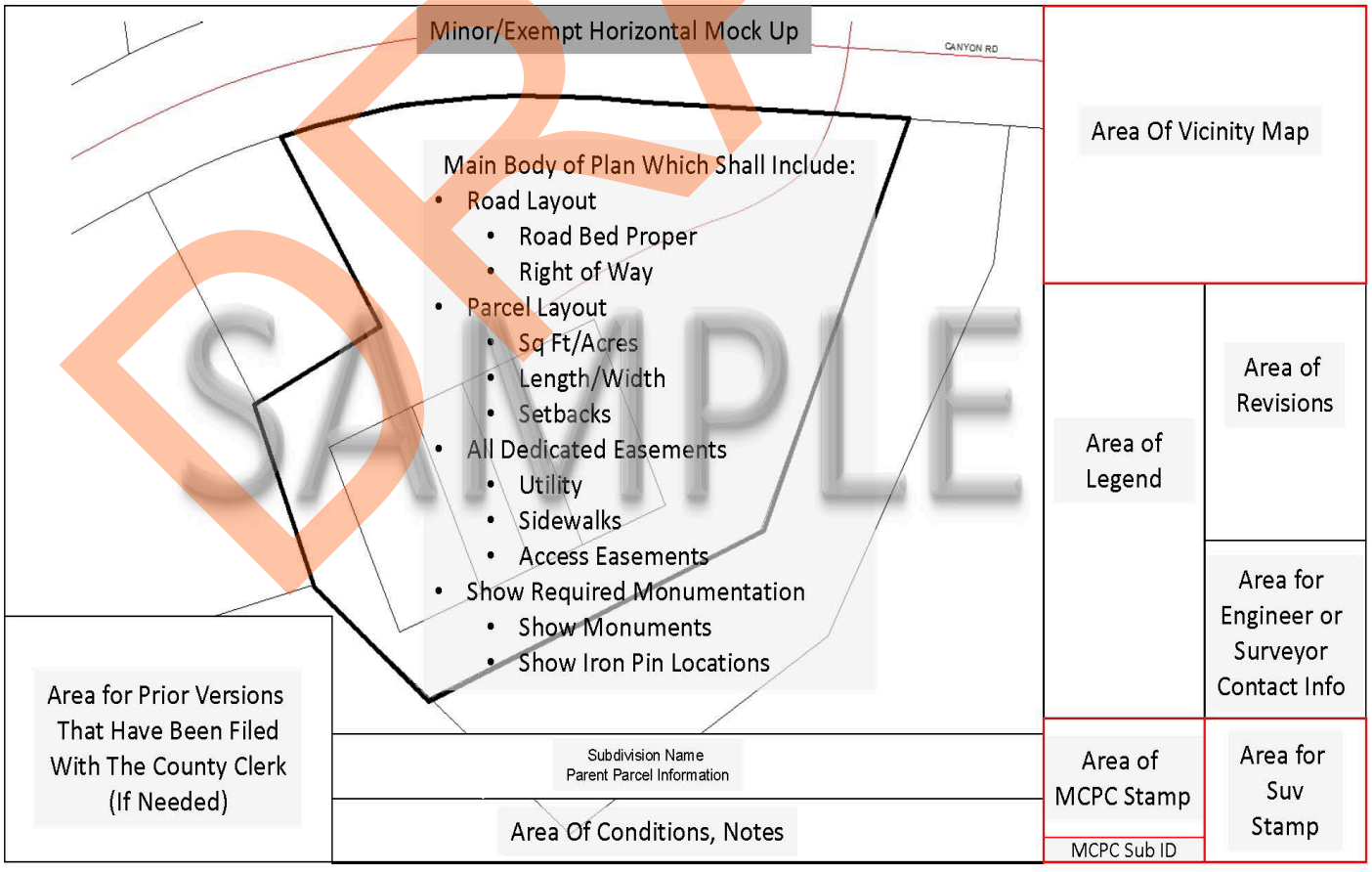
These sample drawing formats are for final subdivision plats to be submitted for filing with the County Commission and recording in the land records. They do not include any supporting documentation which may be required by subdivision application. Areas in red designate where such items should always be located. All other areas can be adjusted to allow for greater flexibility when constructing a plat submission.

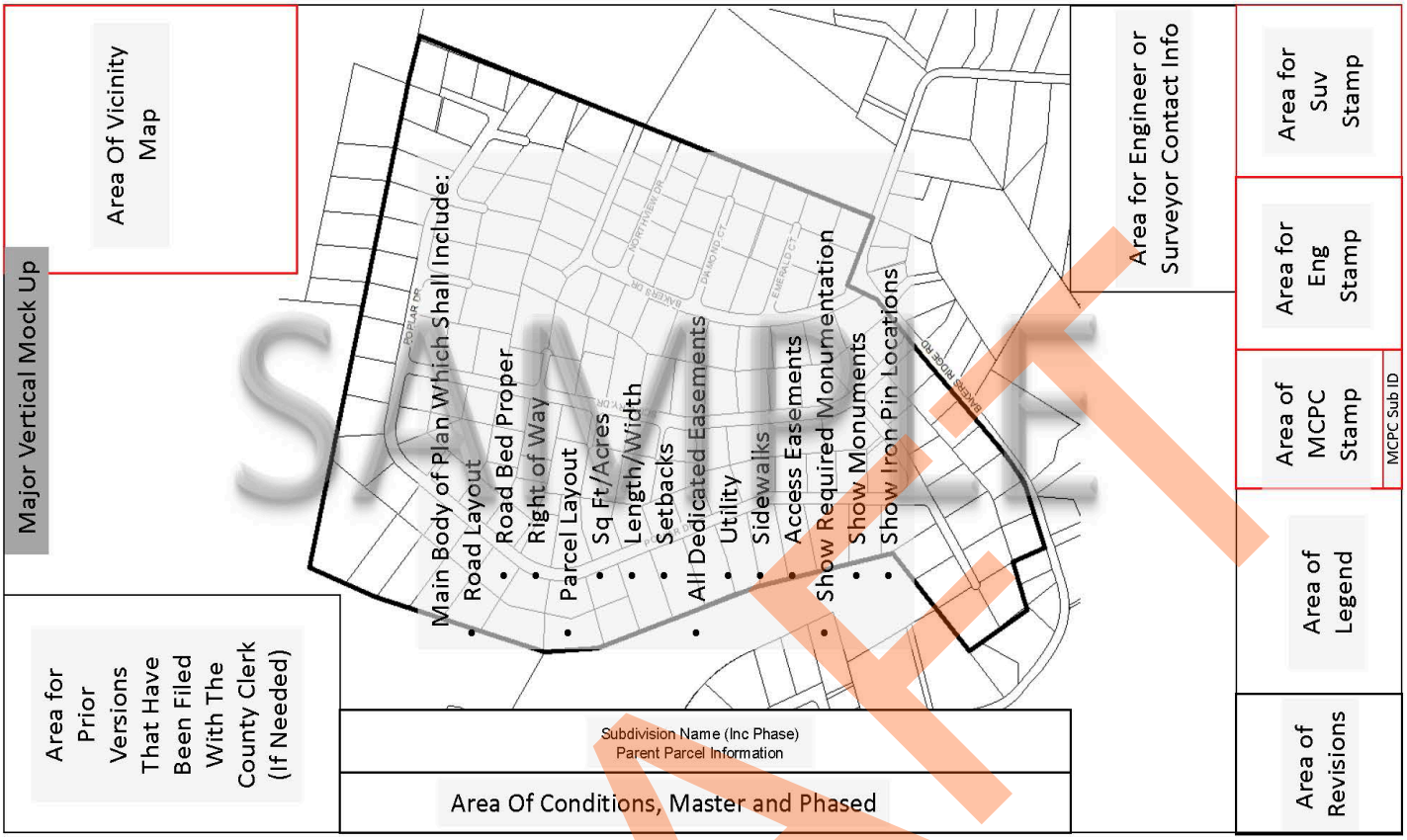
As complex developments may have difficulty presenting all necessary information legibly on one page, some submissions will require multiple pages. While a recommended multi-page drawing format is still forthcoming, the recommended layout of the basic requirements are outlined below by development amenity:

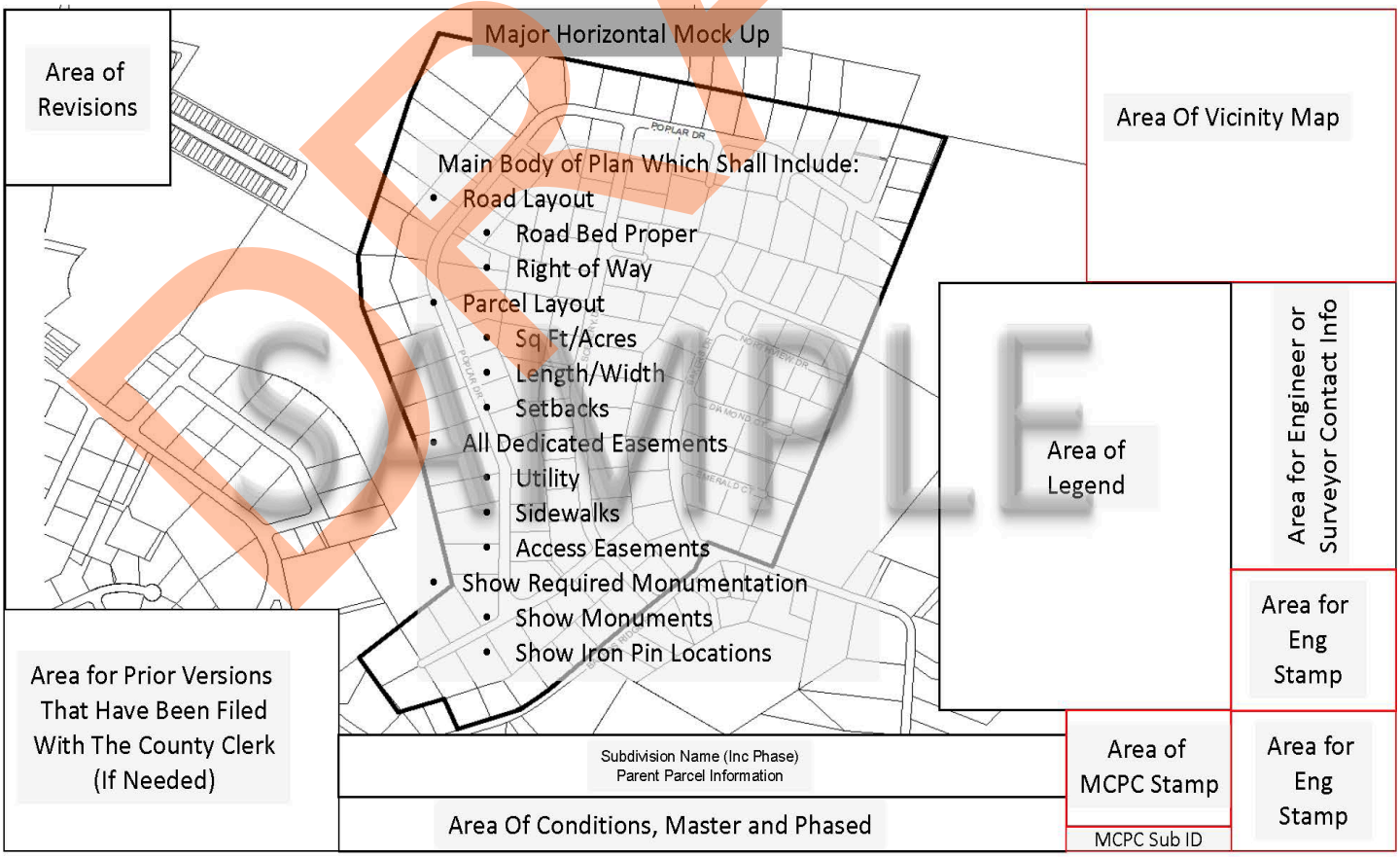
1 Page/Section: Title Page
1 Page/Section: Parcel Subdivision and Road layout, showing
- All proposed lots
- Building setback
- Locations and proposed uses for common areas
- Road rights-of-way and names
- Other multi-modal rights-of-way

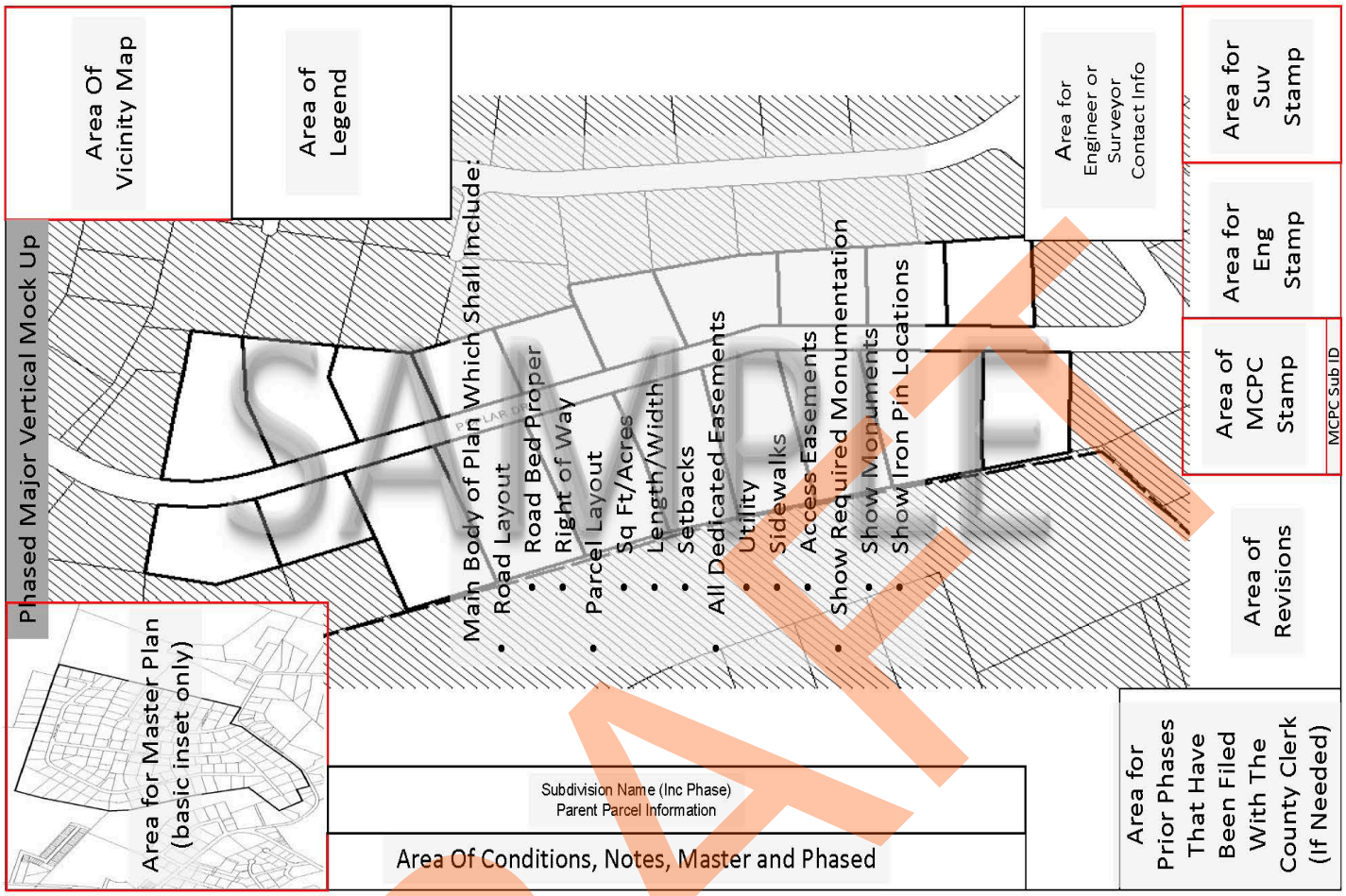
1 Page/Section: Bearings, Distances, and Curves (can be on parcel and road page if there is enough room)
1 Page/Section: Contours
1 Page/Section: Delineated Floodplain and Wetland Areas
1 Page/Section: Proposed Site Plans (if construction is part of application)
1 Page/Section: Delineated Utilities Plan
1 Page/Section: Road Bed, Other Utility Grades/Profiles
1 Page/Section: Drainage, Stormwater and Erosion Control Plan

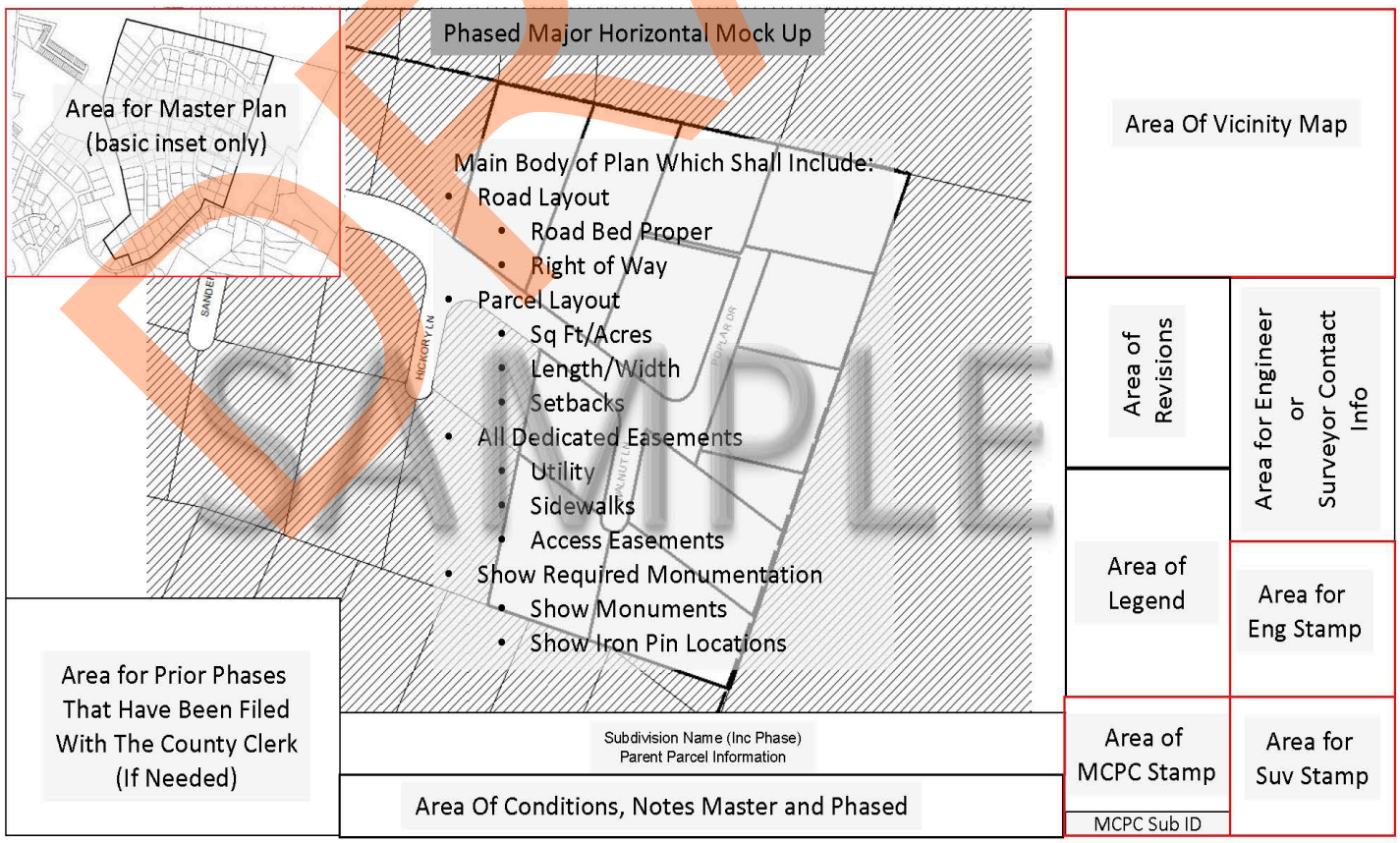

Minor/Exempt VerticalMock Up
Area Of Vicinity Map
CANYON RI
Main Body of Plan Which Shall Include:
Road Layout
Road Bed Proper
Right of Way
Parcel Layout
Sq Ft/Acres
Length/Width
Setbacks
All Dedicated Easements
Utility
Sidewalks
Access Easements
Show Required Monumentation
Show Monuments
Show Iron Pin Locations
Area for Engineer or Surveyor Contact Info
Area for Suv Stamp
Area of MCPC Stamp
MCPC Sub ID
Subdivision Name
Parent Parcel Information
Area for Prior Versions That Have Been Filed With The County Clerk (If Needed)
Area Of Conditions, Notes
Area of Legend
Area of Revisions
SAMPLE
DRAFT


Minor/Exempt Horizontal Mock Up
CANYON RD
Main Body of Plan Which Shall Include:
Road Layout
Road Bed Proper
Right of Way
Parcel Layout
Sq Ft/Acres
Length/Width
Setbacks
All Dedicated Easements
Utility
Sidewalks
Access Easements
Show Required Monumentation
Show Monuments
Show Iron Pin Locations
Area Of Vicinity Map
Area of Legend
Area of Revisions
Area for Engineer or Surveyor Contact Info
Area for Prior Versions That Have Been Filed With The County Clerk (If Needed)
Subdivision Name
Parent Parcel Information
Area Of Conditions, Notes
Area of MCPC Stamp
MCPC Sub ID
Area for Suv Stamp
SAMPLE
DRAFT



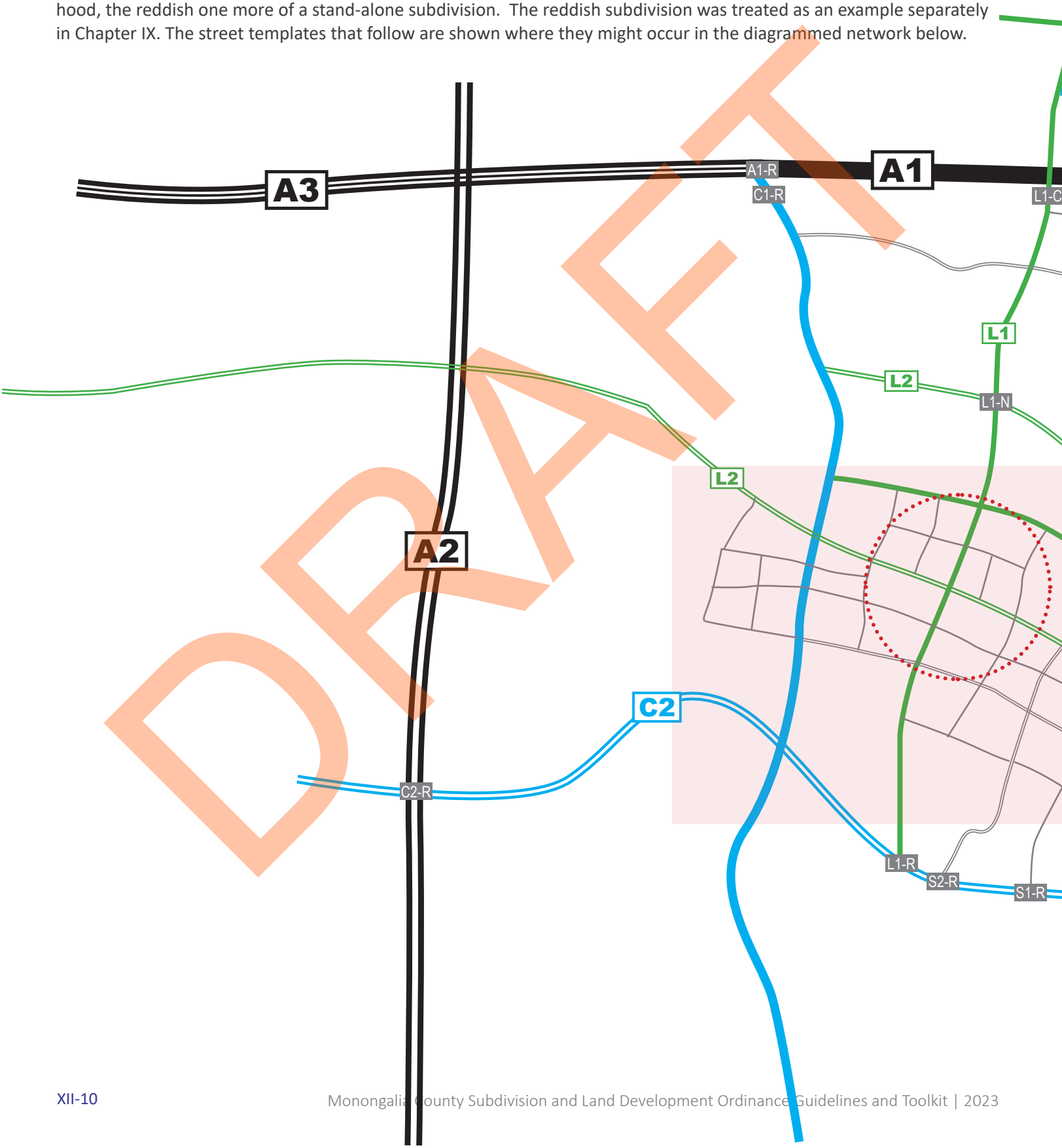


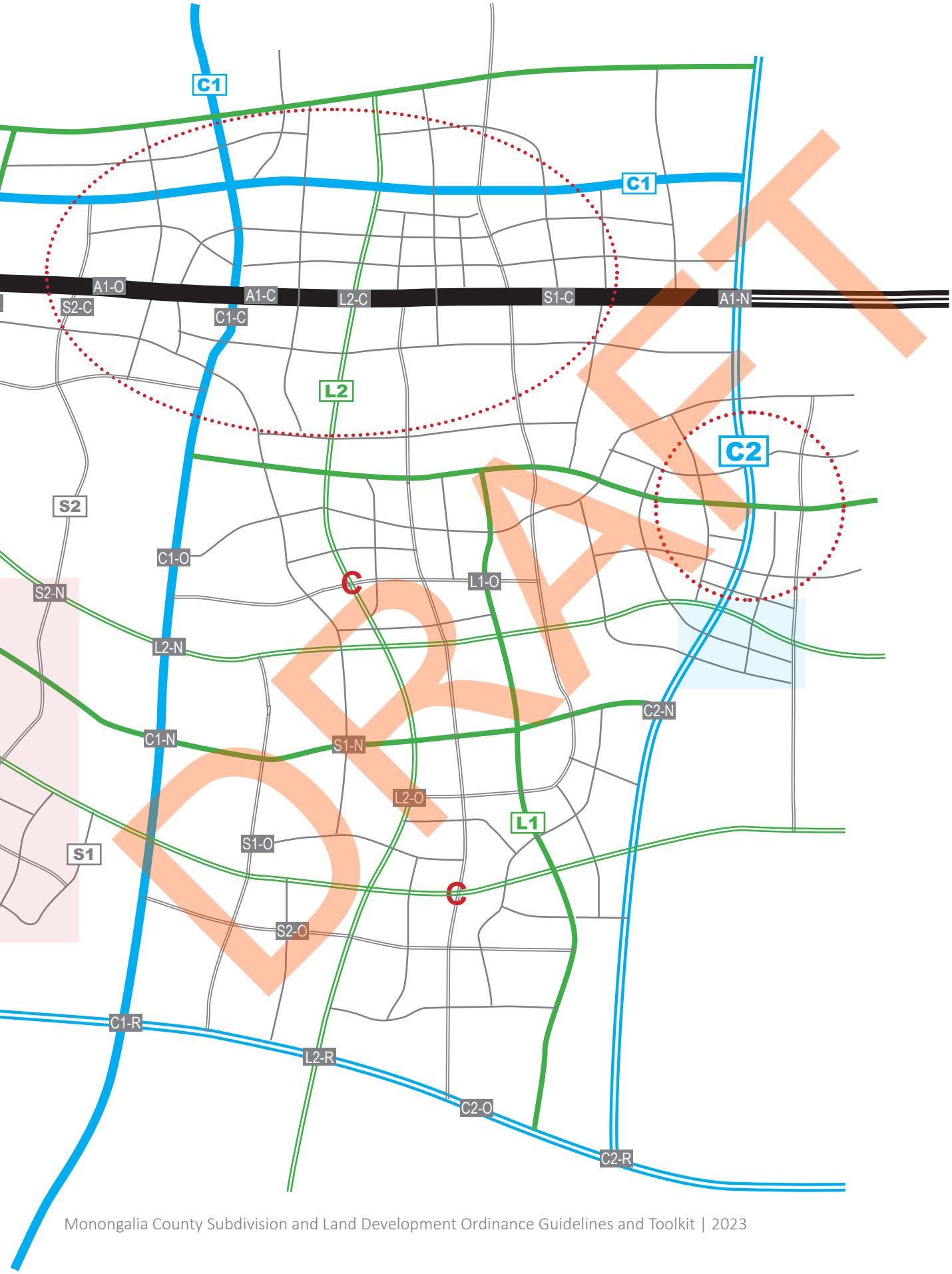




XII.3 Network Diagram

The reprinted diagram below shows a network of neighborhood subdivisions of varying types served by a network of streets and intersection types that exemplify what a development pattern of subdivisions might look like in the future. The shaded area represents potential 'new' subdivisions for this area - the bluish one being part of a larger neighborhood, the reddish one more of a stand-alone subdivision. The reddish subdivision was treated as an example separately in Chapter IX. The street templates that follow are shown where they might occur in the diagrammed network below.

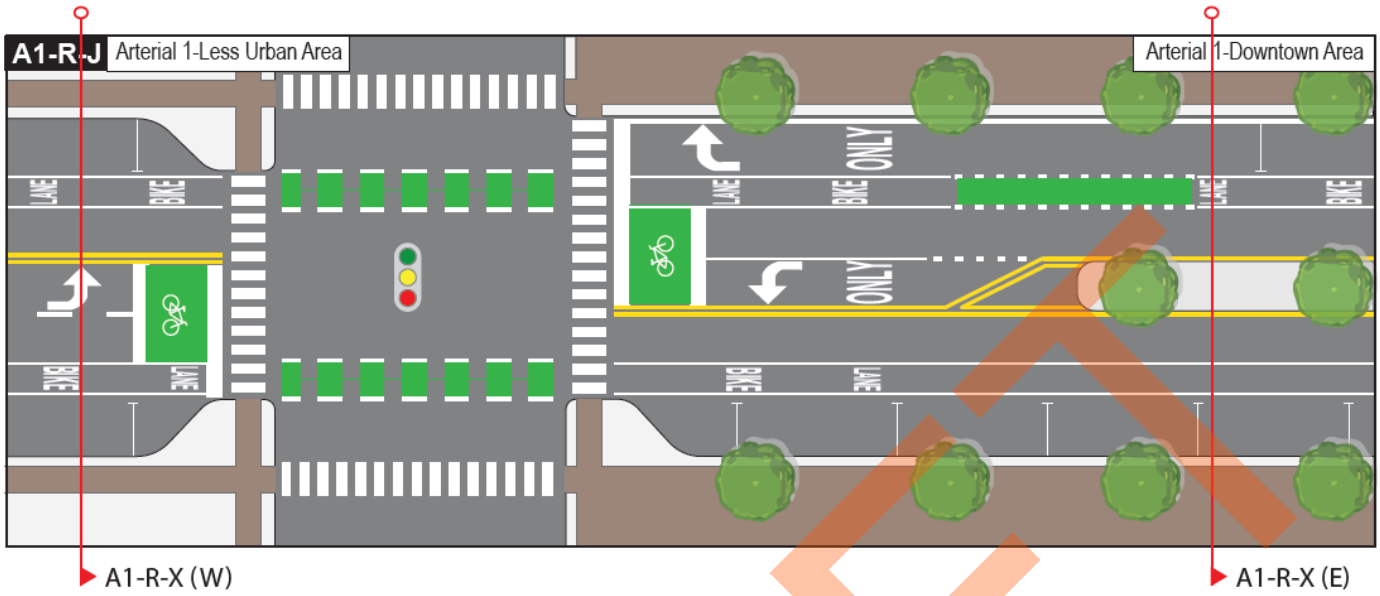



C1
C1
A1-O
A1-C
L2-C
S1-C
A1-N
S2-C
C1-C
L2
C2
S2
C1-O
L1-O
S2-N
L2-N
C2-N
C1-N
S1-N
L2-O
L1
S1-O
S1
S2-O
C1-R
L2-R
C2-O
C2-R
DRAFT

Street Templates and their Part of the Network

A given subdivision is a part of a whole network such that even if the subdivision proposes facilities for itself, scaled to its size and its size alone, the reality is that it forms an important part of the neighborhood and the region. The subdivision should thus connect (see connectivity) to other areas and other areas to it - respecting neighborhood and regional needs in terms of roads, infrastructure and green connections.

What follows are street and intersection templates for all proposed scenarios (cf. Network diagram above for examples where these templates might be used): Arterial/Mainstreet [larger or faster arterials are the purview of DOH], Collector Streets, Local Streets and Side Streets and alleys for the following scenarios: neighborhood center (C), regional connection to the neighborhood (R), neighborhood to neighborhood interface (N), and other areas of a neighborhood (O). Whereas all of the templates are viable in their contexts and serve as great templates for a development, these are by no means the only possible designs for a streetscape or intersection. Developers are encouraged to discuss what they would like to see on a certain street with staff and hopefully any needed modifications will be implemented.



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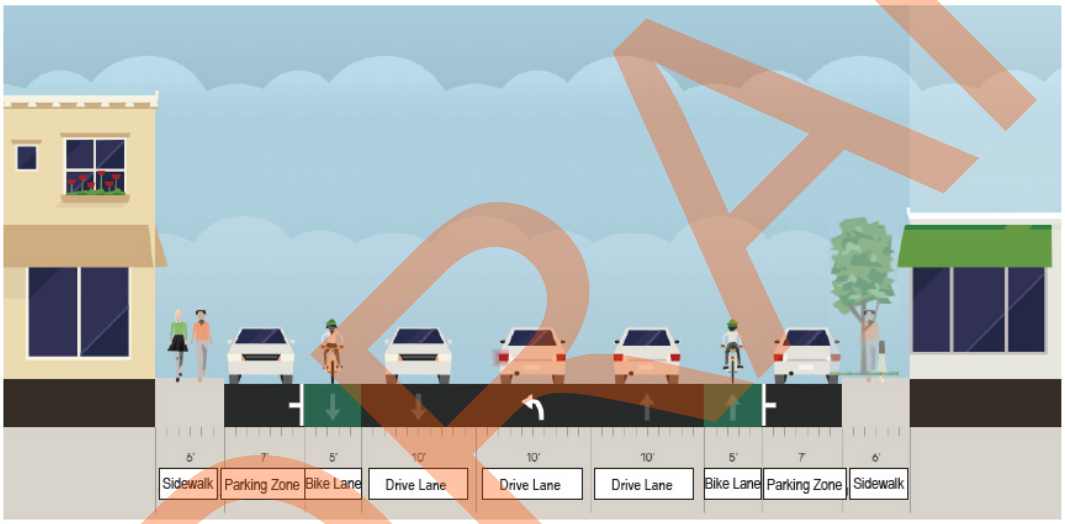

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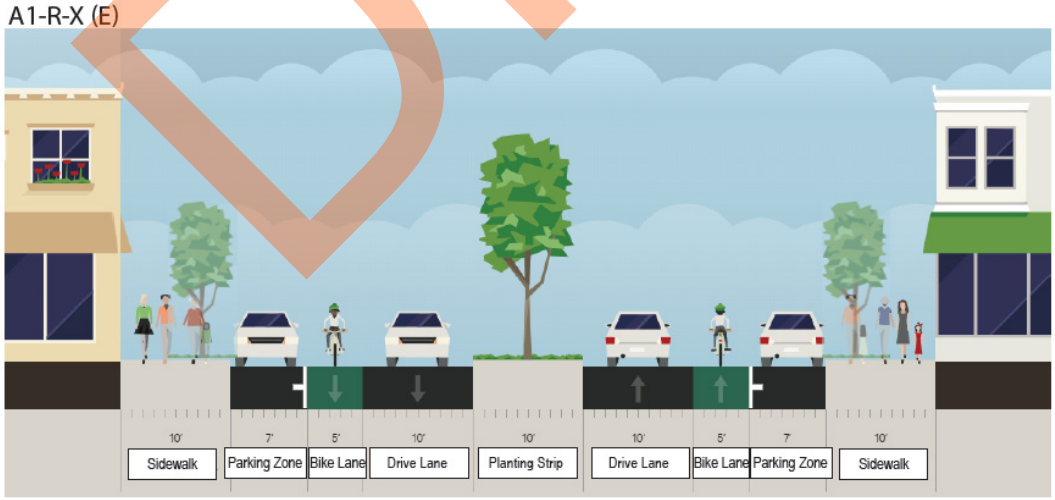
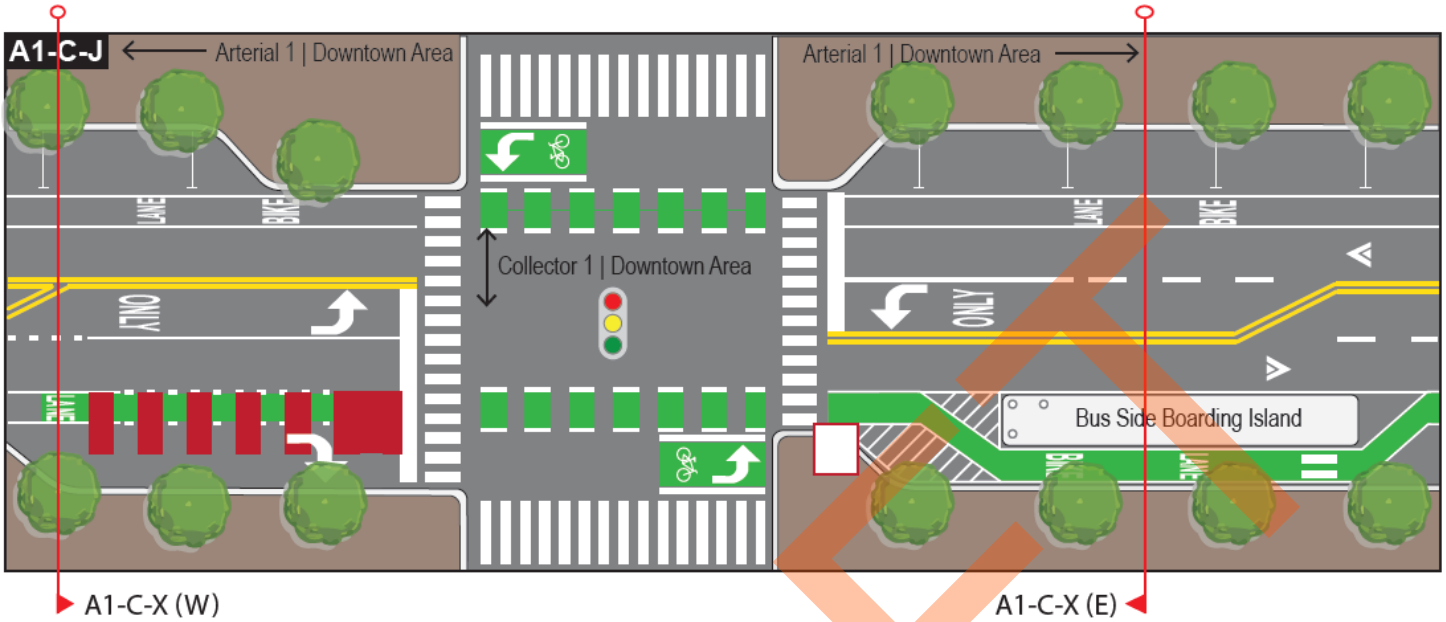
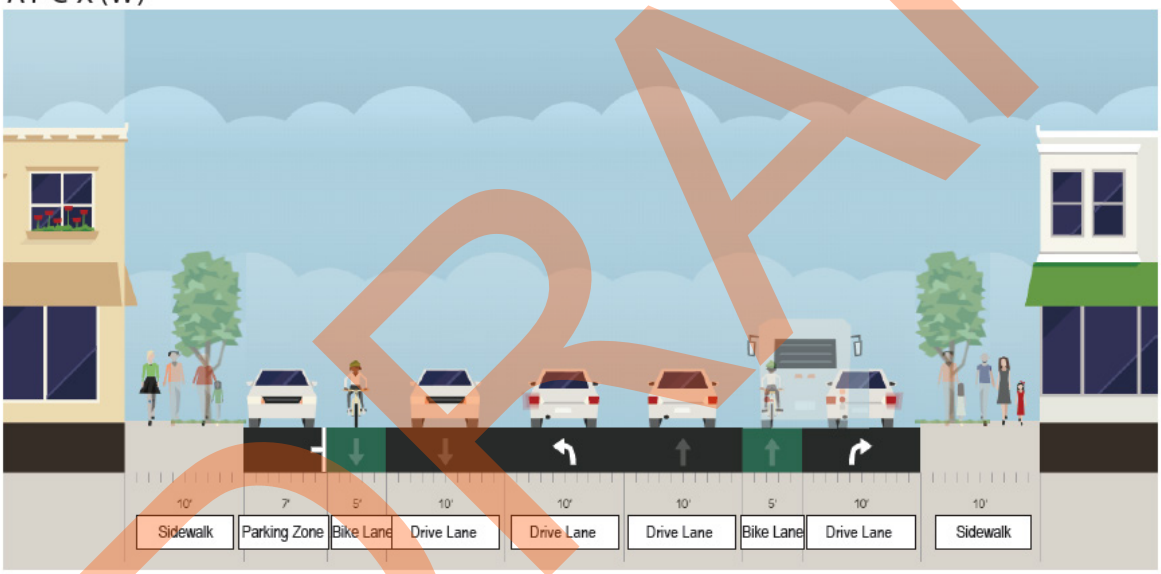




A1-C-X (W)



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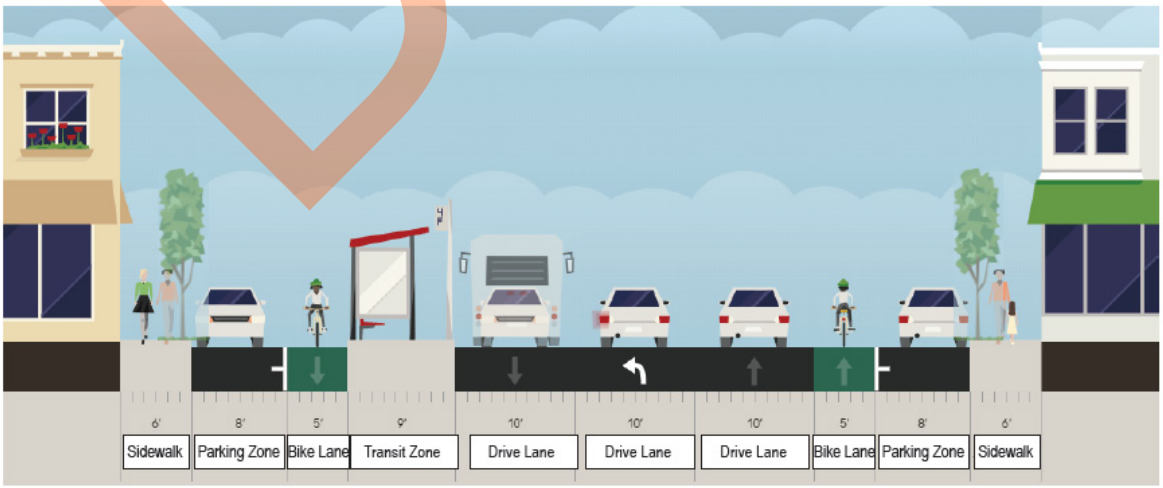

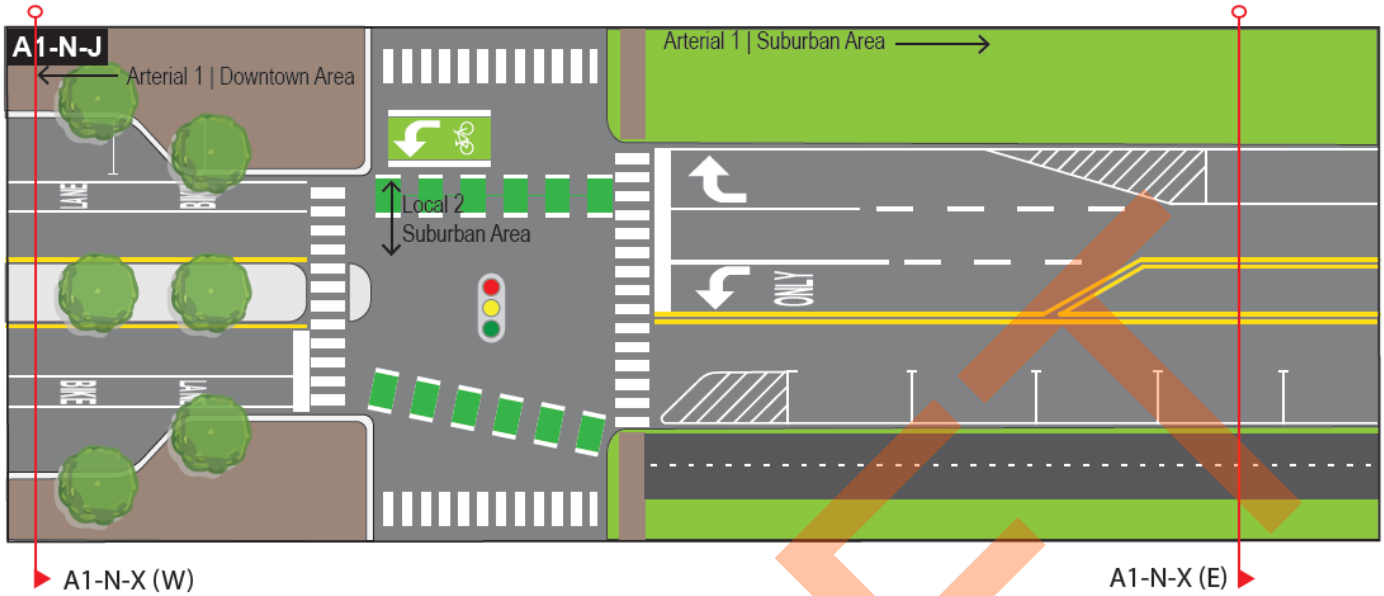

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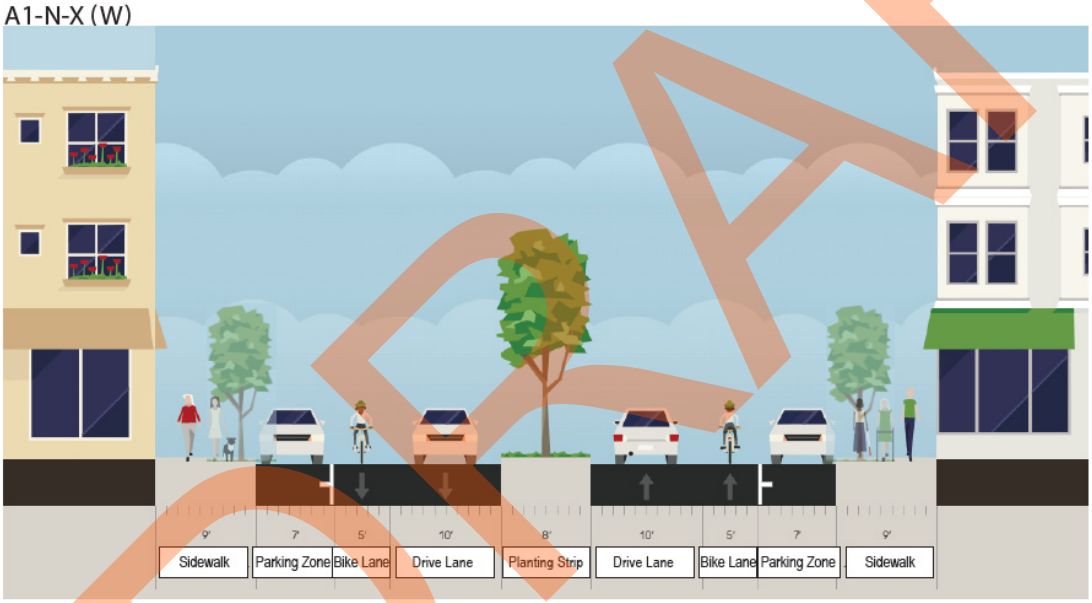

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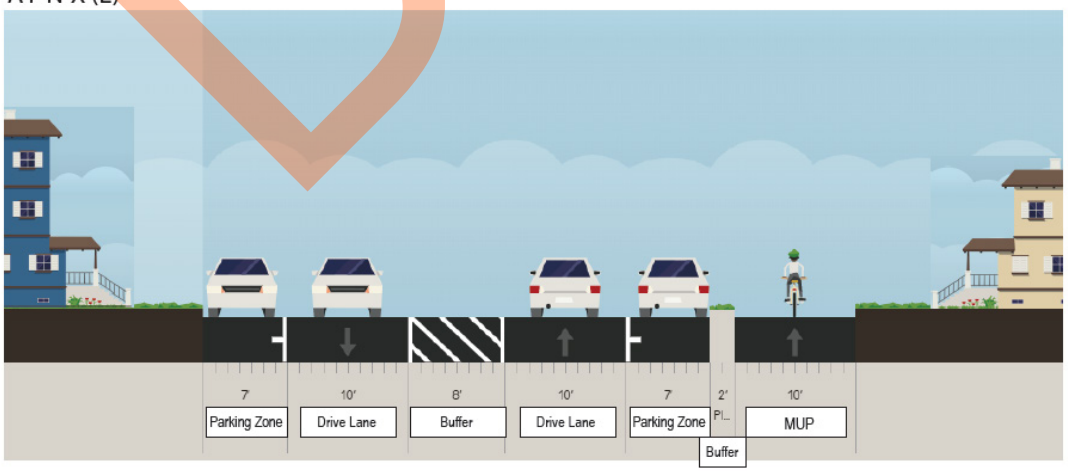
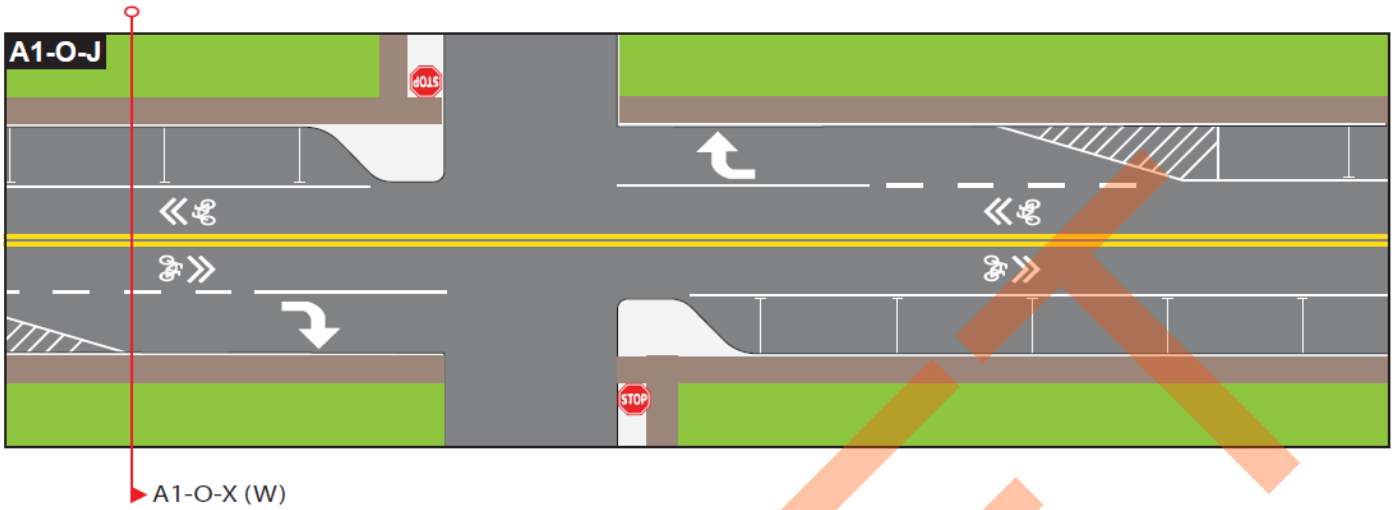


Arterial intersecting with a small local street (other)



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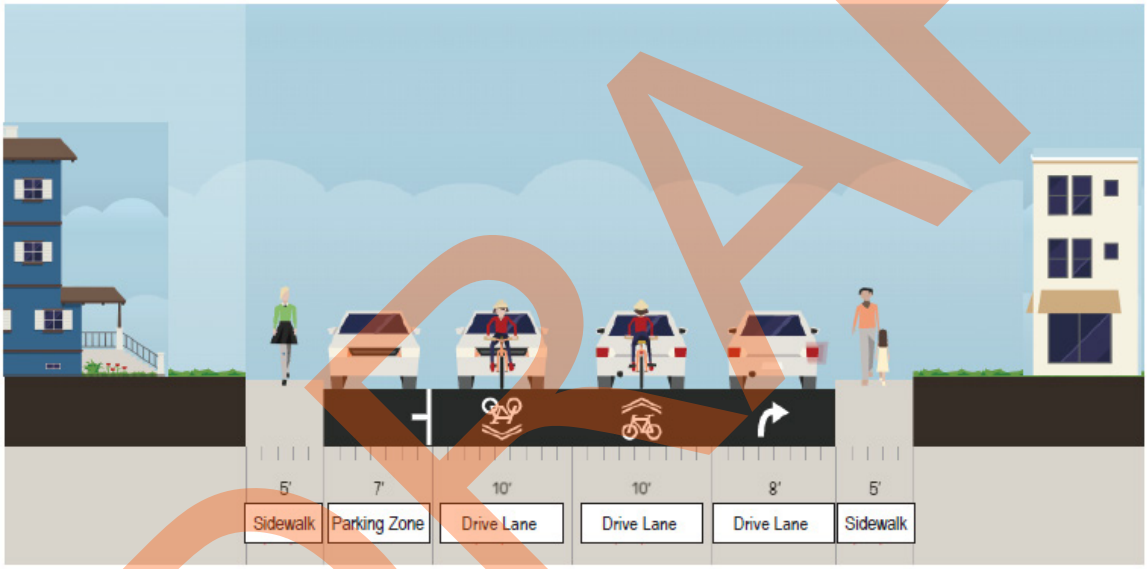
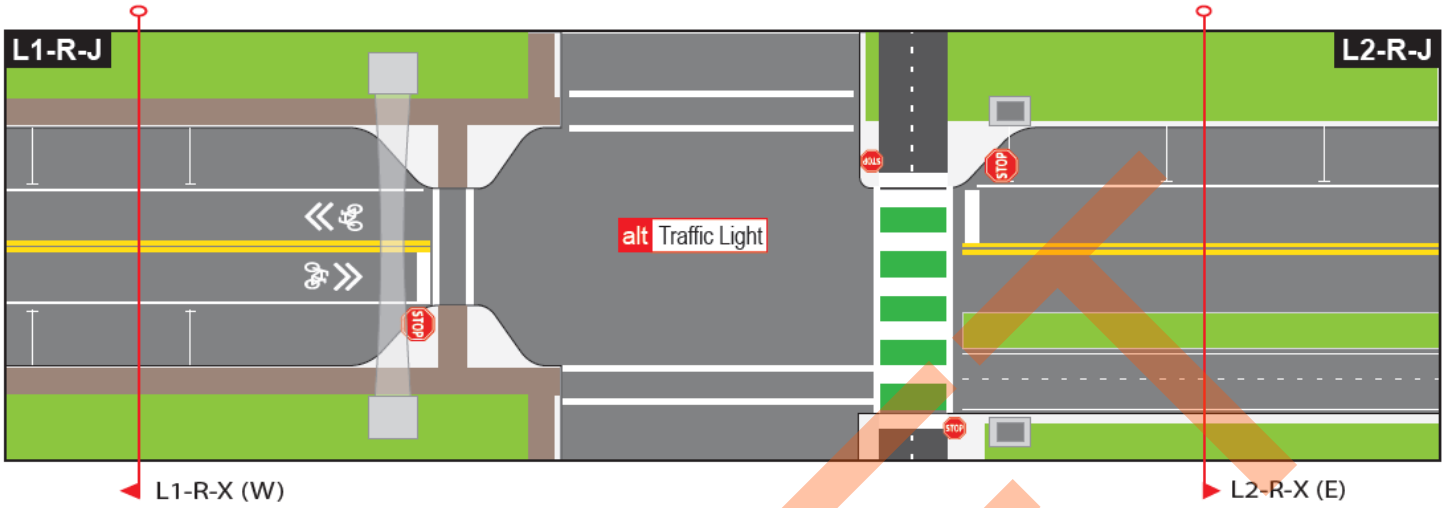
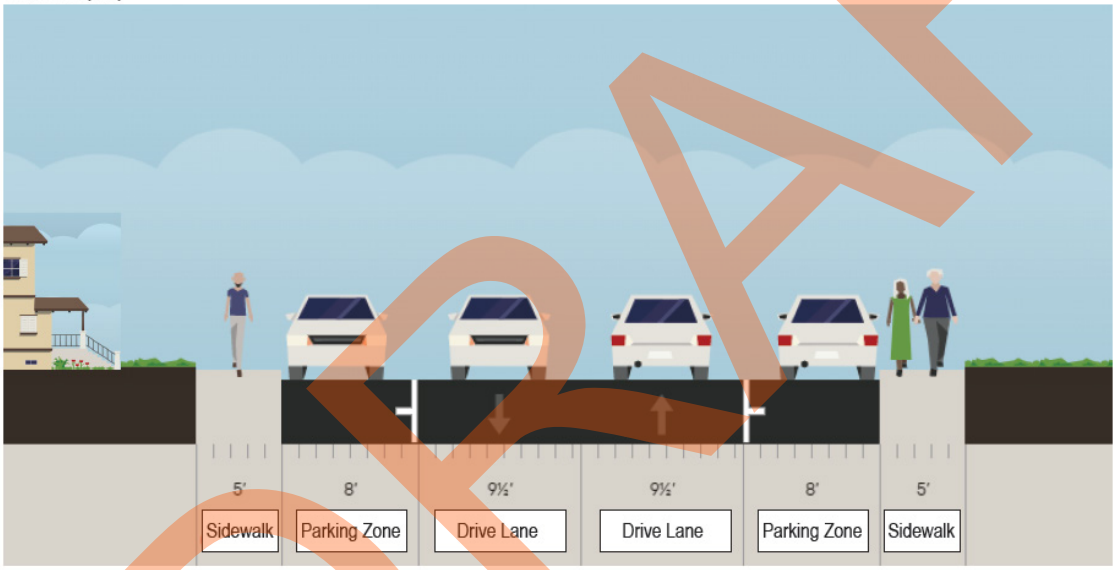




L1-R-X (W)



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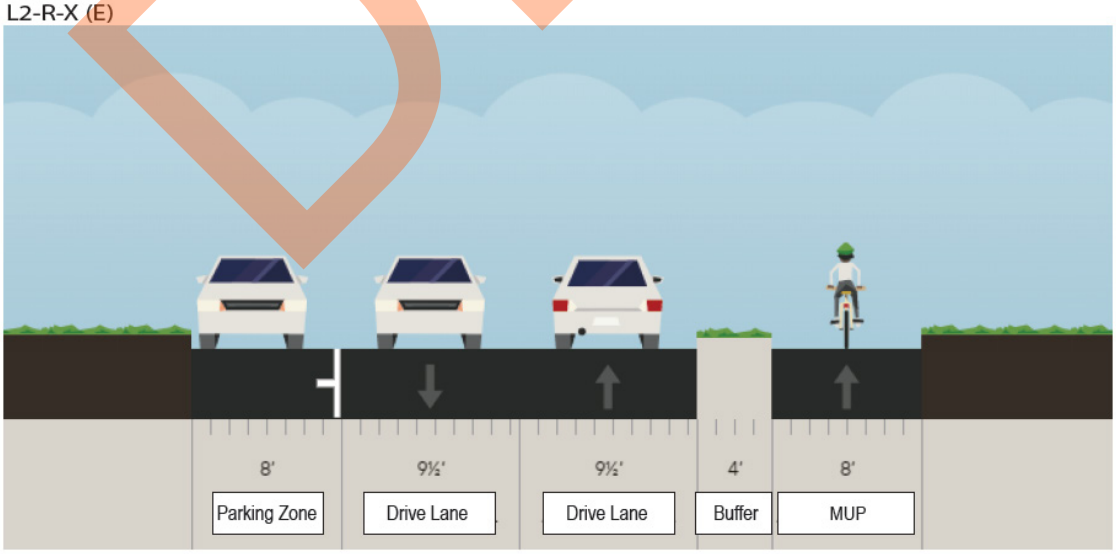

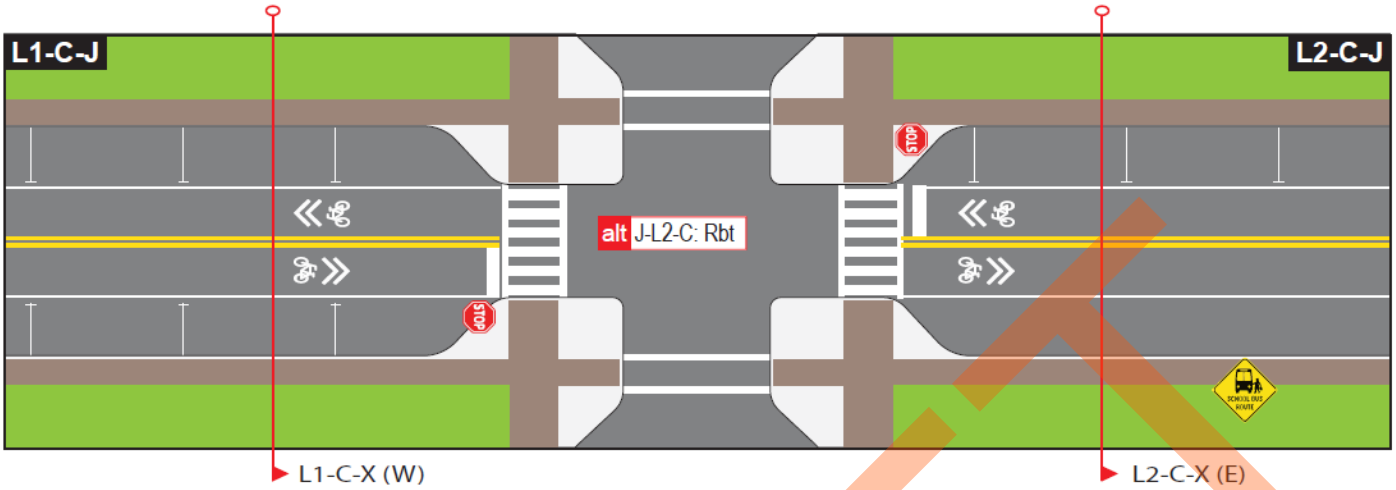

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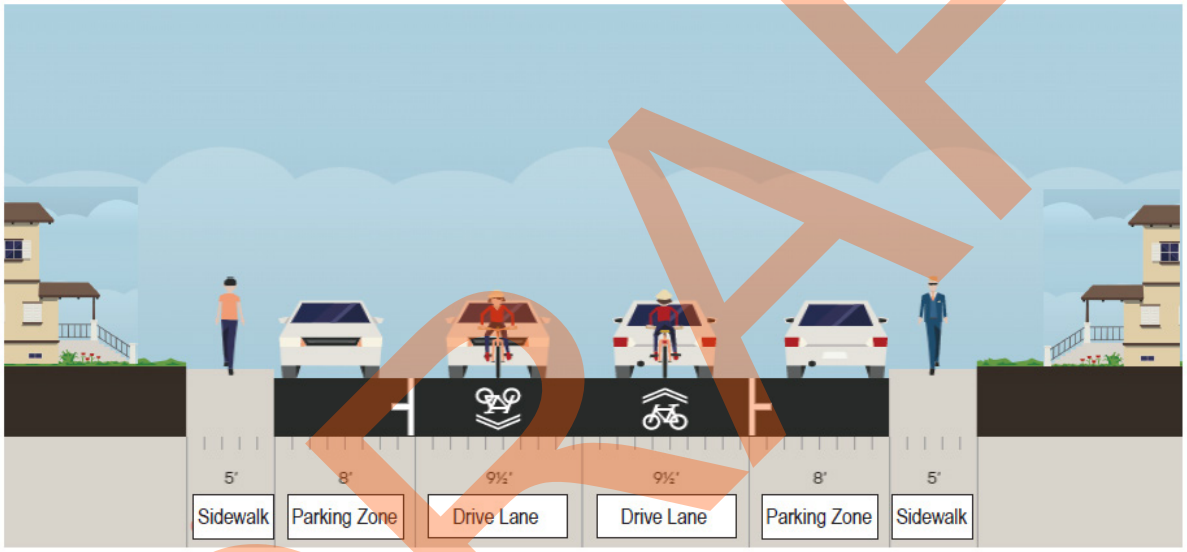

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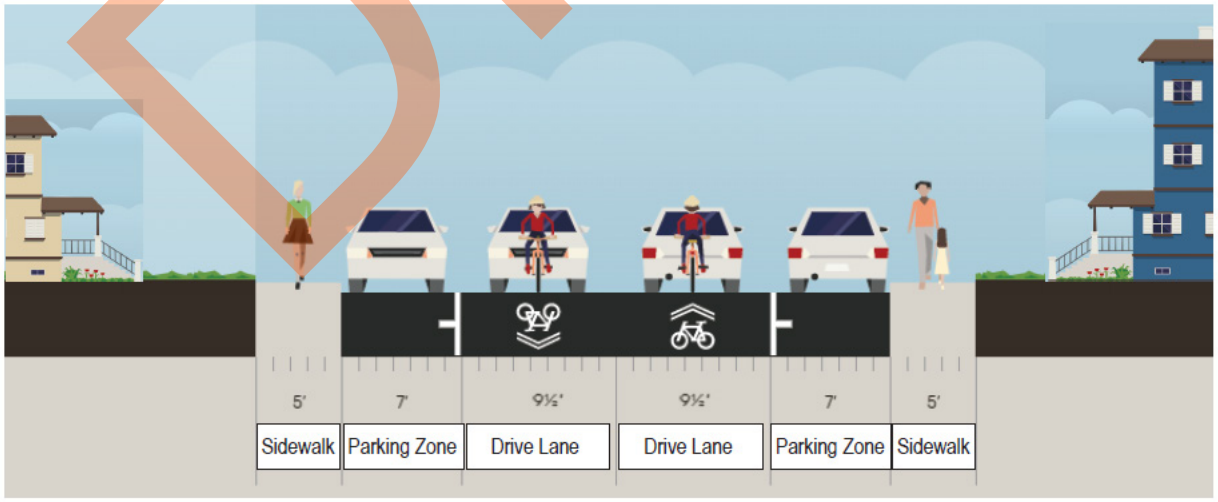

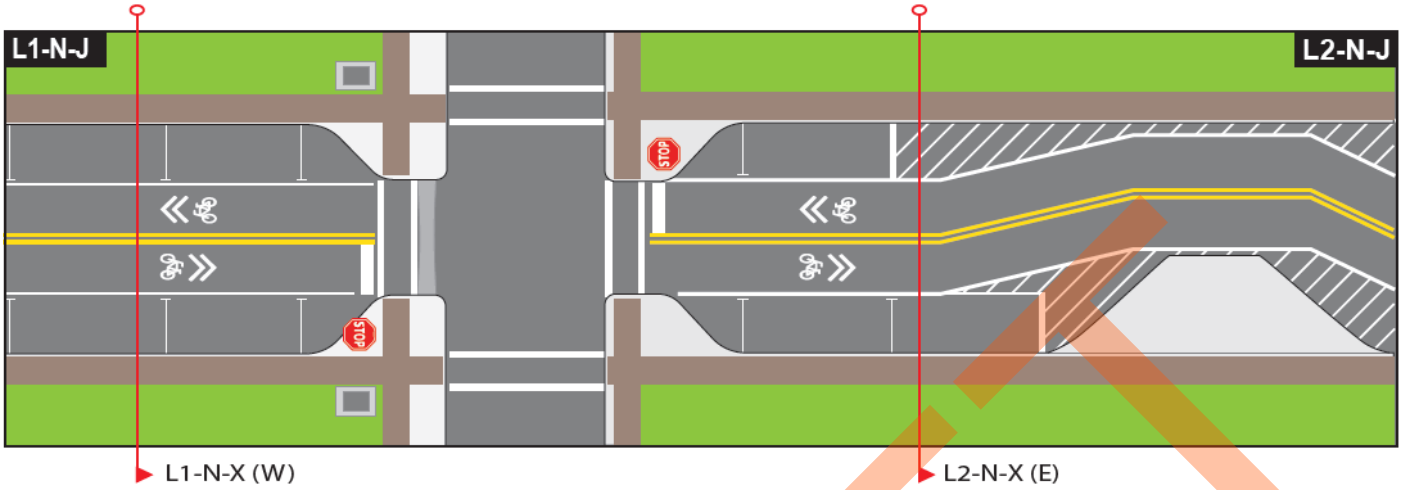

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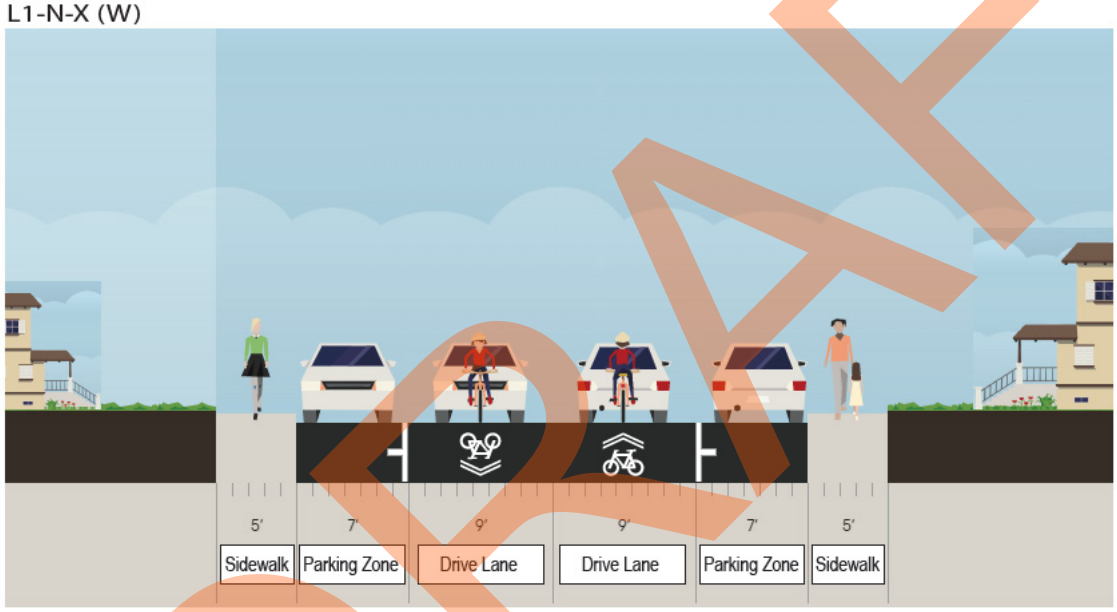

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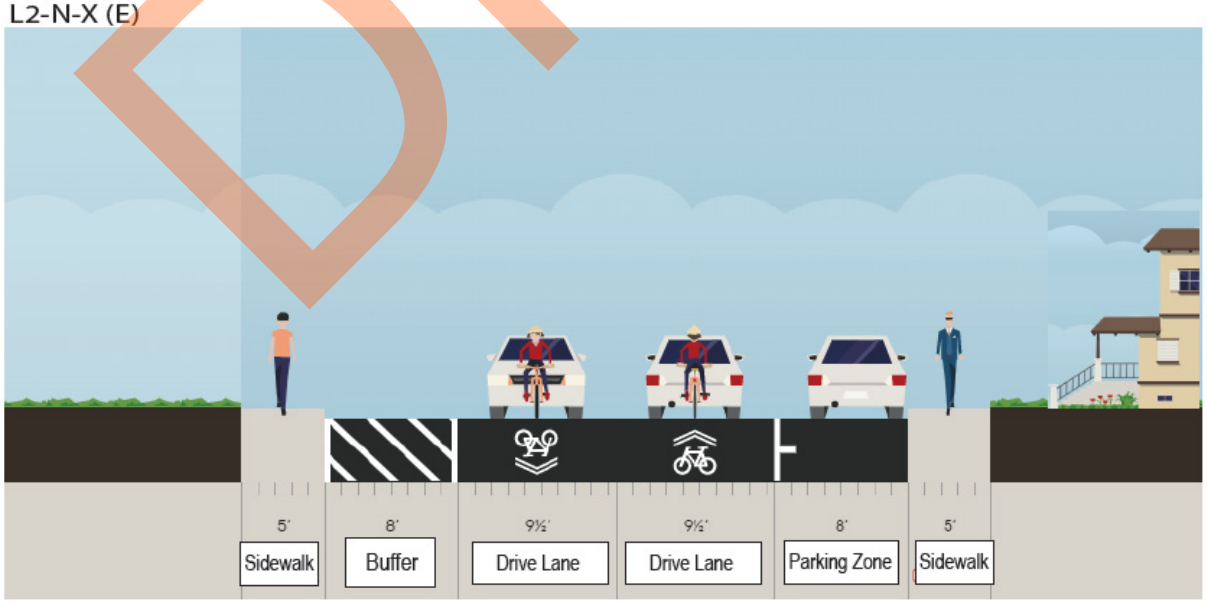

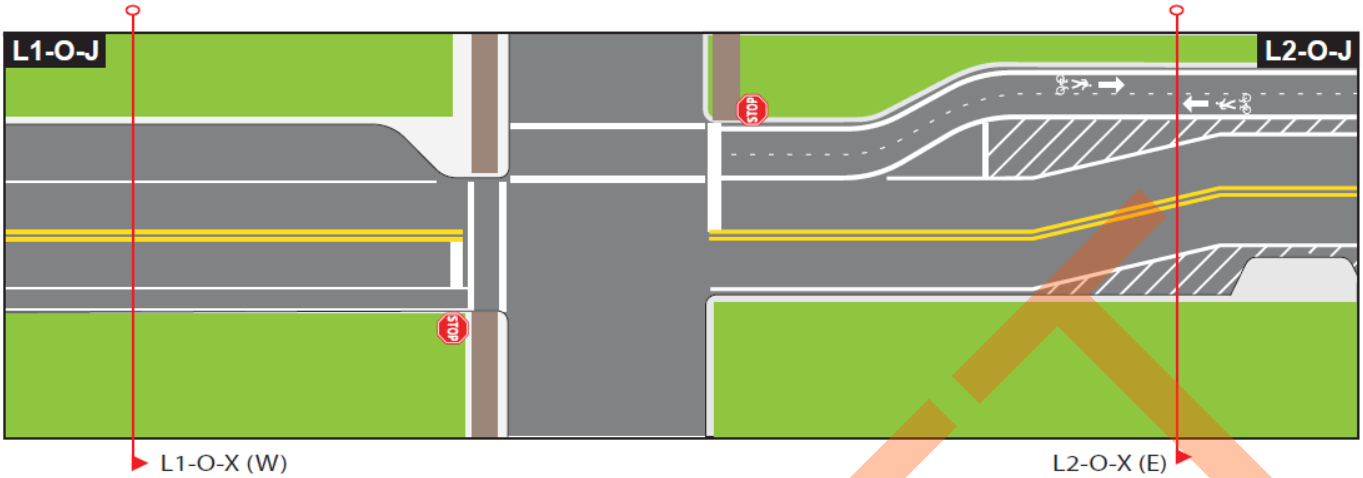

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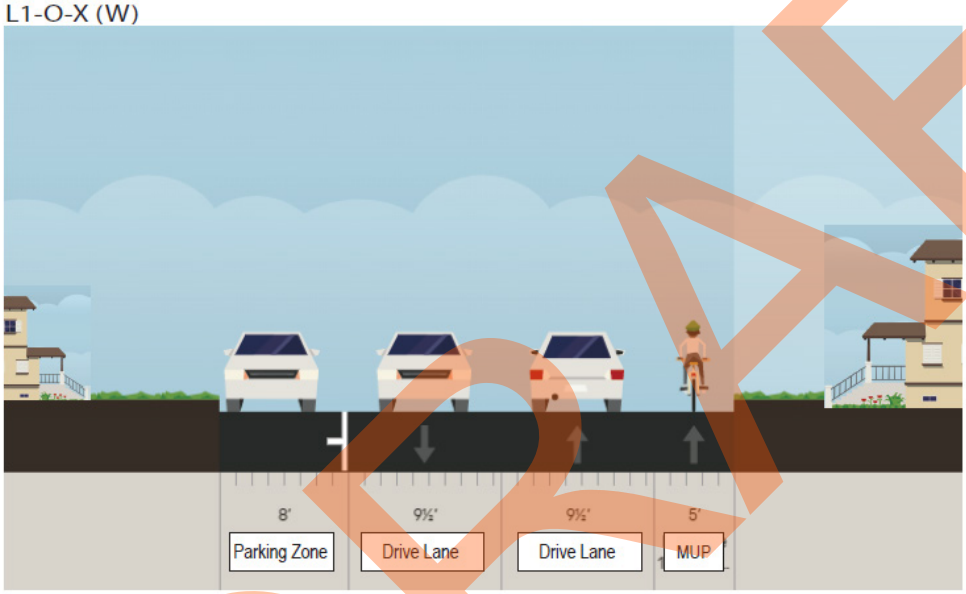

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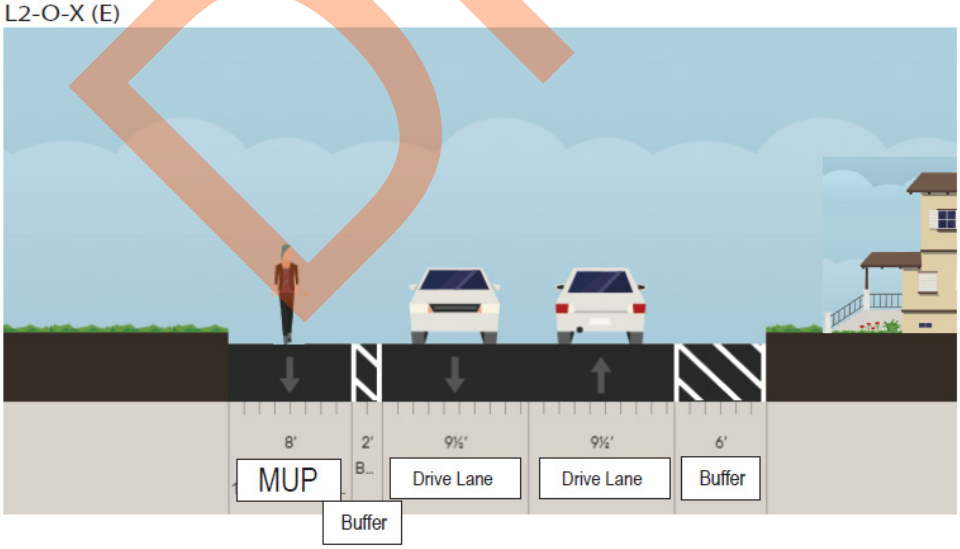

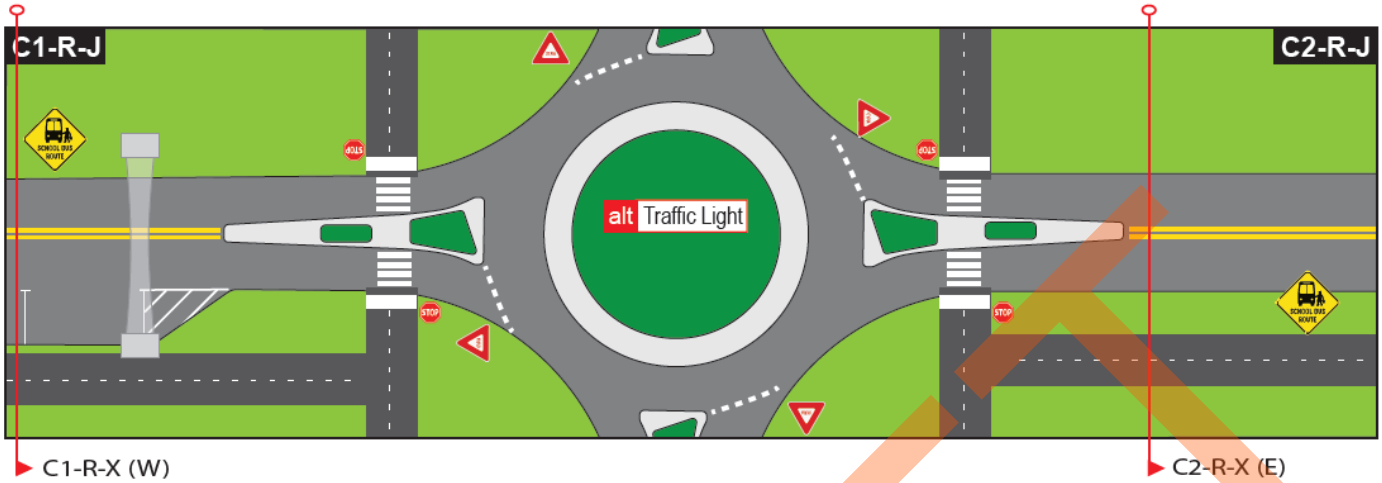

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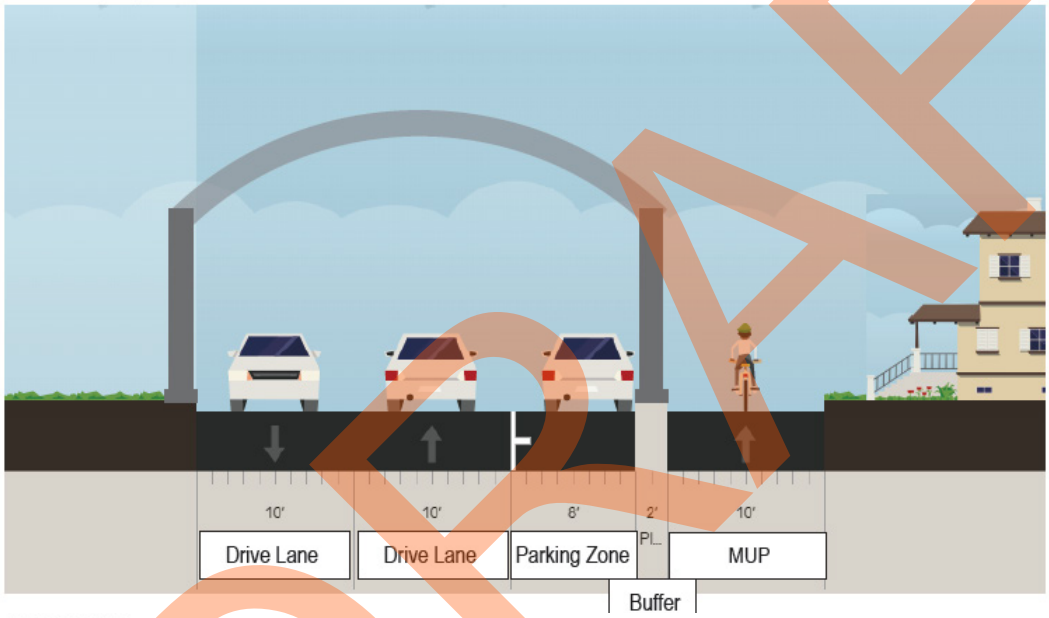

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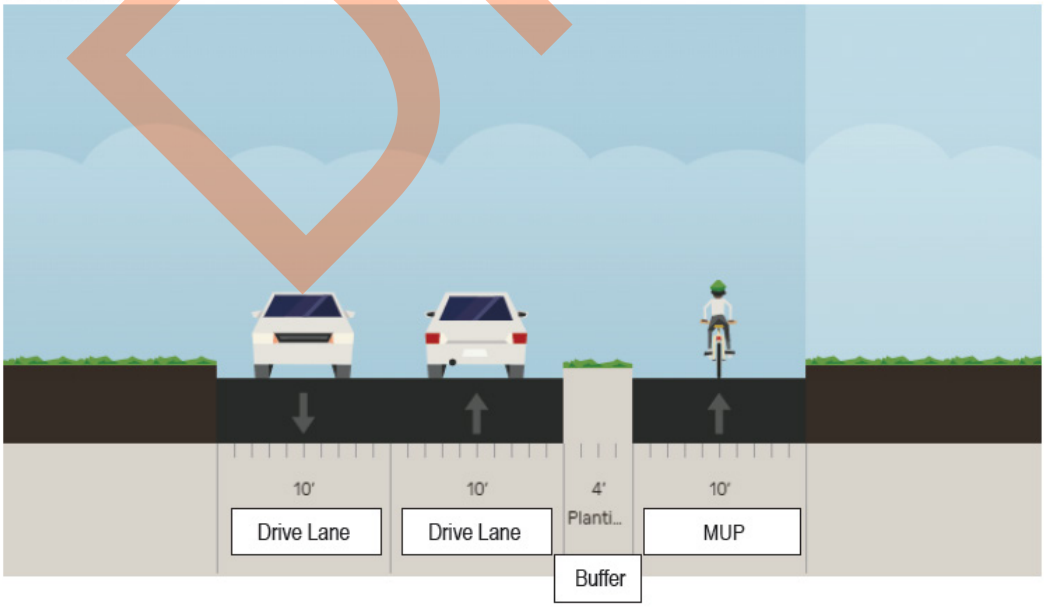

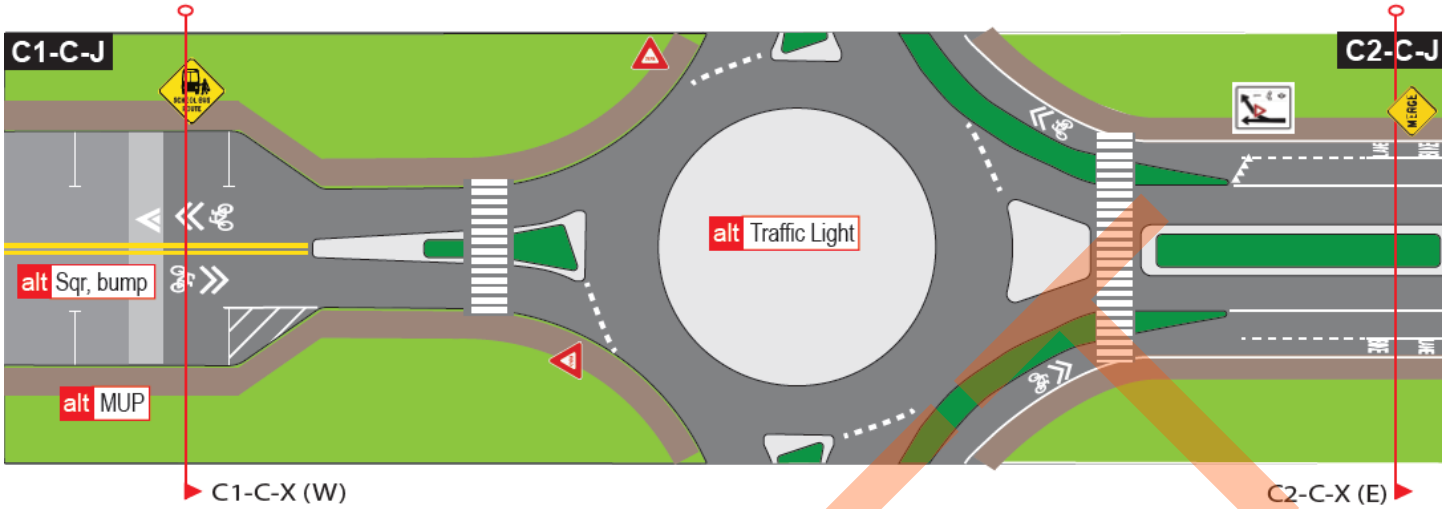

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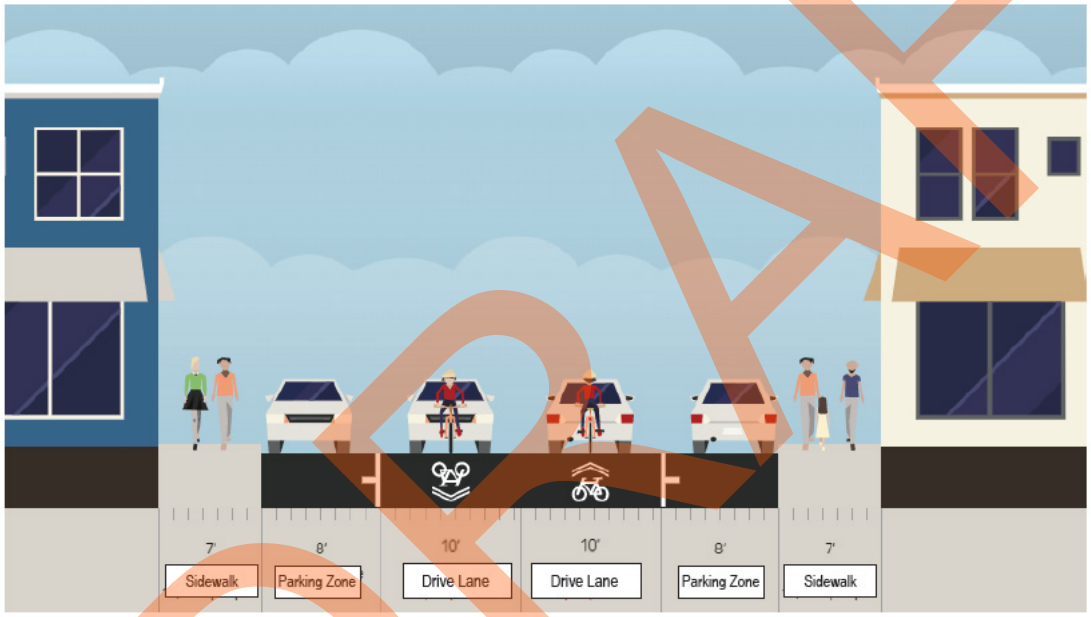

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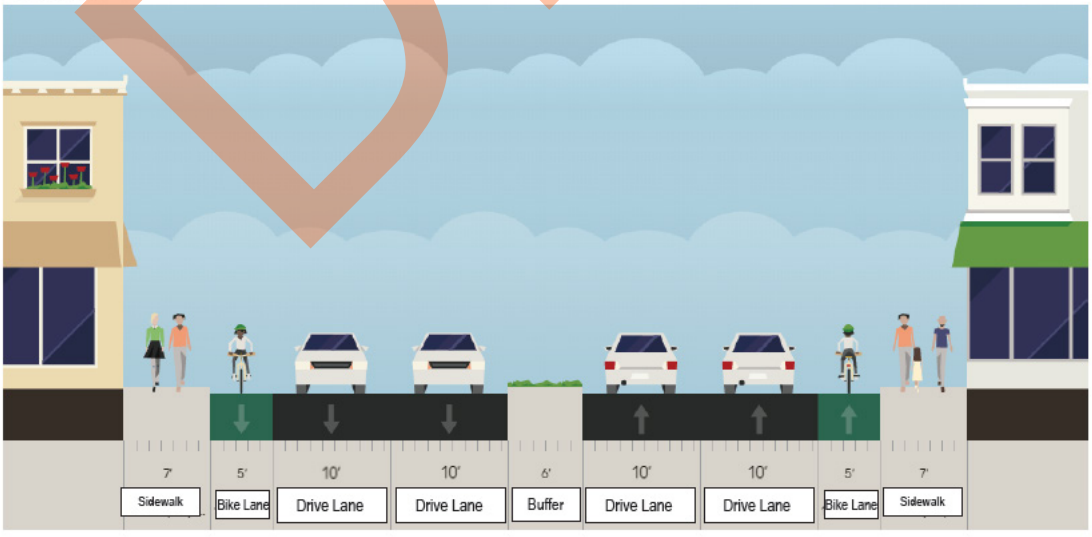

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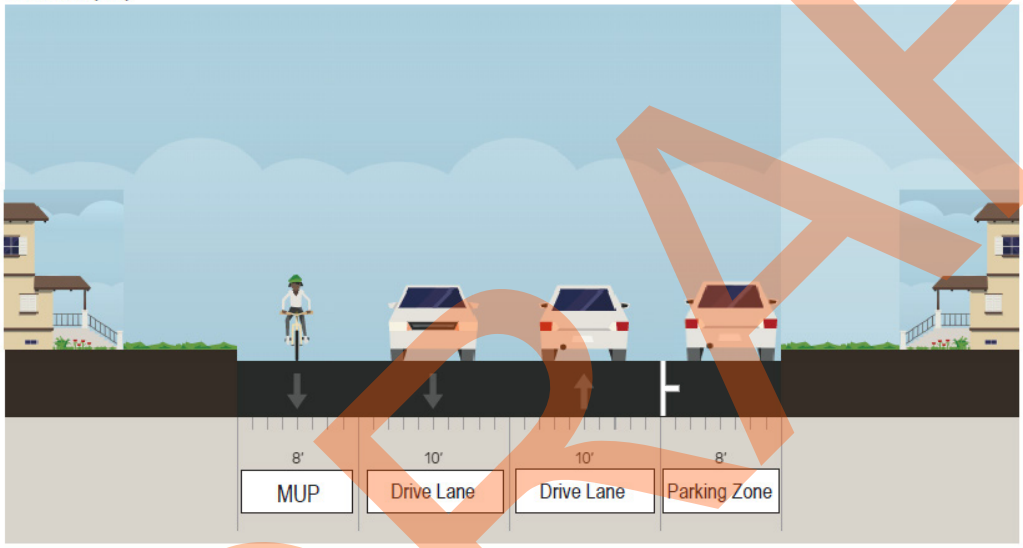

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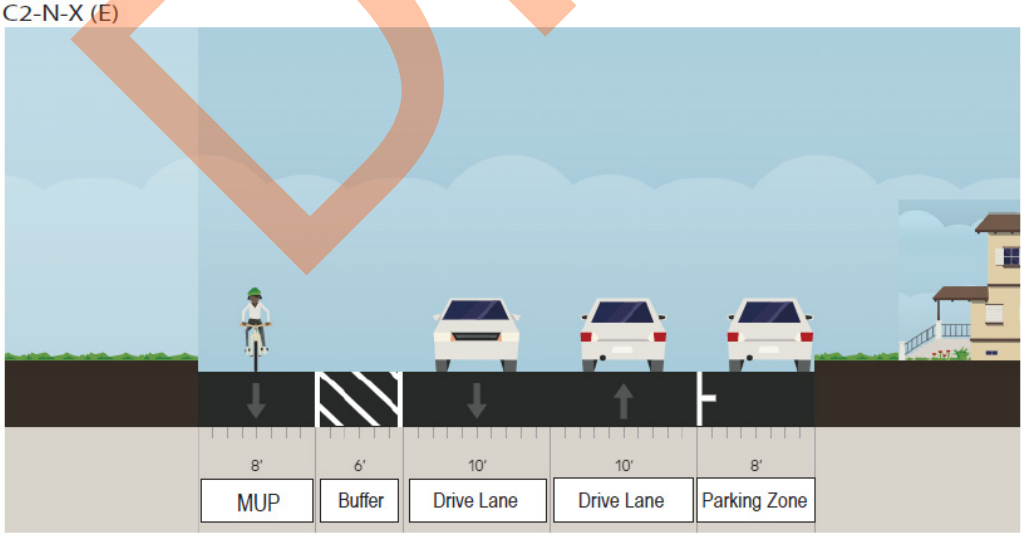

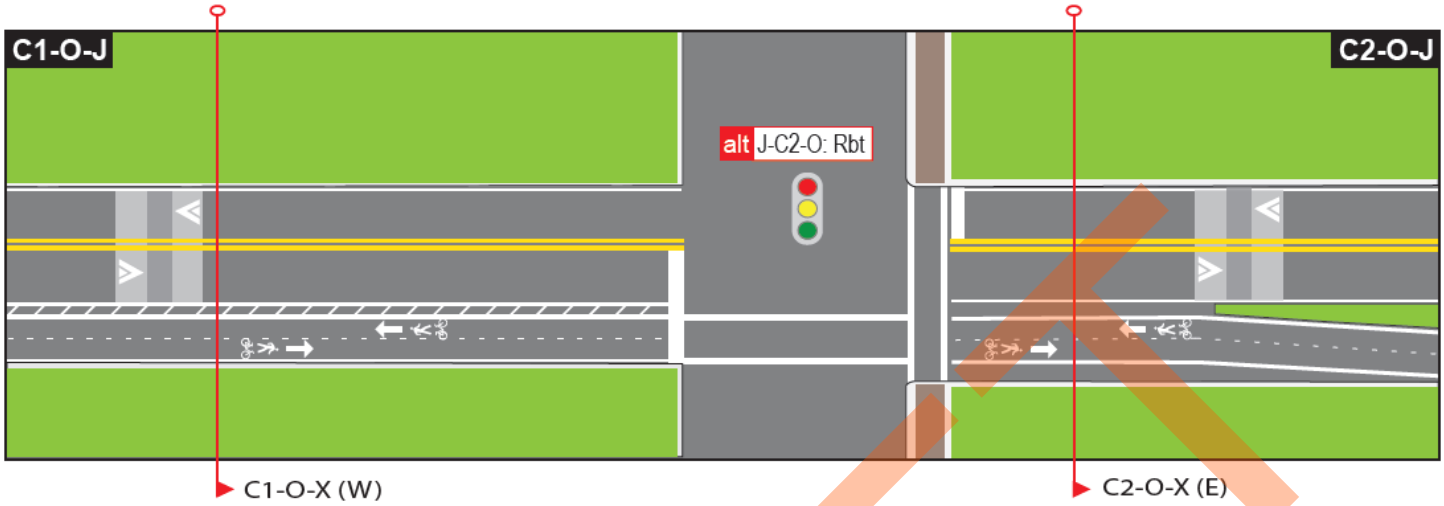

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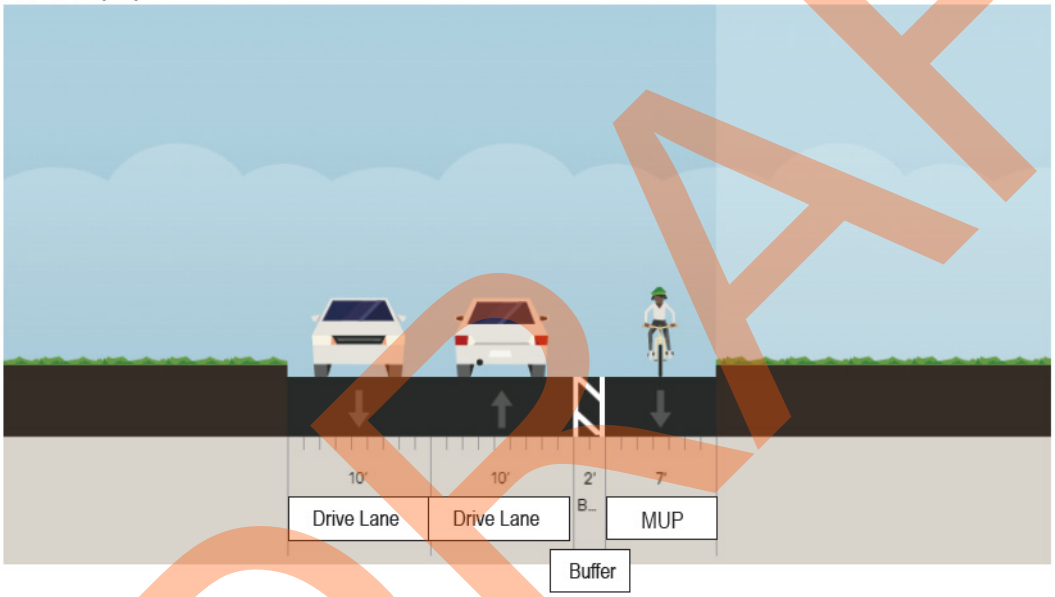

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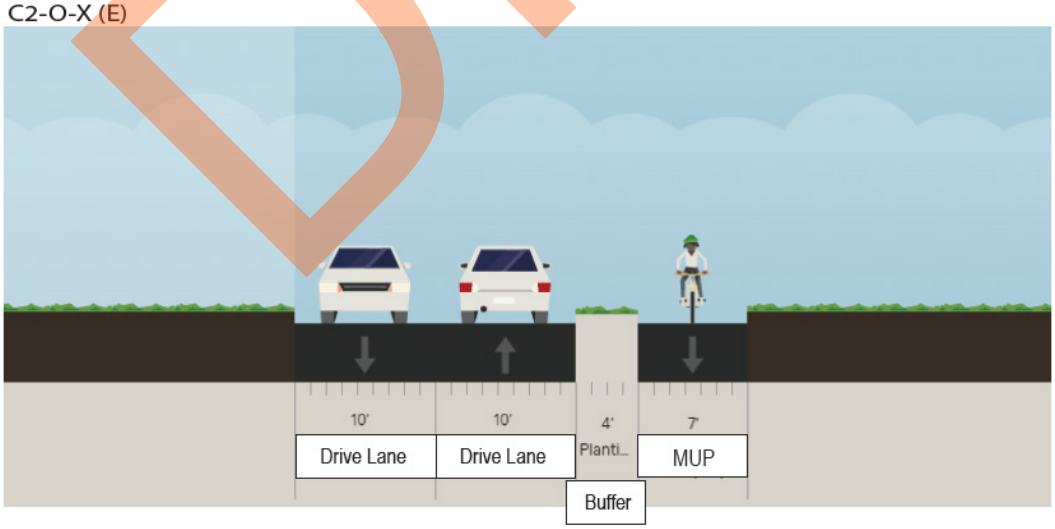

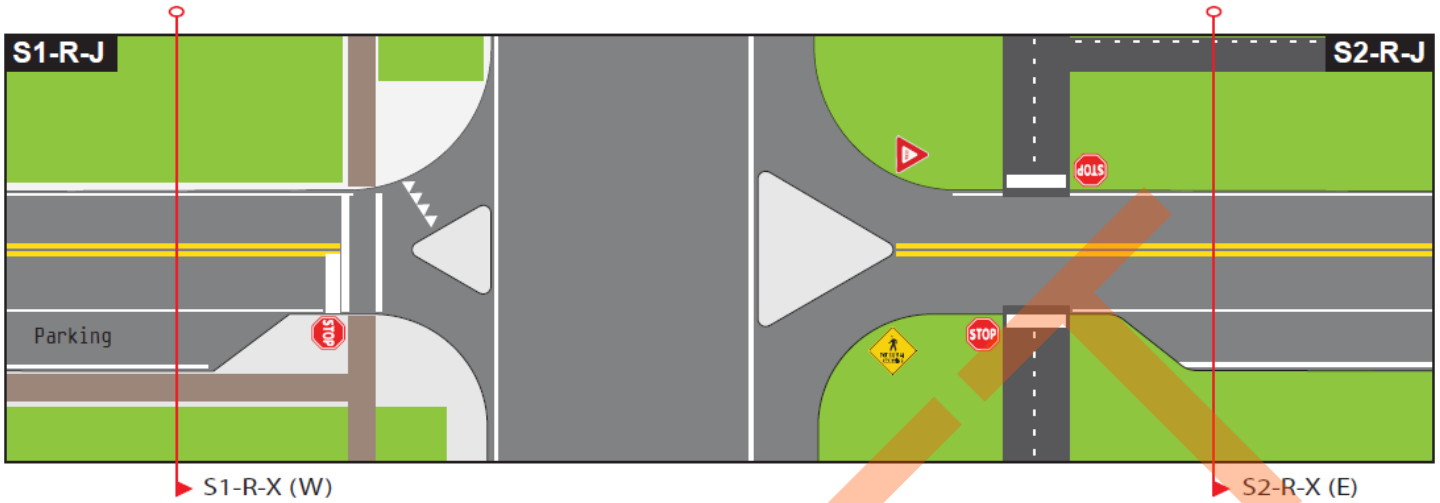

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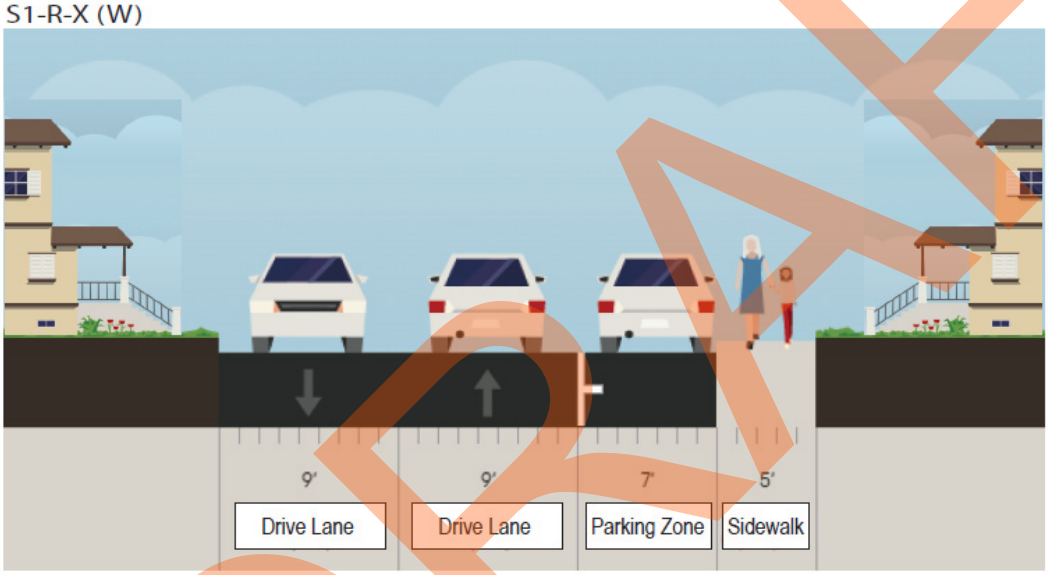

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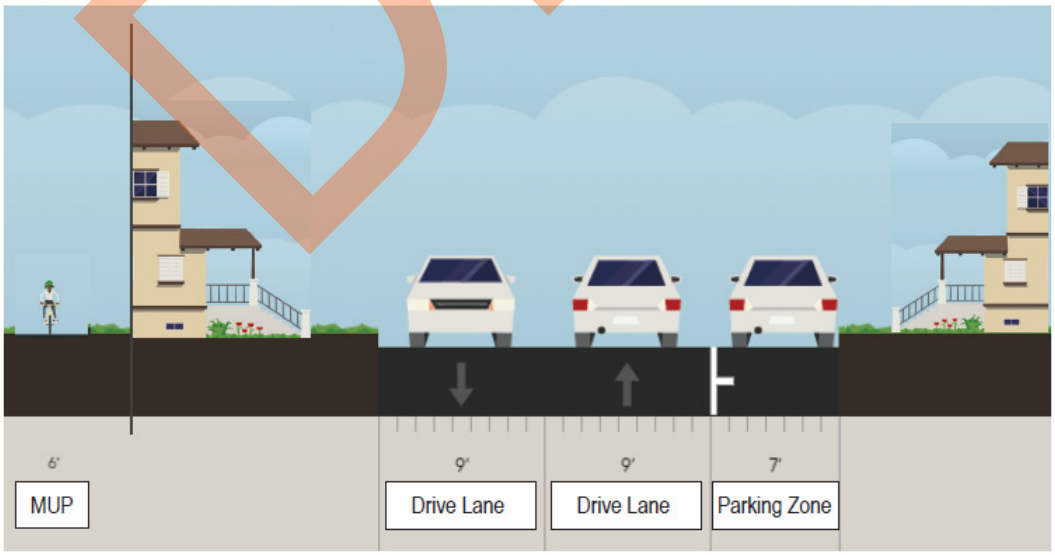
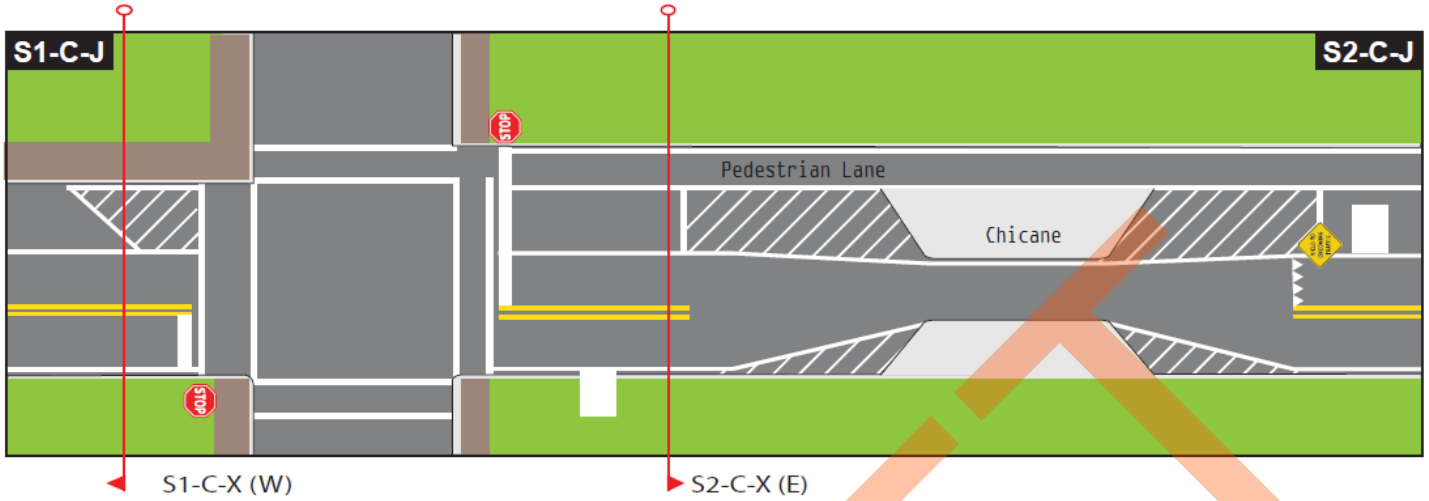
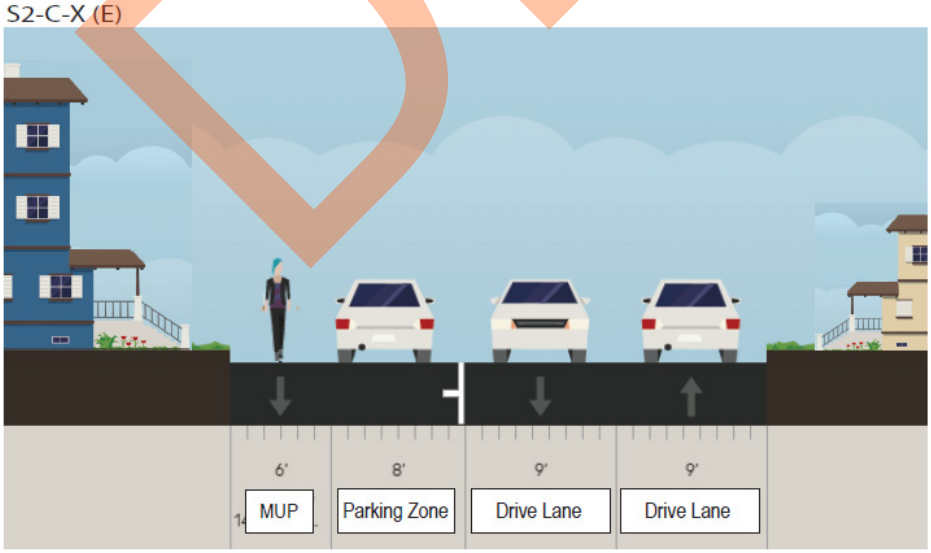
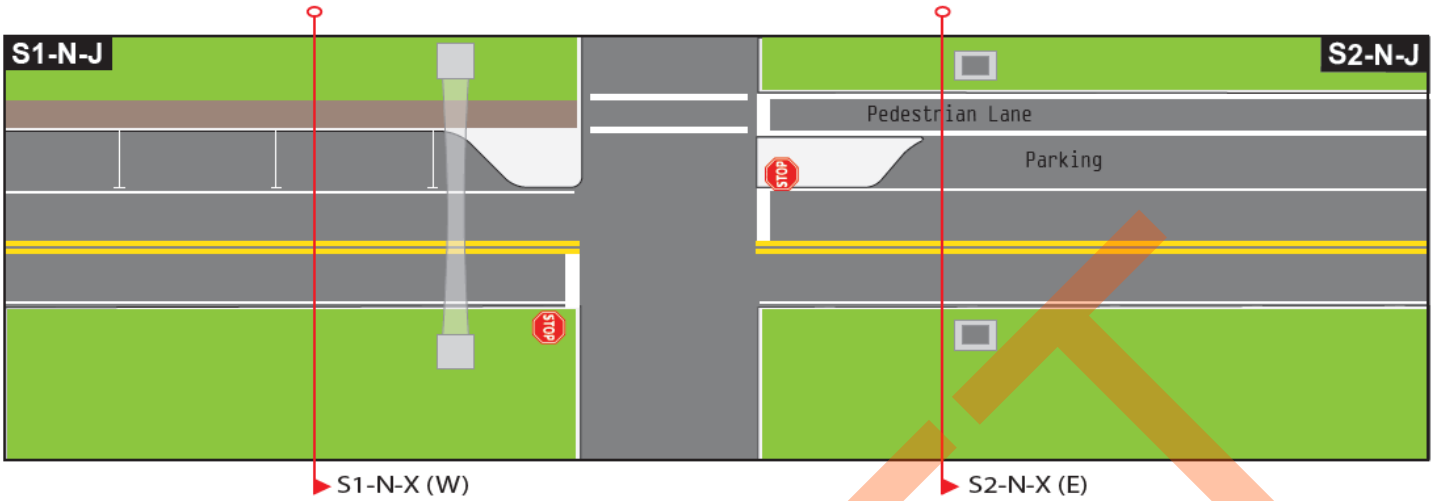




S1-C-X (W)

S2-C-X (E)





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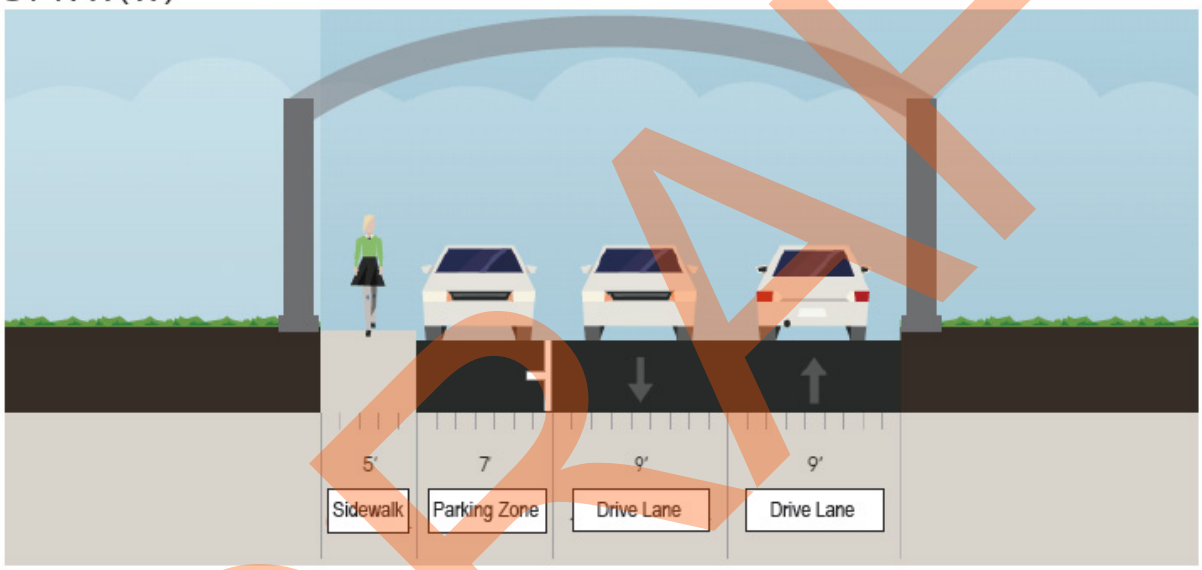

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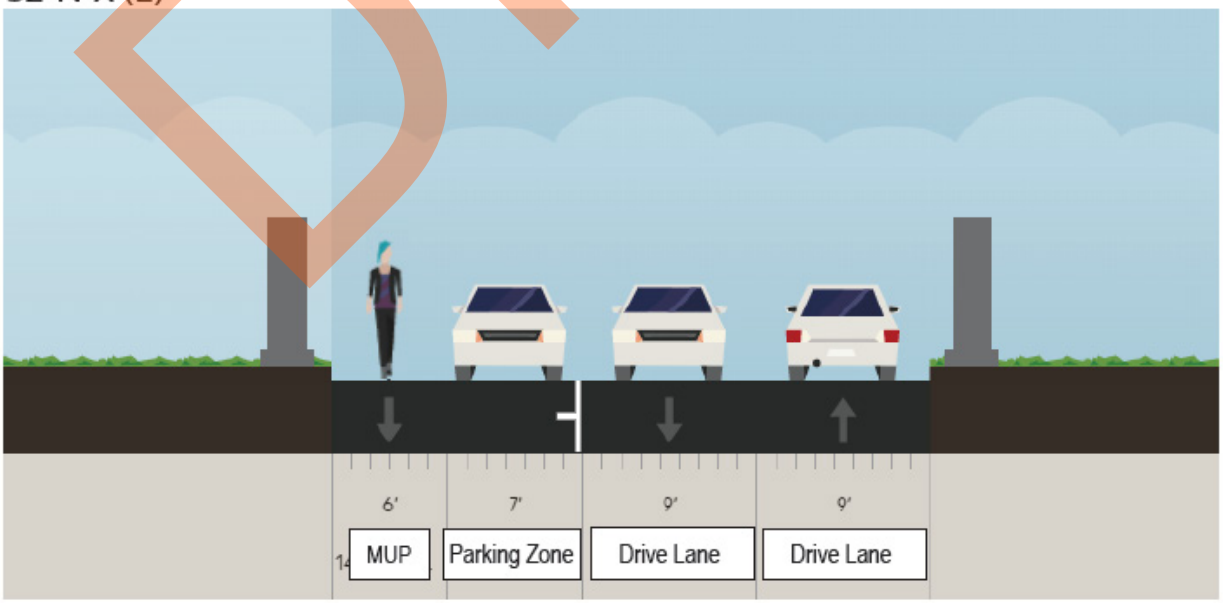

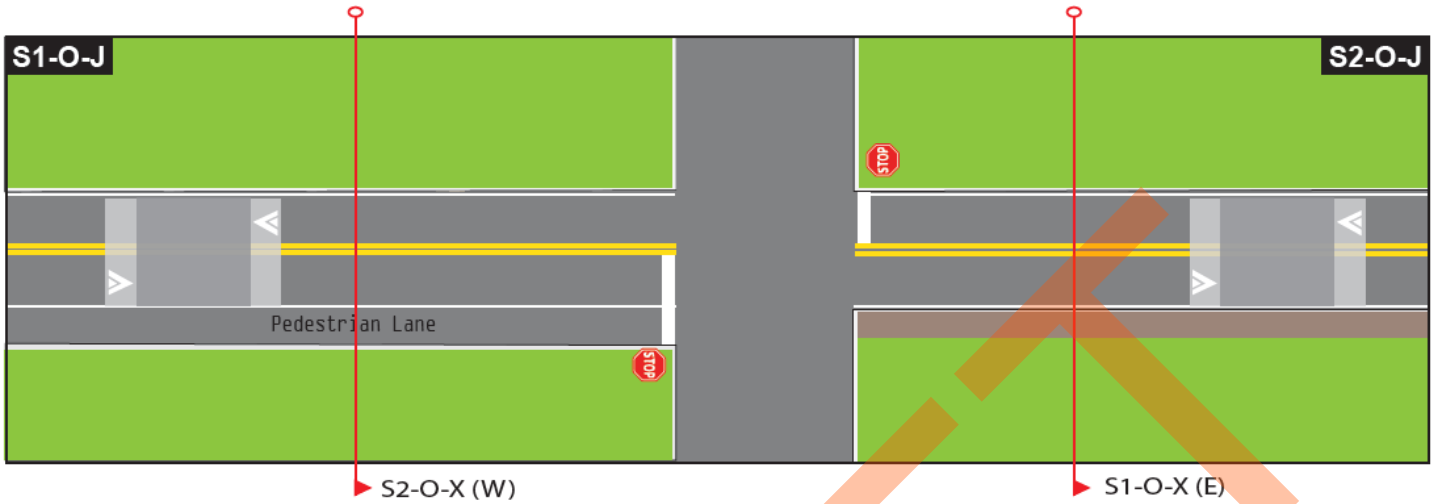

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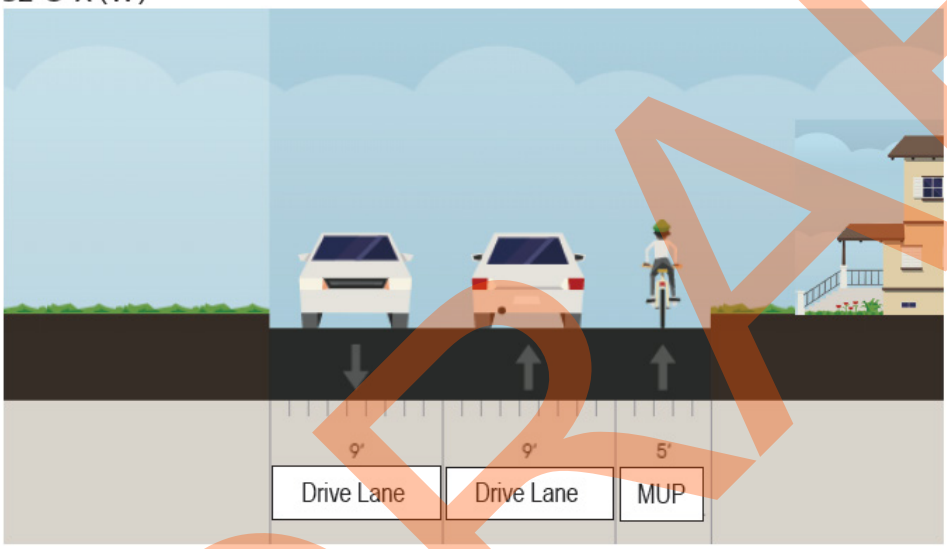

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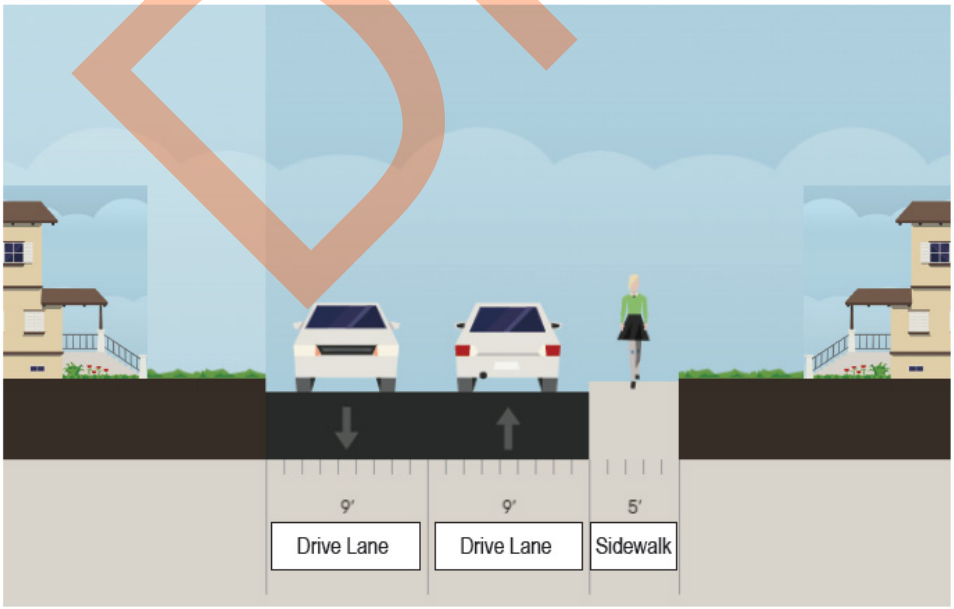


XII.4 Sample Application

The checklists provided with applications for the different types of subdivision are included below.

Exempt and Minor

Received	Submittal Items
Land Development and Exempt Subdivision (One Hard Copy and One Digital)	
	1. Proof of ownership
	2. Complete application form for certification of an Exempt Land Development or an Exempt Subdivision
	3. Proposed subdivision plat or land development plan
	4. Statement of Justification
Minor Subdivision Sketch Plat (Optional; One Hard Copy and One Digital)	
	1. Sketch Plat
Minor Subdivision (One Hard Copy and One Digital)	
	1. Proof of ownership
	2. Complete application form
	3. Statement of Justification
	4. Subdivision Plat
	5. Site Survey
	6. Entrance Permit from DOH
	7. Water and Sewer Certification from Health Department or water/sewer board
	8. Maintenance Agreement if applicable
	9. Sight Distance Evaluation
	10. Floodplain Approval from the County floodplain coordinator
	11. Drainage Control Plan
	12. Stormwater Management Plan if applicable
	13. Approval from Fire Marshal if applicable
	14. Performance Standards Checklist
	15. Any additional information requested by the Planning Director
	16. Fees

Major and Major/Phased

Received ✔	Submittal Items
Major Subdivision Sketch Plat: Multi-Phase or Single-Phase Project	
	1. Sketch Plat
Major Subdivision Preliminary Plat: Multi - Phase Project (Initial Submission and Any Revisions - One Hard Copy and One Digital. After Application Accepted as Complete - Eight (8) Additional Hard Copies)	
	1. Complete application form
	2. Statement of Justification
	3. Preliminary Plat Drawing
	4. List of all owners of subject property
	5. Notification List and stamped envelopes
	6. Conceptual Road Grade and Profile Plan
	7. Preliminary drainage, stormwater management and erosion control plan(s)
	8. Sight Distance Evaluation(s) for all proposed driveways and roadway intersections
	9. Satisfactory evidence that approval has been sought from the following if applicable: Floodplain Coordinator, Fire Marshal, Health Department, public service district, and municipal water and sewer board
	10. Performance Standard Checklist
	11. Any additional information requested by the Planning Commission
	12. Fees
Major Subdivision Preliminary Plat: Waivers	
	13. Performance Standards
	14. Parking Standards
	15. Any additional information requested by the Planning Commission
	16. Fees
Received	**Submittal Items**
Major Subdivision Final Plat: Single-Phase or Multi-Phase Project (Initial Submission and Any Revisions - One Hard Copy and One Digital. After Application Accepted as Complete - Eight (8) Additional Hard Copies)	
	1. Complete application form
	2. Statement of Justification
	3. Subdivision Plat Drawing
	4. List of all owners of subject property
	5. Notification List and stamped envelopes
	6. Road grade and profile plan(s)
	7. Drainage, stormwater management and erosion control plan(s)
	8. Sight distance evaluations for all proposed driveways and road intersections
	9. Entrance permits from DOH for all connections to public roads.
	10. Approval by the Health Department, public service district, or municipal water and sewer board for sewer and water facilities and required easements
	11. Statement of compliance from the County Floodplain Coordinator
	12. Approval from Fire Marshal if applicable
	13. Addressing approval from M.E.C.C.A 9-1-1
	14. Service availability confirmation from electric utility company

Major and Major/Phased (Cont.)

	15. A copy of any approved preliminary plat for the subdivision.
	16. Copies of any easement, covenants, HOA or COA agreements, or maintenance agreements applicable to land within the subdivision.
	17. Any additional information considered necessary by the Planning Commission to make an informed decision
	18. Right-of-Way distinct from the lots or parcels adjoining such right-of-way and labeled for dedication.
	19. Fees
Subsequent to Final Plat or Land Development Plan Approval	
	1. Three prints of approved plat or plan to be stamped with Commission or Director approval stamp.
Improvement Location Permit (One Hard Copy and One Digital)	
	1. Complete application form.
	2. Proof that the proposed construction or land development will be located on property owned by applicant or has property owner's consent
	3. Proof of subdivision approval or exemption
	4. Proof of compliance with Floodplain Ordinance
	5. Proof of compliance with any relevant zoning regulations
	6. Driveway entrance approval
	7. Utility connection or well and septic approval
	8. Construction Drawings
	9. Security Bond if Applicable

XIII.5 Sample Multimodal Waiver Form

A Preliminary Draft, showing the principal questions that need to be answered satisfactorily for MCPC review, is provided below:

Monongalia County Development Application

SUBDIVISION PERFORMANCE STANDARD CHECKLIST

To find out if your subdivision is meeting County performance standards, answer these questions ***yes*** or ***no***. If you need some help in answering, see the "Help!" list on the next page.

A. Transportation and ROW

1. ____ Are there any destinations other than residences and/or amenities that serve those residences only?
2. ____ Are there multimodal facilities in a plan (see list at right) that program a facility through or nearby the subdivision?____ Does the subdivision address the proposed facility?
3. ____ Transit: Is there a route, a route planned or the potential for transit to stop or come through this subdivision?
4. ____ Bikes: Is there a bicycle facility/route provided on this or an adjacent corridor OR is the street under 20 mph?
5. ____ Pedestrians: Can a pedestrian (wheelchair) walk safely and comfortably to a destination on or near the corridor in all conditions (e.g. icy roads)? A ped facility meets this, IF a wide shoulder, who waives?
6. ____ Parking: Is there on-street parking provided or is adequate parking provided by the neighborhood without it?
7. ____ Are utilities run underground or are handled in a way as to free up above ground ROW?
8. ____ Does the applicant propose any on or off-site roadway improvements such that the net performance will more than compensate for the additional traffic?

B. Water Management

1. ____ Other utilities: SW, handled (cannot remove other section requirements by meeting this section unless explicitly stated)?
2. ____ Is the slope rough, hummocky, cracked, or slipped?
3. ____

_____

C. Other Performance

General

1. ____ Does or will the subdivision rest entirely on unyielding bedrock, undisturbed natural soil, or compacted, settled fill?
2. __?

Transportation Plans

1. LTRP?
2. Comp Plan?
3. Bike/Ped Plan?
4. Transit Plan?
5. Utility Plan?

e.g. on-site parking, off-site intersection improvement

Water Management Plans

1. MUB Plan
2. First Energy Plan

Other Plans

1. Parks and Rec Plan
2. Undermining and subsidence
3. Other Site and Small Area Plans

XIII.6 Sample Tripartite Agreement and Engineer Certificate of Completion

TRIPARTITE AGREEMENT

AGREEMENT made this _ _ _ _ _ _ day of _ _ _ _ 20____ by and between the COUNTY OF MONONGALIA, a West Virginia public corporation by and through the MONONGALIA COUNTY PLANNING COMMISSION, having its principal place of business at 243 High Street, Morgantown, Monongalia County, Morgantown; and

_ having its principal place of business in hereinafter referenced as the "Applicant" and a West Virginia Banking Corporation, having a principal place of business at _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _, hereinafter referenced as the "Lender";

To secure the construction of ways and the installation of municipal services in a portion of the subdivision of land shown on a plan entitled "_____" dated _ _ _ _ _ _ _ _ _ _ _ _ _ _, prepared by _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ and filed with the Monongalia County Clerk Office as Map Book_____ at Page _____ which premises are owned by_____ and relative to land located in the Subdivision called "_____"

KNOW ALL MEN BY THESE PRESENTS

That the Applicant and the Monongalia County Planning Commission have executed a Covenant dated_____ and recorded in the Monongalia County Clerk's Office in Book _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ at Page _ _ _ _ _ _

That the Applicant has recorded a first mortgage with the Lender dated_____ and recorded with the said Monongalia County Clerk's Office in Deed of Trust Book _ _ _ , Page_____, covering said Subdivision, as shown on the above-referenced Plan, as security for the payment of a certain Note in the principal amount of $ _____

This Agreement shall apply to the improvements to be constructed by the Applicant on _ _ _ _ _ _ _ _ _ _ _ _ _ _ Street (Road or Way) at Stations_____(if Applicable), based on a Vote of the MONONGALIA COUNTY PLANNING COMMISSION.

The work called for in constructing improvements to _____ Street (Road or Way), as set forth herein, shall be completed on or before _ _ _ _ _ _ _ _ _ _ _ . In the event such

work is not completed on or before the date set forth herein, any funds remaining undisbursed shall be made available to the MONONGALIA COUNTY COMMISSION, a West Virginia public corporation for completion.

Jointly and severally, the COUNTY OF MONONGALIA, a West Virginia Public Corporation by and through the MONONGALIA COUNTY PLANNING COMMISSION, having its principal place of business at 243 High Street, Morgantown, Monongalia County, in the sum of $_____and have secured this obligation by the Lender retaining said sum of money of said principal sum otherwise due the Applicant to insure the performance by the Applicant of all covenants, conditions, agreements, terms and provisions contained in the following:

The Monongalia Planning Commission may, at the request of the Applicant from time to time, authorize a reduction of the security as provided herein and in such case shall deliver a written certificate specifying such reduction to the Applicant and Lender. The Lender in such case shall have the right to rely on said written certificate without further inquiry and shall be relieved of liability to the Applicant and the Monongalia County Commission, a West Virginia Public Corporation by and through the MONONGALIA COUNTY PLANNING CORPORATION of its action in reliance thereon.

Notwithstanding anything contained herein to the contrary, the Lender shall have the right at any time prior to completion of the work, to deposit the balance of undisbursed funds in a savings account in the name of the Monongalia County Commission, a West Virginia Corporation by and through the MONONGALIA COUNTY PLANNING COMMISSION, and shall be released from further liability to the Town and to the Applicant of its obligation under this Tripartite Agreement.

Monongalia County, acting through its Planning Commission, hereby agrees to release lots within said subdivision upon the operation of the above-referenced Covenant given, if applicable, pursuant to West Virginia Code Chapter 8A Article 8 Section 1 et. seq., without receipt of a bond or deposit of money; and further, to accept this Agreement and the funds in the amount specified hereto to be retained by the Lender as security for the performance of the project as aforesaid. Upon the delivery of this Agreement to the Monongalia County Planning Commission, said lots shall be released as set forth on said Certificate of Release.

Any amendments to this Agreement and to the aforesaid security shall be agreed upon, in writing, by all parties to this Agreement.

[Signature page follows, may be multiple pages depending on the participating parties to the aggreement]

IN WITNESS WHEREOF, we have hereunder set our hands and seals this _____.day of_____, 20_____

APPLICANT

By:_ _ _ _ _ _ _ _ _ _ _ _ _

LENDER

By: . . . . . .

_____

_____

Signatures of a Majority of the Monongalia Planning Commission:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

COUNTY OF MONONGALIA, TO-WIT:

The foregoing instrument was acknowledged, sworn and certified, before me this ___ day of______________________________ 20_ _ _ _ _ _ _
by _

My Commission expires: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

____

(SEAL) NOTARY PUBLIC

DRAFT

SITE PLAN OF LAND

ENGINEER'S CERTIFICATE OF COMPLETION

(to be executed by an engineer)

Site Plan known as: _____

I hereby certify that all improvements required for the above referenced site plan have been completed in all respects in accordance with the MONONGALIA COUNTY PLANNING COMMISION Subdivision Ordinance and the approved plans entitled _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ prepared by _____ and dated _____, the said Monongalia Planning Commission on _____ 20_____ as approved by

_____

Signed this _ _ _ _ _ _ day of _ _ _ _ _ _ _ _ _ _ _ 20___

By _ Reg. C.E.

STATE OF WEST VIRGINIA

COUNTY OF MONONGALIA, TO-WIT:

The foregoing instrument was acknowledged, sworn and certified, before me this

_ _ _ _ _ _ _ _ _ _ _ day of _ _ _ _ _ _ _ 20____ , by

My Commission expires:_____

_____

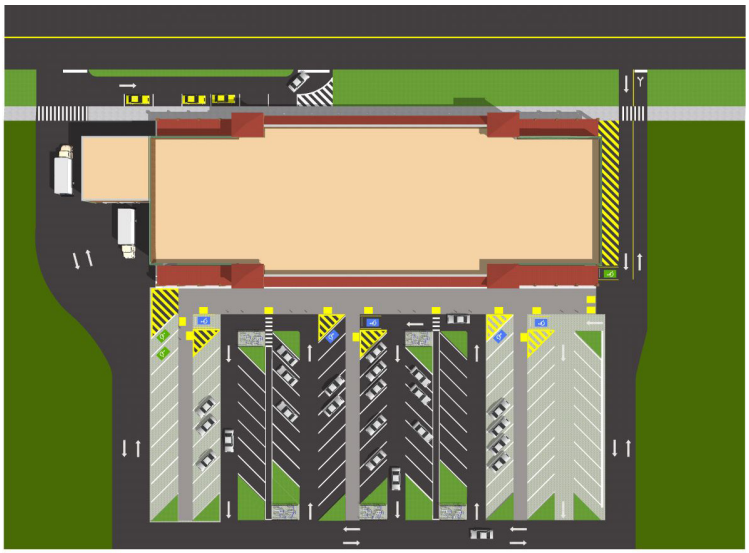
(SEAL) NOTARY PUBLIC

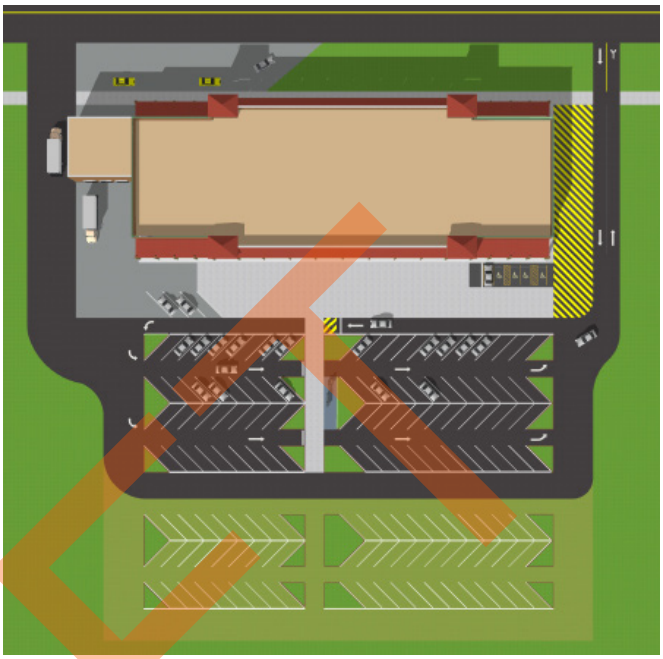
XII.7 Sample Parking Lots (also in Chapter XI)

These samples are intended to show how parking can be gradually increased from minimum needs to an expansion, should that prove necessary. The examples display an idealized parking lot for a grocery store or other store that requires a lot of parking and may entail carts for transporting goods to the car. The examples show a number of features:

- Ingress and egress with a backup ingress and egress for trucks, emergencies and special traffic situations.
- The minimum number of parking spots with provision to add more (in light green). The additional spots would have on-site treatment - in this case grasscrete.
- Pedestrians have raised walkways to ensure their visibility, safety and to keep car movement slow for pedestrians.
- Ample access for emergency vehicles.
- Ample pickup and dropoff spaces (ride hailing services {on-demand transportation - e.g. Uber, Lyft} in front, grocery pickup and waiting area in back) that ensure that cars do not block pedestrian access.
- Pedestrian access in front and back of building ensuring that store is a part of the neighborhood and welcomes walk-in traffic and avoid the tendency of sprawl design that makes walking in the neighborhood difficult.
- Green design for the majority of the site improves stormwater management, cools the lot avoiding heat island, provides more snow storage area, ensures the ability for cost-effective-more-adapted later uses (i.e. on the undeveloped land) and provides a nicer amenity in the meantime.

Other conveniences for the owner include easier, more efficient truck management as well as convenience for easy-in, easy-out for drivers.



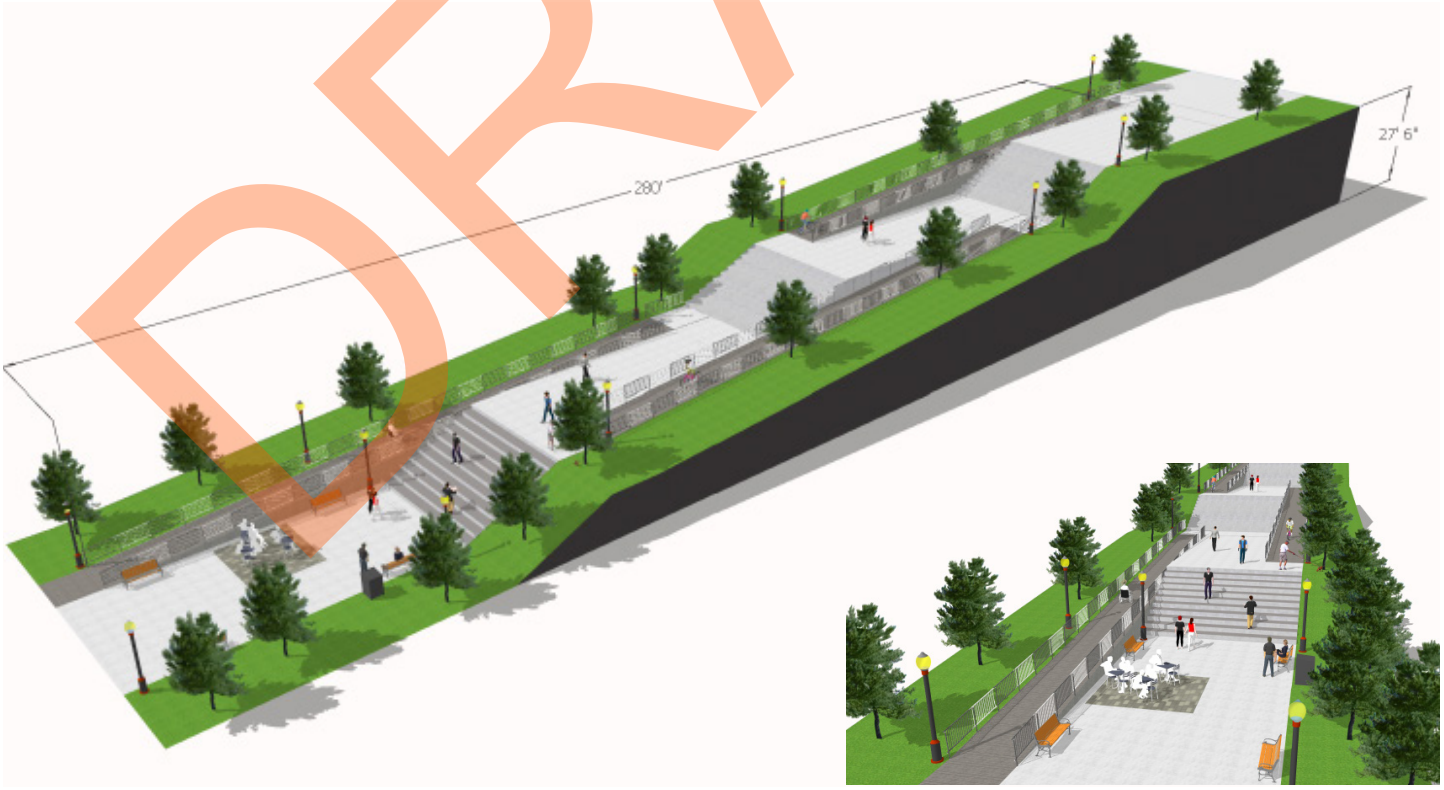


XII.8 Sample Multi-use Stair

As has been often mentioned, Mon County is blessed with many steep slopes. As a consequence, providing facilities to help residents and visitors travel is helpful in this context. Thus, below is a 'multi-modal' staircase as a tool for developers to make their site more accessible and livable, staff provides a template staircase that meets pedestrian, handicap and bicycle needs - as well as hopefully being an attractive amenity as they are in many places around the world.

Dimension and Characteristics
Right of Way: 40-50 feet
Building to Building Width: 50 feet
Can 'L', bend around hill, modify flat sections, etc.

Multi-Modal Transportation
Pedestrian: Stair, and Handicap accessible (on ramp)
Bicycle: On ramp
Others
PAZ: Vistas and pedestrian gathering spots encouraged



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CHAPTER XIII: Resources

This chapter is intended to provide resources such as abbreviations and index for ease of use in the guidelines.

XIII.1 Index

Index Continued

XIII 2. Abbreviations and Definitions

This List of Abbreviations includes both those found in these guidelines and those found in The Ordinance. This list may not be complete and is intended to be a basic aid only.

Abbreviations

AASHTO – American Association of State Highway and Transportation Officials

ADT – Average Daily Traffic

AKA – Also Known As

APBP – Association of Pedestrian and Bicycle Professionals

BW – Bike Way

BZA – Board of Zoning Appeals

CAD – Computer-Aided Design

CDC – Center for Disease Control

COA – Commercial Owners Association

DEM – Digital Elevation Model

DEP – Department of Environmental Protection

DOH – Department of Highways

DOT – Department of Transportation

DWG – Drawing, AutoCAD File Extension

DXF – Drawing eXchange Format, AutoCAD File Extension

ENG – Engineer

FEMA – Federal Emergency Management Agency

FHWA – Federal Highway Administration

HAWK – High Intensity Activated Crosswalk

HOA – Home Owners Association

ILP – Improvement Location Permit

LOS – Level of Service

LRTP -– Long Range Transportation Plan

MC – Monongalia County

MCPC – Monongalia County Planning Commission

MECCA 911 – Monongalia Emergency Centralized Communications Agency

MF – Multi-Family

MPH – Miles Per Hour

MS4 – Municipal Separate Storm Sewer System

MU – Mixed Use

MUB - Morgantown Utility Board

MUP – Multi-Use Path

NFIP – National Flood Insurance Program

PAZ – Pedestrian Activity Zone

PC – Planning Commission

PED – Pedestrian

PUD – Planned Unit Development

PW – Pedestrian Way

RDU – Residential Dwelling unit

ROW – Right of Way

RRFB – Rectangular Rapid Flashing Beacon

SFD – Single Family Dwelling

SALDO – Subdivision and Land Development Ordinance

SPZ – Street Parking Zone

SRB – Subdivision Review Board

SWM – Storm Water Management

Abbrevations and Definitions Continued

SUV – Surveyor

SZ – Separation Zone

TIA – Traffic Impact Assessment

TIS – Traffic Impact Study

TW – Transit Way

US – United States

USGS – United States Geological Survey

VMT – Vehicle Miles Traveled

VTW – Vehicle Travel Way

WV – West Virginia

WV 8A – WV State Code Land Use Planning Law

WV 36B – WV State Code Uniform Common Interest Ownership Act

Definitions

For the purposes of this document only several clarifications were made in regards to certain sometimes interchangeable terms:

'Subdivision and Land Development Ordinance' refers to either:

1) The official title of The Ordinance when prefaced by Monongalia County

2) The Ordinance in regards to West Virginia State Code 8A

'Subdivision Ordinance' refers to these types of ordinances in general.

'The Ordinance' refers to the subdivision ordinance adopted by Monongalia County, titled Monongalia County Subdivision and Land Development Ordinance.

'Regulations' refers to specific portions of The Ordinance therein, such as in relation to specific Articles or Sections of The Ordinance.

XIII.3 References

This List of References outlines those materials that were in place at the time of original adoption of The Ordinance. The Ordinance outlines that the current edition of the various policies, manuals, legislation, and codes in effect at the time of subdivision approval is intended to be for material and construction specifications for activities governed within the ordinance. This list may be out of date or links may not work, and persons are highly recommended to ensure the most current version is utilized.

American Planning Association (2019). For Overarching Material. Retrieved from
www.planning.org

American Association of State Highway and Transportation Officials (2019). *A Policy on Geometric Design of Highways and Streets, 7th Ed, 2018*. For Sight Distance Evaluations; and *Roadside Design Guide, 4th Ed, 2011*. For Guardrail Design.

Federal Emergency Management Agency (2019). National Flood Insurance Program, Flood Insurance Rate Maps. Retrieved from
https://www.mapwv.gov/flood/

Federal Highway Administration (2019). *Manual on Unified Traffic Control Devices*.; and *Lighting Handbook, 2nd Ed, Aug 2012*. Retrieved from
https://mutcd.fhwa.dot.gov/ and https://safety.fhwa.dot.gov/roadway_dept/night_visib/lighting_handbook/

Indesign (2019). For Diagrams Within. [Computer Program].

Indianapolis MPO (2008, Aug). *Multimodal Public Space and Corridor Guidelines for Central Indiana*. Retrieved from
https://www.indympo.org/whats-completed/regional-plans/transit-plans

Land use Planning. W. Va. Code §8A1-1-1, et seq (4-12-2004, Updated through Second Extraordinary Session 2018). Retrieved from
http://code.wvlegislature.gov/

Morgantown Utility Board (2018, Feb). *Stormwater Design Manual*. Retreieved from
https://mub.org/stormwater

State Fire Code. Leg Rule Title 87, Series 1 (7-1-2016, Updated through Second Extraordinary Session 2018). Retrieved from
https://firemarshal.wv.gov/about/Laws/Documents/State%20Fire%20Code.pdf

StreetMix (2019). Welcome to StreetMix.[Online Computer Program]. Retrieved from
streetmix.net

Sketchup (2019). For Diagrams Within. [Computer Program].

Uniform Common Interest Ownership Act. W. Va. Code §36B-1-101, et seq (7-1-1986, Updated through Second Extraordinary Session 2018). Retrieved from
http://code.wvlegislature.gov/

United States Dept. of Agriculture, Natural Resources Conservation Service (1997). *Agriculture Handbook Number 590*. Retrieved from
https://nrcspad.sc.egov.usda.gov/DistributionCenter/product.aspx?ProductID=115

References Continued

United States Fish and Wildlife Service (2019). National Wetlands Survey. [Online Application]. Retrieved from https://www.fws.gov/wetlands/data/Mapper.html

West Virginia Division of Highways (2019). *Standard Specifications Roads and Bridges, 2017 ed.;* and *Drainage Manual, 3rd Ed, 2007.;* and *Erosion and Sedimentation Control Handbook, 2003 Ed.;* and *Construction Manual, 2002 Ed.;* and *Manual on Rules and Regulations for Constructing Drievways on State Highway Rights-of-Way, May 2004 Ed.* Retrieved from https://transportation.wv.gov/

West Virginia Department of Environmental Protection (2019). *West Virginia Stormwater Management and Design Guidance Manual.*; and *Erosion and Sediment Control Best Managemetn Practices Manual*. Retrieved from https://dep.wv.gov/WWE/Programs/stormwater/Pages/sw_home.aspx