THE VILLAGE OF WELLINGTON

ENGINEERING STANDARDS MANUAL

EFFECTIVE DATE __ / __ / ____

TABLE OF CONTENTS:

SECTION 1:
Introduction

1 INTRODUCTION

1.1 AUTHORITY

This is the Village of Wellington's Manual of Construction Design Standards and Specifications, prepared by the Village Engineer. The Village Engineer shall have full authority to implement these standards as established in this manual, and shall have the authority to require that generally accepted Engineering standards and practices be adhered to. Any deviations from or conflicts with the standards herein or previously approved plans or permits shall be approved in writing by the Village Engineer, or designee prior to commencement of construction.

1.2 ABBREVIATIONS.

The following abbreviations, when used in the Contract Documents, represent the full text shown:

AAN American Association of Nurserymen, Inc.
AASHTO American Association of State Highway and Transportation Officials
ACI American Concrete Institute
ACOE Army Corp of Engineers
AGC The Associated General Contractors of America, Inc.
AIA American Institute of Architects.
ANSI American National Standards Institute, Inc.
ASCE American Society of Civil Engineers
ASME American Society of Mechanical Engineers
ASTM American Society for Testing and Materials
AWG American Wire Gauge
AWWA American Water Works Association
CRSI Concrete Reinforcing Steel Institute
EPA Environmental Protection Agency of the United States Government
FDOT Florida Department of Transportation
FDEP Florida Department of Environmental Protection
FHWA Federal Highway Administration
FSS Federal Specifications and Standards
IEEE Institute of Electrical and Electronics Engineers
ISO International Organization for Standards MSTCSD Minimum Specifications for Traffic Control Signals and Devices MUTCD Manual on Uniform Traffic Control Devices
NEC National Electrical Code
NFPA National Fire Protection Association
NIST National Institute for Standards and Technology
NOAA National Oceanic and Atmospheric Administration
OSHA Occupational Safety and Health Administration
SAE Society of Automotive Engineers
SI International System of Units
UL Underwriters' Laboratories

Each of the above abbreviations, when followed by a number or letter designation, or combination of numbers and letters, designates a specification, test method, or other code or recommendation of the particular authority or organization shown. Use standards, specifications, test methods, or other codes as specified in the edition at the time of the construction.

1.3 DEFINITIONS

The following terms, when used have the meaning described:

Words used in the singular shall include the plural and the plural the singular; words used in the present tense shall include the future tense. The word "may" is permissive.

Acre-Foot - Acre-foot means the volume of water that will cover one (1) acre to a depth of one (1) foot.

Agricultural Land - An Agricultural Land means those lands in actual agricultural use and for which an agricultural tax exemption has been granted.

Applicant - An Applicant means the person applying for a permit to proceed with a project.

Aquifer - Aquifer means an underground formation permeable enough to transmit, store, or yield quantities of salt or fresh water.

Architect - The Architect as defined in s.481.203 (3) Florida Statutes.

Architect of Record - The Architect or Architectural Firm registered in the State of Florida that performs services in connection with the design and construction of buildings.

Architecture - The practice of architecture as defined in s.481.203 (6) Florida Statutes.

Arterial Street and Highways - Arterial Street and Highways mean those which are used primarily for fast or heavy traffic.

Artificial Drainage System - Artificial Drainage System means any gutter, ditch, culvert, storm sewer or any other man-made facility which is to be or was installed to control the flow of surface water or groundwater.

As-built plans - As-built plans mean the amended site plans specifying the locations, dimensions, elevations, capacities, and capabilities of structures or facilities as they have been constructed.

Base Flow - Base Flow means stream discharge derived from ground water sources. May sometimes include flows from regulated lakes or reservoirs.

Bridge - A structure, including supports, erected over a depression or over an obstruction such as water, highway or railway, or for elevated roadway, for carrying traffic or other moving loads, and having a length, measured along the center of the roadway, of more than 20 feet [6 m]

between the inside faces of end supports. A multiple-span box culvert is considered a bridge, where the length between the extreme ends of the openings exceeds 20 feet [6 m].

Bridle Trail - A bridle path, also bridleway, equestrian trail, horse riding path, bridle road, or horse trail, is a path, trail or a thoroughfare that are designated for and used by people riding on horses.

Catch Basin - Catch Basin means the lower portion of a structure usually built at the curb line of a street, for the admission of surface water to a storm sewer, which is designed to retain grit and debris below the point of overflow.

Change Order - A written order to the Contractor signed by the Owner authorizing an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Time issued on or after the Effective Date of the Agreement.

Channel Stabilization - Channel Stabilization means erosion prevention and stabilization of velocity distribution in a channel using drops, vegetation, revetments and other measures.

Channel - Channel means a natural stream that conveys water. A ditch or channel excavated for the flow of water.

Chute - Chute means a high-velocity, open channel for conveying water to a lower level without erosion.

Clearing - Clearing means the removal of surface features such as trees, brush, and other structures from the land or artificial drainage system but shall not include mowing.

Collector Streets - Collector Streets are designated as streets which carry traffic from minor streets to the major road system of arterial streets and highways, including the principal entrance streets of a residential development and streets for circulation within such a development.

Construction - Construction means any activity including land clearing, earth moving, or the erection of structures, which will result in the changes of Stormwater Runoff.

Consultant - The Professional Engineer or Engineering Firm, or the Architect or Architectural Firm, registered in the State of Florida and under contract to the Department or Owner to perform professional services. The consultant may be the Engineer or Architect of Record or may provide services through and be subcontracted to the Engineer or Architect of Record, i.e., environmental services, legal services, etc.

Contour - Contour means an imaginary line on the surface of the earth connecting points of the same elevation.

Cross-Section Slope (Street) - Cross-Section Slope (Street) means the slope of pavement perpendicular to the centerline.

Contract - The term "Contract" means the entire and integrated agreement between the parties thereunder and supersedes all prior negotiations, representations, or agreements, either written or oral. The Contract Documents form the Contract between the Department or Owner and the Contractor setting forth the obligations of the parties thereunder, including, but not limited to, the performance of the Work and the basis of payment.

Contractor - The individual, firm, joint venture, or company contracting with the Department or Owner to perform the work.

Control Elevation - Control Elevation means the lowest elevation at which water can be released through the discharge structure.

Control Structure - Control Structure means the element of a Stormwater discharge structure, which allows the gradual release of water under controlled conditions.

Culverts - Any structure not classified as a bridge that provides an opening under the roadway, driveway, path or between storm water systems. A conduit for the conveyance of Stormwater Runoff.

Curb and Gutter Section - Curb and Gutter Section means a curb section constructed integrally with gutter. Curb Inlet. Curb Inlet means a structure that collects Stormwater Runoff from a curb and gutter system. Cut. Cut means a portion of land surface or area from which earth has been removed or will be removed by excavating; the depth below original ground surface of excavated surface.

Cut and Fill - Cut and Fill means a process of earth moving by excavating part of an area and using the excavated material for adjacent embankments or fill areas.

Dam - Dam means a barrier to confine or raise water for storage, detention or diversion, to create a hydraulic head, to prevent erosion downstream, or for retention of soil or other debris.

Datum - Datum means a plane, level, or line from which heights and depths are calculated or measured.

Department - The Village of Wellington Engineering Department

Depression Storage - Depression Storage means watershed or drainage basin capacity to retain water in puddles, depressions and/or foliage.

Design High Water - Design high water means the elevation of the water surface as determined by the flow conditions of the design storm events.

Design Life - Design Life means that period of time for which a facility is expected to perform its intended function.

Design Storm - Design Storm means a selected rainfall pattern of specified amount, intensity, duration, and frequency that is used as a basis for design.

Detention - Detention means the collection and storage of surface water for subsequent controlled discharge at a rate, which is less than the rate of inflow.

Designer of Record - The Architect of Record or the Engineer of Record.

Detention Time - Detention Time means the theoretical time required to displace the contents of a tank or unit at a given rate of discharge (volume divided by rate of discharge).

Detention Volume - Detention Volume means the volume of water equal to the difference between overflow elevation and control elevation of a discharge structure times the average area of open surface storage (at the control elevation) behind the discharge structure.

Developer - Developer means any person who engages in development or development activity either in his own behalf or as the agent of an owner of property.

Development or development activity - Development or development activity means:

(1) The construction, installation, demolition, or removal of a structure, impervious surface, or drainage facility; or
(2) Clearing, scraping, grubbing, killing, or otherwise removing the vegetation from a site; or
(3) Adding, removing, exposing, excavating, leveling, grading, digging, burrowing, dumping, piling, dredging, or otherwise significantly disturbing the soil, mud, sand, or rock of site.

Dike - Dike means an embankment to confine or control water.

Direct Discharge - Direct Discharge means discharge of Stormwater through a control structure to the receiving water body.

Directly Connected Impervious Area (DCIA) - Directly Connected Impervious Area (DCIA) shall mean the impervious area within a basin that is hydraulically connected to the discharge point.

Discharge or discharge point. Discharge or discharge point means the point of outflow of water from a project, site, aquifer, drainage basin, or facility.

Discharge Coefficient (Hydraulics) - Discharge Coefficient (Hydraulics) means the ratio of actual rate of flow to the theoretical rate of flow through orifices, weirs, or other hydraulic structures. Discharge Structure. Discharge System means a structural devise through or over which water is discharged from a Stormwater management system.

Disturbed Area - Disturbed Area means the area of land disturbed by development or construction.

Ditch Bottom Inlet - Ditch Bottom Inlet means a structure to collect Stormwater Runoff that is flush or elevated with the surface. Drain. Drain means a buried pipe or other conduit (closed drain), a ditch (open drain) for carrying off surplus surface water groundwater.

Drainage Facility - Drainage Facility means the whole or part of the drainage system.

Drainage Plan - Drainage Plan means the detailed analysis of land and the improvements to meet the requirements of this section.

Drainage Soil - Drainage Soil means a natural condition of the soil. Soil drainage refers to the frequency and duration of periods when the soil is free of saturation.

Drainage System - Drainage System means the system through which water flows; it includes all watercourses, water bodies, and wetlands.

Drawdown - Drawdown means lowering of the water surface (in open channel flow), water table or piezometric surface (in ground water flow) resulting from a withdrawal of water.

Dry Retention - Dry Retention means a water storage area with the bottom elevation at least one (1) or two (2) feet or more above the wet season water table elevation. Retention storage percolates into the ground and evaporates rather than being discharged to receiving waters.

Duration - Duration means the period of time from beginning of a rainfall event to the end of a rainfall event.

Effective Grain Size - Effective Grain Size means the diameter of filter sand or other aggregate that corresponds to the ten (10) percent finer by weight on the grain size distribution curve.

Elevation - Elevation means the height in feet expressed in relation to mean sea level and referenced to a Vertical Datum (NGVD29 or NAVD88).

Embankment - Embankment means a man-made deposit of soil, rock, or other material used to form an impoundment.

Energy Dissipater - Energy Dissipater means a devise to reduce the energy of flowing water.

Energy Gradient - Energy Gradient means the total energy level of water at all points along a longitudinal line. It is the sum of the velocity head, pressure head and elevation of a flowing body of water.

Engineer - The Village of Wellington Engineering Department Engineer, acting directly or through duly authorized representatives; such representatives acting within the scope of the duties and authority assigned to them. Note: In order to avoid cumbersome and confusing repetition of expressions in these Specifications, it is provided that whenever anything is, or is to be done, if, as, or, when, or where "acceptable, accepted, approval, approved, authorized, condemned, considered necessary, contemplated, deemed necessary, designated, determined,

directed, disapproved, established, given, indicated, insufficient, ordered, permitted, rejected, required, reserved, satisfactory, specified, sufficient, suitable, suspended, unacceptable, or unsatisfactory," it shall be understood as if the expression were followed by the words "by the Engineer," "to the Engineer," or "of the Engineer."

Engineer of Record - The Professional Engineer or Engineering Firm registered in the State of Florida that develops the criteria and concept for the project, performs the analysis, and is responsible for the preparation of the Contract Documents. The Engineer of Record may be Departmental in house staff or a consultant retained by the Department. The Contractor shall not employ the Engineer of Record as the Specialty Engineer.

Environment - Environment means the sum total of all the external conditions that may act upon an organism or community to influence its development or existence.

Erodible - Erodible means susceptible to erosion.

Equipment - The machinery and equipment, together with the necessary supplies for upkeep and maintenance thereof, and all other tools and apparatus necessary for the construction and acceptable completion of the work.

Erosion - Erosion means the wearing or washing away of soil by the action of wind or water.

Erosive Velocity - Erosive Velocity means that velocity of water in a stream, channel, canal, ditch, etc. which when exceeded will cause erosion of the banks and/or existing land.

Evapotranspiration - Evapotranspiration means the combined loss of water from a given area and during a specific period of time, by evaporation from the soil surface and by transpiration from plants.

Event - Event means the specific storm, which is or is to be considered in the design of a Stormwater management system.

Exfiltration - Exfiltration means on-site retention of Stormwater accomplished below ground. Stormwater runoff is collected for temporary storage and infiltration.

Existing - Existing means the average physical condition of the land and buildings on site immediately before development or redevelopment commences.

Extra Work - Any "work" which is required by the Engineer to be performed and which is not otherwise covered or included in the project by the existing Contract Documents, whether it be in the nature of additional work, altered work, deleted work, work due to differing site conditions, or otherwise. This term does not include a "delay".

Fill - Fill means soil consolidated or unconsolidated material deposited on land or water.

Filtration (to filter) - Filtration (to filter) means the act of filtering Stormwater runoff that has been collected in a detention area through filter media, which may include but not limited to aggregate, under drain pipe or filter fabric.

First Flush - First Flush means the first portion of runoff generated by rainfall event and containing the main portion of the pollutant load resulting from the storm.

Flood Plain - Flood Plain means the lowland that borders a stream or channel and is subject to flooding when the stream or channel overflows its banks.

Flood Prone - Flood Prone means the lowland that borders a lake or natural depression and is subject to periodic inundation when the lake or natural depression overflows its banks.

Flood Routing - Flood Routing means determining the changes in the rise and fall of floodwater in a lake or as it proceed downstream through a channel, natural stream or reservoir.

Flood Stage - Flood Stage means the stage at which overflow of the natural banks of a lake or stream begins.

Flood - Flood means a temporary rise in the level of any water body, watercourse, or wetland which results in the inundation of areas not ordinarily covered by water.

Floodway - Floodway means a channel natural, excavated, or bounded by dikes and levees used to carry excessive flood flows to reduce flooding. Sometimes considered to be the transitional area between the active channel and the flood plain. It is that portion of the flood plain which must be kept clear of encroachment in order to limit increase in flood stage to one (1) foot.

Flume - Flume means a constructed device lined with erosion-resistant materials intended to convey water on a steep grade.

Freeboard - Freeboard means a vertical distance between the elevation of the design high water and the top of the bank, control structure, dam, or levee.

Frequency of Storm (Design Storm Frequency) - Frequency of Storm (Design Storm Frequency) means the anticipated period in years that will elapse, based on average probability of storms in the design area, before a storm of a given intensity and/or total volume will recur or the probability that a storm of a given intensity and/or total volume will occur in any given year; thus a 25-year storm can be expected to occur on the average one every 25 years or have a 1/25 (4 percent) chance of occurring in any given year.

Gage or Gauge - Gage or Gauge means a devise for registering precipitation, water level, discharge velocity, pressure, temperature, etc. A measure of the thickness of metal; e.g. diameter of wire, wall thickness of steel pipe.

Grade - Grade means the slope of a road, channel, pipe, drain, or natural ground. The finished surface of a canal bed, roadbed, top of embankment or bottom of excavation; any surface prepared for the support of construction such as paving or the laying of conduit pipe, etc.

Gradient - Gradient means the change of elevation, velocity, pressure or other characteristics per unit; slope.

Grading - Grading means any stripping, cutting, filling, stockpiling, or any combination thereof, including the land in its cut and fill condition.

Groundwater Runoff - Groundwater Runoff means that part of groundwater that is discharged by seepage or springs into a lake, stream, and/or other natural water bodies. Major flow for base flow determinations.

Groundwater Infiltration - Groundwater Infiltration means the seepage of groundwater into an opening in a sewer.

Groundwater Recharge - Groundwater Recharge means the inflow or seepage into the groundwater table by natural and/or artificial means.

Groundwater Table - Groundwater Table means the free surface of the groundwater, that surface subject to atmospheric pressure under the ground, generally rising and falling with the season, the rate of withdrawal, the rate of restoration, and other conditions. It is not a static condition.

Groundwater - Groundwater means water beneath the surface of the ground whether or not flowing through known and definite channels.

Head Hydraulics - Head Hydraulics means the height of water above any plain of reference. The energy, either kinetic or potential, possessed by each unit weight of a liquid expressed, as the vertical height through which a unit weight would have to fall to release the average energy possessed. Used in various compound terms such as pressure head, velocity head, and lost head.

Headwater - Headwater means the source of a stream. The water upstream from a structure or point on a stream.

Highway, Street, or Road - A general term denoting a public way for purposes of vehicular travel, including the entire area within the right-of-way.

Holidays - Days designated by the Village of Wellington as holidays, which include, but are not limited to, New Year's Day, Martin Luther King's Birthday, President's Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day and the following Friday, and Christmas Day.

Hydraulic Conductivity - (see Permeability)

Hydrograph - Hydrograph means a graph that shows the time distribution of runoff at a point of interest. A typical hydrograph for a single storm consist of a curve with a rising limb, a peak, and a receding limb. The shape of the curve depends on the duration and intensity of the rainfall, and drainage characteristics of the basin.

Hydrologic Cycle - Hydrologic Cycle means the circuit of water movement from the atmosphere to the earth and back to the atmosphere through various stages or processes such as precipitation, interception, runoff, infiltration, percolation, storage evaporation, and transpiration.

Illicit Discharge - Illicit Discharge means the illegal dumping or disposal of waste in a storm water sewer system that is not comprised entirely of storm water.

Impervious Surface - Impervious Surface means a surface which has been compacted or covered with a layer of material so that it is highly resistant to infiltration by water. The term includes most conventionally surfaced streets, roofs, sidewalks, parking lots, and similar structures.

Impoundment - Impoundment means to retain water by artificial means.

Indirect Discharge - Indirect Discharge means discharge of Stormwater from a system by means other than a control structure.

Indirect Runoff - Indirect Runoff means that portion of runoff that contributes to the total runoff that enters the receiving system by indirect means (i.e. grassed area) not directly connected to the receiving system.

Infiltration Percolation - Infiltration Percolation means an approach to land application in which storm water runoff is applied to the land, by natural or man-made means, infiltrates the surface and percolates through the soil pores.

Infiltration Rate - Infiltration Rate means a soil characteristic determining or describing the rate, at which water can enter the soil under specific conditions, including the presence of an excess of water. Rate normally is not constant.

Initial Abstraction - Initial Abstraction means initial precipitation loss including interception and depressed storage.

Inlet - Inlet means the opening into a storm sewer system for the entrance of surface storm runoff.

Inspector - An authorized representative of the Engineer, assigned to make official inspections of the materials furnished and of the work performed by the Contractor.

Intercepted Storm Water Runoff - Intercepted Storm Water Runoff means that portion of surface runoff that enters a storm sewer system directly through a curb inlet and/or other methods.

Intermittent Watercourse - Intermittent Watercourse means a stream or portion of a stream that flows only in direct response to precipitation.

Invert - Invert means the lowest point on the inside of a sewer or other culvert.

Laboratory - The Official Testing Laboratory used by the Village.

Lag Time - Lag Time means the interval between the center of mass of the storm precipitation and the peak flow of the resultant runoff.

Land - Land means the earth, water, air, above, below, or on the surface, and includes any vegetation, improvements or structures.

Landlocked - Landlocked means the condition of a permanent water body in which, under normal rainfall conditions, it has no definitive surface or conduit outfall to the ocean.

Lining - Lining means impervious material such as concrete, clay, plastic, etc., placed on the sides and bottom of a ditch, channel, and other water bodies to prevent or reduce the seepage of water through the sides and the bottom and/or prevent erosion.

Low Impact Development (LID) - Low Impact Development (LID) means a design strategy with the goal of maintaining or replicating the pre-development hydrologic regime through the use of design techniques to create a functionally equivalent hydrologic site design. Hydrologic functions of storage, infiltration and ground water recharge, as well as the volume and frequency of discharges are maintained through the use of integrated and distributed micro-scale storm water retention and detention areas, reduction of impervious surfaces, and the lengthening of runoff flow paths and flow time. Other strategies include the preservation/protection of environmentally sensitive site features such a riparian buffers, wetlands, steep slopes, valuable (mature) trees, flood plains, woodlands, and highly permeable soils.

Maintenance - Maintenance means that action taken to restore or preserve the functional intent of any facility or system.

Marginal Access Streets - Marginal Access Streets means minor streets which are parallel to and adjacent to arterial streets and highways; and which provide access to abutting properties and protection from through traffic.

Materials - Any substances to be incorporated in the work under the Contract.

Median - The portion of a divided highway or street separating the traveled ways for traffic moving in opposite directions.

Minor Streets - Minor Streets means those that are used primarily for access to the abutting properties.

Natural Flow - Natural Flow means the flow patterns of Stormwater runoff over the land in its predevelopment state; elements of natural drainage include overland flow, swales, depressions, natural watercourses, etc.

Natural System - Natural System means systems which predominantly consist of or use those communities of plants, animals, bacteria, and other life systems which naturally occur on the land, in the soil or in the water.

Nutrient - Nutrient means a substance necessary for the growth and reproduction of organisms. In water those substances that promote growth of algae and bacteria -chiefly, nitrates and phosphates.

Off-Line - Off-Line means the storage of a specified portion of the Stormwater in such a way so that subsequent runoff in excess of the specified volume of Stormwater does not flow into the area storing the initial Stormwater.

Open Drain - Open Drain means a natural watercourse or constructed open channels that convey drainage water.

Outfall - Outfall means the point, location, or structure where Stormwater runoff discharges from a storm sewer system to a receiving body of water.

Outlet Channels - Outlet Channels means a waterway constructed or altered primarily to carry water from man-made structures.

Outlet - Outlet means a point of Stormwater disposal from a stream, river, lake, or artificial drain.

Overflow Elevation - Overflow Elevation means design elevation of a discharge structure at which or below which, water is contained behind the structure for that which leaks out, or bleeds out through a control device down to the control elevation.

Overflow - Overflow means a pipeline or conduit device together with an outlet pipe that provides for the discharge of portions of storm sewer flows into receiving water, or other points of disposal after a regular device has allowed the portion of the water which can be handled by the storm sewer lines be carried by.

Owner - Client that has entered into an agreement with the Designer of Record for development of plans and specifications and a contractor through the contract documents.

Owner - Owner means the person in who is vested the fee ownership, dominion, or title of property, which is the lawful proprietor. This term may also include a tenant, if, under his lease,

he is responsible for the maintenance of the property; also any agent of the owner or of the tenant including a developer.

Peak Discharge - Peak Discharge means the maximum instantaneous flow from a given storm condition at a specific location.

Percolation Rate - Percolation Rate means the rate usually exposed as a velocity at which water moves through saturated granular material.

Percolation Test - Percolation Test means a determination of the rate of percolation or seepage of water through natural soils expressed as time in minutes for one (1) inch fall of water in a test hole.

Percolation - Percolation means the movement of water through soils.

Permanent Pool - Permanent Pool means that portion of a wet detention pond, which normally holds water, for example: between the normal water level and the pond bottom, excluding any water volume claimed as wet detention treatment volume.

Permeability – Permeability means the property of a soil which allows the seepage of fluids through its interconnected void spaces, or more simply, the permeability describes how water flows through a soil. Units commonly used are cm/sec for laboratory work, or ft. /day for the design of engineering works.

Persons - Persons means any and all persons, including an individual, firm, corporation, government agency, business trust, estate trust, partnership, association, two (2) or more persons having a joint for common interest, or any other legal entity.

Pervious Pavement - Pervious Pavement is a material which when placed has included all required soil stabilization, base and subbase, the same or greater permeability as the soil under pre-development conditions.

Pervious - Pervious means allowing movement of water.

Plans - The approved plans, including reproductions thereof, showing the location, character, dimensions, and details of the work.

Pollutants - Pollutants means dredge spoil, solid wastes, incinerator residue, sewage, garbage, sewage sludge, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, and industrial municipal and agricultural waste discharge into water.

Pollution - Pollution means the presence in waters of the state of any substances, contaminants, man-made or man-induced, impairment of waters or alteration of the chemical, physical, biological, or radiological integrity of water in quantities, or at levels which may or may not be potentially harmful or injurious to human health or welfare, animal or plant life, or property

which unreasonably interfere with the enjoyment of life of property, including outdoor recreation unless authorized by applicable law.

Porosity - Porosity means the volume of pore space in a rock.

Porous Pavement - Porous Pavement means a pavement through which water can flow.

Post-Development Condition for Storm Water Runoff - Post-Development Condition for Storm Water Runoff means topography, vegetation, rate, volume, direction, and pollution load of Stormwater or groundwater flow that will exist after development.

Pre-Development Condition for Storm Water Runoff - Pre-Development Condition for Storm Water Runoff means topography, vegetation, rate, volume, direction, and pollution load of Stormwater or groundwater flow existing prior to development.

Professional Engineer (PE) - Professional Engineer (PE) "Engineering Registration (also known as Engineering Licensing) in the United States means an examination process by which the State of Florida Board of Professional Engineering, (Department of Business & Professional Regulation) determines and certifies that a person has achieved a minimum level of competence. This process protects the public by preventing unqualified individuals from offering engineering services.

Project - Project means the particular structures and improvements to a site proposed by an applicant on a particular land area, which may be part of a common plan of development and shall include the subdivision of land.

Rainfall Intensity - Rainfall Intensity means the rate at which rain is falling at any given instant, usually expressed as inches per hour.

Rate - Rate means volume per unit of time.

Receiving Bodies of Water - Receiving Bodies of Water means any water bodies, watercourses, and wetlands into which surface water flows.

Recharge - Recharge means the inflow of water into a project, site, aquifer, drainage basin or facility.

Registered Land Surveyor - Registered Land Surveyor means an examination process by which the Department of Professional Regulation of the State of Florida determines and certifies that a person has achieved a minimum level of competence. This process protects the public by preventing unqualified individuals from offering topographic services.

Retention Structure - Retention Structure means a natural or artificial basin that functions similar to a detention structure except that it maintains a permanent water supply.

Retention - Retention means the collection and storage of runoff without subsequent surface discharge to receiving waters.

Retention/Detention Area (Dry) - Retention/Detention Area (Dry) means water storage area with bottom elevation at least one (1) foot above the control elevation of the area.

Retention/Detention Area (Wet) - Retention/Detention Area (Wet) means water storage area with bottom elevation lower than one (1) foot above the control elevation of the area

Retrofitting - Retrofitting means improving the quality of urban Stormwater runoff to whatever degree is achievable. The improvement can include the existing system modification or the addition of new structures or Stormwater management practices, or changes in activities or land uses.

Right-of-Way - The land that the Department has title to, or right of use, for the road and its structures and appurtenances, and for material pits furnished by the Department.

Riprap - Riprap means the use of man-made or natural materials placed on earth surfaces for protection against the erosive action of water.

Risers - Risers mean the inlet potions of a drop inlet spillway that extend vertically from the pipe conduit barrel to the water surface.

Roadbed - The portion of the roadway occupied by the sub-grade and shoulders.

Roadway - The portion of a highway within the limits of construction.

Routing - Routing means storing, regulating, diverting or otherwise controlling the peak flows of Stormwater runoff through a collection system according to some predetermined plan or design.

Runoff Coefficient - Runoff Coefficient means a decimal number used in the Rational Formula, which defines the runoff characteristics of the drainage area under consideration. It may be applied to an entire drainage basin as a composite representation or may be applied to a small individual area such as a one (1) residential or commercial lot.

Runoff - Runoff means the portion of precipitation that flows from a drainage area on the land surface in open channels or in Stormwater conveyance systems.

Saturation Point - Saturation Point means in soils, the point at which a soil or an aquifer will no longer absorb any further amount of water without losing an equal amount of water.

Seasonal High Groundwater Table Elevation - Seasonal High Groundwater Table Elevation mans the highest level of the saturated zone in the soil in a year with normal rainfall.

Section - A numbered prime division of these Specifications.

Sediment Discharge - Sediment Discharge means the quantity of sediment, measured in dry weight or by volume, transported through a stream cross-section in a given time. Sediment discharge consists of both suspended load and bed load.

Sediment Facility - Sediment Facility means any structure or area which is designed to hold runoff water until suspended sediments have settled.

Sediment - Sediment means solid material, whether mineral or organic, that is in suspension, is being transported, or has moved from its site or origin by air, water, or gravity.

Semi-Impervious - Semi-Impervious means land surfaces which partially restrict the penetration of water; include as examples are porous concrete and asphalt pavements, limerock, and certain compacted soils.

Shoulder - The paved or unpaved portion of the roadbed outside the edges of the traveled way or back of curb, and extending to the top of front slopes.

Site - Site means any tract, lot, or parcel of land or combination of tracts, lots, or parcels of land which are in one ownership, or are contiguous and in diverse ownership where development is to be performed as part of a unit, subdivision, or project.

Slope - Slope means a degree of deviation of a surface from the horizontal; measured as a numerical ratio, percentage, or in degrees. Expressed as a ratio, the first number is the horizontal distance and the second is the vertical distance, as 2:1. A 2:1 slope is a 50 percent slope.

Soil Conservation - Soil Conservation means using the soils within the limits of its physical characteristics and protecting it from the unalterable limitations of climate and topography.

Soil - Soil means the unconsolidated mineral and organic material on the immediate surface of the earth that serves as a natural medium for the growth of land plants.

Special Provisions - Specific clauses adding to or revising the standard specifications, setting forth conditions varying from or additional to the standard specifications for a specific project.

Specialty Engineer - A Professional Engineer registered in the State of Florida, other than the Engineer of Record or his subcontracted consultant, who undertakes the design and drawing preparation of components, systems, or installation methods and equipment for specific portions of the project work. The Specialty Engineer may be an employee or officer of the Contractor or a fabricator, an employee or officer of an entity providing components to a fabricator, or an independent consultant. A Specialty Engineer is qualified if he has the following qualifications:

(1). Registration as a Professional Engineer in the State of Florida.
(2). The education and experience necessary to perform the submitted design as required by the Florida Department of Business and Professional Regulation.

Specifications - The directions, provisions, and requirements contained herein, together with all stipulations contained in the Contract Documents, setting out or relating to the method and manner of performing the work, or to the quantities and qualities of materials and labor to be fumished under the Contract.

(1). Developmental Specification: A specification developed around a new process, procedure, or material.
(2). Special Provisions: Specific clauses adding to or revising the Standard Specifications, setting forth conditions varying from or additional to the Standard Specifications for a specific project.
(3). Supplemental Special Provisions: Additions and revisions to the Contract Documents issued prior to the bid opening. (Also known as addendum).
(4). Supplemental Specifications: Additions and revisions to the Standard Specifications.
(5). Technical Special Provisions: Specifications prepared, signed, and sealed by an Engineer registered in the State of Florida other than the Engineer of Record or his designee, that are made part of the Contract as an attachment to the Contract Documents.

Spillway - Spillway means a passage such as a paved apron or channel for surplus water over and around a dam or similar obstruction. An open or closed conduit used to convey excess water from a lake or reservoir. It may contain gates, either manually or automatically controlled, to regulate discharge of excess water.

State - State of Florida.

Storage Capacity - Storage Capacity means the volume of water which can be impounded by the structure below the emergency spillway crest and above the wet season water table.

Storm Frequency - Storm Frequency means the time interval between major storms of predetermined intensity and volumes of runoff which storm drainage systems and such appurtenant structures are designed and constructed to handle hydraulically without surcharging and back flooding, (e.g., a five-year, 10-year, or 25-year storm).

Storm Sewer - Storm Sewer means a sewer that carries Stormwater and surface water.

Storm Water Management System – Storm Water Management System means a system which is designed and constructed or implemented to control discharges which are necessitated by rainfall events, incorporating methods to collect, convey, store, absorb, inhibit, treat, use, or reuse water to prevent or reduce flooding, over drainage environmental degradation, and water pollution or otherwise affect the quality and quantity of the discharges.

Storm Water Runoff – Storm Water Runoff means the flow of water which results from, and which occurs and immediately following a rainfall event.

Street Curb - Street Curb means the lateral side of the pavement determined by either a vertical or sloped section.

Structure - Structure means anything constructed, installed, or portable -the use of which requires a location on a parcel of land.

Sub-article - A headed and numbered subdivision of an Article of a Section of this Manual.

Sub-Basin - Sub-Basin means a physical division of a larger basin associated with one reach of the storm drainage system.

Subdivision - Subdivision means the division of a tract or parcel of land into two (2) or more tracts or parcels.

Sub-grade - The portion of the roadbed immediately below the base course or pavement, including below the curb and gutter, valley gutter, shoulder and driveway pavement. The sub-grade limits ordinarily include those portions of the roadbed shown in the plans to be constructed to a design bearing value or to be otherwise specially treated. Where no limits are shown in the plans, the sub-grade section typically extends to a depth of 12 inches below the bottom of the base or pavement and outward to 6 inches beyond the base, pavement, or curb and gutter.

Substructure - All of that part of a bridge structure below the bridge seats, including the parapets, back-walls, and wing-walls of abutments.

Superintendent - The Contractor's authorized representative in responsible charge of the work.

Superstructure - The entire bridge structure above the substructure, including anchorage and anchor bolts, but excluding the parapets, back-walls, and wing-walls of abutments.

Supplemental Agreement - A written agreement between the Contractor and the Owner, and signed by the surety, modifying the Contract within the limitations set forth in this Manual.

Supplemental Special Provisions - Additions and revisions to the Contract Documents issued prior to the bid opening (also known as addendum).

Supplemental Specifications - Additions and revisions to the Standard Specifications.

Surcharge - Surcharge means the flow condition occurring in a closed conduit when the hydraulic grade line is above the crown of the storm sewer.

Surety - The corporate body that is bound by the Contract Bond with and for the Contractor and responsible for the performance of the Contract and for payment of all legal debts pertaining thereto.

Surface Water - Surface Water means all water, the surface of which is exposed to the atmosphere.

Suspended Solids - Suspended Solids means solids either floating or suspended in water.

Swale - Swale means a natural or man-made drainage pathway, which if man-made has a top width to depth ratio of the cross section equal to or greater than 6:1 or side slopes equal to or greater than three (3) feet horizontal to one (1) foot vertical; and has a grade as flat as the

topography and design conditions will allow; and only contains contiguous areas of standing or flowing water following the occurrence of rainfall or flooding; and is planted with vegetation suitable for soil stabilization, Stormwater treatment, and nutrient uptake.

Technical Special Provisions - Specifications prepared, signed and sealed by an Engineer registered in the State of Florida other than the Engineer of Record or his designee, that are made part of the contract as an attachment to the contract documents.

Time of Concentration - Time of Concentration means the time required for storm runoff to flow from the most remote point of a drainage area to the outlet or point under consideration. It is not constant but varies with the depth of flow, grades, and conditions of conduit/or channel.

Time of Flow - Time of Flow means the time required for water to flow in a storm drainage system from the point where it enters to any given point or location beyond that point of entrance.

Topography - Topography means general term to include characteristics of the ground surface such as plains, hills, etc.; degree of relief, steepness of slope, and other physiographic features.

Tailwater Depth - Tailwater Depth means the depth of flow immediately downstream from the discharge structure, or at the point of discharge.

Traveled Way - The portion of the roadway providing for the movement of vehicles, exclusive of shoulders and auxiliary lanes.

Underdrain of Subsurface Drain - Underdrain of Subsurface Drain means a drainage system installed beneath a Stormwater holding area to improve the infiltration and percolation characteristics of the natural soil when permeability is restricted due to periodic high water table conditions or the presence of layers of fine textured soil below the bottom of the holding area. These systems usually consists of a system of interconnected below-ground conduits such as perforated pipe, which simultaneously limit the water table elevation and intercept, collect, and convey Stormwater runoff which has percolated through the soil.

Underground Exfiltration Trench or Exfiltration Trench - Underground Exfiltration Trench or Exfiltration Trench means an underground system consisting of a conduit such as perforated pipe surrounded by natural or artificial aggregate, which is utilized to percolated Stormwater into the ground.

Uniform Flow - Uniform Flow means a state of steady flow when the mean velocity in the cross sectional area remains constant in all sections of a reach.

LDR – The Village of Wellington Land Development Regulations, latest edition

Urban Runoff - Urban Runoff means surface runoff from an urban drainage area that reaches a stream, storm drainage system or other body of water.

Vegetation - Vegetation means all plant growth, especially trees, shrubs, vines, ferns, mosses, and grasses.

Village Engineer - Village Engineer means the Village Engineer or his/her designee. Also, see “Engineer".

Village - The Village of Wellington, including all departments and divisions, representatives and designees, which may have jurisdiction over portions of the project.

Volume - Volume means occupied space, measured in cubic units.

Water and Community Waters - Water and Community Waters means any and all water on or beneath the surface of the ground or in the atmosphere. It includes the water in any watercourse, water body, or drainage system. It also includes diffused surface water and water percolating, standing or flowing beneath the surface of the ground, as well as coastal waters.

Water Body - Water Body means any natural or artificial pond, lake, reservoir, or other area which ordinarily or intermittently contains water and which has a discernable shoreline.

Water Quality - Water Quality means to describe the chemical, physical and biological characteristics of water usually in respect to its suitability for a particular purpose.

Water Resources - Water Resources mean a supply of ground water and surface water in a given area.

Water Table - Water Table means the boundary between the zone of saturation and the zone of aeration. The water varies with such factors as tides, amount of rainfall, and evaporation.

Watercourse - Watercourse means any natural or artificial stream, creek, channel, ditch, canal waterway, gully, ravine, or wash in which water flows in a definite direction, either continuously or intermittently, and which has a definite channel, bed, or banks.

Watershed Area - Watershed Area means all land and water within the confines of drainage divide or water problem area consisting in whole or in part of the land needing drainage.

Watershed Management - Watershed Management means use, regulation, and treatment of water and land resources of a watershed to accomplish stated objectives.

Watershed Planning - Watershed Planning means formulation of a plan to use and treat water and land resources.

Watershed - Watershed means the region drained by or contributing water to a stream, lake, or other body of water.

Weir Notch - Weir Notch means the opening in a weir for the passage of water.

Weir - Weir means a device for measuring or regulation of the flow of water.

Wet Detention - Wet Detention means the collection and temporary storage of Stormwater in a permanently wet impoundment in such a way as to provide for treatment through physical, chemical, and biological processes with subsequent gradual release of Stormwater.

Wetlands - Wetlands mean those areas saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a dominance of vegetation adapted for life in saturated soil conditions. For the purposes of these regulations, wetlands are those areas which meet the following criteria:

(1) Those areas, which support a dominance of wetland vegetation types, listed in the Rules of the Florida Department of Environmental Protection. (Chapter 17-312 FAC. Dredge and Fill Activities).
(2) Those areas associated with the soil types as mapped in the soil survey of Palm Beach County.

Wet Season Water Table - Wet Season Water Table means the level of groundwater during the time of year when the greatest amount of rainfall normally occurs.

Work - All labor, materials and incidentals required executing and completing the requirements of the Contract including superintendence, use of equipment and tools, and all services and responsibilities prescribed or implied.

Working Day - Any calendar day on which the Contractor works or is expected to work in accordance with the approved work progress schedule.

1.4 PURPOSE

It is intended that this manual shall provide design and construction standards for the purpose of providing the citizens of Wellington with high quality, low maintenance, public facilities, and private development.

1.5 APPLICABILITY

(1). All subdivisions shall be designed and constructed in accordance with these standards whether they are intended to be publicly or privately maintained.
(2). All planned unit development; commercial, multi-family, and industrial developments shall be designed and constructed in accordance with these standards with exceptions only as noted in this text, or agreed to by plan approval.
(3). All streets, and the related facilities, that are created by dedication shall be designed and constructed in accordance with these standards whether they are intended to be publicly or privately maintained.
(4). All projects constructed by and/or constructed for the Village shall be designed and constructed in accordance with these standards.

1.6 AMENDMENTS

Amendments and additions may be made to this manual at the Village Engineers discretion. Changes may be made at any time.

1.7 PERMITS

Developers, their engineers and contractors, are responsible for obtaining all applicable federal, state, and local permits. Verifications that certain permits have been issued may be required prior to approval by the Village Engineer or His/Her designee. However, the approval of construction plans and related documents in no way implies that all other approvals have been received from other agencies.

1.8 CODE OF ORDINANCES

All development and construction must meet applicable requirements as specified in the Village of Wellington Code of Ordinances and Land Development Regulations, Latest Edition. Such applicable areas include, but are not limited to the following:

(1). Village of Wellington Land Development Regulations, Latest edition.
(2). Ordinance no. 2010-14; Permit Criteria and Best Management Practices Manual for Works in Wellington
(3). Ordinance no. 2012-12; Enhanced Standards for Best Management Practices for Livestock Waste.
(4). Resolution no. 2007-36; Speed Hump Installation Policy.
(5). Ordinance no. 97-09; Works within Village of Wellington Rights of Way
(6). Resolution no. 2007-37; Street Lighting
(7). Ordinance no. 2003-11; Swale & Landscape Maintenance

1.9 ENFORCEMENT

The Village Engineer and his/her designated representatives shall have the right to inspect the construction projects affected by this manual and to issue notices to comply for any violations. The Village of Wellington has the right to seek appropriate injunctive relief for purposes of enforcing the requirements of this manual. Any person, firm, or corporation, either individually or through its agents, employees, or independent contractors, who violate the provisions of this manual shall be subject to the penalties contained in the Code of Ordinances governing the Village of Wellington.

1.10 REFERENCE TO STANDARD

Whenever reference is made to the furnishing of materials or testing thereof to confirm to the standards of any technical society, organization, or body, it shall mean the standard, code, specification, or tentative specification adopted in this Manual.

SECTION 2:
SUBDIVISION STANDARDS
(SUPPLEMENTAL STANDARDS TO VILLAGE OF WELLINGTON LAND DEVELOPMENT REGULATIONS, ARTICLE 8)

2 SUBDIVISION STANDARDS

The purpose of this section is to provide supplemental standards to the Village of Wellington Land Development Regulations (LDR) Article 8 and to specify the minimum requirements for the design, platting, permitting and construction of subdivision improvements.

Additional requirements for contractor requirements, streets, stormwater management, drainage and transportation can be found in this manual.

2.1 REQUIREMENTS FOR THE PRELIMINARY AND FINAL PLAT

2.1.1 Format and content of construction plans for required improvements

All construction plan submittals for the installation of required improvements shall consist of and contain, but shall not be limited to:

A. A cover sheet shing the applicable plat name, sheet index, category of improvements and vicinity sketch.

B. Typical sections.

C. Construction details showing compliance with Wellington standards or with any alternate design approved by the Wellington Engineer pursuant to the code.

D. Special profile sheets as required to show special or unique situations.

E. Bench mark based on NGVD (1929) or NAVD (1988).

F. Notes regarding special conditions and specifications applicable to the construction addressing:

1. Compliance with construction requirements of this article and applicable Wellington, Palm Beach County or State (FDOT) standards;
2. Minimum standards for materials;
3. Test requirements for compaction or stabilization of subgrade, base, and backfill;
4. Required installation of underground utilities and storm drainage;
5. Special construction or earthwork requirements for areas of impervious, unstable or unsuitable soil conditions.

G. Depiction of all parking areas pursuant to the code.

2.1.2 Final stormwater management plan

The Technical Compliance application shall include the final stormwater management plan based upon and consistent with the preliminary stormwater management plan in separate report form detailing the design of all secondary and tertiary stormwater management facilities including as a minimum the following design data and information:

A. Pre-development and post-development drainage basin maps showing site topography, drainage basins, catchment areas and stormwater inflow/outflow locations for the site;

B. Pre-development and post-development site characteristics affecting runoff such as ground cover, soil profile, wet season mean high water table elevations and recurring high water elevations in receiving watercourses or water bodies;

C. Individual catchment area characteristics used for design, including area, times-of-concentration, runoff factors and quantitative breakdown of pervious/impervious areas;

D. A statement of applicable design and/or performance assumptions and criteria for each part of the system providing drainage, treatment or discharge control;

E. Evidence of existing access to legal positive outfall(s);

F. Complete hydrologic and hydraulic calculations for design of storm sewers, retention/detention area and discharge structures;

G. Identification of standard methods and/or proprietary models used for hydrologic and hydraulic analysis noting methods or models other than those used by the Florida Department of Transportation (FDOT) or South Florida Water Management District (SFWMD) or common modifications of such methods may require additional documentation;

H. A listing of specific Wellington or South Florida Water Management District requirements used as the design basis for street drainage, lot grading, finished floor elevations, floodplain storage compensation, retention/detention volumes and discharge limits; and

I. Requirements for construction and maintenance of any temporary or phased stormwater management facilities necessary to ensure proper stormwater control and treatment during site development.

J. Detailed water and sewer plans designed in accordance with the Wellington Standards Manual and any other requirements established by the Wellington Utility Department.

2.1.3 Soils report

The Technical Compliance application shall include a soils report describing soil profiles of the work site to such depth and extent necessary to determine special design or construction needs. The soils report shall be prepared and sealed by a Florida licensed geotechnical engineer and shall include:

A. A map, drawn to stated scale, showing boring, penetrometer and/or test pit locations.

B. Results of each boring or other soil test keyed to the map.

C. Soil profiles with horizons described according to the USDA, ASTM or Unified standard soils classified system.

D. Location and extent of muck, hardpan, marl or other deleterious materials which may require special consideration in design or construction.

E. A description of groundwater conditions which may require special consideration in design or construction.

2.2 REQUIREMENTS FOR THE PRELIMINARY AND FINAL PLAT

The plat shall be prepared in accordance with the provisions of Chapter 177, Fla. Stat., as amended, and shall conform to the requirements of the code and Standards Manual.

2.2.1 Preliminary plat

The preliminary plat shall meet the requirements of the Final Plat except it shall be submitted without the required signatures and seals. It may also be submitted without maintenance and use covenants, condominium documents, deeds or other legal documents not related to the survey or engineering design of the project.

2.2.2 Final plat

The plat shall be prepared in accordance with the provisions of Chapter 177, Fla. Stat., as amended, and shall conform to the requirements of this section.

A. The plat shall be drawn or printed on twenty-four (24) inch by thirty-six (36) inch mylar or other approved material.

B. The plat shall be prepared by a land surveyor currently registered in the State of Florida and is to be clearly and legibly drawn with black permanent ink to a scale of not smaller than one (1) inch equals one hundred (100) feet.

C. The plat shall have a subdivision name acceptable to Wellington. When the plat is a new subdivision the name of the subdivision shall not duplicate or be phonetically similar to the name of any existing subdivision. When the plat is an addition to or re-plat of a recorded subdivision it shall carry the same name as the existing subdivision followed by a suitable phase designation modifier.

D. The plat shall have a title printed on each sheet in bold legible letters containing:

1. The name of the subdivision printed above and in letters larger than the balance of the title;
2. The name of the Village of Wellington, County and State;
3. The section, township and range as applicable or if in a land grant so stated;
4. When the plat is a re-plat, amendment or addition to an existing plat of record the words section, unit, re-plat, amendment, etc.; and
5. When the plat encompasses lands in a planned unit development the abbreviation PUD. All other planned developments shall contain the appropriate abbreviation for such designation within the title.

E. There shall be lettered or printed upon the plat a full and detailed legal description of the land. The description shall show the section, township and range in which the lands are situated or if a land grant so stated and must be so complete without reference to the map the starting point can be determined and the boundaries run.

F. If more than one (1) sheet is required for the map the plat shall contain an index map on the first page showing the entire subdivision and indexing the area shown on each succeeding map sheet. Each map sheet shall contain an index delineating that portion of the subdivision shown in relation to the entire subdivision. When more than one (1) sheet must be used to accurately portray the lands subdivided each sheet must show the particular number of that sheet and the total number of sheets included as well as clearly labeled match lines between map segments.

G. The plat shall show the length of all arcs together with central angles, radii, chord direction and points of curvature. Sufficient survey data shall be shown to positively describe the

boundary of each lot, block, right-of-way, street, easement and all other areas shown on the plat and all areas shall be within the boundary of the plat as shown in the description. The plat shall also include the following items in the manner described below.

1. The scale both stated and graphically illustrated shall be shown on each sheet.
2. A prominent north arrow shall be drawn on every sheet included showing any portion of the lands subdivided. The bearing or azimuth reference shall be clearly stated on the face of the plat in the notes or legend.
3. The point of beginning (P.O.B.) shall be boldly shown together with the letters **P.O.B.** in bold.
4. All intersecting street lines shall be joined to form required safe sight corners pursuant to Wellington standards and all dimensions shall be shown.
5. All adjoining property shall be identified by a subdivision name, plat book and page or if unplatted the land shall be so designated.
6. Permanent reference monuments shall be shown in the manner prescribed by Chapter 177, Fla. Stat., as amended. All information pertaining to the location of P.R.M.s shall be indicated in note form on the plat. Permanent Control Points and Permanent Reference Monuments shall be designed and set as prescribed by Chapter 177, Fla. Stat., as amended and the CODE.
7. There shall be reserved on each sheet of the plat a three (3) inch by five (5) inch space in the upper right hand corner to be used by the Clerk of the Circuit Court for recording information and each sheet shall reserve three (3) inches on the left margin and a half (½) inch margin on all remaining sides.
8. The map shall mathematically close within 0.01 feet and shall be accurately tied to all range and section lines occurring within the subdivision by distance and bearing.
9. The initial point in the description shall be accurately tied to the nearest quarter section corner or section corner or government corner. Each government corner being used shall be identified. If the subdivision being platted is a re-subdivision of a previously recorded subdivision then a tie to a Permanent Reference Monument from the parent plat is sufficient. If the subdivision is a re-subdivision of a part of a previously recorded subdivision sufficient ties to controlling lines appearing on the parent plat must be provided to permit an overlay. The position and orientation of the plat shall conform to the Florida State Plane Coordinate System in the manner established by the Wellington Engineer.
10. The cover sheet or first page of the plat shall include a vicinity sketch showing the subdivision's location in reference to Wellington.
11. A complete legend of abbreviations, symbols and line types shall be shown.
12. All lettering on the plat shall be at a minimum 0.10 of an inch in height.
13. The plat boundary and all parcels shown on subdivision plats intended to be conveyed in fee title shall be delineated by solid lines.
14. Lines intersecting curves shall be noted as radial or non-radial as the case may be.

15. Abandoned lands or easements within the plat shall be shown on the face of the plat with record information included.

16. Tabulation of Survey Data:

    a. The use of tangent tables are not permitted. At the discretion of the Wellington Engineer the use of a tangent table to reflect corner clip (safe sight) chords may be permitted if deemed necessary for clarity. Scale factors shall not be considered. Such tables must appear on the map sheet to which they refer and tangents shall be numbered consecutively throughout.

       The possible exception noted above shall be limited to use on plats and shall not be carried into any other survey documents submitted for approval to the Wellington Engineer.

    b. Curve data may be tabulated subject to the following conditions or exceptions;

       i. External boundary or centerline curve data may not be tabulated.

       ii. Where data is tabulated a minimum of the arc length and the curve designation number or letter will be shown on site.

       iii. Curve tables reflecting the tabulated data will appear on the map sheet on which the curves appear.

H. Each lot and block shall be numbered or lettered. All lots shall be numbered or lettered by progressive numbers or letters individually throughout the subdivision or progressively numbered or lettered in each block. Blocks in each incremental plat shall be numbered or lettered consecutively throughout a subdivision.

I. The plat shall show the name of each street as shown on the Subdivision Plan and conforming to the CODE AND STANDARDS MANUAL.

J. Not included or excepted parcels must be marked not a part of this plat. Where a not included parcel is completely surrounded by areas included within the plat sufficient easements or rights of way to provide necessary access, utilities and drainage to the parcel shall be provided. No parcel of land shall be reserved by the owner unless the same is sufficient in size and area to be of some particular use or service. The intended use of all reserved areas shall be clearly shown on the plat in note form on the cover sheet.

K. All street, right-of-way easement widths and dimensions shall be shown on the plat. Easements are to be tied at both ends at intersecting boundary, lot, or right-of-way lines. The plat shall show the name, location and width of all existing or recorded streets intersecting or contiguous to the boundary of the plat and accurately tied to the boundary of the plat by bearings and distances.

L. Maintenance and use covenants, as required by the CODE AND STANDARDS MANUAL shall be submitted with the final plat and approved by the Wellington Attorney prior to recordation of the Final Plat. All areas of the plat which are not to be sold as individual lots and all easement shall be dedicated or reserved in accordance with the terms of the maintenance and use covenants and their purposes shall be clearly stated on the plat.

M. All streets and their related facilities which are designed to serve more than one lot or dwelling unit shall be dedicated to the Council for public use unless otherwise required or permitted by this paragraph or elsewhere in this article. Any street which is to be reserved as a private street shall be identified as a tract for private street purposes. Such street tracts shall be reserved in accordance with the CODE AND STANDARDS MANUAL. Private streets may only be permitted when such streets are subject to a recorded declaration of covenants subjecting the streets to the jurisdiction and control of all lot owners deriving access from such streets, their successors and assigns. When parking areas are required to be constructed by the CODE AND STANDARDS MANUAL, they shall be reserved to and shall be the perpetual maintenance responsibility of a property owners' association which shall have jurisdiction over the parking area and the clustered lots. Such parking areas shall be clearly identified and reserved as tracts for parking and access purposes.

N. The plat shall contain a statement no buildings, construction, trees or shrubs shall be placed on any easement without prior written consent of all easement beneficiaries and all applicable Wellington approvals or permits as required for such encroachment.

O. The plat shall contain on the face or first page the following certifications, approvals and acknowledged as required by law all being in the form set forth below.

1. All areas dedicated for public use shall be dedicated by the owner of the land at the time the plat is recorded. Such public areas include but are not limited to civic sites, parks, rights-of-way for streets or alleys. The same may be designated as; easements for utilities; rights-of-way and easements for drainage purposes; and any other area however designated. All areas reserved for use by the residents of the subdivision shall be reserved by the owner of the land at the time the plat is recorded. All dedications and reservations shall be perpetual and shall contain:

    a. The name of the recipient or beneficiary of the dedication or reservation including successors and assigns;

    b. The purpose of the dedicated or reserved area; and

    c. The name of the entity responsible for the perpetual maintenance of the dedicated or reserved area including successors and assigns. In the event Wellington is not the recipient or beneficiary of the dedication or reservation the statement of maintenance responsibility shall include the notation any maintenance is without recourse to Wellington.

    If so required certain dedications or reservations shall grant Wellington the right but not the obligation to maintain the areas. The dedications and reservations shall be executed by all owners having a record interest in the property being platted. The acceptance on the plat of the dedications or reservations shall be required of any entity to whom a dedication or reservation is made except Wellington. Dedications to Wellington shall be accepted according to the CODE AND STANDARDS MANUAL. All dedications, reservations and acceptances shall be executed in the same manner in which deeds are required to be executed according to Florida Statutes.

    Although the term dedication is meant to imply a public use while the term reservation is meant to imply a private use the terms may

inadvertently be used interchangeably. Inadvertent misuse shall not invalidate any Wellington requirement, plat dedication or reservation.

2. All mortgages along with the mortgagee's consent and approval of the dedication shall be required on all plats where mortgages encumber the land to be platted. The signature(s) of the mortgagee or mortgagees must be witnessed and the execution acknowledged in the same manner as mortgages are required to be witnessed and acknowledged. The form for the mortgagee's consent shall be as prescribed by the Wellington Engineer.

3. The final plat shall contain the signature, registration number and official seal of the surveyor certifying the plat is a true and correct representation of the land surveyed under his responsible direction and supervision. The survey data shall be compiled and shown on the plat to comply with all of the requirements of Chapter 177, Fla. Stat. as amended and this article. The certification shall also state permanent reference monuments (P.R.M.s) have been set in compliance with Chapter 177, Fla. Stat., as amended and this article. When the permanent control points (P.C.P.'s) are to be installed after recordation the certification shall also state the "P.C.P.'s" will be set under the direction and supervision of the surveyor under the guarantees posted for required improvements within the plat. When required improvements have been completed prior to the recording of a plat the certification shall state "P.C.P.'s" have been set in compliance with the laws of the State of Florida and the ordinances of Wellington. The form for the surveyor's certificate shall be as prescribed by the Wellington Engineer.

4. Signing and sealing of the final plat by the Wellington Engineer shall constitute approval for recordation. The plat shall contain the approval and signature block for the Wellington Engineer. Upon approval of the plat the Wellington Engineer shall present the plat to the Clerk of the Circuit Court for recording.

5. The title sheet of the plat shall contain a title certification. The title certification must be an opinion of an attorney-at-law licensed in Florida or the certification of an abstractor or a title insurance company licensed in Florida and shall state:

    a. The lands as described and shown on the plat are in the name and apparent record title is held by the person, persons or organizations executing the dedication;

    b. All taxes have been paid on said lands as required by Chapter 197.192, Fla. Stat. as amended;

    c. All mortgages on the land are shown and indicated by their official record book and page number; and

    d. There are no encumbrances of record on said lands that would prohibit the creation of the proposed subdivision.

    The form for the title certification shall be as prescribed by the Wellington Attorney.

6. The name and address of the person who prepared the plat shall be shown on the plat.

2.3 REQUIRED IMPROVEMENTS

Refer to LDR Article 8 for required improvements.

2.4 ACCESS AND CIRCULATION SYSTEMS

The access and circulation systems shall conform to the requirements of this Manual.

2.4.1 Vehicular circulation systems

A. All streets, required alleys and related facilities required to serve the proposed development shall be constructed by the developer. Construction shall consist of but not be limited to grading, base preparation, surface course and drainage. All streets whether intended for dedication to Wellington or reservation for private use and maintenance shall be constructed to the minimum standards established by this article and Wellington standards. Additionally the developer shall construct any parking tracts which provide access to any clustered lots which do not have direct primary access from a local street. Construction of such parking tracts shall be completed prior to issuance of any Certificate of Occupancy for any dwelling unit located on a clustered lot served by such parking tract. Construction of the parking tract may be done in conjunction with building construction on the lot the tract is to serve provided such construction shall be noted on the approved paving, grading and drainage plans in a form acceptable to the Wellington Engineer. When the parking tract is to be completed in conjunction with building construction the developer shall execute a certificate of compliance on a form approved by the Building Official prior to issuance of the certificate of occupancy for any dwelling unit or building served by such parking tract. Said certificate of compliance shall state the parking tract was completed in accordance with the requirements of the CODE AND STANDARDS MANUAL, Off-street Parking and Loading.

B. There is hereby established a hierarchy of legal access as shown in Article 8 of the LDRs. Except as provided below, each lot shall abut a street of suitable classification to provide said lot with legal access consistent with the standards set forth in Article 8 of the LDR.

1. When legal access to a lot is permitted by this Code and standards manual to be by a common parking area which serves more than one (1) lot it shall be dimensioned and depicted on the construction plans and reserved on the plat as a parking tract. Said tract shall be reserved for parking and access purposes to the property owners association having jurisdiction over the parking area and the abutting lots.

2. A common driveway may with prior approval by the Wellington Engineer be utilized for legal access to a group of not more than four (4) abutting lots situated adjacent to a curve on a residential access street where said lots would otherwise have no reasonable means of obtaining direct access to or required frontage on the adjacent residential access street. Said driveway shall be delineated and reserved on the applicable plat for purposes of perpetual access to the lots served.

3. A common parking lot may be utilized for legal access to individual lots created by subdivision of a shopping center or similar building site developed solely for commercial or industrial uses where all lots within the boundary of such subdivision are served by said access and are subject to recorded shared access, maintenance and use covenants approved by the Wellington Attorney pursuant to the CODE AND STANDARDS MANUAL. Where such access is utilized direct lot access on any street adjacent to the boundary of

the subdivision shall be prohibited except at common access points approved for the subdivision as a whole.

C. The proposed street layout shall be integrated with Wellington's and the County's traffic circulation network and with the street system of the surrounding area. Streets shall be classified and designed in accordance Article 8 of the LDR, and Wellington standards. Consideration shall be given to:

1. The need for continuity of existing and planned streets;
2. Barriers imposed by topographical conditions and their effect on public convenience or safety;
3. The proposed use of the land to be served by such streets;
4. The need for continuation of existing local streets in adjoining areas not subdivided;
5. The proper projection of collector and arterial streets;
6. The feasibility of extending the proposed street system to the boundary of the proposed subdivision to promote reasonable development of adjacent lands and to provide continuity of street systems; and
7. Discouraging through traffic in the design of local and residential access streets.

D. Where a lot has two (2) frontage lines legal access to the lot shall be restricted as follows;

1. Where a residential lot abuts both a street of collector or higher classification and a local street access to said lot shall be by the local street. The lot line(s) abutting any street of higher classification than a local street shall be buffered in accordance with the provisions of the CODE AND STANDARDS MANUAL .
2. Where a non-residential lot abuts streets of local or higher classification access to the lot shall only be on the street of lower classification, unless otherwise permitted by this Code and standards manual; provided however, access shall not be permitted on a local residential street.

E. Construction in muck or clay areas shall be done in accordance with Wellington Standards. Muck shall be removed from all street sections during construction.

F. The centerline intersections of local or residential access streets with collector streets shall be spaced a minimum distance of two hundred (200) feet as measured along the centerline of the collector street. Intersections which warrant traffic signalization shall be spaced a minimum distance of thirteen hundred twenty (1,320) feet centerline to centerline. Connection of local streets to arterial streets may be permitted by the Wellington Engineer only where other access is unavailable.

G. Through traffic shall be directed along collector streets within the subdivision. Local streets shall be laid out to accommodate local or neighborhood traffic and to discourage their use by through traffic.

H. Alleys may be allowed in subdivisions when they are necessary in the opinion of the Wellington Engineer for the safe and convenient movement of traffic and pedestrians. Alley intersections and sharp changes in alignment shall be avoided and alleys shall be constructed in accordance with the following;

1. Residential alleys shall be paved ten-feet wide in a minimum twelve-foot right-of-way with appropriate radii for the intended use.

2. Commercial and Industrial alleys shall be paved eighteen (18) feet wide in a minimum twenty-foot right-of-way with appropriate radii for the intended use.

I. Bridges or culverts shall be provided as necessary to facilitate the proposed vehicle and pedestrian system. The bridge or culvert requirement is subject to approval by the agency having jurisdiction over the facility being crossed. Bridges shall be designed in accordance with the current Florida Department of Transportation Design Standards and Specifications latest edition and shall include planning for utility installation. Bridges and Culverts shall be constructed of reinforced concrete, unless other low maintenance materials are approved by the Wellington Engineer. Bridges shall have a clear roadway width between curbs two (2) feet in excess of the pavement width in each direction and shall have sidewalks six (6) feet wide on each side. All vehicular bridge structures shall be designed for H-20-S-16-44 loading and incorporate adequate corrosion protection for all metal work and erosion protection for associated shorelines and embankments.

J. Street markers shall be provided at each intersection in the type, size and location required by the current Wellington Standards. Street name signs shall follow the street name shown on the plat of record and shall be in compliance with the current Wellington Engineering Standards Manual.

K. The developer shall install traffic control devices and where warranted any traffic signals on roads within and interfacing with the subdivision. A traffic impact analysis meeting the approval of the Wellington Engineer shall be used to assist in establishing the need for such signals.

1. Pavement markings and/or lane delineators meeting the requirements of Wellington or Palm Beach County Typicals for Striping and Geometrics latest edition as appropriate shall be installed on all arterial and collector streets. Pavement markings and/or delineators may be required on other streets, such as project entrances, as determined by the Wellington Engineer.

2. The design of traffic control devices shall be in accordance with the Manual for Uniform Traffic Control Devices and applicable Wellington and Palm Beach County Standards.

L. Pavement widths for streets shall be in accordance with Article 8 of the LDR.

M. All dead end streets within Wellington shall be designed and constructed to end in a cul-de-sac. The Wellington Engineer may approve an alternate turn around through the Development Review process. Cul-de-sacs or other approved means of termini must be designated and constructed to meet the standards of both the Wellington Land Development Regulations and the Palm Beach County Fire Code. Dead-end streets shall not exceed one thousand three hundred twenty (1,320) feet in length except where natural geographic barriers exist necessitating a greater length.

N. Pavement construction shall consist of, at a minimum, a subgrade, base and wearing surface. All materials and construction shall be in accordance with the current Wellington Engineering Standards Manual.

O. All unpaved shoulders shall be constructed and grassed in accordance with Wellington Engineering Standards Manual. Grassing with seed and mulch or with solid sod as required

shall be completed prior to acknowledgement of completion of the required improvements by the Wellington Engineer. No time extensions to any contract for the construction of required improvement will be granted on the basis of incomplete shoulder treatment.

P. The longitudinal grade of street pavement shall be parallel to the design invert slope of the adjacent roadside drainage swale or gutter. Minimum longitudinal and transverse grades shall be in accordance with Wellington standards. Street grades shall be shown on the construction plans by indicating the direction and percent of slope. The horizontal distance along the centerline between and pavement elevation at all points of vertical intersections shall also be shown.

Q. Limited access easements shall be required along all streets of collector and higher status to control access from abutting property. Easements for controlling access to local streets may be required by the Wellington Engineer to ensure continued control of access from abutting property. All limited access easements shall be conveyed or dedicated to Wellington.

R. Proposed streets which are in alignment with existing named streets should bear the name of the existing street. All street names shall have a suffix and in no case should the name of the proposed street duplicate or be phonetically similar to existing street names. All proposed street names shall be submitted to the Wellington Geographic Information Systems Dept. for approval prior to submittal of the Subdivision Plan application.

S. Streets shall be laid out to intersect as nearly as possible at right angles. Multiple intersections involving the junction of more than two (2) streets shall be prohibited. The point of curvature of any local street or residential access street shall not be closer than one hundred (100) feet to any intersection measured along the centerline from the extension of the intersecting street lines. Reverse curves shall be prohibited. Reversals in alignment shall be connected by a straight tangent segment at least fifty (50) feet in length. All intersections shall be designed to provide at least the minimum stopping and turning sight distances in accordance with criteria prescribed in the most recent edition of the FDOT Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways. When the centerline of a local street deflects by more than ten (10) degrees, it shall be curved with a radius adequate to assure safe sight distance and driver comfort. Street pavement return radii shall be a minimum of thirty (30) feet.

T. If street lighting is installed, it shall be maintained by a property owners' association and said association should not be created exclusively for the purpose of maintaining street lighting. Unless street lighting installation conforms to the standards of the requisite utility company, streetlights shall be placed outside of rights of way, road tracts, or any other areas designated for road purposes. Streets lighting shall be wired for underground service except where aerial service is permitted pursuant to the code and standards manual.

U. Median strips, which are part of a public street, may not be utilized for any purpose other than by Wellington or a public utility. A developer or property owner may install landscaping in a median strip or within shoulders in accordance with Florida Department of Transportation standards.

V. Subdivision entranceways consisting of walls, fences, gates, rock piles or other entrance features are not permitted within the median strip or other areas in a public street. Decorative entranceways must be constructed upon plots of land adjacent to a public street in compliance with applicable Wellington codes and placed so as not to constitute a traffic hazard.

W. A guardhouse located so as not to create a traffic hazard may be constructed in the median of an entrance to a subdivision having only private streets. The minimum setback to a guardhouse shall be one hundred fifty (150) feet measured from the extension of the intersecting street nearest edge of travel lane lines, unless waived by the Wellington Engineer. Two (2) lanes shall be required on each side of the median in the area of the guardhouse.

2.4.2 CHART OF ACCESS HIERARCHY

Refer to LDR Article 8

2.4.3 Minor Streets

Refer to LDR Article 8

2.4.4 Pedestrian, bicycle and bridle circulation system

Refer to LDR Article 8

2.5 CLEARING, EARTHWORK AND GRADING

2.5.1 Minimum required improvement

The Developer shall be required to clear all rights-of-way and to make all grades for streets, parking tracts, lots, and other areas proposed to be developed, compatible with on-site tertiary drainage patterns established by the approved drainage design.

2.5.2 Unsuitable materials

The Developer shall remove and replace unsuitable materials as determined pursuant to the code. Replacement of unsuitable materials within streets and proposed public areas shall be satisfactory to and meet with the approval of the Engineer who shall require such soil tests of the backfill and the underlying strata at the cost of the developer as may be deemed necessary to ascertain the extent of required removal, suitability of replacement material, and acceptability of the proposed method of placement.

2.6 STORMWATER MANAGEMENT

2.6.1 Minimum required improvement

Refer to LDR Article 8

2.6.2 General criteria

Refer to LDR Article 8

2.6.3 Hydrologic design data

Unless otherwise specified by a particular design, performance standard or approved by the Engineer based on justification submitted by the developer's engineer for an individual case, hydraulic and hydrologic data used in design of stormwater management facilities shall be based on:

A. Rainfall intensity-duration-frequency curves for FDOT-Zone 10;

B. Rainfall hyetographs of twenty-four-hour total rainfall as published in Environmental Resource Permit Applicants Handbook latest edition;

C. Rainfall quantity or intensity vs. time distributions in accordance with those published by SFWMD, FDOT, or the SCS - Type II South Florida Modified distribution;

D. Post-development runoff characteristics such as slopes, available soil storage, runoff coefficients, ground cover, channelization and overland flow routing applicable to the development site and contributory off-site areas after complete development has occurred;

E. Maximum operating tailwater elevations at the outlet of each conveyance or discharge facility determined as the maximum hourly average receiving water surface elevation resulting from a twenty-four-hour duration rainfall with a return period equal to the design storm applicable to the facility or as otherwise established by the agency having operational jurisdiction over the receiving water elevation.

2.6.4 Tertiary stormwater system design and performance within planned subdivisions

The tertiary system within planned subdivisions shall consist of drainage features and facilities such as, but not limited to the following:

- Storm sewers
- Swales / Open ditches
- Gutters
- Culverts
- Erosion protection devices
- Site grading

All of the above components are necessary for the immediate drainage and rapid removal of stormwater from building sites, streets and areas of other land uses subject to damage or disruption by inundation in accordance with acceptable levels of service as established by the Comprehensive Plan and the Wellington Stormwater Ordinance.

A. In order to provide for such levels of service tertiary drainage for lots and buildings shall meet the following minimum requirements:

1. The minimum finished floor elevation of the principal building(s) and accessory buildings to be constructed on a lot or portion thereof shall be at the base flood elevation plus one foot or the design flood elevation whichever is higher.

2. Site grading immediately adjacent to the perimeter of each building shall be sloped so as to drain away from the structure.

3. Each single-family residential lot shall be graded to drain along or within its property lines to the street or parking area providing immediate access, unless adequate common drainage facilities in expressed drainage easements with an established maintenance entity are provided to accommodate alternative drainage grading.

4. Each residential lot with gross area of one-quarter acre or less shall have a finished grade not lower than the maximum water surface elevation produced by the three-year, twenty-four-hour rainfall event in any detention or retention facility receiving stormwater runoff from the lot.

5. Each residential lot with a gross area greater than one-quarter acre shall have a finished grade as specified in the code within twenty (20) feet of any principal building. The

remainder of the lot shall be graded at sufficient elevation to ensure inundation does not persist for more than eight (8) hours following cessation of the three-year twenty-four-hour rainfall event unless such area is designated for stormwater management purposes and included in an expressed easement for drainage, floodplain or the like.

B. Except as provided in the code, minor streets shall have tertiary drainage meeting or exceeding the following minimum requirements.

1. The minimum edge of pavement elevation of any street segment shall be no lower than two (2) feet above the control elevation of any detention or retention facility receiving runoff from that segment.

2. Roadside swales shall conform to the standards manual and shall be designed and constructed such that:

   a. The flowline gradient is at least 0.30 percent but not greater than 2.5 percent unless approved erosion protection is provided;

   b. The flowline gradient is equal to or slightly exceeds the longitudinal gradient of adjacent pavement;

   c. The water surface elevation of swale flow resulting from peak runoff based on the three-year FDOT Zone 10 rainfall event shall not exceed the adjacent edge of pavement at any point along the swale run. At least one (1) storm sewer inlet or other acceptable discharge facility shall be provided for every six hundred (600) linear feet of swale and no single swale run shall exceed four hundred (400) feet to an inlet; and

   d. The soil adjacent to each inlet is protected from local scour by installation of a four-foot wide perimeter apron of sod, concrete or other method determined to be acceptable by the Wellington Engineer.

3. Curb and gutter drainage shall conform to applicable Wellington standards and FDOT Standards and Specifications latest edition and shall be designed and constructed such that:

   a. The flowline gradient is at least 0.30 percent;

   b. The water surface elevation of flow resulting from peak runoff based on the three-year FDOT Zone 10 rainfall event shall not exceed the adjacent centerline elevation of pavement at any point. At least one (1) storm sewer inlet or other acceptable discharge facility shall be provided for every six hundred (600) linear feet of pavement and no single gutter run shall exceed four hundred (400) feet to an inlet; and

   c. Surface flow of runoff across street intersections is prevented by provision of corner inlets and cross drains or by grading of gutters to flow away from the intersection.

   C. Collector streets shall have tertiary drainage meeting all appropriate requirements for minor streets except:

      1. Conveyance capacity of road drainage facilities shall be based on peak runoff resulting from the FDOT Zone 10 five-year rainfall event; and

2. The water surface elevation of gutter flow resulting from peak runoff based on the FDOT Zone 10 five-year rainfall event shall not exceed the adjacent centerline elevation of the outermost travel lane at any point.

D. Each residential parking area serving three or more dwelling units and all non-residential parking areas shall have a finished grade elevation not lower than the maximum water surface elevation produced by the three-year twenty-four-hour rainfall event in any retention, detention or conveyance facility receiving stormwater runoff from the lot. Where detention or retention is provided by subsurface exfiltration systems the finished grade shall be no lower than the maximum storage elevation produced by the five-year twenty-four-hour event.

E. Storm sewerage shall be designed and constructed so as to meet or exceed the following requirements:

1. Where not otherwise specified all storm sewer system capacity design shall at a minimum provide for conveyance of peak inflow from the applicable catchment based on the FDOT Zone 10 three-year rainfall event and the hydraulic gradient elevation does not exceed the grate or cover elevation at any inlet or manhole under tailwater conditions pursuant to the code.

2. Inlet times assumed for determining required street drainage system capacity shall not exceed ten (10) minutes unless adequate justification for use of longer times is submitted.

3. Storm sewer pipe shall have a nominal diameter of not less than eighteen (18)inches, or equivalent oval pipe size.

4. Storm sewerage shall be designed to attain design flow velocities of not less than two and one-half (2.5) feet per second in all pipe runs serving two (2) or more inlets, nor greater than ten (10) feet per second in any pipe run.

5. A suitable access structure such as a manhole, junction box or inlet must be installed at each junction or change in pipe size, slope or direction.

6. The maximum pipe run between access structures shall be:

   Three hundred (300) feet for eighteen (18) inch pipe

   Four hundred (400) feet for twenty-four (24) inches to thirty-six (36) inch pipe

   Five hundred (500) feet for forty-two (42) inches and larger pipe.

7. All pipe used in the storm sewer system shall be reinforced concrete unless the Engineer approves corrugated aluminum as a substitute material. The pipe shall conform to current ASTM, AASHTO or ANSI standard specifications for materials and fabrication of barrel and joints and shall meet current FDOT standard specifications and policies applicable to the intended use.

8. Concrete pipe shall have gasket joints.

9. When corrugated aluminum pipe is used beneath pavement within a street it shall be designed to provide a joint-free installation or where joint-free installations are not feasible shall be jointed with a twelve-inch wide band having a mastic or neoprene gasket providing a watertight joint. Other jointing

techniques meeting or exceeding these requirements may be used upon submittal and approval by the Wellington Engineer.

10. Drainage pipe shall be fitted with headwalls, endwalls, inlets and other appropriate terminating and intermediate structures. Structure design shall meet or exceed current FDOT design standards and specifications.

2.6.5 Secondary stormwater system within planned subdivisions, design and performance

The secondary system within planned subdivisions include, but are not limited to all of the facilities and appurtenant structures for the following:

- Detention/Retention ponds
- Dry Detention/Retention ponds
- Discharge and conveyance to legal positive outfall

All of the above shall be designed and constructed to provide the degree of treatment and control of all stormwater runoff discharged from a development site necessary to meet the requirements of the agency having jurisdiction over receiving waters at each point of legal positive outfall.

A. In addition to requirements expressly stated herein:

1. Secondary facilities for development subject to permitting by individual or general permit from South Florida Water Management District pursuant to F.A.C. shall meet all requirements for issuance of the applicable permit;

2. Secondary facilities for each residential, commercial and industrial development exempt from South Florida Water Management District permitting pursuant to F.A.C. except an individual residential lot containing not more than two (2) dwelling units shall be designed and constructed on site or otherwise be provided through authorized connection to off-site secondary facilities so as to limit the discharge rate at the point of legal positive outfall to meet the water quality requirements of the Wellington Stormwater Ordinance 2010-14 and either:

B. No discharge of stormwater runoff resulting from rainfall up to and including the twenty-five-year seventy-two-hour event shall take place from a development site except by means of one (1) or more approved discharge structures other than those existing inflows from off-site for which separate, approved means of conveyance through the site have been provided.

C. Facilities for conveyance of discharge to each point of legal positive outfall shall be designed and constructed with adequate capacity to accommodate the combined flow from the applicable discharge structure(s) and all inflows from other contributory areas resulting from the twenty-five-year seventy-two-hour rainfall event without overflow to adjacent lands.

D. Except where bulkheading is approved in accordance with the code, each wet detention/retention facility designed for storage of stormwater runoff in an open impoundment shall be designed in accordance with LDR, article 8. Slope requirements for dry/wet retention/detention facilities can be found in the LDR, article 8.

E. All normally exposed side slopes and maintenance berms of open impoundments shall be fully grassed or otherwise protected from erosion.

F. Each piped inlet to an open impoundment shall have a concrete or sand-cement rip-rap endwall designed and constructed with suitable foundation for installation on the slope or bed of the impoundment as applicable. However, the endwall may be eliminated on inlets to wet detention impoundments where the pipe is installed with the crown at least two (2) feet below the control elevation with the pipe invert protruding at least two (2) feet beyond the side slope and protected with approved erosion control measures.

G. Stormwater runoff from pavement, roofs and unpaved areas of compacted soil surfaces with no significant vegetative cover shall be directed over grassed, pervious soil surfaces as diffused flow prior to entering wet detention/retention facilities in order to promote infiltration, particulate deposition, nutrient removal and interception of debris or other undesirable materials which may overload, pass through, cause nuisance conditions in or increase maintenance needs of said facilities.

H. In order to protect against over drainage of surrounding lands no control elevation shall be lower than the pre-development average annual mean water table elevation of the detention facility site.

2.6.6 Drainage and maintenance access rights

Refer to LDR Article 8.

2.6.7 Drainage Certificate of compliance for lots

When the finished lot grading required by the code is to be completed in conjunction with building construction but prior to issuance of the Certificate of Occupancy the developer shall submit to the Building Official a Drainage Certificate of Compliance from a Florida registered professional surveyor, engineer or landscape architect. Such statement shall be in a form approved by the Building Department and shall state lot grading was done in accordance with either the approved grading plan for the subdivision or in the absence of such plan in accordance with the applicable requirements of the code.

2.6.8 Coordination with Drainage Districts

Land Development projects and associated increases in the previous impervious coverage alter the hydrologic response of local water sheds and increase stormwater runoff from developed sites. Within Wellington three Chapter 298 drainage districts operate and have water management systems. To provide for proper coordination with the districts land development permits shall conform with the Wellington Stormwater Ordinance 2010-14.

SECTION 3:
GENERAL REQUIREMENTS FOR CONTRACTORS

3 SECTION 3: GENERAL REQUIREMENTS FOR CONTRACTORS

The Plans and Specifications are an integral part of the Contract Documents and as such will not stand alone if used independently. The Plans and Specifications establish minimum standards. They do not support to cover all details entering into the design and construction of materials or equipment.

3.1 PROJECT COORDINATION

3.1.1 General

The Contractor shall provide for the complete coordination of the construction effort. This shall include but not necessarily be limited to coordination of the following:

(1) The flow of material and equipment from suppliers.
(2) The interrelated work with utilities.
(3) The effort of independent testing agencies in compliance with these specifications.
(4) Notification to all appropriate agencies for required inspections, including but not limited to Village of Wellington Departments (Engineering, Public Works, Utilities, Building, Planning and Zoning), ACME Improvement District, South Florida Water Management District (SFWMD), Lake Worth Drainage District, the Army Core of Engineers (ACOE), Florida Power and Light Company (FPL), AT&T, Comcast, Florida Department of Environmental Protection (FDEP), Florida Fish and Wildlife Conservation Commission and the Florida Department of Transportation (FDOT).

3.1.2 Cutting and Patching

The Contractor shall do all cutting, fitting, and patching of his work that may be required to make its several parts come together properly and integrate with such other work. The Contractor shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of those whose work will be affected.

3.1.3 Testing Laboratory Services

Arrangements for testing laboratory services will be made by the owner. Payment for testing to show compliance with specified requirements will be paid for by the owner. The cost of retesting when materials and workmanship fail to meet specified requirements will be deducted from monies due the Contractor on Village funded projects.

3.1.4 Temporary Facilities and Control

3.1.4.1 Temporary Water Supply

The Contractor shall make all necessary applications and arrangements, and pay all fees and charges for potable water necessary for the proper completion of the project up to the time of final acceptance. The Contractor shall provide and pay for any temporary piping and connections. This effort shall be coordinated directly with the Village of Wellington Utilities Department, and comply with all applicable standards of the Utilities Department.

3.1.4.2 Temporary Sanitary Facilities

The Contractor shall provide adequate sanitary facilities for the use of those employed on the work site. Such facilities shall be made available when the first employees arrive on the site of the work, shall be properly secluded from public observation, isolated from waterways and storm sewer systems, and shall be constructed and maintained during the progress of the work in suitable numbers and at such points and in such manner as may be necessary. Placement/setbacks of temporary sanitary facilities are subject to Village of Wellington Ordinance 2010-14.

3.1.4.3 Noise Control

The Contractor shall provide adequate protection against objectionable noise caused by the operation of construction equipment.

3.1.4.4 Dust Control

The Contractor shall provide for adequate protection against raising objectionable dust clouds caused by moving construction equipment, high winds or any other cause. Disturbed soil that has not been worked in more than seven (7) days shall be vegetated with seed and mulch or sod.

3.1.4.5 Water Control

The Contractor shall provide for all aspects of his/her work so that it shall not endanger the public or private lands adjacent to the site. The Contractor shall provide for satisfactory disposal of surplus water and shall submit a plan to the Engineer for his/her review prior to initiation and implementation of the plan. A dewatering permit shall be obtained from the SFWMD prior to commencement of construction.

3.2 POLLUTION, SILTATION, AND EROSION CONTROL

3.2.1 General

The Contractor shall provide for and take sufficient precautions for erosion control measures on the project and in areas outside the right-of-way where work is accomplished in conjunction with the project, so as to prevent pollution of water, detrimental effects to public or private property adjacent to the project right-of-way and damage to work on the project. Construct and maintain temporary erosion control features or, where practical, construct and maintain permanent erosion control features as shown in the plans or as may be directed by the Engineer.

The Contractor shall take sufficient precautions to prevent pollution of private lands, reservoirs, ponds, canals, swales, etc. by disposals of surplus materials in the forms of solids, liquids, or gases including but not limited to fuels, oils, bitumen, calcium chloride or other harmful materials. The Contractor shall conduct and schedule operations as to avoid or otherwise minimize pollution or siltation of canals, swales, streams, lakes, and reservoirs and to avoid interference with any fish and wildlife. Restrict construction operations in lakes, reservoirs, canals, and other water impoundments to those areas where it is necessary to perform filling or excavation to accomplish the work shown in the plans and to those areas in which must be entered to construct temporary or permanent structures. As soon as conditions permit, promptly clear canals, swales, and impoundments of all obstructions placed therein or caused by construction operations.

Coordinate the installation of temporary erosion control features with the construction of the permanent erosion control features to the extent necessary to endure control features to the extent necessary to ensure economical, effective and continuous control of erosion and water pollution throughout the life of the Contract.

Due to unanticipated conditions, the Designer of Record may direct the use of control features or methods other than those included in the original Contract.

Do not disturb lands or waters outside the limits of construction as staked..

Obtain the Designer of Record's approval for the location of, and method of operation in, borrow pits, material pits, and disposal areas furnished for waste material from the project (other than commercially operated sources) such that erosion during and after completion of the work will not result in probability of detrimental siltation or water pollution.

The Contractor may use new or used materials for the construction of temporary silt fence, staked turbidity barriers, and floating turbidity barrier not to be incorporated into the completed project, subject to the approval of the Department.

3.2.2 Stormwater Pollution Prevention Plan (SWPPP)

At the Preconstruction Meeting, provide to the Village a special plan to prevent, control, and reduce erosion and water pollution, meeting the requirements or special conditions of all permits authorizing project construction.

When a National Pollutant Discharge Elimination System (NPDES) Permit is issued or approved by the Florida Department of Environmental Protection, the Contractor's plan shall be prepared as a part of the approved SWPPP. The SWPPP will include this erosion control plan and all additional measures that will be employed to dispose of, control, or prevent the discharge of solid, hazardous, and sanitary wastes to waters of the U.S.

Include procedures to control off-site tracking of soil by vehicles and construction equipment and a procedure for cleanup and reporting of non-storm water discharges, such as contaminated groundwater or accidental spills. The Department will review and approve the Contractor's part of the SWPPP, including required signed certification statements, before soil disturbing activities begin.

Failure to sign any required documents or certification statements will be considered a default of the Contract. Any earth disturbing activities performed without the required signed documents or certification statements may be considered a violation of the Clean Water Act by the EPA.

When the SWPPP is required, prepare the erosion control plan in accordance with the sequence of operations and present in the NPDES Stormwater Pollution Prevention Plan required format provided by the FDEP. The erosion control plan shall describe, but not be limited to, the following items or activities:

(1). For each phase of construction operations or activities, supply the following information:

a) Locations of all erosion control devices

b) Types of all erosion control devices
c) Estimated time erosion control devices will be in operation
d) Monitoring schedules for maintenance of erosion control devices
e) Methods of maintaining erosion control devices
f) Containment or removal methods for pollutants or hazardous wastes

(2). The name and telephone number of the person responsible for monitoring and maintaining the erosion control devices.

(3). Submit for approval the erosion control plans meeting the paragraphs below:

Obtain the Department's approval of the erosion control plan. Do not begin construction activities until the erosion control plan receives written approval from the Engineer. Provide copy of notice of intent approval.

a) Projects authorized by permitting agencies other than the Water Management Districts or projects for which no permits are required, require the following:

The Department will review and approve the Contractor's erosion control plan. Do not begin construction activities until the erosion control plan receives written approval from the Department. Comply with the approved erosion control plan.

3.2.3 Limitation of Exposure of Erodible Earth

The Department may limit the surface areas of unprotected erodible earth exposed by the construction operation and may direct the Contractor to provide erosion or pollution control measures to prevent contamination of any lake, reservoir, canal, swale, or other water impoundments or to prevent detrimental effects on property outside the project right-of-way or damage to the project. Limit the area in which excavation and filling operations are being performed so that it does not exceed the capacity to keep the finish grading, grassing, sodding, and other such permanent erosion control measures current in accordance with the accepted schedule.

3.2.3.1 Incorporation of Erosion Control Features

Incorporate permanent erosion control features into the project at the earliest practical time. Use approved temporary erosion control features to correct conditions that develop during construction which were not foreseen at the time of design, to control erosion prior to the time it is practical to construct permanent control features, or to provide immediate temporary control of erosion that develops during normal construction operations, which are not associated with permanent erosion control features on the project.

The Department may authorize temporary erosion control features when Topsoil is specified in the Contract and the limited availability of that material from the grading operations will prevent scheduled progress of the work or damage the permanent erosion control features.

3.2.3.2 Scheduling of Successive Operations

Schedule operations such that the area of unprotected erodible earth exposed at any one time is not larger than the minimum area necessary for efficient construction operations, and the duration of

exposure of uncompleted construction to the elements is as short as practicable. Schedule and perform clearing and grubbing so that grading operations can follow immediately thereafter. Schedule and perform grading operations so that permanent erosion control features can follow immediately thereafter if conditions on the project permit.

3.2.4 Details for Temporary Erosion Control Features

3.2.4.1 General

Use temporary erosion and water pollution control features that consist of, but are not limited to, temporary grassing, temporary sodding, temporary mulching, sandbagging, slope drains, sediment basins, sediment checks, berms, baled hay or straw, floating turbidity barrier, staked turbidity barrier and silt fence. For design details for some of these items, refer to the FDOT Design Standards, latest edition.

3.2.4.2 Temporary Grassing

The Engineer may designate certain areas of grassing constructed in accordance with FDOT Standard Specifications, latest edition as temporary erosion control features.

3.2.4.3 Temporary Sod

Furnish and place sod in accordance with FDOT Standard Specifications, latest edition within areas designated by the Engineer to temporarily control erosion. If the Engineer determines that the sod will be of a temporary nature, he may not require fertilizer and lime. Keep the sod in a moist condition in order to ensure growth.

3.2.4.4 Temporary Mulching

Furnish and apply a 2 to 4 inch thick blanket of straw or hay mulch to designated areas, then mix or force the mulch into the top 2 inches of the soil in order to temporarily control erosion. Use only undecayed straw or hay which can readily be cut into the soil and which otherwise complies with FDOT Standard Specifications, latest edition. The Contractor may substitute other measures for temporary erosion control, such as hydromulching, chemical adhesive soil stabilizers, etc., for mulching with straw or hay, if approved by the Engineer. When beginning permanent grassing operations, plow under temporary mulch materials in conjunction with preparation of the ground.

3.2.4.5 Sandbagging

Furnish and place sandbags in configurations to control erosion and siltation.

3.2.4.6 Sediment Basins

Construct sediment basins in accordance with the details shown in the plans, the Design Standards, or as may be approved as suitable to adequately perform the intended function. Clean out sediment basins as necessary in accordance with the plans or as directed.

3.2.4.7 Berms

Construct temporary earth berms to divert the flow of water from an erodible surface.

3.2.4.8 Baled Hay or Straw

Provide bales having minimum dimensions of 14 by 18 by 36 inches, at the time of placement. Construct baled hay or straw dams to protect against downstream accumulations of silt. Construct the baled hay or straw dams in accordance with the details shown in the plans or the FDOT Design Standards. Place the dam to effectively control silt dispersion under conditions present on this project. The Contractor may use alternate solutions and usage of materials if approved.

3.2.4.9 Temporary Silt Fences

3.2.4.9.1 General

Furnish, install, maintain, and remove temporary silt fences, in accordance with the manufacturer's directions, these Specifications, and the details as shown on the plans.

3.2.4.9.2 Materials and Installation

Use a geotextile fabric made from woven or nonwoven fabric, according to those applications for erosion control. Choose the type and size of posts, wire mesh reinforcement (if required), and method of installation. Do not use products which have a separate layer of plastic mesh or netting. Provide a durable and effective temporary silt fence that controls sediment.

Install all sediment control devices in a timely manner to ensure the control of sediment and the protection of lakes, streams, gulf or ocean waters, or any wetlands associated therewith and to any adjacent property outside the right-of-way as required.

At sites where exposure to such sensitive areas is prevalent, complete the installation of any sediment control device prior to the commencement of any earthwork. After installation of sediment control devices, repair portions of any devices damaged at no expense.

Erect temporary silt fence at upland locations across ditch lines and at temporary locations shown on the plans or approved by the Engineer where continuous construction activities change the natural contour and drainage runoff. Do not attach temporary silt fence to existing trees unless approved by the Engineer.

3.2.4.9.3 Inspection and Maintenance

Inspect all temporary silt fences immediately after each rainfall and at least daily during prolonged rainfall. Immediately correct any deficiencies. In addition, make a daily review of the location of silt fences in areas where construction activities have changed the natural contour and drainage runoff to ensure that the silt fences are properly located for effectiveness. Where deficiencies exist, install additional silt fences as directed by the Engineer.

Remove sediment deposits when the deposit reaches approximately 1/2 of the volume capacity of the temporary silt fence or additional measures as directed by the Engineer. Dress any sediment deposits remaining in place after the temporary silt fence is no longer required to conform with the finished grade, and prepare and seed.

Maintain record of inspection dates, corrective actions and changes to the SWPPP.

3.2.4.10 Floating Turbidity Barriers and Staked Turbidity Barriers

Install, maintain, and remove turbidity barriers to contain turbidity that may occur as the result of dredging, filling, or other construction activities which may cause turbidity to occur. The Contractor may need to deploy turbidity barriers around isolated areas of concern both within as well as outside the right-of-way limits. The Engineer will assist with identifying such areas. Place the barriers prior to the commencement of any work that could impact the area of concern. Install the barriers in accordance with the details shown in the plans or as approved by the Engineer. Ensure that the type barrier used and the deployment and maintenance of the barrier will minimize dispersion of turbid waters from the construction site. The Village Engineer may approve alternate methods or materials.

Operate turbidity barriers in such a manner to avoid or minimize the degradation of the water quality of the surrounding waters.

3.2.4.11 Rock Bags

Furnish and place rock bags to control erosion and siltation. Place the bags as shown in the plans, the Design Standards or as directed by the Engineer. Use a fabric material with openings that are clearly visible to minimize clogging yet small enough to prevent rock loss. Use material of sufficient strength to allow removing and relocating bags without breakage. The bag size when filled with rocks shall be approximately 12 by 12 by 4 inches Use NO.4 or NO.5 coarse aggregate rock.

3.2.5 Maintenance of Erosion Control Features

3.2.5.1 General

Provide routine maintenance of permanent and temporary erosion control features, at no expense to the Village of Wellington, until the project is completed and accepted. If reconstruction of such erosion control features is necessary due to the Contractor's negligence or carelessness or, in the case of temporary erosion control features, failure by the Contractor to install permanent erosion control features as scheduled, the Contractor shall replace such erosion control features at no expense.

Inspect all erosion control features at least once every seven calendar days and within 24 hours of the end of a storm of 0.50 inches or greater. Maintain all erosion control features as required in the Stormwater Pollution Prevention Plan and as specified in State and/or Federal environmental regulatory permits. Use the inspection form provided by the Engineer to report all inspection findings and to document all corrective actions taken as a result of the inspection. Sign each inspection report and submit it weekly to the Engineer.

3.2.5.2 Mowing

The Engineer may direct mowing of areas within the limits of the project. Mow these designated areas within seven days of receiving such order. Do not mow slopes that are steeper than three horizontal to one vertical.

3.2.5.3 Protection During Suspension of Contract Time

If it is necessary to suspend the construction operations for any appreciable length of time, shape the top of the earthwork in such a manner to permit runoff of rainwater, and construct earth berms along

the top edges of embankments to intercept runoff water. Provide temporary slope drains to carry runoff from cuts and embankments that are in the vicinity of swales, canals, lakes, and impoundments. Should such preventive measures fail, immediately take such other action as necessary to effectively prevent erosion and siltation. The Engineer may direct the Contractor to perform, during such suspensions of operations, any other erosion control work deemed necessary.

3.3 TRAFFIC CONTROL

The Contractor shall maintain traffic within the limits of the project for the duration of the construction period, including any temporary suspensions of the work. Construct and maintain detours. Provide facilities for access to residences, businesses, etc., along the project. Furnish, install and maintain traffic control and safety devices during construction. Furnish and install work zone pavement markings for maintenance of traffic in construction areas. Provide any other special requirements for safe and expeditious movement of traffic specified on the plans. Maintenance of Traffic includes all facilities, devices and operations as required for safety and convenience of the public within the work zone.

Do not maintain traffic over those portions of the project where no work is to be accomplished or where construction operations will not affect existing roads. Do not obstruct or create a hazard to any traffic during the performance of the work, and repair any damage to existing pavement open to traffic.

3.3.1 Materials

Meet the following requirements of FDOT Standard Specifications, latest edition:

Specification:

(1) Raised Retro-Reflective Pavement Markers
(2) Bituminous Adhesive
(3) Work Zone Pavement Markings
(4) Paint
(5) Glass Spheres
(6) Preformed Pavement Stripes and Markings

3.3.1.1 Temporary Traffic Control Devices

Use only the materials meeting the requirements of FDOT Standards Specifications, latest edition, Roadway and Traffic Design Standards and the MUTCD.

3.3.1.2 Detours

Provide all materials for the construction and maintenance of all detours.

3.3.1.3 Commercial Materials for Driveway Maintenance

Provide materials of the type typically used for base, including recycled asphalt pavement material, and having stability and drainage properties that will provide a firm surface under wet conditions.

3.3.2 Specific Requirements

3.3.2.1 Beginning Date of Contractor's Responsibility

Maintain traffic starting the day work begins on the project or on the first day Contract time is charged, whichever is earlier.

3.3.2.2 Worksite Traffic Supervisor

Provide a Worksite Traffic Supervisor in accordance with FDOT Standard Specifications Section 105. Ensure that the Worksite Traffic Supervisor is available on a 24-hour per day basis, participates in all changes to traffic control and reviews the project on a day-to-day basis.

Ensure that the Worksite Traffic Supervisor is present to direct the initial setup of the traffic control plan and any changes. Provide the Worksite Traffic Supervisor with all equipment and materials needed to set up, and maintain traffic control and handle traffic-related situations.

Ensure that the Worksite Traffic Supervisor immediately corrects all safety deficiencies. Do not allow minor deficiencies that are not immediate safety hazards to remain uncorrected for more than 24 hours.

Ensure that the Worksite Traffic Supervisor is available within 45 minutes after notification of an emergency situation and is prepared to positively respond to repair the work zone traffic control or to provide alternate traffic arrangements.

The Village Engineer or designee may disqualify and remove from the project a Worksite Traffic Supervisor that fails to comply with the provisions of this subarticle. The Department may temporarily suspend all activities, except traffic and erosion control and such other activities that are necessary for project maintenance and safety, for failure to comply with these provisions. Ensure that the Worksite Traffic Supervisor performs a drive-through inspection and observes traffic flow as soon as the work zone is activated and in each subsequent phase of work as they are opened to traffic. Provide to the Engineer a report, listing any deficiencies and proposed corrective measures.

Ensure that the Worksite Traffic Supervisor conducts within the limits of the project, daily daytime and weekly night time inspections within the limits of the project for projects with predominate daytime work activities and daily nighttime and weekly daytime inspections for projects with predominate nighttime work, of all traffic control devices, traffic flow, pedestrian, bicyclist, and business accommodations.

Advise the project personnel of the schedule of these inspections and give them the opportunity to join in the inspection as is deemed necessary. Submit a comprehensive weekly report, to the Engineer and include condition of all traffic control devices (including pavement markings) being used. The inspection report will also include assurances that pedestrians are accommodated with a safe travel path around work sites and safely separated from mainline traffic, that existing or detoured bicyclist paths are being maintained satisfactorily throughout the project limits, and that existing businesses in work areas are being provided with adequate entrances for vehicular and pedestrian traffic during business hours. The Worksite Traffic Supervisor will sign the report and certify that all of the above issues are being handled

in accordance with the Contract Documents. If deficiencies are noted, the Worksite Traffic Supervisor is to note such deficiencies and include the proposed corrective actions.

3.3.2.3 Alternative Traffic Control Plan

The Contractor may propose an alternative Traffic Control Plan (TCP) to the plan presented in the Contract Documents. Have a Specialty Engineer sign and seal the alternative plan. Indicate in the plan a TCP for each phase of activities. Take responsibility for identifying and assessing any potential impacts to a utility that may be caused by the alternate TCP proposed by the Contractor, and notify the Engineer in writing of any such potential impacts to utilities.

Engineer's approval of the alternate TCP does not relieve the Contractor of sole responsibility for all utility impacts, costs, delays or damages, whether direct or indirect, resulting from Contractor initiated changes in the design or construction activities from those in the original Contract Specifications, design plans (including traffic control plans) or other Contract Documents and which effect a change in utility work different from that shown in the utility plans, joint project agreements or utility relocation schedules.

The Department reserves the right to reject any Alternative Traffic Control Plan. Obtain the Engineer's written approval before beginning work using an alternate TCP. The Engineer's written approval is required for all modifications to the TCP. The Engineer will only allow changes to the TCP in an emergency without the proper documentation.

3.3.3 Traffic Control

3.3.3.1 Standards

FDOT Roadway and Traffic Design Standards are the minimum standards for the use in the development of all traffic control plans. Follow the basic principles and minimum standards contained in these documents for the design, application, installation, maintenance, and removal of all traffic control devices, warning devices and barriers that are necessary to protect the public and workers from hazards within the project limits.

3.3.3.2 Maintenance of Roadway Surfaces

Maintain all lanes that are being used for the maintenance of traffic, including those on detours and temporary facilities, under all weather conditions. Keep the lanes reasonably free of dust, potholes and rutting. Provide the lanes with the drainage facilities necessary to maintain a smooth riding surface under all weather conditions.

3.3.3.3 Number of Traffic Lanes

Maintain one lane of traffic in each direction. Maintain two lanes of traffic in each direction at existing four (or more) lane cross roads, where necessary to avoid undue traffic congestion. Construct each lane used for maintenance of traffic at least as wide as the traffic lanes existing in the area before commencement of construction. Do not allow traffic control and warning devices to encroach on lanes used for maintenance of traffic.

The Engineer may allow the Contractor to restrict traffic to one-way operation for short periods of time provided that the Contractor employs adequate means of traffic control and does not unreasonably delay traffic. When a construction activity requires restricting traffic to one-way operations, locate the flaggers within view of each other when possible. When visual contact between flaggers is not possible, equip them with 2-way radios, official, or pilot vehicle(s), or use traffic signals.

3.3.3.4 Crossings and Intersections

Provide and maintain adequate accommodations for intersecting and crossing traffic. Do not block or unduly restrict any road or street crossing the project unless approved by the Engineer. Maintain all existing actuated or traffic responsive mode signal operations for main and side street movements for the duration of the Contract. Restore any loss of detection within 12 hours. Use only detection technology listed on the FDOT Approved Products List (APL) and approved by the Engineer to restore detection capabilities.

Before beginning any construction, provide the Engineer a plan for maintaining detection devices for each intersection and the name(s) and phone numbers of persons that can be contacted when signal operation malfunctions.

3.3.3.5 Access for Residences and Businesses

Provide continuous access to all residences and all places of business.

3.3.3.6 Protection of the Work from Injury by Traffic

Where traffic would be injurious to a base, surface course, or structure constructed as a part of the work, maintain all traffic outside the limits of such areas until the potential for injury no longer exists.

3.3.3.7 Flaggers

Provide trained flaggers in accordance with FDOT Standard Specifications.

3.3.3.8 Use of Orange Vests/Garments

All high-visibility safety apparel shall meet the requirements of the International Safety Equipment Association (ISEA) and the American National Standards Institute (ANSI) for High-Visibility Safety Apparel, and labeled as ANSI 107-2010. The apparel background (outer) material color shall be either fluorescent orange-red or fluorescent yellow-green as defined by standard. The retro-reflective material shall be orange, yellow, white, silver, yellow-green, or a fluorescent version of these colors, and shall be visible at a minimum distance of 1,000 feet. Replace apparel that is not visible at 1,000 feet. WORKERS: All workers within 15 feet of the edge of travel way shall wear ANSI/ISEA Class 2 apparel. Vehicle service responders such as tow truck drivers or other roadside vehicle service responders, media representatives when covering news events or similar actions within highway rights-of-way, military personnel when on foot, commercial drivers on foot within the right-of-way who are with disabled trucks or motor coaches, and volunteers working within the right-of-ways shall be required to wear safety apparel. Workers operating machinery or equipment in which loose clothing could become entangled during operation shall wear fitted high-visibility safety apparel. UTILITIES: When other industry apparel safety standards require utility workers to wear apparel that is inconsistent with FDOT requirements such as NFPA, OSHA, ANSI, etc., the other standards for apparel may prevail. FLAGGERS:

For Daytime activities, Flaggers shall wear ANSI/ISEA Class 2 apparel. For nighttime activities, Flaggers shall wear ANSI/ISEA Class 3 apparel.

3.3.3.9 Existing Pavement Markings

Where a detour changes the lane use or where normal vehicle paths are altered during construction, remove all existing pavement markings that will conflict with the adjusted vehicle paths. Do not over paint. Remove existing pavement markings using a method that will not damage the surface texture of the pavement and which will eliminate the previous marking pattern regardless of weather and light conditions. Methods approved for removal of pavement markings for surfaces not to be resurfaced with asphalt, shall be either water blasted or sand blasted.

Remove all pavement markings that will be in conflict with "next phase of operation" vehicle paths as described above, before opening to traffic.

3.3.3.10 No Waiver of Liability

Conduct operations in such a manner that no undue hazard results due to the requirements of this Article. The procedures and policies described herein in no way acts as a waiver of any terms of the liability of the Contractor or his surety.

3.3.4 Detours

3.3.4.1 General

In general, detours are not an approved method of MOT. In instances where a detour cannot be avoided, the detour plan will be reviewed and approved by the Engineer. Construct and maintain detour facilities wherever it becomes necessary to divert traffic from any existing roadway or bridge, or wherever construction operations block the flow of traffic.

3.3.4.2 Construction

Plan, construct, and maintain detours for the safe passage of traffic in all conditions of weather. Provide the detour with all facilities necessary to meet this requirement.

3.3.4.3 Construction Methods

Select and use construction methods and materials that provide a stable and safe detour facility. Construct the detour facility to have sufficient durability to remain in good condition, supplemented by maintenance, for the entire period that the detour is required.

3.3.4.4 Removal of Detours

Remove detours when they are no longer needed and before the Contract is completed. Take ownership of all materials from the detour and dispose of them, except for materials, which might be on loan from the Village with the stipulation that they are returned.

3.3.4.5 Detours over Existing Roads and Streets

When the Department specifies that traffic be detoured over roads or streets outside the project area, do not maintain such roads or streets. However, maintain all signs and other devices placed for the purpose of the detour.

3.3.4.6 Traffic Control Officer

The contractor shall provide at his/her expense, uniformed law enforcement officers, including marked law enforcement vehicles, to assist in controlling and directing traffic in the work zone when the following types of work is necessary on projects:

Traffic control in a signalized intersection when signals are not in use.

3.3.5 Driveway Maintenance

3.3.5.1 General

Ensure that each residence and or business has safe, stable, and reasonable access.

3.3.5.2 Construction Methods

Place, level, manipulate, compact, and maintain the material, to the extent appropriate for the intended use. As permanent driveway construction is accomplished at a particular location, the Contractor may salvage and reuse previously placed materials that are suitable for reuse on other driveways.

3.3.6 Temporary Traffic Control Devices

3.3.6.1 Installation and Maintenance

Install and maintain adequate traffic control devices, warning devices and barriers to protect the traveling public and workers, and to safeguard the work area. Erect the required traffic control devices, warning devices and barriers to prevent any hazardous conditions and in conjunction with any necessary traffic re-routing. Use only those devices that are included on the FDOT Qualified Products List (QPL). Specific Requirements for Maintenance of Traffic Devices, additional to the requirements of this Section, are contained in the FDOT Design Standards. Immediately remove, turn or cover any devices or barriers that do not apply to existing conditions.

Notify the Engineer of any scheduled operation, which will affect traffic patterns or safety, sufficiently in advance of commencing such operation to permit his review of the plan for the proposed installation of traffic control devices, warning devices or barriers.

Ensure an employee is assigned the responsibility of maintaining the position and condition of all traffic control devices, warning devices and barriers throughout the duration of the Contract. Keep the Engineer advised at all times of the identification and means of contacting the employee on a 24-hour basis.

Keep traffic control devices, warning devices, safety devices and barriers in the correct position, properly directed, clearly visible and clean, at all times. Immediately repair, replace or clean damaged, defaced or dirty devices or barriers.

3.3.6.2 Work Zone Signs

Provide signs in accordance with the plans and FDOT Design Standards. Meet the requirements of FDOT Standard Specifications.

3.3.6.3 Business Signs

Provide and place signs in accordance with the plans and FDOT Design Standards. Meet the sign background sheeting requirements of FDOT Standard Specifications. Furnish signs having a Type III reflectorized blue background with a 4 inches series B white legend and a white border. The maximum sign size is 24 by 36 inches. Use signs meeting the requirements of FDOT Design Standards unless specific business names signs are requested and approved by the Engineer. In those cases, show specific business names on each sign. Install logos provided by business owners and approved by the Engineer.

3.3.6.4 High Intensity Flashing Lights

Furnish Type B lights in accordance with the plans and FDOT Design Standards.

3.3.6.5 Warning/Channelizing Devices

Furnish warning/channelizing devices in accordance with the plans and FDOT Design Standards.

3.3.6.5.1 Reflective Collars for Traffic Cones

Use cone collars at night designed to properly fit the taper of the cone when installed. Place the upper 6 inches collar a uniform 3 1/2 inch distance from the top of the cone and the lower 4 inch collar a uniform 2 inch distance below the bottom of the upper 6 inch collar. Ensure that the collars are capable of being removed for temporary use or attached permanently to the cone in accordance with the manufacturer's recommendations. Provide white sheeting having a smooth outer surface and that essentially has the property of a retroreflector over its entire surface.

3.3.6.5.2 Barrier Wall (Temporary)

Furnish, install, maintain, remove and relocate a temporary barrier wall in accordance with the plans. Temporary concrete barrier wall will be in accordance with Index No. 415. Temporary water filled barrier wall will be in accordance with Index No. 416.

3.3.6.5.3 Temporary Vehicle Impact Attenuator (Redirect/Inertia)

Furnish, install, maintain and subsequently remove temporary vehicular impact attenuators in accordance with the details and notes shown in the plans, and the Design Standards. Maintain the attenuators until their authorized removal. Repair all attachment scars to permanent structures and pavements after attenuator removal. Make necessary repairs due to defective material, work, or Contractor operations at no cost to the Village. Restore attenuators damaged by the traveling public within 24 hours after notification as authorized by the Engineer.

3.3.6.5.4 Guardrail (Temporary)

Furnish guardrail (temporary) in accordance with the plans and FDOT Roadway and Traffic Design Standards and meet the requirements of FDOT Standard Specifications.

3.3.6.5.5 Advance Warning Arrow Panel

Furnish advance warning panel in accordance with the plans and FDOT Roadway and Traffic Design Standards.

3.3.6.5.6 Portable Changeable (Variable) Message Sign (PCMS)

Furnish changeable (variable) message sign in accordance with the plans and Design Standards.

The 7 foot by 10 foot PCMS as defined in FDOT Standard Specifications may be used as advanced warning maintenance of traffic devices and to supplement other traffic control devices used in work zones.

The 5 foot by 8 foot PCMS as defined in FDOT Standard Specifications may be used as alternates to either type A or type B arrow board on advanced warning vehicles or to supplement other traffic control devices used in a work zone.

A 5 foot by 8 foot PCMS may be used as a stand-alone maintenance of traffic device only when used for accident or incident management situations as defined in the MUTCD.

3.3.6.5.7 Portable Regulatory Signs

Provide portable regulatory signs in accordance with the plans and FDOT Roadway and Traffic Design Standards.

This specification establishes the physical display and operational requirements for solar powered portable regulatory signs. Ensure all portable regulatory signs meet the physical display and operational requirements as described in the Federal Highway Administration's MUTCD.

The portable regulatory sign must be activated only during active work activities and deactivated when no work is being performed. Ensure the sign can be activated and deactivated by a dial-up control system to allow operation of the sign from a remote location via cellular phone or standard telephone line. The sign must be protected by a security code. Only use Portable Regulatory Signs listed on the FDOT's QPL.

3.3.6.5.8 Radar Speed Display Unit

Furnish radar speed display unit in accordance with the plans and Design Standards.

This Specification establishes the physical display and operational requirements for solar powered, Radar Speed Display Units used in active work zones to inform motorists of the posted speed and their actual speed.

Ensure the radar speed display is activated only during active work activities and deactivated when no work is being performed. Ensure the display unit can be activated and deactivated by a dial-up control system to allow operation of the display unit from a remote location via cellular phone or standard telephone line. The display unit must be protected by a security code.

Only use Radar Speed Display Units listed on the FDOT's QPL. Manufacturers providing the device described herein must provide a certified test report to the Department indicating the device meets these specification requirements.

3.3.6.5.9 Temporary Traffic Control Signals

Furnish, install and operate temporary traffic control signals as indicated in the plans. Temporary traffic control signals will consist of either portable or fixed traffic signals.

Provide certification that the portable traffic signals meet the requirements of the Design Standards and FDOT Standard Specifications. The Department may approve used signal equipment if it is in acceptable condition.

3.3.6.5.10 Temporary Traffic Detection Technology

Furnish, install and operate Temporary Traffic Detection Technology listed on the FDOT's APL and approved by the Department to restore detection capabilities.

3.3.7 Work Zone Pavement Marking

3.3.7.1 Description

Furnish and install Work Zone Pavement Markings for maintenance of traffic in construction areas and in close conformity with the lines and details shown on the plans. Measure the reflectivity of white and yellow stripes in accordance with Florida Method FM 5-541. Re-stripe anytime the reflectivity falls below the final values shown in FM 5-541. Use only pavement marking materials that do not contain any lead or chromium compounds. Manufacturers seeking product approval must furnish certified test reports showing the Work Zone Pavement Marking material meets the requirements of this Section.

Centerlines, lane lines, edge lines, stop bars and turn arrows in work zones will be required in accordance with the MUTCD with the following additions:

(1). Install edge lines on paved shoulders.
(2). Place edge lines on all detours where vehicle paths are altered from normal operations and where a lane is narrowed from its normal width for any reason.
(3). Apply Work Zone Pavement Markings, including arrows and messages as determined by the Engineer to be required for the safe operation of the facility, before the end of the day if the highway is open to traffic. Channelizing devices may be used to direct traffic during the day before placing the Work Zone Pavement Markings.
(4). Work Zone Pavement Markings will be designated in the plans or by the Engineer as removable or non-removable.

Work Zone Raised Pavement Markers (WZRPM's) may be used in lieu of Removable Tape or Paint. Removable Work Zone Pavement Markings consists of materials that can be taken up by hand. An example of this category of markings is plastic film (Tape), or WZRPM's.

Non-Removable Work Zone Pavement Markings consists of markings that are not classified as removable. The uses of Removable or Non-Removable Work Zone Pavement Markings are as follows:

Application	Category
Finish Pavement*	
All stripes representing final pavement markings	Non-Removable
All stripes in an area where the traffic pattern will be altered before project acceptance	Removable
Intermediate Pavement Course	
All stripes in pavement areas that will be covered with a subsequent course of pavement before altering of the traffic pattern within such area.	Non-Removable
All stripes where the traffic pattern will be altered before placing of the subsequent paving course within such area.	Removable
Existing Pavement	
All stripes that will be removed or overlaid with new pavement before altering the traffic pattern within such area	Non-Removable
All stripes where the traffic pattern will be altered before removal or overlaying of such area.	Removable
*Place striping representing final markings in the permanent location unless accepting in writing by the department	

3.3.7.2 Preformed Removable Pavement Marking Film (Tape)

3.3.7.3 Application Requirements

Apply removable Pavement Marking Film (Tape) with a mechanical applicator to provide pavement lines that are neat, accurate and uniform. Equip the mechanical applicator with a film cut-off device and with measuring devices that automatically and accumulatively measure the length of each line placed within an accuracy tolerance of ±2%. Ensure pavement marking films (tape) adheres to the road surface. Tape may be placed by hand on short sections 500 feet or less if it is done in a neat accurate manner.

3.3.7.3.1 Removability

Provide preformed plastic pavement marking film capable of being removed from bituminous concrete and Portland cement concrete pavement intact or in substantially large strips, either manually or by a mechanical roll-up device, at temperatures above 40°F, without the use of heat, solvents, grinding or blasting. Ensure that the manufacturer shows documented reports that the retro-reflective preformed plastic pavement marking film meets this requirement after being in place for a minimum of 90 days and under an average daily traffic count per lane of at least 9,000 vehicles per day.

3.3.7.4 Work Zone Raised Pavement Markers (WZRPM's)

Apply all markers in accordance with the FDOT Roadway and Traffic Design Standards Index.

3.3.7.5 Paint and Glass Beads

Meet the requirements of FDOT Standard Specifications.

3.3.7.6 Preformed Non-Removable Pavement Marking Film (Tape)

Meet the requirements of FDOT Standard Specifications.

3.3.8 Submittals

3.3.8.1 Submittal Instructions

Prepare a certification of quantities, for certified Maintenance of Traffic items for each project in the Contract. Submit the certification of quantities to the Engineer.

The Contractor shall carry on the work in a manner that will cause the least interruption in traffic. Closing to through travel of more than two (2) consecutive blocks, including the cross street intersected will not be permitted without specific authorization of the Engineer or designee. Where traffic must cross open trenches, the Contractor shall provide suitable bridges at street intersections and driveways and provide adequate ingress and egress to dwellings, business facilities, utilities, and services.

On completion of work, the Contractor shall remove all debris, excess materials, barricades, and temporary work leaving walkways and roads clear of obstructions.

Traffic vehicles related to the project shall be maintained within the limits of the project for the duration of the construction period.

3.4 CONTRACT CLOSEOUT

3.4.1 Cleanup

At the conclusion of the construction of any project the Contractor shall insure that all debris and other unsightly objects are removed and disposed of in a manner satisfactory to the Village. The Contractor will restore to their original condition, as nearly as practicable, those portions of the site not designed for alteration.

3.4.2 Project Record Documents

The Contractor shall layout the work at the location and to the lines and grades shown on the plans. Survey notes indicating the information and measurements used in establishing locations and grades shall be kept in notebooks made available to the Department and the owners, with the record drawings for the project.

The Contractor shall keep one record copy of all specifications, plans, addenda, modifications, shop drawings, and samples at the site in good order and annotated to show all changes made during the construction process. These shall be available to the Village for examination and shall be delivered to the Village upon completion of the work.

SECTION 4:

Streets

4 SECTION 4: STREETS

4.1 GENERAL

The purpose of this division is to specify the minimum design requirements, materials, and construction standards for street construction. Street construction includes design, clearing, grading, stabilizing, constructing base and surface coarse, resurfacing, sidewalks, seeding, and mulching.

All streets, whether public or private, must be designed and constructed in the manner described herein and in accordance with the Florida Department of Transportation (FDOT) Flexible Pavement Design Manual. Parking lots and drives on private property are required to have an improved surface and shall meet those requirements that are deemed appropriate for the type of use involved by the project's engineer of record.

4.1.1 Design Requirements

(1). The FDOT Flexible Pavement Design Manual, Latest Edition shall be used as guidelines in the design of all streets.

(2). No pavement cuts are allowed on any publicly maintained streets that has been surfaced or resurfaced within the previous ten (10) years. Resurfacing is defined as a coarse of asphalt at least ½ inch thick applied to a full lane width at least 50 feet in length.

(3). Reinforced concrete pipe (RCP) Class III shall be used under all streets that are located in any public right-of-way. Alternative materials must be approved by the Village Engineer.
All development of streets must comply with FDOT design guidelines and standard specifications.

4.1.2 Lane Width

Minimum lane widths shall be ten (10) feet. A greater lane width may be required by the Engineer or his representative for special lanes. Collectors and arterial lanes shall be a minimum of twelve (12) feet. Paved shoulders shall be provided as follows:

All collector and arterial roadway sections shall have a minimum 4' paved shoulder adjacent to the travel lane and the curb, where bicycle paths are not already provided. Two (2) foot paved shoulder should be provide if bicycle paths are provided.
Lane width does not include curbs where closed drainage is constructed.

4.1.3 Pavement Cross Section

	Sub-base	Base	Surface Course
Local	12”	8”	FC-12.5, 1 ½”
Collector	12”	10”	1” FC-12.5 over 1 ½” SP-12.5
Arterial	12”	12”	1 ½” FC-12.5 over 1 ½” SP-12.5

(1) The base shall extend four (6) inches beyond the surface course or back of curbs.

(2) The subgrade shall extend one (1) foot beyond the surface course.

(3) Streets constructed for use by commercial type facilities shall meet local road standards for the pavement cross section.

(4) Streets constructed for use by industrial type facilities shall meet collector road standards.

(5) Pavement Specifications:

a. Subgrade (FDOT Type B Stabilized)
   Density -98 percent of maximum (AASHTO T -180 Method D)
   Limerock Bearing Ratio (LBR) - (40) Minimum
b. Base -(Ocala or Miami Formation Limerock or recycled crushed concrete)
   Density -98 percent of maximum (AASHTO T-180 Method D)
   Limerock -LBR 120 Minimum
c. Surface Coarse - FDOT Type SP and Type FC (or as otherwise approved by the Engineer or his representative). Pavement shall meet the requirements of FDOT standard specifications.
d. Type S-III asphalt may be utilized on private streets and commercial parcels. When Type S-III asphalt is utilized, it must meet the specifications of section 330A, FDOT Standard Specifications, 2000 Edition.
e. Prime and Tack Coat shall be used as specified in the contract documents and FDOT standard specifications.

4.1.4 Pavement Radii

The radii of the edge of pavement at intersecting streets shall be a minimum of 30 feet or as otherwise advised by the Engineer or his representative.

On collector and arterial streets the radius shall be 40 feet or as otherwise advised by the Engineer or his representative.

4.1.5 Traffic Design

In general, pavement markings, striping and signage shall conform to Palm Beach County Typicals For Pavement Markings, Signing & Geometrics no. T-P-13 (Appendix B), latest edition.

Pavement marking, traffic signals and signs, design speed medians, intersection, street illumination, street layout and other roadway design features shall be designed and reviewed in accordance with FDOT Manual of Uniform Minimum Standards for Design, Construction, and Maintenance for Streets and Highways, and its supplements (Greenbook) and existing standard engineering practices. All aspect of the design shall be designed considering the Comprehensive Plan, effect on the local community, existing and future traffic volumes, school zones, major trip generators, and the safety and welfare of the general public.

4.1.6 Maintenance of Traffic During Construction

For construction on existing streets, there shall be a section of the plans devoted to the maintenance of traffic during construction. See specifications in this manual for additional information.

4.2 MATERIALS

The scope of this Division of the Specifications includes the furnishing, construction, and testing of street pavements. Street pavement construction may include clearing, grubbing, excavation, grading, stabilizing, constructing base of crushed coquina or lime rock, asphalt concrete surfacing, applying leveling course, resurfacing, sidewalks, seeding and mulching, and incidental construction as required.

4.2.1 Stabilizing Materials

Stabilizing materials shall meet FDOT standard specifications, latest edition.

4.2.2 Limerock Base Course

Limerock Base Course shall meet FDOT standard specifications, latest edition.

4.2.3 Recycled Concrete Aggregate (RCA) Composition:

Recycled Concrete Aggregate (RCA) Composition shall meet FDOT standard specifications, latest edition.

4.2.4 Prime and Tack Coats

Prime Coat and tack coats shall meet FDOT standard specifications, latest edition.

4.2.5 Asphaltic Concrete

(1) Type SP (Super Pave) shall meet FDOT standard specifications, latest edition.
(2) Type FC (Friction Course) shall meet FDOT standard specifications, latest edition.
(3) Type S-I and S-III asphalt (if approved for use by the Village Engineer) shall conform to the 2000 FDOT Standard Specifications for Road and Bridge Construction.

4.2.6 Curbing

Curbing shall conform to the FDOT design index, latest edition FDOT standard specifications and will be a minimum 3000 PSI rated concrete.

4.2.7 Sidewalks

Sidewalks shall conform to the FDOT design index, latest edition and FDOT standard specifications and shall have minimum concrete strength at 28 days of 3000 PSI.

4.2.8 Seed and Mulch

Seed shall be permanent type grass seed and shall consist of a mixture of 20 pounds of Bermuda seed and 80 pounds of Pensacola Bahia seed per acre of application and conforming to the requirements of the FDOT Standard Specifications. In winter months, an additional 20 pounds of Annual Rye grass seed shall be included.

Mulch shall be dry mulch, which shall be straw or hay consisting of oat, rye, or wheat straw, or of pangola, peanut, coastal bermuda or bahia grass hay. Only undeteriorated mulch, which can readily be cut into the soil, shall be used. Mulch material shall be free of noxious and undesirable weeds.

4.3 CONSTRUCTION

4.3.1 Clearing and Grubbing

Clearing and Grubbing shall be carried out in all areas as prescribed in the contract plans and typical section as well as Retention/Detention pond sites, embankments, where ditches or channels are to be excavated, and where structures will be constructed including culverts and pipelines.

All clearing and grubbing activities shall comply with these specifications and FDOT standard specifications.

Also, perform certain miscellaneous work the Engineer considers necessary for the complete preparation of the overall project site, as follows:

(1) Level the terrain outside the limits of construction for purposes of facilitating maintenance and other post-construction operations
(2) Cap any irrigation pipes encountered within the project area.

4.3.2 Preparation of Subgrade

Subgrade shall be prepared in accordance with these specifications and FDOT Standard specifications for Excavation and Embankment.

On completion of clearing operations, topsoil in the roadway shall be removed and stored for use in filling and forming shoulders, embankments and ditches. Soil shall not be removed from the project site except when directed by the Engineer or representative.

Where unsuitable material occurs within the limits of the roadway, the Contractor shall remove such material and refill with suitable excavated material or authorized borrow. Where unsuitable material is removed, the surface of the excavated area shall be compacted by rolling with a sheepsfoot roller exerting a compression of at least 250 pounds per square inch on the tamper feet, for the full width of the roadbed (subgrade and shoulders). Such rolling shall be done before any refill is begun, and shall be continued until the roller does not penetrate the surface more than one (1) inch.

When the plans contain the results of a soil survey, do not assume such data is a guarantee of the depth, extent, or character of material present.

Where muck, rock, clay, or other material within the limits of the roadway is unsuitable in its original position, excavate such material to the cross-sections shown in the plans or indicated by the Engineer, and backfill with suitable material. Shape backfill material to the required cross-sections. Where the removal of plastic soils below the finished earthwork grade is required, meet a construction tolerance, from the lines shown in the plans as the removal limits, of ± 0.2 feet [± 60 mm] in depth and ± 6 inches [± 150 mm] (each side) in width.

4.3.3 Stabilizing of Subgrade

Subgrade stabilization shall be prepared in accordance with these specifications and FDOT Standard specifications.

On completion of the grading operations, a stabilized roadbed shall be constructed. The roadbed shall be stabilized to a firm and unyielding subgrade having the required bearing value specified in the plans.

When the stabilizing is designated as Type B, the Engineer will determine compliance with the bearing value requirements by the Limerock Bearing Ratio (LBR) Method. If approved by the specialty Engineer and only for materials requiring an LBR value of 40, the Engineer may omit Sections 6.0 and 6.1 of Florida Method of Test for Limerock Bearing Ratio (FM 5-515) and perform an Unsoaked LBR Test. The Engineer or the Contractor may request to use this method. If the Unsoaked LBR Test results in a failing test, then the Engineer will perform a standard Soaked LBR Test.

The required bearing value shall be obtained either by constructing the roadbed of selected materials from the roadway, or by stabilizing the roadbed material by the addition and mixing-in of suitable stabilizing materials. Such work shall be constructed in accordance with these specifications and in accordance with the lines, grades and thickness shown on the plans.

The subgrade to be stabilized may be processed in one course, unless the equipment and methods being used do not provide the required uniformity, particle size limitation, compaction and other desired results, in which case, the processing shall be done in more than one course.

When additive stabilizing materials are required, they shall be spread uniformly over the area to be stabilized.

When the use of materials from an existing base is required as all, or a portion, of the stabilizing additives, the Engineer will direct the location, placement, and distribution of such materials. Perform this work prior to the spreading of any additional commercial or local materials. Do not remove any section of existing base until the need for it in maintaining traffic is fulfilled.

The mixing shall be done with rotary tillers, or other equipment meeting the approval of the Engineer. The Contractor may mix the materials in a plant of an approved type suitable for this work. The area to be stabilized shall be thoroughly mixed throughout the entire depth and width of the stabilizing limits. The mixing operations will be required regardless of whether or not the existing soil has the required bearing value without the addition of stabilizing materials. Regardless of the character or bearing value, all materials remaining after the mixing operations that will not pass a 3-inch ring shall be removed or broken down to a size not larger than 3 inches.

Bearing value samples will be obtained and tested at completion of satisfactory mixing of the stabilized area. For any area where the bearing value obtained is deficient from the value specified in the Contract Documents, additional stabilizing material shall be spread and mixed. This reprocessing shall be done for full width of the roadway being stabilized and longitudinally for a distance of 50 feet beyond the limits of the area in which the bearing value is deficient.

After mixing operations have been completed and the requirements of bearing value, uniformity and particle size have been satisfied, the stabilized area shall be compacted to the specified density. The materials shall be compacted at a moisture content permitting the specified compaction. If the moisture content of the material is improper for attaining the specified density, either water shall be added or the material shall be permitted to dry until the proper moisture content for the specified compaction is reached.

Within the entire limits of the width and depth of the areas to be stabilized, the minimum density acceptable at any location will be 98 percent of the maximum density as determined by Florida Methods (FM) 1-T 180 Method '0'. Attainment of the minimum density specified is not required within the upper six (6) inches of areas to be grassed under the contract. These areas shall be compacted to a reasonable firm condition as directed by the Engineer.

Use the following undertolerances from the specified bearing value, as based on tests performed on samples obtained after completing mixing operations:

Specified Bearing Value	Tolerance
LBR 40	5.0
LBR 35	4.0
LBR 30	2.5

The following unsoaked bearing value requirement is based on tests performed on samples obtained after completing mixing operations:

Specified Bearing Value	Unsoaked Bearing Value	Tolerance
LBR 40	LBR 43	0.0

The completed stabilized subgrade shall be shaped to conform to the finished lines, grades, and cross-section indicated on the plans.

After the stabilizing and compacting operations have been completed, the subgrade shall be firm and substantially unyielding to the extent that it will support construction equipment and will have the bearing value required by the plans. All soft and yielding materials, and any other portions of the subgrade, which will not compact readily, shall be removed and replaced with suitable materials and the whole subgrade brought to line and grade, with proper allowance for subsequent compaction.

After the subgrade has been completed as specified above, the Contractor shall maintain it free from ruts, depressions, and any damage resulting from the hauling or handling of materials, equipment, tools, etc. It shall be the Contractor's responsibility to maintain the required density until the subsequent base or pavement is in place. Such responsibility shall include any reports, replacement, etc., of curb and gutter, sidewalk etc., which might become necessary in order to re-compact the subgrade in the event of underwash or other damage occurring to the previously compacted subgrade. Any such work required for re-compaction shall be at the Contractor's expense. Ditches and drains shall be constructed and maintained along the completed subgrade section.

4.3.4 Base Construction (Limerock or Crushed Concrete)

Base construction shall be prepared in accordance with these specifications and FDOT Standard specifications, latest edition.

The work consists of the construction of a base course composed of limerock or crushed concrete. It shall be constructed on the prepared subgrade, in accordance with these specifications and in conformity with the lines, grades, and cross-section shown on the plans.

The base rock material shall be transported to the point where it is to be used, over rock previously placed, if practicable, and dumped on the end of the preceding spread. No hauling over the subgrade or dumping on the subgrade shall be permitted. If at any time the subgrade material should become mixed

with the base course material, the Contractor shall without additional compensation, dig out and remove the mixture, reshape and compact the subgrade and replace the materials removed with clean base material, which shall be shaped and compacted as specified above. All segregated areas of fine or coarse rock shall be removed and replaced with properly graded rock.

When the specified compacted thickness of the base is greater than six (6) inches, the base shall be constructed in two (2) courses. If, through field tests, the Contractor can demonstrate that the compaction equipment can achieve density for the full depth of a thicker lift, and if approved by the Engineer, the base may be constructed in successive courses of not more than six (6) inches compacted thickness. The thickness of the first course shall be approximately one-half the total thickness of the finished base, or enough additional to bear the weight of the construction equipment without disturbing the subgrade. At no time shall more than three (3) days' work of the first course be spread ahead of the second course.

For single-course base, after the spreading is completed the entire surface shall be scarified and then shaped as to produce the required grade and cross-section after compaction.

For double-course base, the first course shall be bladed if necessary to secure a uniform surface, and brought to a surface cross-section approximately parallel to that of the finished base. Prior to the spreading of any material for the upper course, the density tests for the lower course shall have determined that the required compaction has been obtained. After the spreading of the material for the second course is completed the surface of such course shall be scarified and shaped so as to produce the required grade and cross-section after compaction.

When the material does not have the proper moisture content to ensure the required density, wetting or drying will be required. When water is added it shall be uniformly mixed in by discing to the full depth of the course which is being compacted. Wetting or drying operations shall involve manipulation, as a unit, of the entire width and depth of the course, which is being compacted.

As soon as proper conditions of moisture are attained the material shall be compacted to an average density not less than 98 percent of the maximum density obtainable under FM 1-T 180, Method 'D'. For double course base, average density shall be determined separately for each course. Limerock base for shoulder pavement shall be compacted to a density not less than 95 percent of maximum density by FM 1-T 180, Method 'D'. During final compacting operations, if blading of any areas is necessary to obtain the true grade and cross-section, the compacting operations for such areas shall be complete prior to making the density determinations on the finished base. At least three (3) density determinations shall be made on each day's final compaction operations on each course and the density determinations shall be made at more frequent intervals if deemed necessary by the Engineer.

If cracks or checks appear in the base, either before or after priming, which in the opinion of the Engineer, would impair the structural efficiency of the base course, the Contractor shall remove such cracks or checks by rescarifying, reshaping, adding base materials where necessary and recompacting.

The finished surface of the base course shall be checked with a template cut to the required crown and with a 15-foot straightedge laid parallel to the center line of the road. All irregularities greater than a quarter (1/4) inch shall be corrected by scarifying and removing or adding rock as required, after which the entire area shall be re-compacted as specified herein before. In testing the surface, the measurements will not be taken in small holes caused by individual pieces of rock having been pulled out by the grader.

If, in the opinion of the Engineer, the surface of the base has a glazed or cemented surface sufficient to prevent proper penetration of the prime coat, and after he/she determines that the condition of the base meets all requirements, he/she will direct that the surface be hard-planed with a blade grader and broomed immediately prior to the application of the prime coat. This hard-planning shall be done in such a manner that only the glazed or cemented surface is removed, leaving a granular or porous condition that will allow free penetration of the prime material. The material planed from the base shall be removed from the base area. The hard-planning operations, when required, shall follow the surface-testing operations specified below.

The prime coat shall be applied only when the base meets the specified density requirements and the moisture content does not exceed 90 percent of the optimum moisture of the base material. At the time of priming, the base shall be firm, unyielding and in such condition that no undue distortion will occur.

The Contractor will be responsible for assuring that the true crown and template are maintained, with no rutting or other distortion, and that the base meets all requirements, at the time the surface course is applied.

Thickness of the base shall be measured at intervals of not more than 200 feet. Measurements shall be taken at various points on the cross-section through holes not less than three (3) inches in diameter.

Where the compacted base is deficient by more than one-half (1/2) inch from the thickness called for on the plans, the Contractor shall correct such areas by scarifying and adding rock. The base shall be scarified and rock added for a distance of 100 feet in each direction from the edge of the deficient area. The affected areas shall then be brought to the required state of compaction and to the required thickness and cross-section.

4.3.5 Prime Coat

The work consists of the application of a bituminous prime coat on previously prepared bases in accordance with these specifications.

The surface to be primed shall be cleaned of all loose material, dust, dirt, caked clay and other foreign material which might prevent proper bonding and the moisture content of the base shall not exceed 90 percent of the optimum moisture. The temperature of the prime material shall be between 100° and 150° F. The actual temperature shall be that which will insure uniform distribution. The material shall be applied by means of a pressure distributor. The amount to be applied will be dependent on the character of the surface and shall be sufficient to coat the surface thoroughly and uniformly, with no excess.

For Limerock, Limerock Stabilized, and Local Rock Bases: For these bases, the rate of application shall be no less than 0.10 gallon per square yard. Sand-Clay, Shell, and Shell Stabilized Bases: The rate of application for these bases shall be no less than 0.15 gallon per square yard.

If required, the base shall be lightly sprinkled with water and rolled with a traffic roller, in advance of the application of the prime.

If warranted by traffic conditions, the application may be made on only one-half (1/2) the width of the bases at one time, in which case positive means shall be used to secure the correct amount of bituminous material at the joint.

If emulsified asphalt is used for prime coat, the primed base shall be uniformly covered by an application of sand-bituminous hot mix or screenings, at an appropriate rate of ten pounds per square yard. For the sand, meet the requirements as specified in FDOT Standard Specifications, and for the screenings, meet the requirements as specified in the FDOT Standard Specifications. The entire surface of the sand-bituminous hot mix or screenings cover material shall be rolled with a traffic roller as required to produce a reasonable dense mat. If material other than emulsified asphalt is used for prime coat, the primed base shall be covered by a light uniform application of cover material. If considered necessary for proper distribution of spread, the cover material shall be rolled with a traffic roller, for at least ten passes over the entire area.

Do not apply prime and tack coats when the air temperature in the shade and away from artificial heat is less than 40°F at the location where the application is to be made or when weather conditions or the surface conditions are otherwise unfavorable.

4.3.6 Tack Coat

The work consists of the application of a bituminous tack coat on a previously prepared base or on an existing pavement surface in accordance with these specifications.

In general, a tack coat will not be required on primed bases except in areas that have become excessively dirty and cannot be cleaned, or in areas where the prime has cured to the extent that it has lost all bonding effect. Generally, a tack coat will be required on hot bituminous base courses before placing the surface course.

The tack coat shall be applied with a pressure distributor except that, on small jobs, if approved by the Engineer, application may be by other mechanical devises or by hand methods. The bituminous material shall be heated to a suitable temperature and shall be applied in a thin, uniform layer.

The rate of application shall be between 0.02 and 0.08 gallon per square yard. For tack coat applied on concrete pavement, which is to be surfaced, the rate of application may exceed the upper limit, if directed by the Engineer.

The tack coat shall be applied sufficiently in advance of the laying of the bituminous mix to permit drying but shall not be applied so far in advance that it might lose its adhesiveness as a result as a result of

being covered with dust or other foreign material. The tack coat surface shall be kept free from traffic until the subsequent layer of bituminous hot mix has been laid.

4.3.7 Asphaltic Concrete Surface Course

The work consists of the construction of an asphaltic concrete surface course upon previously prepared base course in accordance with the requirements of these specifications.

The Contractor shall submit a Job Mix Formula, which shall conform to the requirements of this manual as it applies to Type S-1 or S-111 Asphaltic Concrete.

4.3.7.1 Weather Limitations

Plant operations shall not begin unless all weather conditions are suitable for the laying operations.

4.3.7.2 Limitations of Laying Operations

General: The mixture shall be spread only when the surface upon which it is to be laid has been previously prepared, is intact, firm, and properly cured and is dry. No mixture shall be spread that cannot be finished and compacted during daylight hours.

Wind: The mixture shall not be spread when the wind is blowing to such an extent that proper and adequate compaction cannot be maintained or when sand, dust, etc. are being deposited on the surface being paved, to the extent that the bond between layers will be diminished.

Ambient Temperature: Temperature shall be 45°F and rising. The mixture shall be transported in tight covered vehicles previously cleaned of all foreign material. The inside surface of the truck bodies shall be thinly coated with soapy water or an approved emulsion containing not over five (5) percent oil, but no excess of either shall be used. Kerosene, gasoline or similar products shall not be used. After the truck bodies are coated and before any mixture is placed therein, they shall be raised so that all excess liquids will be drained out.

Prior to the laying of the mixture, the surface of the base to be covered shall be cleaned of all loose and deleterious material by the use of power brooms or blowers, supplemented by hand brooming where necessary.

4.3.7.3 Placing the Mixture

All asphaltic concrete mixtures, other than adjacent to curb and gutter or other true edges, shall be laid by the string line method to assure the obtaining of an accurate, uniform alignment of the pavement edge. Control the unsupported pavement edge to ensure that it will not deviate more than ± 1.5 inches from the stringline.

The temperature of the mixture at the time of spreading shall be within 25°F of the temperature set by the Engineer, which temperature shall be between 270° F and 350° F. Any load or portion of a load of asphalt mix on the roadway with a temperature outside of the master range shall be rejected for use on the project. The Engineer will be immediately notified of the rejection.

Any mixture caught in transit by a sudden rain may be laid only at the Contractor's risk. Should such mixture prove unsatisfactory, it shall be removed and replaced with satisfactory mixture at the Contractor's expense. In no case shall the mixture be laid while rain is falling or when there is water on the surface to be covered.

The depth of each layer shall be checked at frequent intervals, not to exceed 25 feet. Any deviation from the required thickness, in excess of the allowable tolerance, shall be immediately corrected. When making an adjustment, allow the paving machine to travel a minimum distance of 32 feet [10m] to stabilize before the second check is made to determine the effects of the adjustment.

In limited areas where the use of the spreader is impossible or impracticable, the mixture may be spread and finished by hand. Straight-edging and back-patching shall be done after initial compaction has been obtained and while the material is still hot.

Upon arrival, the mixture shall be dumped into the approved mechanical spreader and immediately spread and struck-off to the full width required and to such loose depth for each course that, when the work is completed, the specified thickness will be secured. An excess amount of mixture shall be carried ahead of the screed at all times. Hand raking shall be done behind the machine as required.

If necessary due to the traffic requirements, the mixture shall be laid in strips in such manner as to provide for the passage of traffic. Where the road is closed to traffic, the mixture may be laid to the full width, by machines traveling in echelon.

Before any rolling is started the surface shall be checked. Correct any irregularities, remove all drippings, fat sandy accumulations from the screed, and fat spots from any source, shall be removed and replaced with satisfactory material. No skin patching shall be done. When a depression is to be corrected while the mixture is hot, the surface shall be well scarified before the addition of fresh mixture.

Sections denoted in this paragraph refer to sections in the State of FDOT Standard Specifications for Road and Bridge Construction, latest Edition .

Monitor the mix spread rate at the beginning of each day's production, and as needed to control the operations, at a minimum of once per 200 tons placed to ensure that the spread rate is within 5% of the target spread rate. When determining the spread rate, use an average of five truckloads of mix.

- Joints, transverse and longitudinal, shall be constructed in accordance with FDOT Specifications, latest edition.
- The provisions of Surface Requirements shall comply with FDOT Specifications, latest edition.

Upon completion of the finished pavement, no dumping of any material directly on the pavement will be permitted. Vehicular traffic shall not be permitted on any pavement that has not set sufficiently to prevent rutting or other distortion.

4.3.7.4 Control Testing Requirements

The thickness shall be determined from the length of the core borings. Minimum frequency of cores samples shall be 3 per day. The maximum allowable deficiency from the specified thickness shall be as follows:

(1) 3/8 inch for pavement of specified thickness of 2 inches or more.
(2) 1/4 inch for pavement of a specified thickness of less than 2 inches.

4.3.7.5 When Deficiency is Seriously in Excess

Where the deficiency in thickness is:

(1) In excess of 3/8 inch, for pavement of less than 2% inches in specified thickness or,
(2) In excess of 3/4 inch, for pavement of specified thickness of 2% inches or more.

The Contractor shall correct deficiency either by replacing the full thickness for a length extending at least 50 feet from each end of the deficient area or (when permitted by the Engineer) by overlaying. The Contractor will receive no compensation for any pavement removed, nor for the work of removing such pavement.

4.3.7.6 When Deficiency is Not Seriously in Excess

When the deficiency in the thickness of the pavement is over 1/4 inch but not more than 3/8 inch, for pavement of specified thickness less than 2% inches; or when the deficiency in thickness is over 1/2 inch but not more than 3/4 inch, for pavement of specified thickness of 2% inches or greater; the Contractor will be allowed to leave such pavement in place, but without compensation other than for the bituminous material contained therein. The areas of pavement for which no square yard payment will be made shall be the product of the total distance between acceptable cores, multiplied by the width of the lane, which was laid at the particular pass in which deficient thickness was indicated. To determine the extent of the deficiencies, additional cores will be taken as required.

4.3.7.7 Correcting Deficiency by Adding New Surface Material

For any case of excess deficiency of the pavement, the Contractor will be permitted, if approved by the Engineer for each particular location, to correct the deficient thickness by adding new surface material and compacting to the same density as the adjacent surface. The area to be corrected and the thickness of new material added shall be as specified. All costs of the overlaying and compacting shall be borne by the Contractor.

4.3.7.8 Core Borings

The thickness of the pavement shall be determined from the length of cores, at least two (2) inches in diameter, taken at random points on the cross-section and along the roadway. Each core shall represent a section not longer than 200 feet. The average thickness shall be determined from the measured thickness, and in accordance with the procedure and criteria specified herein. If the Contractor believes that the number of cores taken is insufficient to properly indicate the thickness of the pavement, he may request additional borings at locations designated by him. The cost of these additional borings shall

be deducted from any sums due the Contractor unless such borings indicate that the pavement within the questioned area is of specified thickness.

4.3.7.9 Criteria for Calculations

(1) Average thickness shall be calculated for the total length of project.
(2) When the thickness as measured by the cores is more than ½ inch greater than the specified thickness, it shall be considered in the calculation as the specified thickness plus ½ inch.
(3) Areas of deficient-thickness pavement which are left in place with no compensation shall not be taken into account in the calculations.
(4) Where areas of defected surface or deficient thickness are corrected by overlaying with additional material, the thickness used in the calculations shall be the specified thickness for the areas.

4.3.8 Leveling Course

When a new surface course is to be constructed on an existing pavement (resurfacing) or an old base which is irregular, the existing surface shall be brought to proper grade and cross-section by the application of a leveling course consisting of Type II Asphaltic Concrete.

Tack Coat as specified in this division will be required on the following surfaces:

(1) On old pavements to be patched or leveled.
(2) Between the leveling and surface courses.

4.3.8.1 Patching Depressions

Before any leveling course is spread, all depression in the existing surface more than one inch deep shall be filled by spot patching with leveling course mixture and then thoroughly compacted.

Leveling course shall be placed by the use of a paving machine. (Equipped with a thirty-foot leveling ski preferred).

4.3.8.2 Rolling Patching and Leveling Courses

Self-propelled pneumatic-tired rollers shall be used for the rolling of all patching and leveling courses. Where the initial leveling course is placed over broken concrete pavement, the pneumatic-tired roller shall weigh at least 15 tons. For Type S-1 Asphaltic Concrete leveling courses the use of a steel-wheeled roller to supplement the traffic rollers will be required. On other leveling courses, the use of steel-wheeled roller will be at the Contractor's option.

Leveling shall be placed in layers not to exceed 100 pounds per square yard.

No leveling shall be placed on cracked surfaces within a 24-hour period following a rainstorm.

Where the roadway is to be widened, the base shall be widened before the leveling course is constructed. In the event the leveling course is to be placed in two (2) or more layers, the first course of leveling shall be placed before the base widening, and the base widened before the remaining leveling course(s) are placed.

4.3.8.3 Patching Potholes

Any pothole or depression deeper than three (3) inches shall be excavated to depth of six (6) inches with vertical sides and backfilled in two three (3) inch compacted layers with Type S-1 Asphaltic Concrete.

The leveling course shall be checked with a fifteen foot following straight edge.

4.3.9 Resurfacing Course

The work consists of the construction of an asphaltic concrete surface course upon an existing underlying pavement, which has been brought to proper grade and cross-section by patching and leveling.

Transitions from existing pavement to resurfacing course shall be by transverse joint with a saw cut that exposes the full depth of the mat. The joint shall be trimmed; power broom cleaned, heated, lapped, and hot sealed. The surface course shall be checked with a fifteen foot rolling straight-edge and any surface irregularity in excess of 3/4 inch shall be corrected except for drainage cross-swales and other areas as designated by the Engineer.

4.3.10 Adjust Manholes and Catch Basins to Grade

All existing manholes and catch basins which are to remain shall be raised or lowered so that tops will conform with new grades shown on the plans. All suitable materials removed from existing structures such as frames and covers may be reused if in good condition and satisfactory to the Engineer. All such materials not suitable for reuse shall be removed from the work and replaced with new materials.

4.3.11 Adjust Gate Valve Boxes

Existing gate valve boxes encountered in the work shall be excavated to the depth required to adjust the box to new grade and/or to properly align the box with the operating nut on the valve below.

4.3.12 Seeding and Mulching

The work consists of fertilizing and preparing the ground, spreading of mulch, seeding, cutting mulch, and rolling.

Fertilizing, seeding, or mulching operations will not be permitted when wind velocities exceed 15 miles per hour. Seed shall be sown only when the soil is moist and proper condition to induce growth. Whenever a suitable length of roadway slopes or adjacent areas has been graded, it shall be made ready, when directed by the Engineer, and grassed in accordance with these specifications. Grassing shall be incorporated into the project at the earliest practical time in the life of the contract.

The ground over which the seeds are to be sown shall be prepared by disc harrowing and thoroughly pulverizing the soil to a suitable depth. The prepared soil shall be loose and reasonably smooth. It shall be reasonably free of large clods, roots, and other material, which will interfere with the work or subsequent mowing and maintenance operations. No subsequent operations shall be commenced until the Engineer has approved the condition of the prepared areas.

Fertilizer and/or limestone shall be spread uniformly at a rate of 400-500 pounds per acre.

While the soil is still loose and moist, the seed shall be scattered uniformly over the grassing area. Unless shown otherwise in the plans or the special provisions the rate of spread for the permanent type seed mixture shall be 100 pounds per acre.

When mulching is called for, approximately two (2) inches, loose thickness, or the mulch material shall then be applied uniformly over the seeded area, and the mulch material cut into the soil with the equipment specified, so as to produce a loose mulched thickness of three (3) to four (4) inches. Care shall be exercised that the materials are not cut too deeply into the soil. When green mulch is used the green mulch shall be incorporated into the soil no later than two days after being cut, and no artificial watering of the mulch shall be done before it is applied.

Immediately after completion of the seeding, the entire grassed or mulch area shall be rolled thoroughly with the equipment specified. At least two (2) trips over the entire area will be required.

The seeded areas shall be watered as to provide optimum growth conditions for the establishment of the grass. In no case, however, shall the period of maintaining such moisture be less than two weeks after the planting.

4.3.13 Miscellaneous Asphalt Pavement

Construct asphalt pavements in areas where vehicular traffic does not travel, such as pavement under guardrail, bicycle paths, median pavement, sidewalks, etc. Also, chemically treat the underlying soil, with a pre-emergent herbicide, approved for use under pavement, to prevent plant growth.

For the pavement, use any plant-mixed bituminous mixture meeting the requirements of a mix design verified by the Engineer. The Engineer will accept the mixture on the basis of visual inspection and no further testing will be required.

Compact the hot bituminous mixture with lightweight rollers or vibratory compactors as directed by the Engineer. Hand tamps may be used in areas that are inaccessible to other compaction equipment.

4.4 RIGID PAVEMENT MATERIALS AND CONSTRUCTION

Rigid pavement consists of constructing a specified Portland Cement Concrete Paving on a prepared subgrade. The utilities and other items in and beneath the street must be properly coordinated with the construction of rigid pavement to avoid all conflicts. The work to be done shall include the furnishing of all supervision, labor, materials, equipment and incidental necessary for the proposed rigid pavement construction in accordance with the approved drawings and specifications.

4.4.1 Subgrade Preparation for Rigid Pavement

The bottom of the excavation for the pavement or top of the earth fill will be known as the pavement subgrade and shall conform to the lines, grade, and cross-sections shown on the plans.

Prior to placing the concrete, the subgrade shall be tested for conformity with the cross-section shown on the plans. If necessary, materials shall be removed or added as required to bring all portions of the subgrade to the correct elevation. Concrete shall not be placed on any portion of the subgrade, which

has not been tested for correct elevation. The subgrade shall be cleared of all, including tree roots, sumps, and loose materials.

At any time that trucks, construction equipment, or slip-forming machines cause rutting or displacement of the subgrade materials, the subgrade shall be reshaped and compacted. The subgrade shall be in a moist condition at the time the concrete is placed.

4.4.2 Subgrade Material

The top six (6) inches shall be composed of well drained granular soils that are predominantly sandy, mixed with no more silt or clay than required to obtain a minimum Florida limerock bearing value of 40 and be compacted to 98 percent of maximum density in accordance with AASHTO T-180 (modified).

4.4.3 Testing of Subgrade

Tests for subgrade stabilization shall be taken no more than 250 feet apart and shall be staggered to the left, right, and on the centerline of the roadway. Test reports for subgrade stabilization on private improvements shall be submitted to the Engineer by the Engineer of Record for review and approval prior to paving. All tests on public improvements shall be conducted by a geotechnical/soils engineer under contract to the Village.

When in the judgment of the Village Engineer or his representative conditions warrant additional testing, the Engineer of Record and/or Contractor will be advised that additional tests will be required and the extent of such additional tests.

4.5 MATERIALS

The materials and proportioning shall be in accordance with FDOT Standard Specifications for Road and Bridge Construction.

4.5.1 Construction

All construction shall be in accordance with FDOT Standard Specifications for Road and Bridge Construction.

4.5.2 Strength Required

All concrete shall have a minimum compressive strength of 3,000 (PCI) PSI at 28 days. Conformance of strength requirements shall be determined by ACI Standards.

4.5.3 Slump

The mixture shall contain no more than is necessary to produce concrete, which is workable and plastic. The minimum slump necessary to place the concrete satisfactorily shall be used. Slumps should be maintained so as not to exceed four and one half (4 1/2) inches for non-vibrated placement and not to exceed five (5) inches for vibrated placement.

The design mix shall be submitted to the Engineer or Designee for approval prior to paving.

4.6 EQUIPMENT

4.6.1 Forms

The pavement shall be placed to lines and grades established by the Engineer. The edges of pavement shall be vertical to the subgrade and forms will be sufficient to support mechanical equipment.

4.6.2 Ready Mixed Plants

All plants shall be certified in accordance with the latest FDOT Standard Specifications for Road and Bridge Construction, or approved by the Engineer or his representative.

4.6.3 On-Site Central Mix Plants

All plants shall be certified in accordance with latest FDOT Standard Specifications for Road and Bridge Construction, or approved by the Engineer or his representative. The trucks used to transport the concrete shall be so constructed to prohibit segregation of the mix.

4.6.4 Paver

All equipment used in the placement of concrete pavements shall conform to latest FDOT Standard Specifications for Road and Bridge Construction.

4.7 MIXING AND PLACING FOR RIGID PAVEMENT

4.7.1 General

Concrete pavement shall be constructed on the prepared subgrade in accordance with these regulations and in conformity with the lines, grades, thickness, and typical cross-sections shown on the construction plans. Concrete pavement shall meet the following minimum thickness requirements.

Development Type	Roadway Classification	Minimum Concrete Thickness (in.)
Residential	Marginal Access and Parking Areas	6
	Local Street	6
	Collector	8
	Arterial	8
Industrial and Commercial	Marginal Access and Parking Areas	6
	Minor Street	8
	Major Street	8

4.7.2 Transporting Concrete

Concrete may be transported to any distance providing it is discharged on the grade with the slump within the required slump range and meets concrete time limit requirements. If additional water is required to maintain the specified slump of concrete transported in the truck mixers, it may be added with the permission of the Engineer or his/her representative. In this case, a minimum of 25 additional revolutions of the mixer drum at designed mixing speed shall be required before discharging of the concrete. All concrete deliveries shall be accompanied by a batch time stamped on the delivery ticket by means of a mechanical time clock. Batch time shall be an accurate time of concrete batch and delivery truck departure from the batch plant.

4.7.3 Concrete Time Limit

The maximum length of time that the concrete can be held in the truck shall be 45 minutes from the concrete plant.

4.7.4 Placing Concrete

The concrete shall be deposited on the grade in such a manner as to require as little handling as possible. It shall be deposited in successive batches in a continuous operation. The concrete shall be consolidated by suitable means so as to preclude the information of voids or honeycomb pockets.

4.7.5 Placing In Cold Water

Concrete shall only be places when the temperature is at least 40° F and rising. Any concrete damage by frost action shall be removed and replaced.

4.8 FINISHING

The concrete shall be struck-off, consolidated, and finished with mechanical equipment in such a manner that after final finishing, it shall conform to the pavement cross-section shown on the construction plans. Hand finishing will be permitted in narrow widths, areas or irregular dimensions and in the event of breakdown of the mechanical equipment only to finish the concrete already deposited on the grade.

4.8.1 Final Surface Finish

The final surface of the pavement shall have uniform, skid-resistant texture. The method of texturing shall be approved by the Village Engineer or his representative and may require change in the final finishing procedure as required to produce the desired final surface texture.

A burlap drag or transverse broom finish is recommended for local and collector streets. Arterial and rural roads may require an overlapping stiff bristled broom or steel comb finish at the Engineer or his representative's option.

4.8.2 Pavement Exposed to Rain During Construction

The Contractor shall always have materials available to protect the surface of the concrete against rain. Areas of the pavement surface that exhibit a smooth sandy appearance after the rain ceases shall be textured to these areas before applying the membrane curing materials. Areas that have suffered some surface erosion and have coarse aggregate exposed shall be reworked by hand methods or with the finishing machine when the form paving method is used. Fresh concrete containing the same materials and properties as the pavement concrete shall be added to maintain an adequate supply in front of the screeds or machine to assure replacement of the concrete eroded from the surface. The surface shall then be textured and cured as specified.

If pavement edges have been severely eroded and the concrete has not set, the edges shall be repaired by setting side forms and replacing eroded concrete. After the side forms are set, fresh concrete shall be placed and finished prior to texturing and curing. After the pavement has hardened, remedial work shall not be permitted until after the curing period has terminated.

4.9 CURING FOR RIGID PAVEMENTS

After finishing operations have been completed and immediately after the free water has left the surface, (the surface of the slab and, for slip-formed pavement) the sides of the slab shall be coated and sealed with a uniform layer of membrane curing compound applied at the rate of not less than one (1) gallon per 200 square feet of surface. When the forms are removed, curing compound shall be applied to the sides of the slab. Areas in which the curing membrane is damaged within a period of three (3) days shall be re-sprayed with curing compound.

Curing compound may be omitted when, in conjunction with protection of pavement from inclement weather, a polyethylene film or other acceptable material is applied over the pavement and maintained intact for three (3) days.

4.9.1 Cracks

Concrete rigid pavement will not be accepted with excessive uncontrolled cracks. Shrinkage cracks must be avoided.

Uncontrolled cracks 1/8 inch or larger in width shall be repaired. One of the following repair methods shall be used:

4.10 JOINT SEALING

Transverse and longitudinal joints shall be constructed to a maximum spacing of 15 feet. Transverse joints shall extend the entire width of the pavement and through the curbs. Joints must be sawed after the concrete has hardened and conform to the standard detail within this section.

Sawing of joints shall begin four (4) to six (6) hours after placing or as soon as the concrete has hardened sufficiently to permit sawing without excessive raveling and before uncontrolled cracking occurs. If necessary, the sawing operations shall be carried on both day and night regardless of weather conditions.

4.10.1 Construction Joints

Longitudinal joints may be construction joints at the Engineers or his representative's option. Transverse construction joints shall be installed whenever the placing of concrete is suspended a sufficient length of time for the concrete to begin to harden.

4.10.2 Joint Sealing

Joints shall be sealed, if required, before the pavement is exposed to traffic, including construction traffic. Prior to sealing, all foreign material shall be removed from the joints and the joints shall be thoroughly dry.

4.11 FINAL ACCEPTANCE FOR RIGID PAVEMENTS

4.11.1 General Acceptance for Rigid Pavements

Before the pavement will be considered for acceptance, all items shall be complete in accordance with the construction plans and these regulations. Equipment, surplus materials, and construction debris shall be removed from the project.

4.11.2 Opening to Traffic

The pavement shall be closed to traffic after the concrete is placed until it reaches a compressive strength of 2500 PSI under ordinary field conditions. This does not include the sawing and sealing equipment or other light miscellaneous equipment. New roadways shall be closed to public traffic until approved by the Engineer or his representative.

4.11.3 Testing of Concrete

Concrete pavement shall have a 28-day compressive strength of 3000 PSI. Portland Cement Concrete control for slump testing, and concrete cylinder samples and testing is required and shall be in accordance with AASHTO and ASTM Specifications, latest edition. Test reports shall be submitted to the Engineer or his/her representative by the Engineer of Record for review for all non-public improvements. All tests on public improvements shall be conducted by a geotechnical/soils engineer.

Final acceptance shall be based on testing in accordance with other paving requirements.

SECTION 5:
Storm Water Management

5 SECTION 5: STORM WATER MANAGEMENT

5.1 GENERAL

The purpose of this guideline is to specify the minimum information and design requirements, materials, and construction standards for Stormwater Management Facilities.

The standards and requirements in this guideline are intended to supplement Village of Wellingtons Ordinances (Appendix A), Best Management Practices Manual for Works in Wellington and this manual. In the event of conflict, the stricter of the provisions shall prevail.

5.2 APPLICABILITY

All projects to be built in the Village of Wellington that alter the existing land use by the addition of impervious surfaces (i.e. pavement, buildings, sidewalks, etc.) in excess of that which now exists, will be required to comply with the requirements of this guideline and Village of Wellingtons Ordinances unless the project meets one of the following exceptions:

(1) Singular lot for single family unit less than 0.25 acres.
(2) Singular lot for duplex family unit less than 0.25 acres.
(3) Modifications to an existing single family unit that is less than 0.25 acres.
(4) Lots, parcels, units, etc., which are part of a larger tract, which has an approved and constructed drainage system in conformity with the Village of Wellingtons Best Management Practices Manual.

5.3 SUBMISSION REQUIREMENTS

The data required in this section is considered a minimum in order for the Engineering Department to evaluate the proposed system and to ascertain its impact on existing facilities.

5.3.1 Information Requirements

The following information must be submitted for review by the Engineering Division for permit consideration:

(1) A general location map delineating the project and other physiographic information (i.e., nearby streets, storm drainage, water bodies, and canals).
(2) A map of the project and vicinity at a scale typically around 1" =100' but no smaller than 1" = 200', which shall show the following information:
    a. Project boundary
    b. Existing topography of the project with spot elevations in a grid pattern at a minimum 100’ spacing and extending one hundred (100) feet beyond project boundaries. Also contained on this map shall be the receiving storm drainage system, name of water body, and major watershed, which the project continues to.
    c. The drainage boundary of the area of any lands outside the project limits contributing runoff to the project.
    d. Soil types including hydrologic classification.
    e. One hundred year flood elevation for the project.

(3) An exhibit of the project layout that includes proposed land use and land cover, including acreage and percentage of impervious surfaces. At a minimum, the exhibit shall include the following:
    a. All areas and acreages described in the drainage calculations (i.e. buildings, parking, sidewalks, greenspace, paddocks, barns, sand rings, etc.).
    b. A contour line of the 10yr and 100yr flood elevations and area of each contour
(4) Wetland areas should be identified.
(5) Proposed construction phase(s) of project (if applicable).
(6) Proposed development drainage basin boundaries, showing the direction of flows; areas of each basin; percentage of each soil classifications within boundaries; and off-site drainage areas which will be contributing flow to the site.
(7) Rights-of-way and easements for the system (if applicable).
(8) Location of Stormwater retention and detention facilities, including size, design capacity, side slopes, depth of pond, and retained/detained Stormwater under design conditions.
(9) Receiving system(s) off-site for the discharge(s) from the project.
(10) Location and size of internal storm drainage facilities.
(11) Roadway widths for each street classification, including cross slopes.
(12) Inlet locations.
(13) Drainage Calculations complying with Village of Wellington's Ordinances, Best Management Practices Manual, and this manual and shall include:
    a. Pre-development and post-development runoff including:
        i. Runoff characteristics (e.g., runoff curve number or coefficient).
        ii. Normal wet season water table elevations.
        iii. Curve number selection and infiltration potential shall be based on an on-site analysis of soils by a qualified geotechnical engineer. Infiltration potential and the extent of each soil type found on the site must be included.
        iv. Time of concentration.
        v. Design storm including duration, frequency, precipitation and type of distribution.
    b. Site stage-storage calculations.
    c. Drawdown curve for detention/detention facilities to substantiate design.
    d. A description of the methodology, assumptions, parameters, and a copy of all such computations used to analyze the system shall be included with the submittal. If a computer program is used for the analysis, a copy of the computer printout shall be submitted to the Village.
(14) Complete description of measures to be implemented during the construction period to mitigate adverse quantity and quality impacts off-site.
(15) Any temporary construction which may affect the on-site and/or off-site storm water management system prior to completion of the project.
(16) Computations showing that the spacing of inlets is in conformity with the maximum allowable water spread on pavement as defined in this guideline.
(17) For private storm water facilities, a statement designating the entity which will be responsible for the operation and maintenance of the Stormwater Management System. Attached to the statement will be a defined maintenance and funding program to insure said system will function for the purpose for which it was intended. If the entity responsible for the operation and maintenance is not the entity for which the engineering plans, specifications, and design

analysis was submitted for, then a letter will be also attached stating who the entity will be and its agreement to conform to the defined maintenance program.

5.3.2 Submittal to Other Agencies

Other agencies have jurisdiction within the Village of Wellington. Submittal to the Village does not preclude the requirement of the consultant to obtain any additional permits, which may be required.

Most of these agencies or governmental entities have established and refined design criteria for Stormwater management.

In some cases, established design parameters of those agencies contain conflicting standards or criteria. In the case of conflicting criteria, it is the intent of The Village of Wellington Stormwater Management Ordinance to have the most stringent regulation governs.

The following is a synopsis of those agencies and governmental entities which have overlapping jurisdiction:

(1) South Florida Water Management District (SFWMD)
   a. Has established a permitting information manual which outlines minimum standards, guidelines and criteria for storm water management.
   b. Requires a management and storage of surface waters permit be obtained from District prior to site plan approval.
   c. Boundaries of jurisdiction established by state statute.

(2) Lake Worth Drainage District (LWDD)
   a. Has established a permitting information manual which outlines minimum standards, guidelines and criteria for storm water management.
   b. Requires a management and storage of surface waters permit be obtained from District prior to site plan approval.
   c. Boundaries of jurisdiction established by state statute.

(3) Florida Department of Transportation (FDOT)
   a. Has established minimum standards guidelines, and criteria for projects draining into FDOT rights-of-way.
   b. Requires a drainage connection permit be obtained from the Department prior site plan approval.
   c. Requires periodic inspections and/or supervision of work performed within state road rights-of-way.

5.4 HYDROLOGIC DESIGN CRITERIA

5.4.1 Roadway Drainage

The roadway pavement elevation shall be designed under the following criteria:

1. Design Storm:
   (a) 100-year, 72-hour storm event for any arterial, collector or major road projects.
   (b) 10-year, 24-hour storm event for any local street or road.
2. Flows may be determined by the rational formula.
3. Under design conditions, the maximum spread allowed will be six (6) feet in the outside travel lane.

5.4.2 Retention/Detention Facility

Retention/detention facilities shall be designed under the following criteria:

1. Design storm shall be for a 25-year, 72-hour storm.
2. Runoff hydrographs shall be determined by one of the following methods:
   (a) SCS Unit Hydrograph Method
   (b) Santa Barbara Urban Hydrograph Method
3. Minimum Treatment Volume:
   (a) Pursuant to Village of Wellington's Ordinances, projects shall adhere to the SFWMD requirements for treatment volume (and additional volume for Basin B) as follows
      i. Basin A: Runoff from the first one (1) inch of rainfall multiplied by the entire site area or two and one half (2.5) inches multiplied by the percent imperviousness of the site multiplied by the total site area (minus buildings and lake surfaces), whichever is greater.
      ii. Basin B: Runoff from the first one and one half (1.5) inches of rainfall multiplied by the entire site area or three and three quarters (3.75) inches multiplied by the percent imperviousness of the site multiplied by the total site area (minus buildings and lake surfaces), whichever is greater.

5.5 HYDRAULIC DESIGN CRITERIA

5.5.1 Roadway Drainage

(1) All Streets shall be designed to provide a minimum clearance between the bottom of the base to a standing surface water condition or the wet season water of two (2) feet.
(2) Grades -Minimum longitudinal grades shall be 0.3 percent. The minimum cross slope shall be 2 percent.
(3) Stormwater Spread into Travel Lane Inlets -Shall be placed at all low points, intersection, and along continuous grades to prevent the spread of water from exceeding one half the traveled lane width.
(4) Gutter Flow -A maximum distance of four hundred (400) feet shall be allowed for flow in a curb and gutter section to the first point of removal. A lesser distance may be dictated by the water-spread criteria.
(5) Valley Gutters -The use of valley gutters to convey Stormwater through an intersection is prohibited, unless approved by the Village Engineer on a case by case basis.

5.5.2 Storm Sewer Design

(1) Allowable Materials -Reinforced concrete pipe and concrete box culverts. In no case will bituminous-coated corrugated, plastic, or metal pipe be allowed under roadways, unless approved by the Village Engineer.
(2) Minimum Pipe Size -The minimum size of pipe to be used is 18 inches in diameter.
(3) Minimum and Maximum Pipe Slopes -All storm sewers shall be designed and constructed to produce a minimum mean velocity of 2.5 feet per second. No part of the system will be designed to produce velocities in excess of five (5) feet per second.

(4) Design tail water -All storm sewer systems shall be designed taking into account the tail water of the receiving facility for respective Storm events.

5.5.3 Open Channel Design

(1) Minimum Dimensions
   a. Swales must be a minimum of ten (10) feet wide with a minimum depth of eight (8) inches.
   b. Side slopes on any channel must be a minimum of 3:1 with 4:1 or greater being more desirable.

(2) Minimum Right of Way or Easement Width -For facilities that are to be publicly maintained, a minimum of 20 feet on each side of the channel is required for a right-of-way or easement.

For facilities that are to be privately maintained, there must be no permanent structures within 20 feet at the top of bank unless the channel can be maintained from within the banks of the channel.

(3) Velocities -Outfall ditches and other open channels shall be designed so they will not overflow their banks, and they shall be designed for flow velocities such as will not cause scour. Where higher velocities must be used, ditch pavement, or other adequate permanent protection against scour shall be provided.

5.5.4 Detention Facility Outfall Design

(1) Pollution Abatement -All structures shall be designed to prevent floating oil and debris from discharging.

(2) Structures Utilized -All structures shall be of a permanent nature and be constructed in accordance with FDOT standards. Shop drawings will be submitted and approved by the Engineer prior to any installation of any drainage structures.

(3) Freeboard -Freeboard is the vertical distance between the elevation of the design high water and the top of the bank. All structures shall be designed to provide six (6) inches of freeboard on sites less than three (3) acres and one (1) foot on sites three (3) acres or larger.

5.6 LAKE EXCAVATION

5.6.1 General Criteria and Procedures.

An excavated lake shall be designed and maintained to meet minimum criteria for surface water as set forth under Chapter 62-302, F.A.C., Wellington Land Development Regulations and the following:

A. An excavated lake shall not be constructed within Wellfield Zone 1 or within three hundred (300) feet of a public water supply well, a Class I or Class II landfill or a site with known contamination; within two hundred (200) feet of a wetland; or within one hundred (100) feet of a drinking water well or a sanitary hazard.
   1. Sloping and grading shall be conducted to minimize soil erosion and to make the land surface suitable for revegetation. In order to enhance slope stabilization, site aesthetics and maximize potential for beneficial end use of the site no slope shall be steeper than four (4) feet horizontal to one (1) foot vertical to existing grade. Slopes shall be stabilized and adequately vegetated within thirty (30) days of final grading and thereafter maintained to prevent wind and water erosion.
   2. Overland sheet flow directly into an excavated lake shall be minimized. Those areas within fifty (50) feet of an excavated lake may discharge run-off to the lake. Provided however that this restriction shall not apply to any catchment discharging runoff to an

excavated lake designated as a water management tract and incorporated in an approved stormwater management plan with catchment boundaries delineated in the approved plan.

B. Depth.
   1. Due to chloride or other water quality considerations the maximum depth of an excavated lake shall be twenty (20) feet of water from the wet season water table level.
   2. A sediment sump may be constructed at a excavated lake inlet to a depth of twenty-five (25) feet from the wet season water table level. However this sump shall be no greater than five (5) percent of the excavated lake area.

C. Littoral Zones.
   1. Planted littoral zones shall be provided with a minimum area equivalent to eight (8) square feet per linear foot of shoreline. The required planted littoral zone may be created by extending contiguous littoral zone areas waterward or by creating islands within the water body. Any areas of planted littoral zone shall not be steeper than six (6) feet horizontal to one (1) foot vertical. The planted littoral zone can vary in elevation from a maximum elevation of one (+1) down to an elevation of three (-3) from the wet season water table level. The maximum depth of the planted area shall be minus three (-3) feet from the wet season water table level. The littoral zone shall be provided with a minimum of three (3) inches of topsoil to promote vegetative growth. The littoral zone shall be planted with appropriate native wetland vegetation, spaced not more than three (3) feet on center or as approved by the Wellington Engineer.
   2. Unplanted littoral zone areas shall not be steeper than four (4) feet horizontal to one (1) foot vertical to a minimum depth of minus two (-2) feet from the wet season water table level.
   3. Bulkheads may be allowed provided that for each linear foot of bulkhead an additional eight (8) square feet of compensatory planted littoral zone shall be required. The compensatory planted littoral zone shall be provided in addition to the planted littoral zone required above to achieve sixteen (16) square feet of littoral planting zone for every lineal foot of bulkhead.
   4. Slopes below a depth of minus two (-2) feet from the wet season water table level for planted littoral areas shall not exceed two (2) feet horizontal to one (1) foot vertical or the natural angle of repose for the specific conditions encountered.
   5. Plans shall be submitted to and receive written approval from the Wellington Engineer in conjunction with the Notice of Intent to Construct. Plans shall be submitted at the time of the submission of the Preliminary Plat or if no plat approval is involved prior to commencement of construction, regrading or modification. The plans shall detail the species of plants to be used, the location and dimensions of the littoral area, the location and dimensions of any structure for which a compensatory littoral area is required, the resulting compensatory littoral area, proposed methods for planting and ensuring the survival of plants and other reasonable items required by the Wellington Engineer.
   6. The design and species shall be such that the plants as shown on the plans have an anticipated survival rate of at least eighty (80) percent at the end of one (1) year after planting. The plans shall be signed and sealed by a professional recognized and approved by the Florida Department of Business and Professional Regulation for this type of project. After the plans have been reviewed for compliance to the standards listed in this section the Wellington Engineer shall approve the plans in writing.

7. The Wellington Engineer shall maintain a list of acceptable species of plants for use in littoral zones as amended from time to time.
8. Plantings for the excavated lake shall occur prior to the issuance of the first certificate or temporary certificate of occupancy for any lot adjacent to or abutting the bank of the lake for large single lake systems. The Wellington Engineer may approve a planting phasing plan. For multi-lake systems each lake shall be treated individually for planting installation purposes. The applicant is responsible for minimizing erosion of the littoral shelves until all planting is completed.
9. The following maintenance and monitoring program shall be followed for all planted littoral zones:
    a. The littoral zone shall be inspected and monitored for one (1) year after planting. During this period maintenance and monitoring shall occur ninety (90), one hundred eighty (180) and three hundred sixty (360) days after planting. The maintenance and monitoring program shall consist of the following:
        i. Inspections, monitoring, exotic removal and replanting during each monitoring period to maintain the minimum eighty (80) percent survivorship criteria for the planted littoral zone;
        ii. Complete removal of exotic and invasive plant species such as cattails, primrose willows and water hyacinth from the planted littoral zone until the required planted species attain coverage of seventy (70) percent of the planted littoral zone;
        iii. The submittal of a monitoring report to the Wellington Engineer representing a time zero monitoring to be completed within thirty (30) days of initial planting to be followed with ninety (90) day, one hundred eighty (180) day and three hundred sixty (360) day monitoring reports. Each report shall be submitted within thirty (30) days of the completion of the monitoring period;
        iv. Each monitoring report shall assess the species, numbers, locations of planted littoral zone shelves and multiple photographs (panoramas are preferred) of the site clearly depicting the entire littoral zone planting. Photographs must be taken at approximately the same location(s) each time. In addition the report shall detail the species, numbers and locations of additional plantings that were made to attain the eighty (80) percent survivorship criteria if such plantings were necessary.
    b. After the first year the property owner or entity having maintenance responsibility for the planted littoral zone shall meet and maintain the following:
        i. A minimum of eighty (80) percent survivorship and a minimum of seventy (70) percent coverage of the planted littoral zone.
        ii. Exotic and invasive plant species such as cattails, primrose willows and water hyacinth shall be restricted to less than ten (10) percent of the required planted littoral zone.
10. The littoral area shall be identified in a form acceptable to the Wellington Engineer on the recorded plat or by a separate recorded instrument. Said area shall be reserved to the owner or the property owners' association for perpetual maintenance responsibility without recourse to Wellington or other governmental entity or agency. The plat or instrument shall provide the littoral area shall exist from the edge of water at the wet season water table level to a depth of not more than minus three (-3) feet and with

sufficient square footage to comply with the provisions of this section. The plat or instrument shall contain the following statement:

It is a punishable violation of Wellington regulations and approvals to alter the approved slope contours or cross sections or to chemically or manually remove, damage, destroy, cut or trim any plants in the littoral zone except upon the written approval of the Wellington Engineer. It is the responsibility of the owner or property owner's association its successors or assigns to maintain the littoral zone(s).

11. Any repair, reconstruction, installation of structures or modification except ordinary maintenance to the water management tract, lake maintenance easement, littoral zone or any planting or structure approved pursuant to this subsection shall be done only after receipt of written approval from the Wellington Engineer.

D. No excavation (measured from the edge of water) shall be conducted within fifty (50) feet of any potable water well or one hundred (100) feet of any septic tank pursuant to the Palm Beach County Land Development Regulations Article 15 Chapters A and B for wastewater and potable water systems.

E. Off-site removal of excavation material shall be consistent with hauling routes approved by the Wellington Engineer. Trucks hauling materials shall be covered to prevent debris and fill from spilling on roads. The Wellington Engineer may impose other appropriate conditions for the removal of excess fill off site.

F. Where feasible existing topsoil shall be stored and redistributed on-site to provide adequate growing conditions for revegetation. Where such storage is not feasible the area shall be restored with topsoil of an equal or better quality than that excavated and be redistributed to provide adequate-growing conditions.

G. Excavation activity shall only occur between the hours of 7:00 a.m. and 6:00 p.m.

H. Excavations shall be operated to prevent the emission of dust or other solid matter into the air or on adjacent properties pursuant to Sec. 7.8.1.F. (Smoke, emissions and particulate matter) and State or Federal regulations.

5.6.2 Specific Criteria and Procedures.

Non-exempt excavation activities must meet the specific criteria for the type of excavation as listed below:

A. An Agricultural excavation must meet the General Criteria of this manual and the following requirements:

1. No excavation shall be conducted within fifty (50) feet of the property line or in any area prohibited in these LDRs or any other State, Federal or local regulation.
2. The permit application shall include a detailed written and graphic explanation of the proposed bona fide agricultural use demonstrating consistency with applicable industry standards and satisfying the definition of bona fide agriculture pursuant to Article 3.

B. Type I excavation shall follow the General Criteria of this manual and the following requirements:

1. No excavation shall exceed ten (10) feet in depth below the wet season water table level.
2. Side slopes shall be no steeper than four (4) to one (1) from the top of bank to a depth of minus two (-2) feet from the wet season water table level. A minimum four (4) foot high gated fence completely enclosing the excavation may be substituted for the required slopes.

3. Side slopes shall be stabilized and planted with the appropriate ground cover from top of bank to the edge of the water. If seeding is to be used, it shall be required to have fifty (50) percent coverage of seeded areas prior to issuing a Certificate of Occupancy.
4. No excavation (measured from the edge of water) shall be conducted within thirty (30) feet at the time of construction to any of adjacent property lines nor within fifty (50) feet of any potable water well or one hundred (100) feet of any septic tank pursuant to the Palm Beach County Land Development Regulations Article 15 Chapters A and B for wastewater and potable water systems.
5. The maximum surface area of all excavation shall be less than twenty-five (25) percent of the lot area and in no case shall it exceed two (2) acres in surface area.
6. A Certificate of Compliance depicting an as-built survey or a form board survey showing the location, size and depth of the excavation utilizing the standards of this section and bearing the seal of a Registered Land Surveyor shall be submitted prior to issuance of a Certificate of Occupancy.

C. Type II Excavations shall meet the applicable General Criteria of this manual and the following requirements:
1. No excavation shall be conducted within fifty (50) feet of the property line, or in any area prohibited by these LDRs or any other State, Federal or local regulation.
2. The excavation application shall not be approved before a Site Plan pursuant to Sec. 5.3.6 has been approved.
3. A minimum of ninety (90) percent of the excavated material shall be used on-site unless the applicant demonstrates with the permit that due to unusual site conditions including the existence of an abnormal amount of silt, rock, muck, or excess fill resulting from required drainage improvements, that more than ten (10) percent of the material must be removed to develop the site. If such conditions exist the application may be approved.
4. When the total area of all Type II excavation on the site exceeds five (5) acres or any fill material is introduced to the site for any reason, the Wellington Engineer may impose additional conditions on the excavation permit. Conditions may include but are not limited to requiring landscaped perimeter buffers and/or berms during the excavation, increasing minimum excavation setbacks from property lines, increasing or adding minimum excavation setbacks from easements, specifying where equipment is allowed to operate, limiting the type of activity, limiting the duration of the activity and requiring surety for site restoration.

Section 6: DRAINAGE SYSTEM MATERIAL AND CONSTRUCTION

6 SECTION 6: DRAINAGE SYSTEM MATERIAL AND CONSTRUCTION

6.1 SCOPE

The scope of this Division includes materials and construction of drainage systems. The term drainage system includes sewers, ditches, swales, culverts, all detention/retention facilities and all appurtenances.

6.2 PIPE

Cement asbestos, cast iron, vitrified clay, corrugated metal, High Density Polyethylene (HDPE) and polyvinyl chloride (PVC) pipe will not be allowed in the Village of Wellington drainage system. Certain projects may require the use of HDPE for directional bore, in these cases, approval from the Engineer must be obtained.

6.2.1 Reinforced Circular Concrete Pipe

Pipe shall be cast vibrated, machine made or flatbed concrete pipe, designed, manufactured, cured, tested, and marked in accordance with ASTM C76. Pipe shall be of the class shown on the plans or called for on the Bidding Form. Pipe shall be manufactured in lengths not longer than sixteen (16) feet, nor shorter than eight (8) feet, except that shorter lengths as required at closures or junctions with structures shall be provided. Pipe with elliptical reinforcing shall be adequately marked to prevent improper placement in the trench.

Joints shall be of round rubber gasket type using a bell and spigot design. Joints shall be so designed that when the pipe is laid and joint completed, the gasket will be enclosed on all four surfaces. The joint shall be so designed and fabricated that when the pipe is laid, it shall be self-centering and the gasket shall not be required to support the weight of the pipe, but shall keep the joint tight under all normal conditions of service including expansion, contraction, and earth settlement.

Rubber gasket shall conform to requirements stated in ASTM C361.

6.2.1.1 Fiber Reinforced Concrete Pipe (FRCP)

Pipe meeting ASTM C-1450 requirements as specified in FDOT Standard Specifications for road and bridge construction, latest edition, and shall be installed in accordance with the FDOT Standard Specifications for the project application. Class III or higher pipe is allowed and will be determined based upon fill heights shown in FDOT Design Standards Index.

6.2.2 Reinforced Elliptical Concrete Pipe

Pipe shall be cast vibrated, machine made, or flatbed elliptically shaped concrete pipe designed, manufactured, cured, tested, and market in accordance with ASTM C507. Pipe shall be of the class shown on the plans or called for on the Bidding Form and shall be manufactured in lengths not longer than sixteen (16) feet, nor shorter than (8) feet, except that shorter lengths as required at closures or junctions with structures shall be provided. Pipe designed for placement with the major axis horizontal shall be designed as "Horizontal Elliptical Pipe" (Class HE-III) and shall be so marked.

Joints for elliptical pipe shall be cold adhesive preformed plastic gaskets conforming to Standard Specifications for Road and Bridge Construction FDOT, latest edition. Installation of joint material shall conform to the requirements the above referenced specification.

6.2.3 Polyethylene Pipe

Upon the submittal by the project engineer to and approval by the Engineer or his representative of appropriate design information, plastic pipes shall be allowed.

Polyethylene pipe used shall meet all requirements of FDOT Standard Specifications for Road and Bridge Specifications.

6.2.4 Pipe Cradle

When ordered or indicated on the plans, pipe cradle shall be of 3000-PSI concrete.

6.2.5 Joint Wrapping

All pipe joints are to be wrapped with filter fabric in accordance with FDOT Design Index.

6.3 MANHOLES

6.3.1 Precast Reinforced Concrete Manholes

Manholes shall conform to the requirements of ASTM C478.

Manholes shall consist of a base unit, riser units with necessary openings for sewer pipe and concentric cones or flat lids providing the support for the manhole frame and cover. The base unit shall consist of a monolithically poured base and bottom-ring section. Lifting holes through the structure shall not be permitted.

When called for the plans, a non-sag grade of polysulphide rubber filler shall be used in conjunction with compression ring.

6.3.2 Brick Manholes

Brick for manhole construction shall be of 3000-PSI concrete. The channel shall be a minimum of 2400-PSI concrete. The mortar for brickwork and surface plastering shall be made with acid resistant cement.

6.3.3 Manhole Frames and Covers

Manhole frames and covers shall be gray cast iron, shall be free from cracks, holes, and cold shuts and shall conform to Federal Specification QQ-I-65A for gray iron castings. Frames and covers shall conform to the details shown on the drawing and shall be coated with coal tar pitch varnish. Bearing surfaces shall be machined to provide even bearing surfacing or shall have a non-rocking feature.

6.3.4 Brick

Concrete brick shall conform to ASTM C-139.

Clay brick shall be dense, hard burned and shall conform to ASTM Designation C-32 Grade MM or ASTM C62 Grade MW, except that brick absorption shall be between five and twenty-five grams of water absorbed in one minute by dried brick, set flat down in 1/8 inch of water.

6.3.5 Catch Basin

Catch basins shall conform to the form and dimensions and be constructed of the materials shown in the FDOT Standards or on the standard plans whichever is specified. Precast units shall conform to the requirements of ASTM C478 and to the form and dimensions called for the plans.

Brick catch basins shall conform to form and dimensions called for on the plans. Catch basin shall be of 3000-PSI concrete. Mortar for brickwork and surface plastering shall be made with acid resistant cement.

6.3.6 Catch Basin Frames and Grates

Cast iron frames and grates shall be gray cast iron conforming to ASTM A48, shall be free of cracks, holes, and shuts shall conform to the details shown on the plans or specified. Bearing surfaces shall be machined to provide an even non-rocking bearing surface.

Structural steel frames and grates shall be galvanized in accordance with the requirements of ASTM A-123 unless A-588 steel is used in the manufacture.

6.3.7 Headwalls, Valley Gutters and Other Concrete Structures

Headwalls, valleys, gutters, and other concrete structures shall be constructed with 3000-PSI concrete.

6.3.8 French Drain

Pipe shall be slotted reinforced concrete pipe meeting the specifications of this section.

Ballast rock shall meet the gradations of ASTM Size NO.4 coarse aggregate or underground disposal of water, designation D 488-54.

Amount Passing (Square Openings) Weight Percent

Size Number	Normal Sizes Square openings	2” (50mm)	1-1/2” (37.5mm)	1” (25.0mm)	3/4” (19.0mm)	3/8” (9.53mm)
4	1-1/2” to 3/4”	100	90 to 100	20 to 55	0 to 15	0 to 5

Aggregate shall be sound and durable.

Filter fabric shall be in accordance with FDOT Design Standards. It shall be the product of an established manufacturer. It shall manufactured in one piece to meet the trench size requirements, shall be free of tears and other imperfections.

6.3.9 Check Dam

Stone shall be 3/4 inch, crushed, clean and durable rock. Filter fabric shall be as specified in this Division. Sod shall be either centipede or bahia grass well matted with roots furnished in commercial-size rectangles, 12 inches or larger.

6.4 CONSTRUCTION

6.4.1 Excavation and Backfill

(1) Trench -Trench width shall be kept to a minimum necessary for installation of the pipe. The trench bottom shall be graded uniformly to match the outside of the pipe.

(2) Unsuitable Material Below Pipe Grade -Wherever excavation of the trench exposes unsuitable materials such as peat, soft clay, quick sand, or other unstable material in the bottom of the trench, which in the opinion of the Engineer, is unsuitable foundation upon which to lay or support the pipe, backfill, and expected superimposed loads. Such unsuitable materials shall be removed to depth necessary to reach material having adequate capacity. The trench shall then be backfilled to a point six (6) inches above the bottom of the pipe and the material shaped to fit the pipe. The material for bedding may be clean natural sand or gravel, imported quarry waste, selected excavation or a mixture thereof. Samples of the material shall be submitted sufficiently in advance of intended use to enable inspection and testing. The material shall be placed in six (6) inch layers and compacted to a dry density equal to 95 percent of the maximum dry density as determined by the Standard Proctor Compaction Test ASTM D0690. Each layer shall be compacted to the required density prior to placing the next layer.

(3) Backfill -Only good quality backfill, free of stones, roots, rocks, broken cement, or other material which might be damaging to the pipe shall be used. All backfill must be compacted by tamping from under the pipe up to 12 inches above the pipe. Backfill shall be compacted in lifts up to the surface to achieve a minimum compaction of 95 percent of maximum density in accordance with AASHO T-180 and ASTM D-2167.

(4) Well-pointing -Construction shall be accomplished in a dry trench. Well-pointing or other approved method of dewatering shall be carried out to maintain a dry trench. Sheeting and shoring shall be installed as may be necessary for the protection of the work, preservation of adjacent property and structures, and the safety of employees.

6.4.2 Pipe Laying

Pipe laying shall proceed upgrade with the spigot ends of the pipe pointing in the direction of flow. Each pipe shall be laid true to line and grade so as to form a close concentric joint with the adjoining pipe, preventing offsets in the flow line. As the work progresses, the interior of the pipe shall be cleaned of all dirt and superfluous materials. In addition, pipe shall be laid either on a prepared bed of undisturbed earth in the bottom of the trench, shaped as required to fit the pipe, or upon a layer of properly placed bedding material. The requirements for pipe bedding vary with the type of pipe to be installed and these requirements are set forth in other applicable paragraphs or the plans.

Pipe outfalls should have concrete end treatments as prescribed by the FDOT Design Standards manual.

6.4.3 Manholes and Catch Basins

Precast base shall be placed or base shall be cast in place on undisturbed soil, or it shall be installed on approved bedding. Installation will be at the locations and to the grades shown on the plans before the pipe is laid to or away from the manhole or catch basin.

Brick manholes and catch basins shall be made to conform to the shape and dimensions shown on the drawings. For manholes, brick shall be laid radially with horizontal joints. Brick manholes and catch basins must have 1/2 inch of plaster on the outside.

All manholes and catch basins shall be constructed so that the top shall be set between 5 inches and 14 inches below the bottom of the frame. It is the intent of the Specifications to provide a minimum of 2 inches to accommodate future grade changes without disturbing the manhole or catch basin.

On precast units the annular space between the pipe and the opening in the unit shall be grouted with portland cement mortar containing an approved additive to insure a watertight joint.

Frames shall be centered over the opening, raised and tilted as necessary to meet the roadway or finish grade by the use of brick shins and set in a full bed of mortar. Any cover or grating, which rocks in its frame upon installation, will not be accepted.

Headwalls, valleys, gutters, and other concrete structures shall be constructed to the form and dimensions shown on the plans or specified.

6.4.4 French Drains

Excavation shall be made to the required depth after dewatering to two (2) feet below proposed trench bottom. After excavation, a slope form of plywood or steel shall be set lining the sides and ends of the trench. The filter fabric shall be draped over the forms forming an envelope. The ballast rock shall be placed in the bottom of the trench to the pipe invert. It shall be compacted to prevent subsequent pipe settling.

The pipe shall be set in place to the lines and grades indicated on the plans. Backfill shall be placed in layers and compacted to provide for eliminations of all voids between the exterior of the filter fabric and the native soils forming the walls of the excavation. In order to accomplish this, the slip forms will gradually be pulled as each layer of ballast is placed but before compaction.

When the specified elevation is reached the filter fabric will be laid over the top of the ballast rock and overlap a minimum of two (2) feet to prevent sediment infiltration into the ballast rock.

A minimum of six (6) foot wide band of hay bales shall be firmly set around the periphery of the excavation to prevent premature surface flows of sediment carrying waters into the excavation. Upon completion of the backfill, a six-(6) foot wide band of sod shall be set around the periphery of riser pipe. To avoid premature flows into the drain, the construction shall be scheduled for complete construction in one working rainless day.

6.4.5 Check Dams

Check dams shall be constructed to the dimensions, lines, and grades shown on the plans.

After excavation to the required depth, the filter fabric shall be placed on the prepared bottom; the stone shall be placed on the fabric in a manner that will conform to the required configuration. The filter

fabric will be laid over the stone and overlap a minimum of two (2) feet to prevent sediment infiltration into the ballast rock.

Sod shall be placed on the surface of the fabric with edges in close contact and shall be firmly and smoothly imbedded by light tamping. The edges of the sod shall be staggered to avoid a continuous seam along the line of flow.

Section 7: ENGINEERING PERMITTING PROCESS

7 ENGINEERING PERMITTING PROCESS

7.1 GENERAL

7.1.1 ACTIVITIES REQUIRING ENGINEERING PERMITS

1) Private development and re-development project that require filling/excavation, paving, grading or drainage improvements as part of the development plan.
2) Public development and re-development project that require filling/excavation, paving, grading or drainage improvements as part of the development plan.
3) Connection to public right-of-way and/or public drainage facilities.
4) Any project that requires removal, replacement, or maintenance of pavement markings, striping, signage and pavement rehabilitation.
5) Culvert, irrigation connections to an Acme Improvement District canal.
6) All utility work within Acme Improvement District & Village of Wellington right-of-way.

7.2 PERMIT TYPES

7.2.1 LAND DEVELOPMENT

Applicable to all new development and re-development of sites, with the exception of Single-family homes in a previously approved subdivision that are less than 0.25 acres in area and rural equestrian lots with less than 20 percent lot fill, except for alterations to drainage features. Minor modifications to a drainage system can utilize an engineering permit, at the Village Engineers discretion.

7.2.2 FILL/EXCAVATION

Applicable to sites requiring the filling or excavation of earth (including lakes, swales, berms and general site grading) with no additional buildings (or other erect structures) or drainage features (including inlets, culverts and control structures).

7.2.3 ENGINEERING

Applicable when connecting to Village of Wellington right-of-way (driveway, drainage), performing curb work, ADA, and other general site work to an existing facility. Not applicable to connecting to an ACME Improvement District Facility, a public works permit is required for connection to a ACME Improvement District Facility.

7.2.4 OVERLAY AND STRIPING

Applicable to asphalt resurfacing and re-striping for existing private roadways and commercial plazas.

7.2.5 PUBLIC WORKS CONNECTION

Applicable when connecting to one of the Village of Wellington canals for irrigation or drainage purposes.

7.3 PERMIT FEES

7.3.1 FEE SCHEDULE MATRIX

ENGINEERING DEPARTMENT FEE SCHEDULE			
Permit Type	**Expiration Date**	**Permit Fees**	
		Application fee (1) (paid at time of initial permit submittal)	**Inspection fee (2)** (paid prior to permit issuance based on approved cost estimate)
Land Development (Technical Compliance)	21 months	$1,000.00	4% up to $1,000,000.00 2% thereafter
Engineering	4 months	$50.00	4% up to $1,000,000.00 2% thereafter
Fill/Excavation	4 months	$50.00	4% up to $1,000,000.00 2% thereafter
Overlay/Striping	4 months	$50.00	4% up to $1,000,000.00 2% thereafter
Public Works	4 months	$50.00	4% up to $1,000,000.00 2% thereafter
Utility (Major)	See Utilities Manual		
Utility (Minor)			

FEE NOTES:

(1) Application fees are due at time of application submittal. Applications will not be accepted without fee.

(2) Inspection fees are due prior to issuance of permit. Applicant shall submit a Certified Cost Estimate from a Professional Engineer. Certified cost estimates shall be used as the basis for determining inspection fees. Inspection fees shall be equal to 4% of the amount listed on the approved Certified Cost Estimate up to $1,000,000 plus 2% for any amount above $1,000,000.

7.4 SUBMITTAL REQUIREMENTS

7.4.1 SUBMITTAL MATRIX

Requirement *(1)(6)*	Land Development (Technical Compliance)	Engineering	Fill/ Excavation	Overlay/ Striping	Public Works
Permit Application	X	X	X	X	X
Application FEE (see 8.3.1)	X	X	X	X	X
Engineering Plans (S&S) *(3)*	X	X	X	X	X
Stormwater Calculations (S&S)	X	X	X		
Location Map (8.5x11) *(4)*	X	X	X	X	X
Engineers Cost Estimate (S&S)	X	X	X	X	X
Survey	X	X	X	X	X
Approved Site Plan	X				
Landscape Plans	X				
Lighting Plans	X				
Access to Property Form	X				
Fire Marshall Approval	X				
FDOT Permit Approval: Connection / Utility / Tie in	X				
Grant of Easement – Bridle Trail; Sidewalk; Water; Water & Sewer; Drainage	X				
Inspection Fees: Paving / Grading / Drainage / Water / Sewer	X				
Opinion of Title with Consent & Joinder (if applicable)	X				
NPDES Plan & NOI	X	X	X		X
Restrictive Covenant with Legal Descriptions with 8½'' x 11" Set of Plans *(4)*	X		X		
SFWMD Permit or Permit Modification	X	X	X		
SFWMD Water Use Permit	X				X
SFWMD Dewatering Permit	X				
Developers Contributed Assets	X				
Plat Application with Plat	X				

FEE NOTES:

(1). Applications shall include the all of the items listed above. Applications with missing information will be denied and returned to applicant until all missing information is provided. Only complete applications will be processed. All application packages shall be submitted to the Engineering Department located Via online Projectdox permitting portal. Please refer to the Village of Wellington website at http://www.wellingtonfl.gov/government/departments/construction-engineering *for tutorials on electronic submittal processes.*

(2). The Village of Wellington recognizes that not all items listed for each permit type are applicable to each project. The applicant shall provide a cover letter providing a reason for any omitted application items at the time of initial submittal.

(3). All plans shall be digitally signed and sealed by a professional engineer registered in the state of Florida. Please refer to the Village of Wellington website at http://www.wellingtonfl.gov/government/departments/engineering-construction/projectdox-digital-signature-guides regarding digital sign & seal requirements.

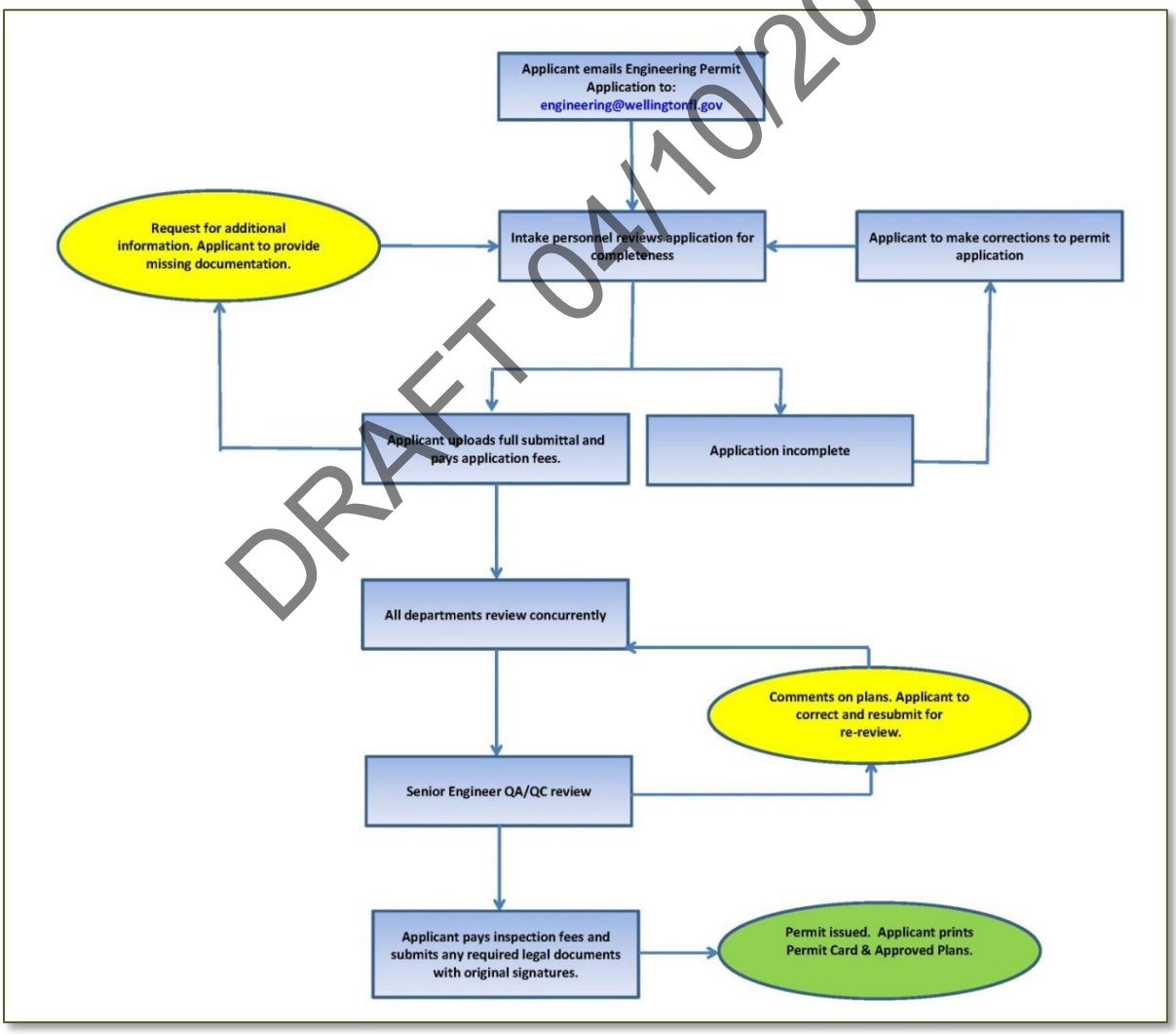
(4). Location map shall include a recent aerial of the property along with surrounding land uses.

(5). Restrictive covenants are required for all water management areas that are to be used for water quality purposes, regardless of size or length of intended use.

(6). Additional submittal items may be required for any of the above permits as determined by the Village Engineer or his/her designee.

7.5 REVIEW PROCESS

7.5.1 GENERAL ENGINEERING DEPARTMENT REVIEW PROCESS FLOWCHART



FLOW CHART NOTES:

(1). The process illustrated above is intended to be a general guide to the applicant and not an all-inclusive process.

7.5.2 LAND DEVELOPMENT PERMIT REVIEW PROCESS

7.5.2.1 Initial Submittal

1) **Application Form** – Email permit application form to engineering@wellingtonfl.gov with all required information, signatures and notaries. All owners of the property must execute the application. If property is owned by someone other than an individual, documentation verifying signatory authority for entity is required.
2) **Application Fee** – Submit payment (check or credit card) via the Village of Wellington website at https://accessc2g.wellingtonfl.gov/Click2GovBP/index.html or in person at Village Hall located at 12300 Forest Hill Blvd.
3) **Plans** – Submit construction plans via Projectdox permitting portal. Plans must be prepared and digitally signed & sealed by a Florida Registered Professional Engineer.
4) **Survey** – Submit boundary survey via Projectdox permitting portal.
5) **Calculations** – Submit stormwater calculations as applicable to demonstrate conformance with Wellington Ordinance 2010-14. Calculations must be prepared and digitally signed and sealed by a Florida Registered Professional Engineer.
6) **Certified Cost Estimate** – Submit Certified Cost Estimate for all site work. Cost Estimate must be digitally signed and sealed by a professional engineer.
7) **Supplementary Information** – Submit all additional documents as prescribed in the code and this manual. If an item is not applicable, state in the submittal transmittal/cover letter why the item is not applicable.

7.5.2.2 Initial Sufficiency Review

Sufficiency review is completed by administrative staff to determine if the application contains enough information for the Inspectors and Engineers to review. Notification will be provided to the applicant when the application is deemed sufficient.

7.5.2.3 Initial Submittal Review

Once permit submittal is deemed complete, all applicable departments will review submittal concurrently. If the reviewers have comments, or additional information is requested, the applicant will receive an email notification to review comments & plan mark ups via Projectdox permitting portal.

7.5.2.4 Resubmittals

All resubmittals shall include a comment response letter. Resubmittals without comment response letters will be returned to applicant without review.

7.5.2.5 Legal Document Requirements

Legal documents shall be submitted through the Projectdox permitting portal at time of initial permit submittal for review/approval. Prior to permit issuance, original hard copies of all required legal documents must be submitted to the Engineering Department at 12300 Forest Hill Blvd, Wellington, FL 33414.

1) Restrictive Covenant
   a. Must be executed and notarized exactly how title is held
   b. Exhibit A - Sketch & Legal description
   c. Exhibit B & C - reduced size set of approved plans (letter size) that were approved through SFWMD Permit.
   d. Must be executed and notarized prior to Consent & Joinder (if applicable)
2) Opinion of Title Requirements
   a. Title Company/Attorney has reviewed title to the property as of (DATE)
   b. The current title holder of the property. Fee simple title to the property is vest in (LIST OWNER OF PROPERTY) by Deed recorded at (O.R. BOOK AND PAGE)
3) Consent & Joinder (If Applicable)
   a. Required for each Mortgagee (person/lending entity who holds liens/mortgages).
   b. Grantor(s) will be the title holder(s) name(s) exactly as it appears on the Opinion of Title.
   c. Mortgagee (person/lending entity who holds liens/mortgages) must execute under the Mortgagee signature block.
   d. Must be executed and notarized after Restrictive Covenant or Grant of Easement has been executed and notarized.
4) Grant of Easement
   a. Must be executed and notarized exactly how title is held.
   b. Exhibit A - Sketch & Legal description
   c. Must be executed and notarized prior to Consent & Joinder (if applicable)

7.5.2.6 Final Review

1) Applicant will be notified by Projectdox via email once permit has been approved
2) Applicant will receive an email from Projectdox to pay any required inspection fees. Fees will need to be paid prior to permit issuance.
3) This Engineering permit process does not replace other permit processes necessary to obtain a building permit or for receiving approval from other entities (i.e. approval from utility companies for utility easement approval or homeowner's association approval). Please contact other entities to insure their requirements are fulfilled.
4) This permit does not eliminate the necessity to obtain any required Federal, State, and Local authorizations prior to the start of any activity approved by this permit.

5) If you have questions regarding the Engineering permitting process and/or fees, please contact the Village of Wellington, Engineering Services Department at (561) 791-4000. Thank you.

APPENDIX A: SELECT ORDINANCES AND POLICIES

APPENDIX A.1: ORDINANCE 2010-14 – PERMIT CRITERIA AND BEST PRACTICES MANUAL FOR WORKS IN THE VILLAGE OF WELLINGTON

ORDINANCE NO. 2010-14

AN ORDINANCE OF WELLINGTON'S COUNCIL AMENDING ARTICLE 8 "SUBDIVISIONS, PLATTING, AND REQUIRED IMPROVEMENTS", CHAPTER 24 "STORM WATER MANAGEMENT OF WELLINGTON'S LAND DEVELOPMENT REGULATIONS BY ENACTING A NEW SECTION 8.24.9 "ADOPTION OF PERMIT CRITERIA AND BEST MANAGEMENT PRACTICES MANUAL FOR WORKS IN WELLINGTON", PROVIDING FOR THE ADOPTION BY RESOLUTION OF A MANUAL SETTING FORTH THE INFORMATION, PROCEDURES AND REQUIREMENTS TO OBTAIN PERMITS TO CONNECT, PLACE STRUCTURES ON OR ACROSS, OR MAKE USE OF LANDS OR FACILITIES OF THE DRAINAGE DISTRICTS WITHIN WELLINGTON, PROVIDING FOR ADMINISTRATION OF CONDITIONS OF APPROVAL FOR WATER MANAGEMENT SYSTEMS IN WELLINGTON; PROVIDING A CONFLICTS CLAUSE; PROVIDING A SAVINGS CLAUSE AND PROVIDE AN EFFECTIVE DATE.

SECTION 1: Article 8 "Subdivision, Platting, and Required Improvements" Chapter 24 "Stormwater Management" of Wellington Land Development Regulators is amended by enacting a new section 8.24.9 "Adoption of Permit Criteria and Best Management Practices Manual for Works in Wellington" to read as follows:

8.24.9 **Adoption of Permit Criteria and Best Management Practices Manual for Works in Wellington**

Land Development projects and associated increases in the previous coverage alter the hyrologic response of local water sheds and increase stormwater runoff from developed sites. Within Wellington three Chapter 298 drainage districts operate and have water management systems that are implemented by stormwater runoff. In order to provide for proper coordination with the districts and insure that all necessary information is obtained for the proper issuance of land development permits, permits to connect, place structures in or across or make use of lands and facilities of Wellington or any of the drainage districts servicing the lands and residents of Wellington a "Permit Criteria and Best Management Practices Manual for Works in Wellington" shall be adopted or amended by Resolution of the Council and administered by the Growth Management Department and Engineer.

SECTION 2: All Ordinance or part of Ordinance in conflict be and the same are hereby repealed.

SECTION 3: Should any section or provision of this Ordinance or any portion thereof, any paragraph, sentence or word be declared by a Court of competent jurisdiction to be invalid such decision shall not affect the validity of the remained of this Ordinance.

SECTION 4: Specific authority is hereby granted to codify this Ordinance.

SECTION 5: This Ordinance shall become effective immediately upon adoption of the Council of Wellington following second reading.

PASSED this 25th day of May, 2010, upon first reading.

PASSED AND ADOPTED this 8th day of June, 2010, on second and final reading.

VILLAGE OF WELLINGTON

	FOR	AGAINST
BY: _____ Darell Bowen, Mayor	✓	
_____ Matt Willhite, Vice Mayor	✓	
_____ Dr. Carmine A. Priore, Mayor pro tem	✓	
_____ Howard K. Coates, Jr., Councilman	✓	
_____ Anne Gerwig, Councilwoman	✓	

ATTEST:

BY: _____
Awilda Rodriguez, Clerk

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

BY: _____
Jeffrey S. Kurtz, Esq., Attorney

G:\Clients\Wellington, Village of\2010 Ordinances and Resolutions\LDR ordinance 4.21.10.doc

WELLINGTON

Permit Criteria and Best Management Practices Manual for Works in the Village of Wellington (VOW)

Revised April, 2010

09-21.2

Permit Criteria and Best Management Practices Manual

TABLE OF CONTENTS

Permit Criteria and Best Management Practices Manual For Works in the Village of Wellington (VOW)

September 2007 – First Version
Revised April 2010

I. INTRODUCTION

Land development projects and associated increases in impervious coverage alter the hydrologic response of local watersheds and increase stormwater runoff rates, volumes, flooding, and sediment transport and deposition. Stormwater runoff can be controlled and minimized through the regulation of stormwater runoff from development sites.

The purpose of this document is to set forth the information, procedures and requirements to obtain permits to connect, place structures in or across or make use of lands or facilities of the Village of Wellington (VOW), or conditions for approval of a water management system in the VOW.

There are three Chapter 298 F.S. drainage districts within the Village. In general, lands lying adjacent to and east of State Road 441 are located within Lake Worth Drainage District (LWDD). The central portion of the Village is located in Acme Improvement District (AID). Lastly, lands lying west of Flying Cow Road (generally) are located with Pine Tree Water Control District (PTWCD). The relationship of the Village boundary with these three drainage districts is shown on Exhibit 1. A separate permit approval will be needed from LWDD for any new or modified projects. Similarly, any new or modified project within PTWCD may require a separate approval from them. AID is a "dependent" district and Village staff act as staff for AID.

The VOW issues permits to authorize work within any rights-of-way or easements. All permit applications are reviewed by the VOW engineer. Environmental Resource Permits (ERP) are issued by the South Florida Water Management District (SFWMD) and must conform to the criteria set forth in the SFWMD's Basis of Review as well as the criteria contained in this manual.

1. PURPOSE

   A. To set forth the surface water management design criteria and Best Management Practices (BMP's) for proposed and redeveloped projects within the Village of Wellington (VOW) with the purpose of minimizing adverse impacts to existing development and to reduce the levels of phosphorus presently being discharged into the Everglades Protection Area (EPA), and

   B. To provide information, procedures and design guidelines/requirements in order to obtain approvals to connect, place structures in or across, or make use of lands or facilities of the VOW.

2. APPLICABILITY

These criteria shall be applicable to all subdivisions, site plan reviews and estate lots within the VOW, including any re-development or re-construction projects. Single family homes in a previously approved subdivision less that 0.25 acres in area are considered exempt from the surface water design requirements portions of this document as are rural equestrian lots with less than 20 percent lot fill, except for alterations to drainage features, but are still required to obtain approvals to use VOW lands or facilities.

If required by the South Florida Water Management District (SFWMD) applicants are also responsible for obtaining an Environmental Resource Permit (ERP) and possibly a Consumptive Use (water use) Permit from SFWMD. Applicants may also be required to obtain authorizations from state, federal and other local government agencies. It is agreed and understood by the Permittee that the granting of a permit by the VOW does not give a right, but only grants the Permittee a privilege which is subject to the control of the VOW. The Permittee must adhere to the General Permit Conditions stipulated in the permit.

In addition to the criteria and polices contained herewith, projects must also conform to the criteria set forth in section 8.24 of the Village of Wellington Land Development Code.

The VOW issues permits to authorize work within any rights-of-way or easements. All water control structures, culverts or other drainage related facilities shall be operated and maintained by the permittee unless specifically specified otherwise within the permit. All permit applications are reviewed by the VOW Engineer.

3. PROCEDURE, APPLICATION REQUIREMENTS, AND TYPES OF PERMITS

No land owner or land operator shall receive any building and/or construction authorizations without first demonstrating that the criteria contained in this Manual have been satisfied.

An executed VOW Public Works/Engineering Permit Application Form with Four (4) surveys and/or engineering plans showing the exact location of the proposed improvement and its relationship to all easements or right of ways along with the applicable application fee shall be submitted to the VOW.

In addition to building permits the VOW presently issues permits for excavation activities, fill activities, culvert connections and driveway crossings.

4. GENERAL CONDITIONS FOR PERMIT ISSUANCE

- To maintain any works or structures in a good and safe condition.
- To hold and save the V.O.W. and its successors harmless from any and all damages, claims or liabilities that may arise by reason of the construction, operation, maintenance or use of the work or structure involved in the permit.
- To allow inspection at any time by the VOW of any works or structure authorized for construction with this permit.
- To make any changes and repairs required by the VOW to insure the safe operation of the VOW water management facilities during storm events.
- To prevent the discharge of debris and/or aquatic weeds into the VOW works via the permitted facility.
- To maintain the water quality of all waters discharging into the VOW works.
- A target level for Phosphorus (P) in waters discharged from a site is 50 parts per billion (ppb).
- The Permittee will be responsible for maintaining the area between the structure and the edge of an adjacent lake, canal or roadway.
- The Permittee shall comply with the rules, regulations and standards of respective homeowner's association guidelines (if applicable) for the uniform protection of the landowners throughout the VOW.
- The permit may be revoked by the VOW giving notice in writing to the Permittee at any time because of failure of the Permittee to comply with the conditions of the permit.

II. STORMWATER MANAGEMENT CRITERIA

The existing Village BMP Ordinance applies to all lands within the Village. As such, the BMP's contained in this manual apply Village-wide. The specific water management criteria contained in this manual (see Section II) are applicable primarily to those lands lying within AID. The special water quality criteria contained in Section II, paragraph 2.3 applies to lands lying within Basin B only.

1. GENERAL CRITERIA

1.1 A water management plan is required for all developments, new or modified (Re-development).

1.2 The plan shall set forth at a minimum, conceptual and schematic representation of the proposed development and the stormwater management facilities by means of maps, graphs, charts, or other written or drawn documents. Drawings for a water management system and a drainage outfall connection will include a detailed paving and drainage plan.

1.3 The plan shall contain the following information:

- A location or vicinity map.
- Field delineated and surveyed canals, bodies of water, and wetlands (include a minimum of 100 feet into adjacent properties).
- Point (s) of discharge.
- Cross-section of the canal or water body starting with the top of bank. The discharge culvert shall be installed with a crown 1 foot below normal water level if the canal provides adequate depth.

1.4 All discharges to the VOW receiving canals shall be made through structural facilities. Earth berms shall be used only to disperse sheet flows from or to ditches, swales, etc. A direct culvert connection (without a water control structure) to a Village canal can be done if the required water quality treatment volume is provided between elevation 11 and 12 feet NGVD in Basin A; and elevation 12 and 13 feet NGVD in Basin B. For discharges indirectly to Village canals, adequate conveyance capacity in the receiving water must be demonstrated.

1.5 New or re-developed projects within Basin B shall provide for a 50 percent increase in water quality treatment volume over what is normally required in the SFWMD's Basis of Review based on proximity to the Water Conservation Area.

1.6 If a water control structure is required, a V-notch or orifice shall be incorporated in the structure to promote detention of the first flush of runoff (usually the first inch). The overflow weir should be established at the detention level.

1.7 Gravity control structures should be sized to bleed down one half of the detention volume in 24 hours.

1.8 The devices should incorporate dimensions no smaller than 6 square inches of cross sectional area, nor two inches minimum dimension.

1.9 The water control structure, if proposed, will incorporate a pollution retardant structure or baffle upstream of VOW canal or lake facilities. Provisions shall be made for the prevention of oil, grease and sediment in the stormwater discharges.

1.10 Water control structures, if proposed, must be equipped with a readable staff gage set to National Geodetic Vertical Datum (NGVD) and be visible to VOW personnel.

1.11 Water bodies shall meet the dimensional criteria for water quality as defined in the SFWMD "Basis of Review".

1.12 For underground exfiltration system used as part of the retention/detention requirements, the pipe diameter shall be 12" minimum, trench width 3 foot minimum. Rock in the trench must be fully enclosed in filter material. Perforated pipes must be wrapped around at the end of the pipes.

1.13 Dry detention/retention areas shall be regularly maintained to ensure proper functioning and shall have a bottom elevation no lower than 13 feet NGVD in Basin A and 14 feet NGVD in Basin B.

1.14 All commercial projects shall be required to provide at least one–half inch of dry detention or retention pre-treatment as part of the water quality treatment requirements.

1.15 Any offsite flows must pass through the system without a change in the discharge rate.

1.16 New projects within Basin B shall meet the lake area requirement and grading assumptions listed in Exhibit No. 3, *Design Criteria for Undeveloped or Redeveloped Areas within The Village of Wellington.* As an alternative, an applicant may provide calculations demonstrating that enough storage is provided in the new or modified development to meet or exceed the pre-development storage conditions for the 100-year flood plain elevation. These have previously been established at 0.11 Acre Feet per acre at elevation 16.0 feet NGVD and 0.86 Acre feet per acre at elevation 17.0 feet NGVD. Similar requirements are listed for Basin A on Exhibit 3. If minimum storage requirement is satisfied, then berming up to the 25-year flood level at the perimeter of the site is not required.

1.17 Flood Protection: Building floor elevations shall be above the calculated 100-year, 3-day zero discharge flood stage for the project, or elevation 17.5 feet NGVD in Basin A or elevation 17.0 feet NGVD in Basin B, whichever is higher. Refer also to Section 8.24D of the Land Development Code.

1.18 Ground Storage is considered for depressional soils as stated in the SFWMD "Basis of Review", current edition. Storage beneath impervious surfaces cannot be considered for design. A maximum 4 foot soil depth will be allowed for soil storage.

1.19 If dry detention areas are used for water quality purposes, the outfall shall consist of a raised inlet or catch basin (a minimum of 6 inches height) set at the detention level with optional underdrains connected to the catch basin in lieu of a bleeddown device.

1.20 Projects within an area of an existing SFWMD permit must meet the requirements of that permit.

1.21 Dry detention areas shall be designed such that the bottom of the dry detention area is a minimum of 1.0 foot above the wet season water table. Due to the operation schedule of the pump stations dry detention areas within Basin B should be designed assuming a wet season water table elevation of 13.0 feet NGVD (which is one foot above the permitted control elevation).

2. NEW DEVELOPMENTS

2.1 All new projects are required to contain, through use of berms (on roads with no cross drains), all runoff up to a 25-year 3-day storm event unless the storage criteria in Exhibit 3 is satisfied.

2.2 All new projects are required to be designed so that storm water discharged from the project site during to 10-year, 3-day storm event does not exceed a rate of 1 inch in 24 hours for basin A or 1.27 inches in 24 hours for Basin B unless the storage criteria in Exhibit 3 is satisfied.

All new developments within Basin B shall comply with the following site design standards in addition to the General Criteria above:

2.3 For new developments in the Acme Basin B, the final water quality volume requirements are to be increased by 50% over the normal SFWMD requirements. The SFWMD normal requirement is for the project's water control structure or pump must be designed to detain the first one inch of runoff or the runoff calculated by 2.5 inches times the percent of impervious area for wet detention systems, whichever is greater.

The following volume reductions for dry detention/retention apply:
Dry Detention: 75% of the requirements for wet detention
Dry Retention: 50% of the requirements for wet detention.

2.4 No less than 10% of the final water management lake area shall be constructed and maintained as a wetland filter marsh at and around the final outfall culvert or water control structure.

2.5 Lakes used for water quality treatment must be no less than 0.5 acres in size as measured at the control water elevation.

2.6 An eight-foot wide planted littoral shelf shall be constructed and maintained within all water management lakes. Credit for planted areas at the outfall can be used to reduce planted areas around the perimeter.

2.7 Mandatory berming shall be installed around the perimeter of the entire parcel or lot and shall be designed to ensure that all runoff is contained on site up to the 25-year storm event unless the storage criteria in Exhibit 3 is satisfied.

2.8 To prevent direct sheet flow runoff into the VOW water bodies, reverse/grade slope areas for all areas adjacent to VOW water bodies.

2.9 All on site catch basins shall include a sediment sump with a depth of 1 foot or greater.

2.10 The last catch basin prior to discharge into a water body or off-site shall include an internal baffle to trap oils and greases from discharge from the storm drainage system.

2.11 Pipe outfalls with raised inlets into water bodies (i.e. lakes, canals, and ditches) shall be utilized whenever practicable.

2.12 Each project must provide its prorated share of the overall basin storage to insure that flood plain encroachment will not occur. Exhibit 3 contains information on the amount of surface storage needed with Basin B to satisfy compensating storage in that Basin. If the minimum storage requirements are met, then perimeter berms are not required. In the event that a project cannot meet the minimum surface storage requirements contained in Exhibit 3, it may be considered for offsite storage mitigation within the basin.

2.13 Within AID, road crown elevations will be set no lower than 16.0 feet NGVD in Basin A and Basin B and at a minimum of 2 ft above control elevation.

2.14 For projects within PTWCD, minimum road elevation shall be 14.7 ft NGVD or 18 inches above existing grade, whichever is greater.. For projects within LWDD, minimum road elevations must be 2 feet above control elevation. Consult the SFWMD ERP permits for minimum road elevations in subdivisions.

3. MODIFICATIONS TO EXISTING DEVELOPMENTS.

All modifications to existing developments within VOW (or that affect more than 20% of an existing developed site) shall comply with the site design standards for new development. However, only the area directly affected by the proposed modification shall be subject to these site design standards.

All new or reconfigured lakes constructed within Basin A or B as part of a modification to existing development shall comply with the following:

3.1. A vegetated flow-through filter marsh shall be installed and maintained at the outfall location consisting of a minimum 10 percent of the lake area.

3.2. A sump shall be installed at the outfall and in new catch basins.

3.3. The perimeter berm (up to the 25 year flood event), if required, shall be graded with a reverse slope.

3.4. Floating vegetative matter shall be removed and properly disposed of on a semi-annual basis.

3.5. Discharge control structures must satisfy the criteria for Right-of-Way permits.

III. RIGHT-OF-WAYS PERMITS

The following Right-of-Way permit criteria applies to obtaining a permit from AID only.

1. GENERAL INFORMATION

1.1 Request for the Permit Application Form (exhibit 2) can be made in person, by letter, or by telephone directly to VOW Public Works Dept, 14000 Greenbriar Blvd, Wellington, FL 33414, Phone (561) 791-4003.

1.2 Be certain that the application is dated and signed by owner or designated officer, and include four (4) surveys and or engineering plans showing the exact location of the proposed improvement. Three (3) copies will be returned to Permittee.

1.3 No Right-of-Way (R/W) permits will be granted for any use of a AID works that will adversely affect such works; or interfere with or impose difficulties upon the AID operations, maintenance or construction activities; or degrades the quality of the AID waters.

1.4 No R/W permit will be granted for any use of the AID works if it is inconsistent with the water control plan of the AID.

1.5 Works is defined here to include (but not limited to) all water management facilities, lakes, canals, outfalls structures, outfall pipes, and exfiltration trenches, irrigation intakes, etc.

1.6 For activities within the AID Rights-of-Way or easements, the plan and cross section or elevation should clearly show the construction in its relationship to the canal or right-of–way. Certain elevations must be designated to facilitate processing of the application. These elevations are (in Ft. NGVD):

Canal bottom elevation
Water surface elevation
Ground elevation

1.7 The elevation of the low member of a bridge span must be shown. For overhead wire crossings and in the case of water or gas lines, low member elevation must also be indicated on the drawings.

2. CULVERT CONNECTIONS

The connection of pumps or ponds to the AID canals is usually accomplished by culverts. Culverts size, diameter and type vary with the requirements of each project. The diameter must be such that the purpose of the installation will adequately and properly serve under maximum conditions.

2.1 Culvert or pump connections to the AID facilities will be located to prevent any surface runoff from entering the canal connection downstream of the culvert or pump.

2.2 All such connections must provide adequate erosion protection and be accessible for proper maintenance, and indicated on plans.

2.3 The culvert crown shall be a minimum of 1 foot below normal water wherever possible. Installations made through or under AID levees shall be of approved design and shall have headwalls at each end.

2.4 Any installation above water shall include necessary erosion control measures, such as riprap or retaining walls. A headwall or slope paving will be required in all cases where the installation is in a sandy soil condition.

2.5 Should any connections prove inadequate to serve the needs of the installation with resulting washout or shoaling, the damages to the AID works will be repaired promptly by the Permittee at no cost to the AID.

3. RIGHT-OF-WAY GRADING

3.1 Grass, low plantings and the construction or removable fences are allowed within the AID Right-of-way, with the understanding that such improvements are made at the risk of the owner. In certain areas, individual homeowners may desire to regrade and existing canal bank (for reasons of aesthetics or else). Re-grading may be permissible with the following constraints:

A. 6 to 1 maximum slope on the maintenance side of a canal down to the water line and the right-of-way line.
B. 4 to 1 maximum slope on non-maintenance side of the canal.

3.2 The minimum design dimensions of the canal cannot be decreased.

3.3 The side slope must continue down two feet below the normal water elevation.

3.4 In areas where the AID canal is to be enlarged (for borrow material, etc.), a minimum of twelve (12) feet of water depth is required.

3.5 In areas where the canal bank slope is altered, the owner must acknowledge that during flood events canal waters may rise up and beyond the canal right-of-way line.

3.6 All trenches within the AID right-of ways shall be backfilled and compacted to a density of 100% as determined by AASHTO T-99.

4. DRAINAGE PUMP CONNECTIONS.

Since no permanent pumping stations are allowed on the AID rights-of-way, a culvert connection is the usual means by which a pump connection is made. The standards applicable to culvert connections are the criteria used in such installations.

The settling basin or forebay should also be located clear of the AID right-of-way.

5. UTILITY CROSSINGS

5.1 Overhead power and telephone line crossings must have a minimum vertical clearance of forty (40) feet between low wire elevation and elevation of the berm or natural ground, whichever is greater. When such installations cross AID levees, a minimum clearance of twenty five (25) feet between low wire elevation and top of the levee will be required.

5.2 When such construction is supported on pilings, the required clearance (both horizontal and vertical) for bridge crossings is in effect.

5.3 Underwater crossings of any nature, such as cables, water or gas lines, shall be laid to a predetermined depth and cross-sections that will provide for two (2) feet cover below the design bottom elevation. This depth and section will be furnished by the AID for each crossing. Should conditions warrant the laying of a cable on the bottom of a canal, such is done at the permittee's risk.

6. FENCES

Fencing on the AID rights-of-way that would prohibit continuous access is not allowed; however, fencing upon the right-of-way and parallel to it can be permitted.

7. IRRIGATION WITHDRAWAL FACILITIES

7.1 Installation of supply lines within the VOW right-of-way for withdrawal of water from the VOW canals and lakes for irrigation purposes may be authorized under permit. A permit from the Village of Wellington is required for pump connections 2" and greater. Village of Wellington Public Works Department must be notified of any pump connections under 2".

7.2 Supply lines shall be installed at a minimum elevation of 0.5 feet below the basin control elevation.

7.3 Permittees may be notified at any time that withdrawals must be curtailed immediately and shall not resume until further notification from the AID.

7.4 Water use permits must be obtained from the SFWMD.

7.5 The Permittee holds harmless the AID for damages caused as a result of the use of canal water for irrigation purposes. In addition the Permittee agrees to hold harmless the AID for any damage that occurs to the irrigation lines, fittings, pumps or other parts of the irrigation improvement which results from maintenance or excavation conducted by the AID within its R/W.

EXHIBIT 3

Design Criteria for Undeveloped or Redeveloped Areas located within The Village of Wellington

Acme Improvement District:	Basin A	Basin B
Minimum Road Elevation (Ft. NGVD):	16.0	16.0
Minimum Finish Floor Elevation (Ft. NGVD):	17.5	17.0

Site Grading; Linear from a low of 15.5 feet to a high of 19.0 feet for Basin B
Site Grading; Linear from a low of 15.5 feet to a high of 19.0 feet for Basin A
Water Quality volume stored
Basin A: SFWMD Requirements (between elevation 11 and 12 ft. NGVD).
Basin B: 50% in addition to SFWMD requirements (between elevation 12 and 13 ft. NGVD).

Required Lake Area (Measured at elevation 11.0 ft for Basin A and 12.0 ft for Basin B).	4%	13 %
Maximum Building Area:	40%	20 %
Maximum Impervious Area (including buildings):	85%	30%

If the above criteria is not satisfied, then the applicant has the option to provide calculations demonstrating that the storage provided is consistent with the original Basin A and Basin B calculations by showing that the following storage (acre-feet/acre) per acre is provided at the elevations of 16.0 feet NGVD (minimum road elevation), 17.5 and 17.0 feet NGVD (minimum finish floor elevation) for Basin A and Basin B respectively.

	Basin A	Basin B
Storage provided at Elevation 16.0 feet NGVD (acre-feet/acre)	0.40	0.11
Storage provided at Elevation 17.0 feet NGVD (acre-feet/acre)	-----	0.86
Storage provided at Elevation 17.5 feet NGVD (acre-feet/acre)	0.89	----

Pine Tree Water Control District (PTWCD):
Minimum Road Elevation (Feet NGVD): 14.7 feet NGVD or 18 inches above existing grade, whichever is greater.
Minimum Finish Floor Elevation (Feet NGVD): 18.0 feet NGVD or 18 inches above existing grade, whichever is greater.

Lot Grading: Linear from a low of 14.3 to 16.0 feet NGVD.
Building footprint per lot assumed at maximum of 4,000 square feet.
Required Lake Area (measured at elevation 12.0 feet): 12 % of site area at elevation 12.0 feet NGVD, or equivalent storage at the 3 year, 24 hour and 100 year, 72 hour peak flood stages of 14.7 feet and 16.0 feet NGVD, respectively.

Any deviation from above will require a permit modification from the South Florida Water Management District (Permit No. 50-00458-S).

Lake Worth Drainage District (LWDD):
Minimum Road Elevation: 2 feet above control elevation.
Minimum Finish Floor Elevation: 3.5 feet above control elevation
Consult the individual SFWMD ERP Permit issued for the subdivision.

APPENDIX A.2: ORDINANCE 2012-12; ENHANCED STANDARDS FOR BEST MANAGEMENT PRACTICES FOR LIVESTOCK WASTE

ORDINANCE 2012-12

AN ORDINANCE OF WELLINGTON, FLORIDA'S COUNCIL, AMENDING ARTICLE V, "STORMWATER QUALITY MANAGEMENT", OF CHAPTER 30 "ENVIRONMENT" OF WELLINGTON'S CODE OF ORDINANCES, TO PROVIDE ENHANCED STANDARDS FOR BEST MANAGEMENT PRACTICES FOR LIVESTOCK WASTE; PROVIDING DEFINITIONS, ENHANCING THE BEST MANAGEMENT PRACTICES PROGRAM FOR APPLICATION AND STORAGE OF FERTILIZER; PROVIDING FOR ENFORCEMENT; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Everglades ecological system is unique in the world and one of Florida's great treasures; and

WHEREAS, the Everglades ecological system not only contributes to South Florida's water supply, flood control, and recreation, but serves as the habitat for diverse species of wildlife and plant life; and

WHEREAS, the Everglades ecological system is endangered as a result of adverse changes in water quality and in the quantity, distribution, and timing of flows, and therefore, must be restored and protected; and

WHEREAS, the Florida Legislature has responded to adverse changes in water quality and in quantity, distribution, and timing of flows that endanger the Everglades ecological system by enacting the Everglades Forever Act; and

WHEREAS, the act authorized the Everglades Construction Project, which is by far the largest environmental cleanup and restoration program of this type ever undertaken; and

WHEREAS, the implementation of the Everglades Forever Act is critical to the conservation and protection of natural resources and improvement of water quality in the Everglades Protection Area and the Everglades Agricultural Area; and

WHEREAS, it has been determined that waters flowing into the Everglades Protection Area contain excessive levels of phosphorus and that a reduction in levels of phosphorus will benefit the ecology of the Everglades Protection Area, which includes the Arthur R. Marshall Loxahatchee National Wildlife Refuge; and

WHEREAS, Wellington is a municipal corporation located adjacent to the Arthur R. Marshall Loxahatchee National Wildlife Refuge; and

3-7-13 Version
PM Mike O'Dell

WHEREAS, Wellington discharges it's stormwater into the C-51 canal. Stormwater is then typically routed through the Stormwater Treatment Area 1 East (STA 1E), and then into the Arthur R. Marshall Loxahatchee National Wildlife Refuge, which ultimately discharges into the Everglades Protection Area; and

WHEREAS, the State of Florida and Palm Beach County have promulgated recommendations/regulation providing Best Management Practices for application and use of fertilizer; and

WHEREAS, it is the intent of Wellington to pursue comprehensive, aggressive, and innovative solutions to issues of water quality which face the Everglades ecosystem; and

WHEREAS, "Best Management Practices" for livestock waste and fertilizer management are among the best available technology for achieving the interim water quality goals of the Everglades Program and a reasonable method of achieving interim total phosphorus discharge reductions; and

WHEREAS, Wellington entered into a Joint Cooperation Agreement with the South Florida Water Management District on September 26, 2000 pursuant to which Wellington adopted and implemented regulatory measures aimed at lowering phosphorous discharge; and

WHEREAS, those regulatory measures as implemented achieved significant total phosphorus discharge reductions; and

WHEREAS, the previously adopted measures have had an effect on lowering the levels of phosphorous discharge; and

WHEREAS, further measures are needed to continue to reduce the level of phosphorous discharge; and

WHEREAS, Wellington and South Florida Water Management District did enter into a Memorandum of Understanding on or about June 30, 2003 relating to improvement of water resource management facilities in the Basin B area of Wellington; and

WHEREAS, Wellington and South Florida Water Management District did enter into a Cooperative/Cost Share Agreement on or about September 11, 2003, for the implementation of Best Management Practices for livestock waste and fertilizer management to establish improved water resource management facilities in the Basin B area; and

WHEREAS, Wellington and South Florida Water Management District enter into Memorandum of Understanding No. CP040318 on or about February 10, 2004, concerning the funding of the Acme Basin B Discharge Project; and

WHEREAS, pursuant to the agreements and memorandums of understanding with South Florida Water Management District, it is necessary and advantageous to Wellington to implement a revised third phase of Best Management Practices livestock waste and fertilizer management with enhanced regulations to further the goals of reducing phosphorous levels entering the Everglades; and

WHEREAS, Wellington is engaged in the long-range planning for the equestrian community and is requiring the quantification of horse waste for the purpose of determining environmental impacts to Wellington and the surrounding region; and

WHEREAS, Wellington proposes to monitor the amount of horse waste for a period of 5 years by requiring commercial and self-hauling reports.

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF WELLINGTON, FLORIDA, THAT:

SECTION 1: Section 30-150, "Definitions" of Article V, "Stormwater Quality Management", of Chapter 30, "Environment" of Wellington's Code of Ordinances is hereby amended as follows:

Section 30-150. - Definitions

The following words, terms, and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context indicates a different meaning:

(a) *Application or Apply*: the actual physical deposition of fertilizer to turf or landscape plants in Wellington.

(b) *Applicator*: any person who applies fertilizer on turf and/or landscape plants in Wellington.

(c) Approved Disposal Site: a real property in which a state or county registration or permit has been issued for the disposal and/or processing of livestock waste, as amended from time to time, and/or a plot of land that is conducting bona fide agricultural activities in accordance with Section 193.461,Florida Statutes(F.S).

(d) *Approved Test:* a soil test and livestock waste test from a governmental entity or commercial licensed laboratory that regularly performs soil testing and recommendations.

~~(a) *Basin A:* Area north of Pierson Road, however includes Village of Wellington Wastewater Treatment Facility and Village Park property and the areas east of the C-8 Canal north of and including Versailles within the Acme Improvement District. (~~

~~b) *Basin B:* The area south of Pierson Road, excluding Basin A.~~

~~(c)~~(e) *Best Management Practices* or *"BMP":* A practice, or combination of practices, based on research, field-testing, and expert review to be the most effective and practicable, including economic and technological considerations and means of achieving a desired result such as improving water quality in discharges to an acceptable level.

~~(d)~~(f) *Best Management Practices Livestock Waste (Fertilization) Management Plan (BMPLW(F)MP):* A comprehensive waste management plan covering all aspects of managing livestock manure, urine, and bedding waste and/or all aspects of managing fertilizer storage and application developed to prevent the uncontrolled release of pollutants from these wastes.

(g) *Code Compliance Officer:* any designated employee or contractor of Wellington whose duty is to enforce codes and ordinances enacted by Wellington.

(h) *Commercial Fertilizer Applicator* (except as provided in section 482.1562(9), F.S.,): any person or entity who applies fertilizer for payment or other consideration to property.

~~(e)~~(i) *Commercial Livestock Waste Hauler.* person(s), firm(s), corporation(s), or other legal entity(ies) permitted by ~~the village~~ Wellington to provide livestock waste removal services for a fee within ~~the village~~ Wellington in accordance with terms and conditions established by this article.

~~(f)~~(j) *Common Livestock Waste Storage Area:* a livestock waste storage area established for the temporary storage of livestock waste from off-site livestock ~~boarding~~ facilities.

~~(g)~~k) *Composting:* the process by which biological decomposition of organic solid waste is carried out under controlled aerobic conditions, and which stabilizes the organic fraction into a material which can easily and safely be stored, handled, and used in an environmentally acceptable manner for a period of 30 to 90 days.

(l) Cover: the placement of a lid, roof or protective covering (tarp like) over a livestock waste storage area so as to shield the livestock waste from rain / stormwater intake.

~~(h)~~(m) District: The South Florida Water Management District.

~~(a)~~(n) *Drainage Basin A:* a topographic region in which all water drains to a common area. ~~Wellington was divided into two basins, A & B. Basin A was the Area north of Pierson Road, however including Village of Wellington Wastewater Treatment Facility, and Village Park property, and the areas north and east of the C-8 Canal north of and including Versailles, all within the Acme Improvement District. (b) *Basin B:* Was noted as an The area south of Pierson~~

~~Road and, excluding all of Basin A as described herein. These two~~

~~(i)~~(o) *Everglades Protection Area:* water conservation areas 2A, 2B, 3A, and 3B, the Arthur R. Marshall Loxahatchee National Wildlife Refuge (Water Conservation Area 1), and the Everglades National Park.

(p) *Drainage Conveyance Systems*: canals, detention/retention areas, grass swales, underground piping, drainage inlets, junction boxes, manholes are all components that store, collect, and convey rain/surface waters. Specifically above ground ports of entry or near surface components that store or collect rain/surface waters are herein referred to as drainage conveyance systems.

(q) *Fertilizing or Fertilization*: the act of applying fertilizer to turf, specialized turf, or plants.

(r) *Fertilizer*: any substance or mixture of substances that contains one or more recognized plant nutrients and promotes plant growth, or controls soil acidity or alkalinity, or provides other soil enrichment, or provides other corrective measures to the soil.

(s) *Institutional Applicator*: any person other than a private, non-commercial or commercial applicator (unless such definitions also apply under the circumstances), that applies fertilizer for the purpose of maintaining turf and/or landscape plants. Institutional applicators shall include, but shall not be limited to, owners, managers, or employees of public lands, schools, parks, religious institutions, utilities, industrial or business sites and any residential properties maintained in condominium and/or common ownership.

~~(j)~~(t) *Livestock:* all animals of the equine, bovine, or swine class.

~~(k)~~(u)*Livestock facility:* property under single ownership or control where livestock ~~are~~ is raised and or boarded.

~~(l)~~(v) *Livestock Waste:* ~~A solid~~ wastes composed of excreta of animals and residual materials that have been used for bedding, sanitary, or feeding purposes for such animals. For purposes of this article, livestock waste that has been properly ~~composed~~ composted shall not be considered livestock waste.

~~(m)~~(w) *Livestock Waste Self-Hauler:* Property owner ~~and/~~or authorized representative registered with ~~the village~~ Wellington to provide livestock waste removal services from their own property in accordance with the terms and conditions established by this article.

~~(n)~~(x) *Livestock Waste Storage Area:* an area constructed of impermeable material such as concrete or asphalt; ~~or an area containing~~ with an impermeable cover; or a mechanical storage container that can be sealed, lifted, and transported.

~~(o)~~(y) *Manure Test*: an analysis of livestock waste by a qualified laboratory to determine the nutrient value and make up the owner's livestock, specifically the phosphorus content.

~~(p)~~(z) *Monitoring Wells:* strategically located wells from which water samples are drawn for water quality analysis or measurement of ground water levels.

~~(q)~~(aa) *Paddock:* a fenced grassed area of ¼ acre or less used primarily for exercise and secondarily for feeding of livestock.

(bb) *Pasture:* a fenced, grassed area of approximately more than ¼ acre used primarily for exercise and secondarily for feeding of livestock.

(cc) *Prohibited Application Period:* the time period during which a Flood Watch or Warning, a Tropical Storm Watch or Warning, or a Hurricane Watch or Warning is in effect for any portion of Palm Beach County, issued by the National Weather Service, or if heavy rain (2 inches or more within a 24 hour period is likely).

(dd) *Saturated Soil*: a soil in which the voids are filled with water. Saturation soil does not require flow. For the purposes of this Ordinance, soils shall be considered saturated if standing water is present or the pressure of a person standing on the soil causes the release of free water.

~~(r)~~(ee) S*low Release, controlled release, timed release, slowly-available, or insoluble nitrogen*: nitrogen in a form which delays its availability for plant uptake and use after application or which extends its availability to the plant longer than a reference rapid of quick release product.

~~(s)(t)~~(ff) *Soil Test:* an analysis of a site soil sample by a qualified laboratory to determine fertilizer needs of the site, specifically phosphorus needs of the plants grown on the site.

(gg) *Spreading:* refers to the human or mechanical means to distribute livestock waste or compost. Animal waste on pasture lands shall not be considered spreading of livestock waste. ~~Spreading of unprocessed livestock waste shall not be allowed~~.

(hh) *Stormwater Treatment Areas* ~~or~~ *-"STAs":* those water quality treatment and water storage areas know as Stormwater Treatment Area 1 East (STA 1E) as described and depicted in the district's conceptual design document of February 15, 1994, and any modifications thereto.

(ii) *Turf, Sod, or Lawn*: an area of grass-covered soil held together by the roots of the grass.

(jj) *Urban Landscape*: pervious areas on residential, commercial, industrial, institutional, highway rights-of-way, or other nonagricultural lands that are planted with turf or horticultural plants. For the purposes of this section,

agriculture has the same meaning as provided in Section 570.02 of the Florida Statutes.

SECTION 2: Section 30-151 "Purpose" of Article V, "Stormwater Quality Management", of Chapter 30, "Environment" of Wellington's Code of Ordinances is hereby amended as follows:

Section 30-151. - Purpose

The purpose of these Best Management Practices (BMPs) for livestock waste and fertilizer management is to comply with Policy 1.2.1~~2~~1 and 13 of the Conservation Element ~~of the Village~~ Wellington's Comprehensive Plan and to comply with the conditions of the Joint Cooperation Agreement between ~~the village~~ Wellington and the South Florida Water Management District which requires ~~the village~~ Wellington to implement a compliance-based pollution prevention program designed to reduce nutrient discharges, specifically phosphorus, from its surface water system into the Everglades Protection Area. ~~The village~~ Wellington is therefore implementing a ~~best management practices (~~BMPs~~)~~ program designed to reduce, abate, and prevent, directly and indirectly, phosphorus discharges to the surface water system within ~~the Village of~~ Wellington.

SECTION 3: Section 30-152 "Applicability" of Article V, "Stormwater Quality Management", of Chapter 30, "Environment" of Wellington's Code of Ordinances is hereby amended as follows:

Sec. 30-152. - Applicability.

These standards shall apply to all property within the boundaries of the Village of Wellington.

SECTION 4: Section 30-153 "Best Management Practices for Livestock Waste" of Article V, "Stormwater Quality Management", of Chapter 30, "Environment" of Wellington's Code of Ordinances is hereby amended as follows:

Sec. 30-153. - Best management practices for livestock waste.

Livestock waste shall be placed, or stored in a livestock waste storage area or water tight container such as a roll-off or dumpster ~~container~~ which is associated with a permit issued by the Village of Wellington. Livestock waste shall not be placed, accepted, stored, or allowed to accumulate on any property in Wellington ~~the village~~, except as provided herein.

(a) *Management of Livestock Waste.*

(1) Each livestock facility shall provide a storage area for livestock waste.

(2) Livestock waste shall be placed, or stored in a livestock waste storage area that meets the following requirements:

a. As of June 24, 2013, all new or reconstructed livestock waste storage area shall be constructed with an impermeable floor with sidewalls constructed of concrete block, concrete or molded resin based plastic~~, or other approved impermeable material,~~ on three sides. The storage area shall be designed and constructed to be water-tight with a cover which will not allow storm water discharge. The ~~impermeable~~ floor shall be impermeable and have a curb or rolled lip of asphalt or concrete not less than one inch in height or a slab pitched downward toward the rear wall of the storage area. (Minimum fall from front to rear of two inches)~~.~~; and

b. The livestock waste storage area shall be elevated to a minimum of six inches above the crown of road/access easement; or 12 inches below the residential finish floor whichever is greater; ~~or~~ and

c. A building "permit" or a zoning compliance determination shall be obtained from the Village of Wellington ~~planning, zoning and building department~~ prior to constructing or altering a livestock waste storage area within ~~village~~ Wellington boundaries; ~~or~~ and

d. The determination of the size of the livestock waste storage area is the responsibility of the property owner based upon the number of horses or livestock on the property and their daily generation of manure, urine and bedding material as well as intended frequency of removal for disposal. At no time shall livestock waste be allowed to accumulate beyond the threshold of the livestock waste storage area, ~~outside of the confine of the livestock waste storage area; or~~ and

e. Roll-off and dumpster containers may be used as livestock waste storage areas subject to the following requirements:

i. Roll-off and dumpster containers used as livestock waste storage areas shall be placed on a concrete or asphalt pad with at least a two inch curb around the entire storage area; and

ii. Roll-off and dumpster containers used as livestock waste storage areas shall meet the same elevation requirements as in [(2) b].

iii. Roll-off and dumpster containers must be water tight at all times.

(3) ~~Those facilities~~ All equestrian facilities shall ~~with improperly stored~~ livestock waste and ~~in existence as of September 26, 2000,~~ shall have livestock waste removed from the facility as provided in this section.

(b) *Location of Waste Storage Facilities.*

(1) Livestock waste storage and roll-off and dumpster containers shall be located:

a. At least five feet away from any adjacent structure roof overhang;

b. At least 50 feet away from any ~~(public)~~ grassed drainage swale ~~conveyance or drainage inlet~~;

c. At least 100 feet away from any drainage port of entry, body of water, public or private storm drainage conveyance system which has direct discharge into any body of water ~~not separated from the public conveyance)~~;

d. At least ~~150~~ 100 feet away from a potable water supply well.

e. Within reasonable proximity to the stable/ barn structure and in accordance with the minimum accessory use set back requirements.

(2) Extenuating circumstances; if compliance with the setback regulations is not possible because of properties unusual circumstances, the property owner may submit an alternate method of compliance. Mitigation measures such as berms, grading changes or secondary containment systems can be considered in addressing unique and unusual circumstances. If alternative measures are approved they must be installed and maintained in accordance with the approved specifications. Any alternate method of compliance must;

a. Meet the intent of these provisions,

b. Demonstrate the ability to mitigate water quality impacts

c. Provide a secondary method of containment and

d. Be supported by an engineering study.

~~Compliance with the setback shall be determined by the village planning, zoning and building department~~.

(c) *Livestock Waste Storage Area Maintenance.*

(1) The removal and transportation of livestock waste on commercial and private properties within ~~village~~ Wellington boundaries shall be done exclusively by either a registered commercial livestock waste hauler or a registered livestock waste self-hauler.

~~(2) The commercial livestock waste hauler and livestock waste self-hauler shall be registered, as required to register with the village Wellington (environmental engineering/public works department).~~

(2~~3~~)Livestock waste shall be confined within the waste storage structure.

(34)Livestock waste storage area(s) shall be continuously maintained so that no stormwater runoff ~~rainfall~~ or any types of liquids/materials are

3-7-13 Version
PM Mike O'Dell

allowed to be released.

(45)All livestock waste storage areas, containers and pads shall be ~~checked and~~ inspected by a ~~BMP~~ Code Compliance Officer or Building Inspector annually for cracks, crevices, ~~and~~ holes, and other damages. Repair shall be made as warranted to prevent spillage or discharge. ~~done in a timely manner. Inspections will be done by a BMP Code Compliance Officer or Building Inspector~~.

~~(6) Roll-off and dumpster containers that are used for storage of livestock waste shall be checked annually for cracks, crevices, holes and/or leaks. Any containers with holes, broken welds or improperly fitting lids shall be repaired or replaced immediately.~~

~~(7) Concrete and asphalt pads used for storing roll-off and dumpster containers which store livestock waste shall be inspected annually for cracks, crevices, holes and/or leaks to prevent soil contamination. The two inch curb and/or rolled lip around the storage area shall be inspected annually. Inspections will be done by a BMP code compliance officer.~~

(ed) ~~*Composting*~~ *Disposal of Livestock Waste*

The disposal of livestock waste within Wellington must be accomplished by composting the waste, implementing a nutrient management program, or by hauling the waste off-site to an approved disposal site.

(1) Composting of livestock waste is permitted under the following conditions within ~~shall be prohibited within the village~~ Wellington's boundaries, ~~except as provided herein~~:

a. Large Scale Composting: Where the composter has received a ~~an approved~~ permit from the Florida Department of Environmental Protection (DEP) pursuant to F.S. § 403.707, and in accordance with ~~Rule~~ Chapter 62-709, Florida Administrative Code. The approved DEP Form ~~#62-701.900(10)~~ shall be submitted to ~~the village~~ Wellington ~~environmental services coordinator~~. A copy of any and all annual reports required to be filed with DEP shall be filed with Wellington annually.

b. Small Scale Composting: Where the composter proposes to spread compost within their property and is not required to obtain a permit from the DEP pursuant to F.S. § 403.707, and in accordance with Chapter 62-709, Florida Administrative Code, the composter shall prepare and submit a permit application to Wellington's Engineer as described in this section. This application entitled: Registration and Annual Reporting for Composting shall be completed and reviewed based on the following standards.

i. Property Information:

a) The number of horses kept within the owner's properties.

b) The amount of livestock waste being generated monthly.

c) The amount of compost being generated monthly.

d) Provide an application with a site plan denoting area calculation of net available lands where compost will be spread along with the type of vegetation within the landscape areas, pastures, etc.

e) Setbacks from wells, drainage inlets and water bodies as referenced in Section 30-153 (b) 1.

f) Soil and compost test sample reports shall be submitted (UF-IFAS soil testing laboratories) detailing the nutrient value of the composted waste and the nutrient uptake of the soil and vegetation. This report shall specify the animal units (horses) per acre which the properties vegetation can sustenance.

ii. Site plan of property to include:

a) A description of all structures located on property including proposed size, location, use and setbacks (Section 6.10.6 -Development standards, (A) - minimum setbacks).

b) Composting pad location and construction materials.

c) Livestock waste storage facility location and construction materials section 30-153 (a) 2a.

iii. Narrative to include: (see Composting Frequently Asked Questions)

a) A brief description of how the compost will be used.

b) A description of how odor and vectors will be controlled.

c) A description of how stormwater intrusion will be controlled and the type of cover to be provided in the storage structure.

d) The operating parameters to be followed for managing the process.

e) A description of how the facility will be closed.

iv. Application:

a) Completed Application for Registration and Annual Composting.

b) $25.00 non-refundable application fee made payable to Wellington.

c) Completed Annual Report for a Solid Waste Management Facility Producing Compost Made from Solid Waste (Part C).

v. ~~*Stable waste*~~ *Compost Spreading Plan*

a) The spreading of livestock waste shall be prohibited within ~~the village~~ Wellington's boundaries, except as provided herein:

(1) ~~A Village of Wellington~~ The property owner must prepare a Best Management Practice Livestock Waste Management Plan (BMPLWMP) ~~shall be prepared~~ in accordance with ~~village~~ Wellington requirements and submitted to ~~the village~~ Wellington's Engineer or designee, who will coordinate with all other departments ~~environmental services coordinator~~ for review and approval. Spreading of composted livestock waste is prohibited without an approved plan. All existing spreading plans shall be required to submit a new BMPLWMP by October 1, 2014 and all BMPLWMP's shall be subject to an annual renewal at which time the property owner shall submit to Wellington an annual report on spreading activates.

(2) Livestock waste shall be composted before any spreading occurs.

~~(3) Best management practices program livestock waste management plans are available at the public works department.~~

(4) Best Management Practices ~~program~~ Livestock Waste Management Plans applications, which ~~that~~ have been approved by ~~the village~~ Wellington, shall be ~~inspected by the environmental services coordinator~~ reviewed annually to ensure practices are being followed as originally submitted and in

3-7-13 Version
PM Mike O'Dell

accordance with the annual report.

(2) Nutrient Management Plan; A landowner may be considered exempt from composting livestock waste if a Nutrient Management plan is submitted to Wellington and approved. Annually the landowner shall submit a Nutrient Management plan to the Village Engineer for review and approval, based on the following standards:

a. Property Information:

i. The number of horses kept within the owner's properties.

ii. The amount of livestock waste being generated monthly.

iii. Provide an application with a site plan denoting area calculation of net available lands where livestock waste will be spread along with the type of vegetation within the landscape areas, pastures, etc.

iv. Setbacks from wells, drainage inlets and water bodies as referenced in Section 30-153 (b) 1.

v. Soil and manure test sample reports shall be submitted (UF-IFAS soil testing laboratories) detailing the nutrient value of the livestock waste and the nutrient uptake of the soil and vegetation. This report shall specify the animal units (horses) per acre which the properties vegetation can sustenance. Permit shall remain valid so long as testing meets the applicable state standard.

(3) *Livestock Waste Hauling.*

a. All commercial livestock waste haulers and/or livestock waste self-haulers shall be permitted ~~or~~ and registered, as required, annually ~~by the village~~ by Wellington ~~environmental engineering department~~.

b. Livestock waste may be moved from one livestock facility to another in ~~the village~~ Wellington only for~~:~~ .

i. The purpose of composting in an approved composting area; or

ii. Storage in a common livestock waste storage area for removal in bulk.

c. All livestock facilities within ~~the village~~ Wellington boundaries shall remove livestock waste by either a commercial livestock waste hauler or a livestock waste self-hauler that is registered by ~~the village~~ Wellington.

d. Disposal of livestock waste must be within an approved disposal site

which is registered to operate under Florida Administrative Code Chapter 62-709.320, additionally the disposal facility must provide copies of all current valid permits annually to Wellington and must agree to periodic audits and provide copies of all load tickets to Wellington which were obtained from the haulers.

e. Commercial livestock waste haulers will pay a permit fee to the Village of Wellington as may be adjusted from time to time. Livestock waste self-haulers will not pay a fee.

f. Commercial livestock waste haulers and livestock waste self-haulers permits and registrations shall be subject to revocation for failure to abide by the terms of this article. ~~and the provisions set forth in Florida Administrative Code Chapter 62-709.320~~

g. Hauling reports shall be provided by commercial livestock waste haulers and livestock self-haulers to Wellington quarterly. Hauling records shall identify the waste source, quantity in cubic yards, and the waste disposal site with quantity deposited in cubic yards within an approved site. Hauling records shall include signed load tickets or affidavits certifying the loads from both the source and disposal site owners. Failure to provide quarterly hauling records may result in the loss of the haulers permit in Wellington. Wellington reserves the right to audit the hauling record and load tickets from the generating properties and disposal sites which have been approved as a disposal site as defined herein.

SECTION 5 Section 30-154 "Best Management Practices for the Application and Storage of Fertilizer" of Article V, "Stormwater Quality Management", of Chapter 30, "Environment" of Wellington's Code of Ordinances is hereby amended as follows:

Sec. 30-154. - Best management practices for the application and storage of fertilizer.

(a) All fertilizers shall be stored in a dry storage area protected from rainfall and ponding.

(b) No fertilizer containing in excess of two percent phosphate/phosphorus (P^2O^5) per guaranteed analysis label (as defined by F.S. Ch. 576) shall be applied to turf grass, pastures, paddocks, or used in nurseries unless justified by a soil test.

(c) Fertilizer containing in excess of two percent phosphate/phosphorus (P^2O^5) per guaranteed analysis label shall not be applied within ten (10) ~~five~~ feet of the edge of water or within ten (10) ~~five~~ feet of a drainage facility.

(d) All fertilizer shall be applied such that spreading of fertilizer on all impervious surfaces is minimized.

(e) Liquid fertilizers containing in excess of two (2) percent phosphate/phosphorus (P^2O^5) per guaranteed analysis label shall not be applied through an irrigation system within ten (10) feet of the edge of water or within ten (10) feet of a drainage facility.

(f) Liquid fertilizers containing in excess of two percent phosphate/phosphorus (P^2O^5) per guaranteed analysis label shall not be applied through high or medium mist application or directed spray application within ten (10) feet of the edge of water or within ten (10) feet of a drainage facility.

(g) ~~The village~~ Wellington shall establish a public education program that is focused on the following: proper irrigation of landscaped areas; application rates of fertilizer; appropriate types of fertilizer for different plants; and proper use of organic fertilizers and soil amendments.

(h) Timing of fertilizer applications.

(1) No applicator shall apply fertilizers containing nitrogen and/or phosphorus to turf and/or landscape during the prohibited application period and within the fertilizer free zones as identified in Section 30-154(i) (1) below or to saturated soils.

(2) Fertilizer containing nitrogen and/or phosphorus shall not be applied before seeding or sodding a site, and shall not be applied for the first thirty (30) days after seeding or sodding, except when hydro-seeding for temporary or permanent erosion control in an emergency situation (wildlife, etc.), or in accordance with the Stormwater Pollution Plan for that site.

(i) Fertilizer free zones.

(1) Fertilizer shall not be applied within ten (10) feet of any pond, stream, lake, canal, water body or wetland as defined by the Florida Department of Environmental Protection (Chapter 62-340), Florida Administrative Code or from the top of a headwall or lake bulkhead. Newly planted turf or landscape plants may be fertilized in its zone only for a sixty (60) day period beginning no sooner than thirty (30) days after planting if needed to allow the plants to become well established. Caution shall be used to prevent direct deposition of nutrients into the water.

(j) Fertilizer content and application rates.

(1) Fertilizers applied to turf within Wellington shall be formulated and applied in accordance with requirements and directions provided by Rule 5E-1.003(2), Florida Administrative Code, Labeling Requirements for Urban Turf Fertilizers. Under Rule 5E-1.003(2), Florida Administrative Code, required application rate and frequency maximums, which vary by plant and turf types, are found on the labeled fertilizer bag or container.

(2) Unless a soil or tissue deficiency has been verified by an approved test, nitrogen or phosphorus fertilizer shall not be applied to turf or landscape plants except as provided in section (1) above for turf, or in UF/IFAS recommendations for landscape plants, vegetable gardens, and fruit trees and shrubs.

(3) Fertilizer used for sports turf at golf courses shall be applied in accordance with the recommendations in "Best Management Practice for the Enhancement of Environmental Quality of Florida Golf Courses", published by the Florida Department of Environmental Protection, dated January 2007. Fertilizer used at parks or athletic fields shall be applied in accordance with Rule 5E-1.003(2), Florida Administrative Code.

(k) Fertilizer Application Practices.

(1) Spreader deflector shields shall be used when fertilizing via rotary (broadcast) spreaders. Deflectors must be positioned such that fertilizer granules are deflected away from all impervious surfaces, fertilizer-free zones and water bodies, including wetlands. Any fertilizer applied, spilled, or deposited, either intentionally or accidentally, on any impervious surface shall be immediately and completely removed to the greatest extent practicable.

(2) Fertilizer released on an impervious surface must be immediately contained and either legally applied to turf or any other legal site, or returned to the original or other appropriate container

(3) In no case shall fertilizer be washed, swept, or blown off impervious surfaces into stormwater drains, ditches, conveyances, or water bodies. Property owners and managers are encouraged to use an Integrated Pest Management (IPM) strategy as currently recommended by the University of Florida Cooperative Extension Service publications.

(l) Management of grass clippings, vegetative matter.

(1) In no case shall grass clippings, vegetative material and/or vegetative debris intentionally be washed , swept, or blown on to or into storm water drains, ditches, conveyances, water bodies, wetlands, sidewalks or roadways. Any material that is inadvertently deposited shall be immediately removed to the maximum extent practicable.

(m) Training

(1) All Commercial and Institutional Applicators of Fertilizer within Wellington shall abide by and successfully complete the six hour training program in the "Florida-Friendly Best Management Practices for Protection of Water Resources by the Green Industries" offered by the Florida Department of Environmental Protection through the University of Florida/Palm Beach County Cooperative Extension Service "Florida Friendly Landscapes"

program or approved equivalent program.

(2) Non-commercial and non-institutional applicators not otherwise required to be certified, such as private citizens on their own residential property, are encouraged to follow the recommendations of the University of Florida/IFAS "Florida Friendly Landscape Program" and label instructions when applying fertilizer.

(n) Licensing of commercial applicators.

(1) All businesses applying fertilizer to turf of landscape plants (including, but not limited to, residential lawns, golf courses, commercial properties, multi-family, equestrian and condominium properties) must ensure that the business owner or his/her designee holds the appropriate "Florida-Friendly Best Management Practices for Protection of Water Resources by the Green Industries" training certificate prior to the business owner obtaining a Local Business Tax Certificate or landscape registration. Owners for any category of occupation which may apply any fertilizer to Turf and/or Landscape Plants shall provide proof of completion of the program to the Wellington. It is the responsibility of the business owner to maintain the "Florida-Friendly Best Management Practices for Protection of Water Resources by the Green Industries" certificate to receive their Business Tax Receipt or landscape registration annually.

(2) After December 31, 2013, all commercial applicators of fertilizer within Wellington, shall have and carry in their possession at all times when applying fertilizer, evidence of certification by the Florida Department of Agriculture and Consumer Services as a Commercial Fertilizer Applicator per Rule 5E-14.117(18) Florida Administrative Code.

(3) All businesses applying fertilizer to turf and/or landscape plants (including, but not limited to, residential lawns, golf courses, commercial properties multi-family, equestrian and condominium properties) must ensure that at least one (1) employee has an appropriate "Florida-friendly Best Management Practices for Protection of Water Resources by the Green Industries" training certificate prior to the business owner obtaining a Business Tax Receipt or landscape registration. Standard Business Tax Receipt (BTR) or landscape registration and transaction fees shall apply.

SECTION 6 Section 30-155 "Commercial Fertilizer Applicators" of Article V, "Stormwater Quality Management", of Chapter 30, "Environment" of Wellington's Code of Ordinances is hereby amended as follows:

Sec. 30-155. - Commercial fertilizer applicators.

~~(a) Any person, firm, corporation, or other legal entity which provides~~

~~fertilization services for a fee~~ with a physical address ~~within the village Wellington shall register with the village Wellington on the registration forms provided by the village.~~

(a)~~(b)~~Any person, firm, corporation, or other legal entity which provides fertilization services for a fee within the village of Wellington shall pay such an annual registration fee as may be adjusted from time to time. This registration fee may, from time to time, be adjusted by resolution of ~~the village~~ Wellington ~~c~~Council.

(b)~~(c)~~ Commercial fertilizer registrations shall be subject to revocation for failure to abide by the terms and conditions established in this and other regulations of ~~the village~~ Wellington.

Sec. 30-156. - Enforcement.

Any owner, owner's representative, tenant or person violating any provision of this part may be subject to enforcement as provided in Chapter 2 Article IV, Division 1 and 2 of the Wellington Codes of Ordinances.

SECTION 7: Should any section paragraph, sentence, clause, or phrase of this Ordinance be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the validity of this Ordinance as a whole or any portion or part thereof, other than the part to be declared invalid.

SECTION 8: Should any section, paragraph, sentence, clause, or phrase of any prior Wellington ordinance, resolution, or municipal code provision, then in that event the provisions of this Ordinance shall prevail to the extent of such conflict.

SECTION 9: This Ordinance shall take effect 90 days from date adopted by Wellington's Council.

(This portion of the page left intentionally blank)

PASSED this 12th day of June upon first reading.

PASSED AND ADOPTED this 26 day of March 2013, on second and final reading.

WELLINGTON

	FOR	AGAINST
BY: Bob Margolis, Mayor	✓	
Howard K. Coates, Jr., Vice Mayor	✓	
Matt Willhite, Councilman	✓	
Anne Gerwig, Councilwoman	✓	
John Greene, Councilman	✓	

ATTEST:

BY: Awilda Rodriguez
Awilda Rodriguez, Clerk

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

BY: _____
Attorney for Wellington

3-7-13 Version
PM Mike O'Dell

APPENDIX A.3: ORDINANCE 2007-36; SPEED HUMP INSTALLATION POLICY

RESOLUTION NO. R2007-36

A RESOLUTION REPEALING RESOLUTION R97-25 OF THE VILLAGE COUNCIL OF THE VILLAGE OF WELLINGTON, FLORIDA AND ADOPTING A NEW POLICY FOR THE INSTALLATION OF SPEED HUMPS ON CERTAIN TYPES OF RESIDENTIAL STREETS AS A TRAFFIC CONTROL MEASURE WITHIN THE VILLAGE OF WELLINGTON; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, Resolution R97 was adopted by the village Council on September 9, 1997 to allow the installation of steed humps on roadways under certain circumstances. The Resolution did not contemplate the possibility of speed humps being placed on private roads.

WHEREAS, the Village Council recognizes that certain residential streets are more impacted than others by cut through traffic and vehicular speeding; and

WHEREAS, the traditional traffic control measures have not always proven effective in addressing such problems; and

WHEREAS, properly placed and designed speed humps have been used effectively in other cities in the United States and represent an innovative approach in certain locations when installed under specific guidelines and design standards for reducing vehicular speed and discouraging cut through traffic on residential streets: and

WHEREAS, the Village Council recognizes that such conditions may exist on privately as well as publicly maintained streets.

NOW THEREFORE, BE IT RESOLVED BY THE VILLAGE COUNCIL OF THE VILLAGE OF WELLINGTON that:

Section 1. The foregoing recitals are hereby affirmed and ratified.

Section 2: The Policy for Speed Hump Installation Within the Village of Wellington, Florida adopted by Resolution No. 97-25 is hereby repealed in its entity and of no further effect.

Section 3: Any speed hump approval granted under the auspices of Resolution R97-25 remains valid.

Section 4. The Village Council of the Village of Wellington hereby adopts the modified "Speed Hump Policy" and "Policy for Speed Hump Installation Within the Village of Wellington, Florida", dated March 8, 2007, a copy of which is attached hereto and made a part hereof.

Section 5. The provisions of this Resolution shall become effective immediately upon adoption.

PASSED AND ADOPTED THIS 20th day of March, 2007.

ATTEST:

BY: _____
Awilda Rodriguez, Village Clerk

VILLAGE OF WELLINGTON, FLORIDA

BY: _____
Thomas M. Wenham, Mayor

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

BY: _____
Jeffrey S. Kurtz, Village Attorney

G:\Wpfiles\Clients\Wellington\Council Meetings\3-8\Speed Humps Policy RES.doc

MARCH 8, 2007

POLICY FOR SPEED HUMP INSTALLATION
WITHIN THE VILLAGE OF WELLINGTON, FLORIDA

ACCEPTABLE STREET LOCATIONS

The Village of Wellington recognizes that properly placed and designed speed humps are an effective tool for reducing vehicular speeds and discouraging cut through traffic on residential streets. This policy outlines the procedure for determining when, where and how speed humps will be installed in the Village of Wellington.

Speed humps shall be installed according to this policy and the specific design criteria outlined in the following section. Requests for speed humps shall be directed in writing to the Village Manager for approval subject to review and recommendations from the Village Engineer and the Public Works Director.

Speed humps may be installed in residential areas if all of the following conditions are met:

1. The residential street has a problem with either cut through traffic or vehicular speeding. In addition, the street provides either a connection route between two designated arterial or collector streets or permits traffic from another subdivision to pass through the affected subdivision street en route to an outside destination. Additional priority shall be placed on the above streets when a higher density of housing is present (i.e., lots that are less than 1 acre with front yard setbacks less than 75 feet, thereby creating more potential conflicts with residents and pedestrians).

2. The cut through traffic or speeding problem can be identified by the Village through current traffic counts, speed surveys and projections of future traffic impact in accordance with long range development plans for the area. Cut through traffic shall be defined as the condition where 35% or more of the traffic on the affected street does not originate or terminate in the subdivision. A condition of speeding exists when the 85th percentile speed of traffic on the street exceeds the posted speed limit by at least 5 mph.

3. To ensure timely response of emergency vehicles, no speed humps shall be permitted on designated arterial or collector streets.

4. An eligible street must be a designated local street with a projected average daily traffic count not to exceed 2,500 vehicles per day at the time of full development of the area. No speed humps shall be installed on any street with a current vehicle count of less than 500 per day. Speed humps may be removed by the Village at any time in the future if the traffic count for the street t exceeds 2,500 vehicles per day.

5. A petition is provided to the Village with signatures from two thirds (2/3's) of the residents living within 1,000 feet of the proposed speed hump location(s), measured along the affected street ~~supporting the installation of speed humps~~. Where applicable, the petition shall also be endorsed by an officially incorporated homeowners association for the subdivision. Installation of the speed humps shall be the responsibility of the persons or entity responsible for maintenance of the roadway. For public roads, the residents petitioning for the speed hump must agree to pay 50% of the direct cost associated with installation, including paving and signing on public roads. ~~or private roads. The petitioners shall agree to pay 100% of the direct cost associated with installation including paving and signing and shall be responsible to design, permit and contract the approved speed hump.~~ Installation of the speed humps on public roads will be done by the Village or its contractors and agents only after receipt of 50% of the direct costs from the petitioners. ~~Installation of the speed humps shall be the responsibility of the persons or entity responsible for maintenance of the roadway.~~ On private roads, ~~T~~the petitioners shall agree to pay 100% of the direct cost associated with installation, including paving and signing and shall be responsible to design, permit and construct the approved speed hump.

6. The Village shall assume responsibility and cost associated with traffic engineering review, and in-house approval and coordination to ensure that the proposed speed humps on public roads are located in compliance with this policy and are installed properly on the roadway. This does not prevent petitioning residents from securing at their expense additional professional services from a licensed traffic engineer to provide supplemental information in support of the proposal. The petitioner(s) shall assume responsibility for cost associated with traffic engineering review, design, permitting and construction of speed humps on private roads.

7. The installation of speed humps shall be viewed as a last step in a comprehensive plan for reducing vehicle speeds and for discouraging cut through traffic movements in a residential area. Prior to the installation of speed humps, the Village shall address the problem on public roads at the Village's expense through less dramatic measures on the street such as the installation of additional signs, traditional pavement striping and markings, etc. The residents and the Village shall reevaluate the effectiveness of those measures six months after installation. Based on this evaluation, a final decision will be made on the installation of the speed humps.

8. Prior to the installation of the approved speed humps on public roads, the petitioning residents shall pay the Village 50% of the cost for the improvements based on an itemized breakdown of estimated expenses plus a 10% contingency for unanticipated expenses. Any funds left over at the completion of the project shall be returned to the petitioning group.

9. Prior to the installation of any speed humps, a resolution approving the proposed speed hump location(s) on public or private roads shall be approved by the Village Council.

SPEED HUMP POLICY
DESIGN CRITERIA

1. The eligible street must be a two (2) lane roadway less than 30 feet in width with grades no greater than 6% and have a designated speed limit of 30 miles per hour or less.

2. Speed humps shall be placed at least 200 feet away from intersections and from any horizontal curve with a centerline radius of 150 feet or less.

3. Speed humps shall be placed approximately 300-600 feet apart.

4. The speed humps shall be designed and installed to have a maximum height of 3 inches to 4 inches with a travel length of 12 feet. The attached figure shows the standard dimensions for speed humps.

5. Regulatory signs, identifying the specific street(s) in a subdivision as a residential speed control district shall be installed in a prominent location in advance of the first series of humps. The design and legend for the sign is shown in the attached figure. The signs shall be 24" x 24", with a black legend on a white background.

6. Advance warning signs shall be installed for each approach to a series of humps. The signs shall be designed and installed in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). The signs shall be standard 30" x 30" black legend on yellow diagonal warning signs with the legend "SPEED HUMPS". An advisory speed plate (18" x 18" black legend on yellow rectangular warning sign) with a "15 M.P.H." legend shall also be installed. The signs shall be placed approximately 125 feet in advance of the first speed hump encountered by a driver.

7. All proposed locations for speed humps shall be reviewed by the Village Engineer and Public Works Department prior to the installation to ensure that drainage is adequately accommodated.

APPENDIX A.4: HORSE HAIR INTERCEPTOR POLICY

MEMORANDUM

To: File

From: Thomas J. Lundeen, P.E., Village Engineer

CC: Engineering Staff

Date: April 5, 2011

Revised: March 4, 2014

Revised again: October 27, 2016

Re: Wellington Best Management Practices (BMP) – Horse Wash Facilities

This memorandum changes the Village of Wellington's requirement for properties stabling horses to provide horse wash facilities. This BMP still applies to all properties installing new stabling facilities, either permanent or temporary, and to the renovation of existing stabling facilities. Horse wash facilities shall be designed to capture all wash water and to exclude storm water. The modification to this BMP gives the properties an option for treating the captured wash water.

The horse wash facilities which **is not connected** to the public sewer system shall be designed by licensed, professional engineering in the State of Florida and that it include a wash area and treatment system. The wash area shall be an impervious surface and shall be sloped to a drain. The surface outside of the wash area shall be graded so that storm water (other than rainfall falling directly into the wash area) does not enter the wash area and drain. The following items are recommendations for the treatment system:

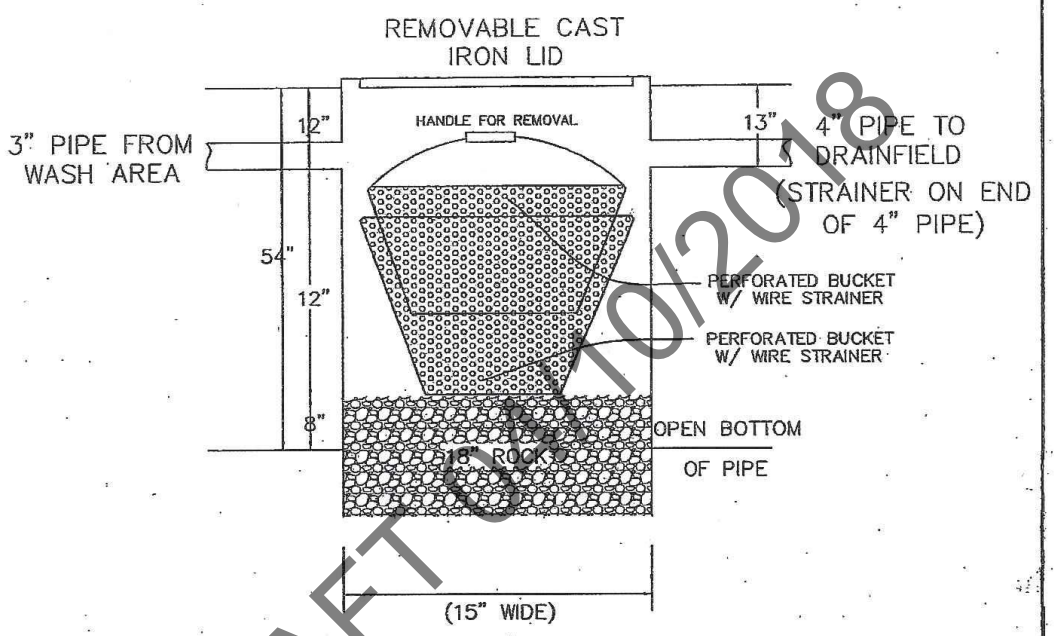
- The drain shall be plumbed to a horse hair interceptor and then plumbed to a drain field.
- The elevation of the drain shall be a minimum of 0.5 ft. above the 100 year flood elevation for the property and shall be 0.5 ft. higher than surrounding grades, whichever is greater.
- Examples for the horse hair interceptors and drain fields are on the attached schematics.
- Drain fields shall be located a minimum of 100 ft. from wells and 50 ft. from water bodies and drainage swales.
- Wash areas shall be located a minimum of 50 ft. from wells, water bodies and drainage swales.
- The Village of Wellington is not be responsible or liable for the design, operation and/or maintenance of the privately owned and operated horse wash down facility.

If connected to the public sewer system, the horse wash area shall be within a permitted structure that conforms to the Florida Building Code (latest version) complete with a roof and four walls. The wash area shall be an impervious surface and shall be sloped to a flood drain. The drain shall be plumbed to an approved horse hair interceptor and then plumbed to the public sewer system. The elevation of the drain shall be a minimum of 1 ft. above the 100 year flood elevation for the property and shall be designed so that no storm water can enter the public sewer system. The horse hair interceptor shall conform to the attached schematic.

Drain fields shall be located a minimum of 100 ft. from wells and 50 ft. from water bodies and drainage swales. Wash areas shall be located a minimum of 50 ft. from wells, water bodies and drainage swales.

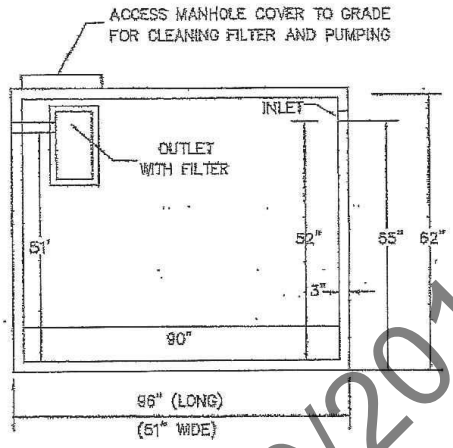
Property owners shall submit plans and calculations to the Engineering Department for review and approval. Alternative designs and setback restrictions may be considered if supported by sound engineering practices and submitted by a licensed, professional engineering in the State of Florida.

HORSE HAIR INTERCEPTOR DETAIL

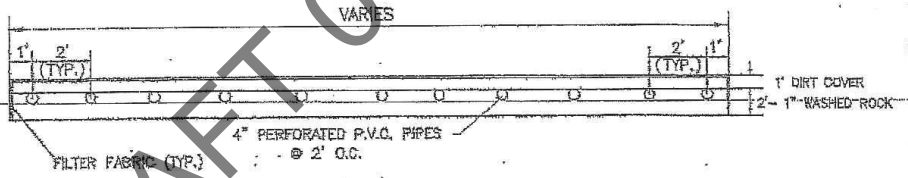


HORSE WASH EXFILTERATION

BAILEY'S 750 GALLON CONCRETE SEDIMENT TANK AND HORSE HAIR INTECEPTOR– STATE APPROVAL No. 50–018–07S–C3



HORSE WASH EXFILTERATION TRENCH DETAIL

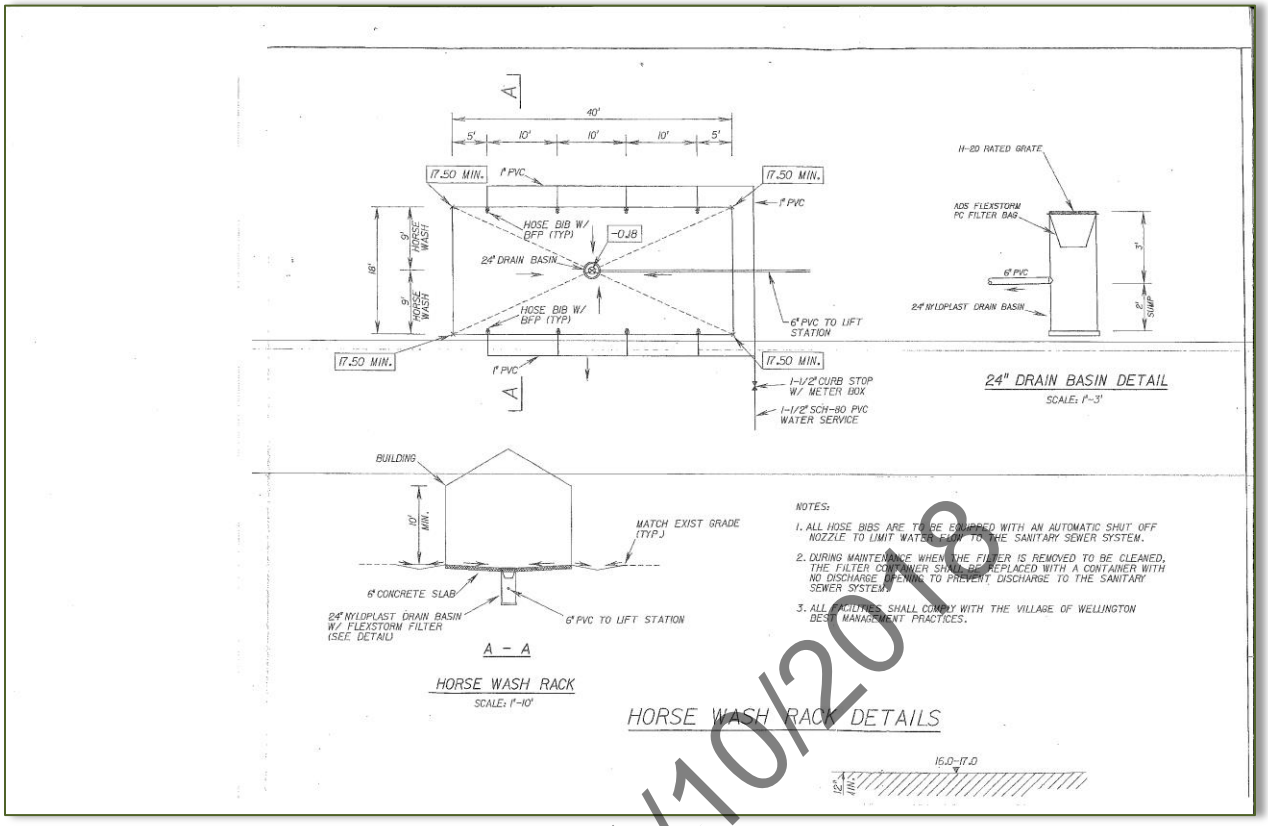


HORSE WASH DRAINFIELD CALCULATION

REQUIRED:

20 STALLS X 10 L.F./ STALL + 10 L.F.= 210 S.F.

210 L.F. X 2 = 420 S.F. OF 3' DEEP TRENCH



APPENDIX A.5: ORDINANCE 97-09, WORKS WITHIN VILLAGE OF WELLINGTON RIGHTS OF WAY

ORDINANCE NO. 97-09

AN ORDINANCE OF THE VILLAGE COUNCIL OF THE VILLAGE OF WELLINGTON, FLORIDA, CREATING AND ESTABLISHING POLICIES FOR PERMITTING WORK AND ACTIVITIES IN THE VILLAGE RIGHT-OF-WAYS AND EASEMENTS; PROVIDING FOR APPLICATION AND AUTHORITY; PROVIDING A PURPOSE; PROVIDING DEFINITIONS; PROVIDING FOR RESTRICTIONS; PROVIDING FOR EXEMPTIONS; PROVIDING FOR ENFORCEMENT AND PENALTIES; PROVIDING FOR A FEE SCHEDULE; PROVIDING FOR SEVERABILITY; PROVIDING FOR CODIFICATION; PROVIDING FOR REPEAL OF LAWS IN CONFLICT; PROVIDING AN EFFECTIVE DATE; AND FOR OTHER PURPOSES.

WHEREAS, it is the intent and policy of the Village Council of the Village of Wellington to ensure the continued health, safety, welfare and quality of life for the residents of and visitors to the Village of Wellington; and

WHEREAS, there is a need to establish policies for permitting work in the Village's right-of-ways and easements; and

WHEREAS, the Village of Wellington finds that it is in the best interest of the citizens of the Village of Wellington to enact an ordinance imposing permitting policies for proposed work in the Village's right-of-ways and easements.

NOW THEREFORE, BE IT ORDAINED BY THE VILLAGE COUNCIL OF THE VILLAGE OF WELLINGTON, FLORIDA, THAT:

SECTION 1.

(a) All provisions of this Ordinance shall be effective within the boundaries of the Village of Wellington, Florida, and shall set restrictions, constraints and prohibitions to enhance the Village of Wellington's road right-of-ways and provide measure of uniformity for them.

(b) This Ordinance is adopted under the authority of Article VIII, Section 2, of the Florida Constitution, Chapter 166, Florida Statutes, and all other applicable law.

SECTION 2. The purpose of this Ordinance is to establish a regulatory framework and guidance document which will help ensure consistent work in the Village's right-of-ways and easements.

SECTION 3. In this Ordinance, unless the context suggests otherwise, the following terms are defined:

Jack and Bore. Piping under the surface for the purpose of installing pipe, culverts, conduits and/or other material.

Landscape. To change the natural features of a plot of ground so as to make it more attractive as by adding grass, lawn, trees, shrubs, hedges, flowers, plants, or like material.

Open cut. Physically cutting and removing existing road surface for the purpose of installing pipe, culverts, conduits and/or other material.

Sidewalk. A path for pedestrians or other foot travelers, which is usually paved concrete or asphalt along the side of a street generally located on the outside of the right-of-way with the edge on the property line.

Right-of-way. That property, typically 60 feet, 80 feet, 100 feet, or 120 feet in width, that is deeded to the Village of Wellington per plats and/or other dedicatory language.

Swales. Those areas lying between the road surface and the sidewalk or between the road surface and the right-of-way boundary line adjacent to the road surface, over which the Village holds an easement or which the Village has exclusive control as part of its road drainage right-of-way, or which are owned or maintained by the Village.

SECTION 4.

(a) All work, activities, or construction proposed to be performed in a Village right-of-way or easement and all structures proposed to be erected, located, or maintained in a Village right-of-way or easement must be reviewed and permitted by the Public Works Department of the Village.

(b) A lawfully obtained permit must be displayed at all work sites during all phases of work from start to finish.

(c) Certain trees which meet the approval of the Public Works Department may be planted in the right-of-way or easement; however, single trunk palms are preferred.

(d) Landscaping shall be limited to sod and trees subject to the approval of the Public Works Department of the Village. No shrubs, hedges, or other material shall be planted in the right-of-way without being properly permitted.

(e) Open cut and jack and bore are allowed subject to the approval of the Public Works Department of the Village and the obtaining of all necessary permits.

(f) Walls, entrance enhancements, signing and fencing in right-of-way must be reviewed and properly permitted subject to the approval of the Public Works Department of the Village.

(g) Swale markers may be placed at the edge of swale areas to protect the edges of lawns from being driven on by passing vehicles, with swale markers to be round button, cement markers with anchor rods attached, not to exceed twelve (12) inches in diameter and four (4) inches in height.

(h) Swales must conform to their original shape and grades, with the center of the swale adjacent to local streets (60' right-of-way) generally being eight (8) inches below the road centerline or the back of sidewalk elevation.

SECTION 5. The following exemptions from this Ordinance are provided.

(a) Mailboxes - property owners may place mailboxes in the unpaved public right-of-way when such placement is a necessary prerequisite to mail delivery to their property subject to the United States Post Service criteria.

(b) Trash for pickup - properly packaged trash, waste material, refuse and other similar articles may be placed on the unpaved public right-of-way no more than twenty-four (24) hours before the next scheduled pick-up.

SECTION 6.

(a) Failure to comply with the requirements of this Ordinance shall constitute a violation and shall be punishable as provided by law. If a violation should occur, the property owner and all persons responsible or liable will be given notice to remove and/or repair work or construction performed or located in the right-of-way. If the violation is not timely remedied, appropriate steps to remedy the violation will be taken by Village employees and the responsible party will be responsible and liable for all associated costs and fines.

(b) Any violation of the provisions of this Ordinance may also be punishable by a fine not to exceed four times the cost of the permit to be determined by the Village staff.

(c) Violators of this Ordinance are punishable by civil fine pursuant to Chapter 162, Florida Statutes, and shall be referred to the Code Enforcement Board.

(d) All monies collected pursuant to this Ordinance shall be deposited in the General Fund of the Village.

SECTION 7. All fees collected pursuant to this Ordinance shall be determined by Resolution adopted by the Village entitled the Permit and Inspection Fee Schedule.

SECTION 8. If any section, paragraph, sentence, clause, phrase, or word of this Ordinance is for any reason held by a court of competent jurisdiction to be unconstitutional, inoperative or void, such holding shall not affect the remainder of the Ordinance.

SECTION 9. The provisions of this Ordinance may become and be made a part of the Code of Ordinances of the Village of Wellington, Florida. The sections of this Ordinance may be renumbered or relettered to accomplish such, and the word "ordinance" may be changed to "section," "article," or any other appropriate word.

SECTION 10. All ordinances or parts of ordinances of the Village of Wellington, Florida, which conflict with this Ordinance are hereby repealed.

SECTION 11. The provisions of this Ordinance shall become effective immediately upon adoption.

PASSED this 13th day of May, 1997, on first reading.

PUBLISHED this 20th day of May, 1997, in The Post.

PASSED AND ADOPTED this 27th day of May, 1997, on second and final reading.

VILLAGE OF WELLINGTON, FLORIDA

	FOR	AGAINST
BY: Mary K. Foster, Mayor	✓	
Dr. Carmine A. Priore, Vice Mayor	✓	
Paul A. Adams, Councilmember	✓	
Michael McDonough, Councilmember	✓	
Thomas M. Wenham, Councilmember	✓	

ATTEST:

BY: Awilda Rodriguez, Village Clerk

U:\BSB\WELLING\ORDNCES\PERMTROW.ADP

APPENDIX A.6: RESOLUTION 2007-37, STREET LIGHT POLICY

RESOLUTION NO. R2007-37

A RESOLUTION OF THE VILLAGE COUNCIL OF THE VILLAGE OF WELLINGTON, FLORIDA ADOPTING A POLICY FOR THE INSTALLATION OF STREET LIGHTS ON CERTAIN TYPES OF RESIDENTIAL STREETS AS A SAFETY AND AESTHETIC MEASURE WITHIN THE VILLAGE OF WELLINGTON; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Village Council recognizes that certain residential streets are not developed with street lights or have less street lights than current standards; and

WHEREAS, properly placed and designed street lights have been used effectively in other subdivisions for reducing crime, improving safety and aesthetics.

NOW THEREFORE, BE IT RESOLVED BY THE VILLAGE COUNCIL OF THE VILLAGE OF WELLINGTON that:

Section 1. The Village Council of the Village of Wellington hereby adopts the "Street Light Policy" and Policy for Street Light Installation within the Village of Wellington, Florida", dated October 9, 2007, a copy of which is attached hereto and made a part hereof.

Section 2. This Resolution shall take effect immediately upon its adoption.

PASSED AND ADOPTED THIS 9th day of October, 2007.

ATTEST:

BY: _____
Awilda Rodriguez, Village Clerk

VILLAGE OF WELLINGTON, FLORIDA

BY: _____
Thomas M. Wenham, Mayor

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

BY: _____
Jeffrey S. Kurtz, Village Attorney

POLICY FOR STREET LIGHTS INSTALLATION
WITHIN THE VILLAGE OF WELLINGTON, FLORIDA

The Village of Wellington recognizes that properly placed and designed street lights are an effective tool for improving safety and aesthetics. This policy outlines the procedure for determining when, where and how street lights will be installed in the Village of Wellington.

Street lights shall be installed according to this policy and the specific design criteria outlined in the following section. Requests for street lights shall be directed in writing to the Director of Environmental and Engineering Services for review and recommendations.

Street lights may be installed in residential areas if all of the following conditions are met:

1. The proposed location is at an intersection, curve or not closer than 300 feet to an existing street light.

2. A petition shall be provided to the Village with signatures from two thirds (2/3) of the residents living within 300 feet of the proposed street light location(s), measured along the affected street, supporting the installation of street lights. Where applicable, the petition shall also be endorsed by an officially incorporated homeowners association for the subdivision.

3. The Village shall assume responsibility and cost associated with engineering review, and in-house approval and coordination to ensure that the proposed street lights are located in compliance with this policy and are installed properly. This does not prevent petitioning residents from securing at their expense additional professional services from a licensed engineer to provide supplemental information in support of the proposal.

4. Prior to the installation of the approved street lights, the petitioning residents shall pay the Village 50% of the cost for any conduit required by Florida Power and Light to be installed for the street lights to be installed. Any funds left over at the completion of the project shall be returned to the petitioning group.

5. This policy does not apply to the Equestrian Preserve Area which has a policy of no street lights to maintain the rural character of the area (not including arterial or collector streets).

APPENDIX A.7: ORDINANCE 2003-11, SWALE AND LANDSCAPE MAINTENANCE

ORDINANCE NO. 2003-11

AN ORDINANCE OF THE Village COUNCIL OF THE VILLAGE OF WELLINGTON, FLORIDA, AMENDING ARTICLE II, "PROPERTY MAINTENANCE" OF CHAPTER 36 "OFFENSES AND MISCELLANEOUS PROVISIONS" OF THE CODE OF ORDINANCES OF THE VILLAGE OF WELLINGTON BY AMENDING SECTION 36-22 "PROPERTY MAINTENANCE STANDARDS GENERAL" BY ENACTING A NEW SUBSECTION 36-22 E.(iii) TO PROVIDE ADJACENT PROPERTY OWNERS WITH RESPONSIBILITY FOR REGULATIONS PERTAINING TO THE MAINTENANCE OF SWALES, EASEMENTS AND LANDSCAPING PORTIONS OF RIGHTS-OF-WAY, PROVIDING A REPEALER CLAUSE, PROVIDING A SAVINGS CLAUSE; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, this Ordinance is enacted pursuant to Article VIII of the Florida Constitution, Chapter 166, Florida Statutes, the Charter of the Village of Wellington, and the police powers of the Village; and

WHEREAS, the Village of Wellington has determined that it is necessary to codify the maintenance responsibilities for easements, right-of-ways and swales; and

WHEREAS, the Village Council finds that the proposed regulations further the goals of the Comprehensive Plan; and

WHEREAS, the Village Council finds that the reasonable regulations contained herein will protect the health, safety, and welfare of the residents of the Village; and

WHEREAS, in accordance with the requirements of Chapter 163, Florida Statutes, the Village Planning, Zoning and Adjustment Board, acting as the Land Development Regulation Board, has reviewed the proposed regulations and has determined that the proposed regulations are consistent with the Village of Wellington Comprehensive Plan.

NOW, THEREFORE, BE IT ORDAINED BY THE VILLAGE COUNCIL OF THE VILLAGE OF WELLINGTON, FLORIDA that:

SECTION 1. Section 36-22 e.(iii), of the Code of Ordinance, is hereby added and states as follows:

(iii) The owner ~~or tenant~~ shall maintain all public easements, swales and sodded portions of right-of-ways on or adjacent to their developed property in a clean, orderly and healthy condition including but not limited to, replacing and mowing sod when

necessary, repairing bare areas, clearing weeds and removing litter. On double frontage lots, property owners are only required to maintain to their property line on the rear lot line.

SECTION 2. The provisions of this Ordinance shall become effective immediately upon adoption.

PASSED this 27th day of May, 2003, upon first reading.

PASSED AND ADOPTED this 10th day of June, 2003, on second and final reading.

VILLAGE OF WELLINGTON

	FOR	AGAINST
BY: _____ Thomas M. Wenham, Mayor	✓	
_____ Mark B. Miles, Vice Mayor	✓	
_____ Lizbeth Benacquisto, Councilwoman	✓	
_____ Laurie S. Cohen, Councilwoman	✓	
_____ Robert S. Margolis, Councilman	✓	

ATTEST:

BY: _____
Awilda Rodriguez, Village Clerk

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

BY: _____
Jeffrey S. Kurtz, Village Attorney

APPENDIX A.8: PINE TREE WATER CONTROL DISTRICT, MARCH 7, 2014 SFWMD ERP AMENDMENT

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
District Headquarters: 3301 Gun Club Road, West Palm Beach, Florida 33406 (561) 686-8800 www.sfwmd.gov

Regulation
Application No.: 140130-2

March 7, 2014

PINE TREE WATER CONTROL DISTRICT
C/O VILLAGE OF WELLINGTON
14000 GREENBRIAR BOULEVARD
WELLINGTON, FL 33414

Dear Permittee:

SUBJECT: 50-00458-S
Project : PINE TREE WATER CONTROL DISTRICT
Location: Palm Beach County, S3,4,9,10,13-15,23,24/T44S/R40E

District staff has reviewed the information submitted January 30, 2014, for the incorporation of Pine Tree Water Control District's water management criteria into the permit file pursuant to the attached exhibit.

Based on that information, District staff has determined that the proposed activities are in compliance with the original environmental resource permit and appropriate provisions of paragraph 40E-4.331(2)(b) or 62-330.315(2)(g), Florida Administrative Code. Therefore, these changes have been recorded in our files.

Your permit remains subject to the General Conditions and all other Special Conditions not modified and as originally issued.

Should you have any questions concerning this matter, please contact this office.

Sincerely,

Carlos A. de Rojas, P.E.
Section Leader - Swm
Regulation Division

CD/re

c: Higgins Engineering Inc
Palm Beach County Engineer
Wellington

Okeechobee Service Center: 3800 N.W. 16th Blvd., Suite A, Okeechobee, FL 34972 (863) 462-5260
Lower West Coast Service Center: 2301 McGregor Boulevard, , Fort Myers, FL 33901 (239) 338-2929
Orlando Service Center: 1707 Orlando Central Parkway, Suite 200, Orlando, FL 32809 (407) 858-6100

NOTICE OF RIGHTS

As required by Sections 120.569(1), and 120.60(3), Fla. Stat., following is notice of the opportunities which may be available for administrative hearing or judicial review when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Not all the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (SFWMD or District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Fla. Stat. Persons seeking a hearing on a District decision which does or may determine their substantial interests shall file a petition for hearing with the District Clerk within 21 days of receipt of written notice of the decision, unless one of the following shorter time periods apply: 1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Fla. Stat.; or 2) within 14 days of service of an Administrative Order pursuant to Subsection 373.119(1), Fla. Stat. "Receipt of written notice of agency decision" means receipt of either written notice through mail, or electronic mail, or posting that the District has or intends to take final agency action, or publication of notice that the District has or intends to take final agency action. Any person who receives written notice of a SFWMD decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

Filing Instructions

The Petition must be filed with the Office of the District Clerk of the SFWMD. Filings with the District Clerk may be made by mail, hand-delivery or facsimile. **Filings by e-mail will not be accepted.** Any person wishing to receive a clerked copy with the date and time stamped must provide an additional copy. A petition for administrative hearing is deemed filed upon receipt during normal business hours by the District Clerk at SFWMD headquarters in West Palm Beach, Florida. Any document received by the office of the SFWMD Clerk after 5:00 p.m. shall be filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the SFWMD Clerk, P.O. Box 24680, West Palm Beach, Florida 33416.
- Filings by hand-delivery must be delivered to the Office of the SFWMD Clerk. **Delivery of a petition to the SFWMD's security desk does not constitute filing. To ensure proper filing, it will be necessary to request the SFWMD's security officer to contact the Clerk's office.** An employee of the SFWMD's Clerk's office will receive and file the petition.
- Filings by facsimile must be transmitted to the SFWMD Clerk's Office at (561) 682-6010. Pursuant to Subsections 28-106.104(7), (8) and (9), Fla. Admin. Code, a party who files a document by facsimile represents that the original physically signed document will be retained by that party for the duration of that proceeding and of any subsequent appeal or subsequent proceeding in that cause. Any party who elects to file any document by facsimile shall be responsible for any delay, disruption, or interruption of the electronic signals and accepts the full risk that the document may not be properly filed with the clerk as a result. The filing date for a document filed by facsimile shall be the date the SFWMD Clerk receives the complete document.

Initiation of an Administrative Hearing

Pursuant to Rules 28-106.201 and 28-106.301, Fla. Admin. Code, initiation of an administrative hearing shall be made by written petition to the SFWMD in legible form and on 8 and 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, District file number or any other SFWMD identification number, if known.
2. The name, address and telephone number of the petitioner and petitioner's representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the SFWMD's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the SFWMD's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the SFWMD's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the SFWMD to take with respect to the SFWMD's proposed action.

A person may file a request for an extension of time for filing a petition. The SFWMD may, for good cause, grant the request. Requests for extension of time must be filed with the SFWMD prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and that the SFWMD and any other parties agree to or oppose the extension. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

If the District takes action with substantially different impacts on water resources from the notice of intended agency decision, the persons who may be substantially affected shall have an additional point of entry pursuant to Rule 28-106.111, Fla. Admin. Code, unless otherwise provided by law.

Mediation

The procedures for pursuing mediation are set forth in Section 120.573, Fla. Stat., and Rules 28-106.111 and 28-106.401-.405, Fla. Admin. Code. The SFWMD is not proposing mediation for this agency action under Section 120.573, Fla. Stat., at this time.

RIGHT TO SEEK JUDICIAL REVIEW

Pursuant to Sections 120.60(3) and 120.68, Fla. Stat., a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal pursuant to Florida Rule of Appellate Procedure 9.110 in the Fourth District Court of Appeal or in the appellate district where a party resides and filing a second copy of the notice with the SFWMD Clerk within 30 days of rendering of the final SFWMD action.

140130-2 IP

HIGGINS ENGINEERING, INC.

January 3, 2014

South Florida Water Management District
3301 Gun Club Road
P.O. Box 24680
West Palm Beach, FL 33416-4680

RECEIVED
JAN 30 2014
WATER RESOURCE REGULATION

Attn Anit Bain

Re: Pine Tree Water Control District
Environmental Resource Permit No. 50-00458-S

Dear Mrs. Bain:

Enclosed, please find water management criteria for Pine Tree Water Control District that was recently adopted by the Board of Supervisors. Please consider this letter a request to modify the permit, by letter modification, to incorporate this criteria in the permit file. Ultimately this criteria will be incorporated into the Villages BMP manual as an appendix. We have also enclosed an application fee in the amount of $250.00 made payable to the District.

If you have any questions on the above or the enclosed please feel free to give us a call.

Very truly yours,
Higgins Engineering, Inc.

Robert W. Higgins, P.E.

RWH:kd
09-20.2
Encl.
Cc Tanya Quickel w/
Bill Nemsel w/

4623 Forest Hill Blvd., Suite 113
(561) 439-7807
West Palm Beach, FL 33415
FAX (561) 439-0026
Water Resources - Environmental

APPLICATION NO. 140130-2 Page 1 of 3 EXHIBIT 1

EXHIBIT 1

Design Criteria for Stormwater Management for Areas Located within the Pine Tree Water Control District

140130-2

Permit Requirements:

Property owners are responsible for acquiring all permits necessary for the development and redevelopment of their property. Various agencies may include, but are not limited to, the Pine Tree Water Control District (PTWCD), Village of Wellington (VOW), South Florida Water Management District (SFWMD), U.S. Army Corps of Engineers (USACE).

Permits for the use of facilities dedicated to the PTWCD are issued by the PTWCD.

The PTWCD is located within the VOW. Permits for lot development and buildings/structures are issued by the VOW. Lot development shall comply the criteria contained herein and with all pertinent VOW regulations and requirements. If the total fill area (historic and proposed) is greater than 20 percent of the lot area then a VOW Engineering Land Development Permit is required. If the total fill is equal to or less than 20%, a VOW Engineering Grading/Fill/Excavation Permit is required. VOW Right-of-Way Permits are required for all improvements within rights-of-way and easements dedicated to the VOW.

Based on a two foot storage depth, 12 percent of the site shall be used for flood detention storage. This percentage requirement may be varied as it is dependent on depth of storage.

Criteria:

Maximum Building Area Coverage (Per Lot)	**20%**
Maximum Impervious Area (Including Buildings) (e.g.- paved/shellrock drives & parking areas, paved/shellrock walkways, etc.)	**30%**
Normal Water Level	**12.0' (Ft NGVD)**
Water Quality Detention Stage	**14.9' (Ft NGVD) (in canal system)**
Minimum Road Elevation	**15.3' (Ft NGVD)**
Minimum Finish Floor Elevation	**18.0' (Ft NGVD)**
Lot Grading (Ref. SFWMD Permit):	**Linear from 15.5' to 19.0' NGVD**
Roadside Swales (Ref. SFWMD Permit):	**Linear from 13.5' to 15.5' NGVD**

Site Grading and Water Management Area Requirements

Required Lake Area at Elevation 12.0'

Building Coverage 10% or Less
2' Storage Depth; Minimum 12% of Lot Area or 0.5 Acres (SFWMD Minimum Lake Area Criteria), whichever is greater

Building Coverage >10% & </=20%
Prorated from 12 percent of lot at 10 percent coverage to 16 percent of lot area at 20 percent lot coverage (i.e., 0.8 acres for 5 acre lot with 1 acre building pad)

OR

Required Dry Detention Area at Elevation 13.0'

Building Coverage 10% or Less
12 percent of Lot Area (i.e. 0.6 acres For 5 Acre Lot with 2' storage depth)

Building Coverage >10% & </=20%
Prorated from 12 percent of lot at 10 percent coverage to 16 percent of lot area at 20 percent lot coverage

Note that the above water storage area requirements are based on an assumed storage depth of 2 feet and that the area requirement can be varied based on actual storage depth.

Note that both Dry Detention and Lake Areas shall be subject to a restrictive covenant limiting their alteration without the prior consent of the Pine Tree Water Control District along with an access easement running in favor of the Pine Tree Water Control District for purposes of monitoring and inspecting the onsite drainage and water management storage.

Maximum side slope for Dry Detention areas: 4:1 (horizontal: vertical).

Maximum side slope for lakes: 4:1 (horizontal: vertical) from top of bank down to two feet below control elevation.

If the above criteria is not satisfied, then the applicant has the option to provide calculations demonstrating that the storage provided is consistent with the SFWMD storage assumptions by showing the 0.8 (acre feet/acre) is provided at elevation 18.0'.

APPENDIX B: STANDARD DETAILS

STANDARD DETAILS TABLE OF CONTENTS

Section 100: Street Sections

Section 200: Street Intersections and Connections

Section 300: Driveway and Other Turnouts

Section 400: Pathways

Section 500: Traffic Control (Reserved)

Section 600: Roadside Drainage

Section 700: Storm Sewer & Water Management Areas

Section 800: Canal Works & Facilities Connections

Section 900: Off-Street Parking

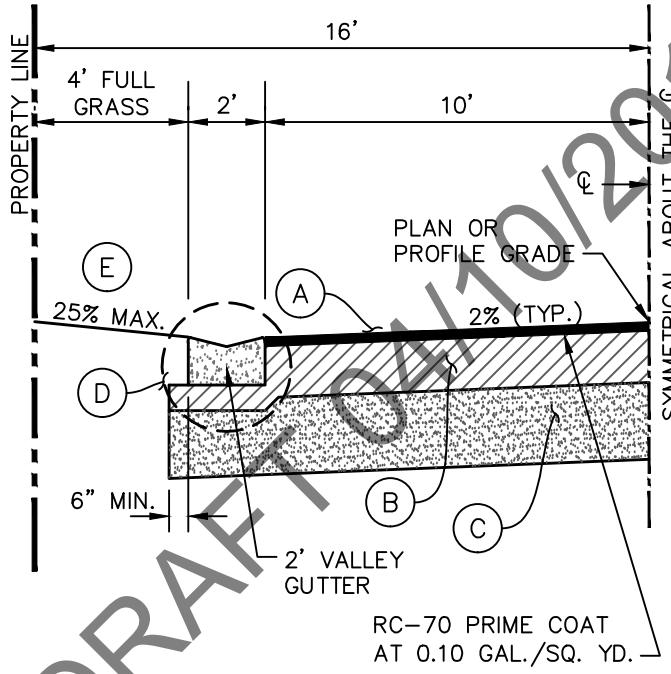
Section 1000: Supplemental and Miscellaneous Details

Section 1100: Equestrian Trails & Best Management Practices

Section 1200: Site Details

100

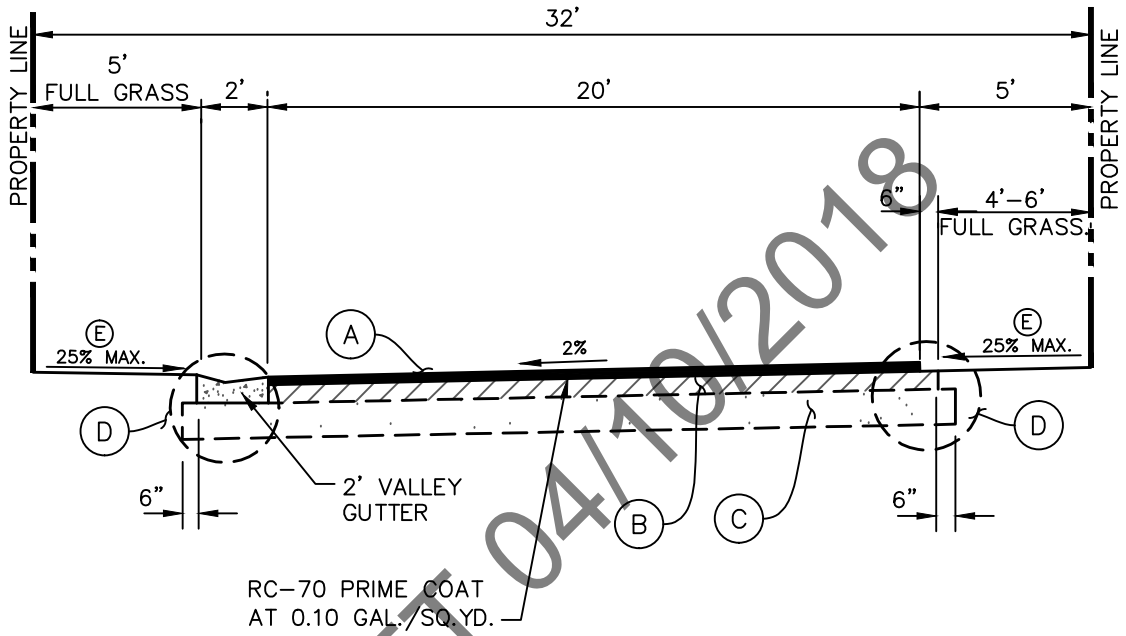
STREET SECTIONS



Ⓐ WEARING SURFACE: SEE TABLE 100.6
Ⓑ BASE: SEE TABLE 100.6
Ⓒ SUBGRADE: SEE TABLE 100.6
Ⓓ PAVEMENT EDGE: SEE 600.5A
Ⓔ NOT TO EXCEED 10% IN LOT ACCESS & DRIVEWAY AREAS

NOTE:
THIS SECTION TO BE USED FOR PRIVATE STREET ONLY

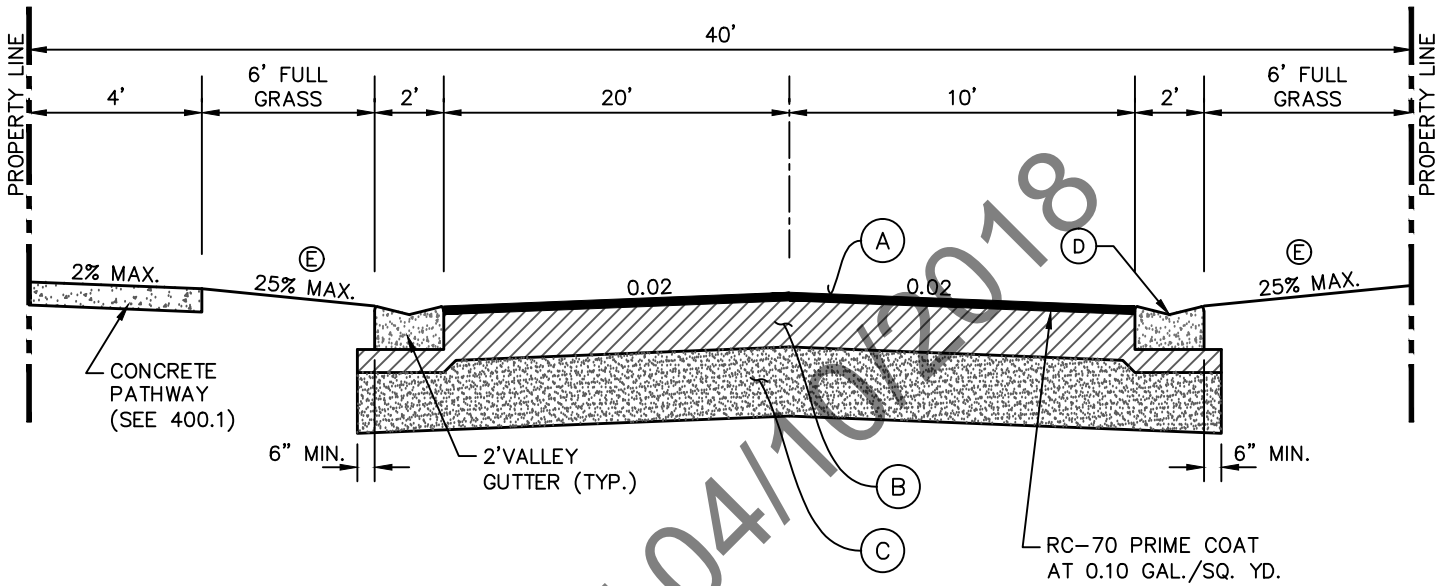
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				32' RESIDENTIAL ACCESS STREET : CROWN	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		100.1A
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



Ⓐ WEARING SURFACE: SEE TABLE 100.6
Ⓑ BASE: SEE TABLE 100.6
Ⓒ SUBGRADE: SEE TABLE 100.6
Ⓓ PAVEMENT EDGE: SEE 600.5A
Ⓔ NOT TO EXCEED 10% IN LOT ACCESS & DRIVEWAY AREAS

NOTE: THIS SECTION TO BE USED FOR PRIVATE STREET ONLY

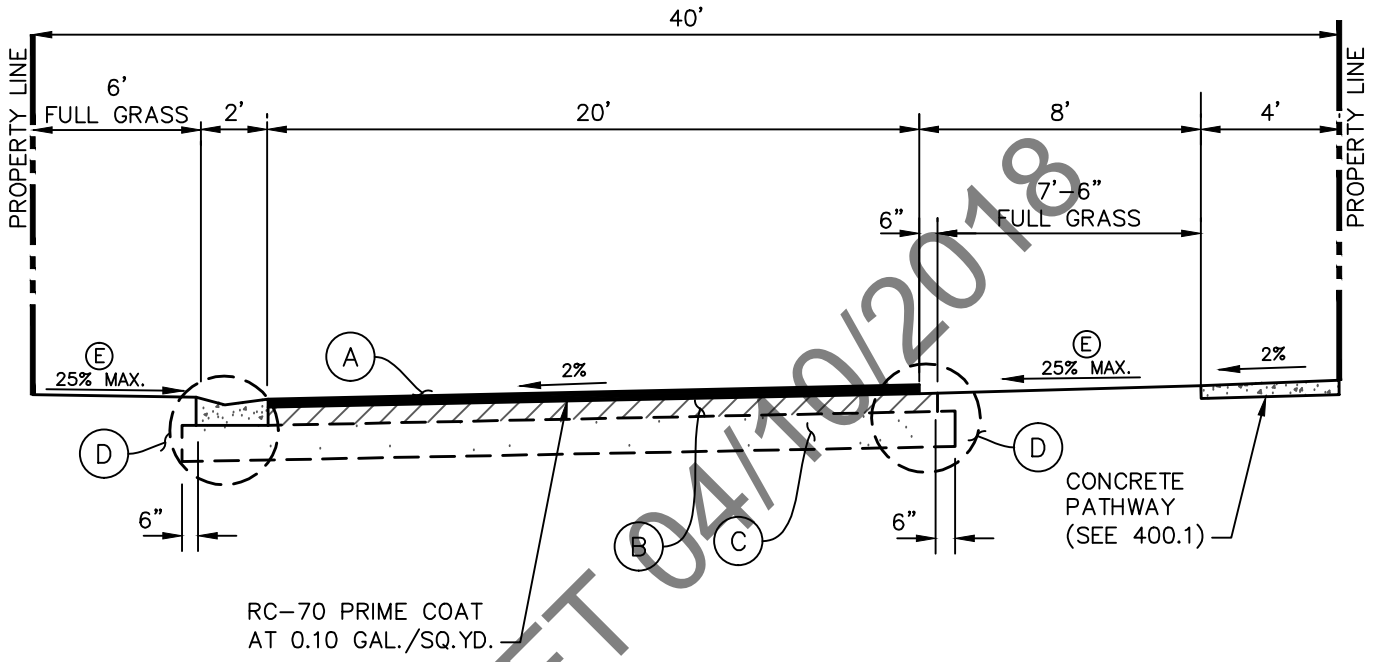
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				32' RESIDENTIAL ACCESS STREET: TRANSVERSE SLOPE	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		100.1B
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



NOTE:
THIS SECTION TO BE USED FOR PRIVATE STREET ONLY

Ⓐ WEARING SURFACE: SEE TABLE 100.6
Ⓑ BASE: SEE TABLE 100.6
Ⓒ SUBGRADE: SEE TABLE 100.6
Ⓓ PAVEMENT EDGE: SEE 600.5A
Ⓔ NOT TO EXCEED 10% IN LOT ACCESS & DRIVEWAY AREAS

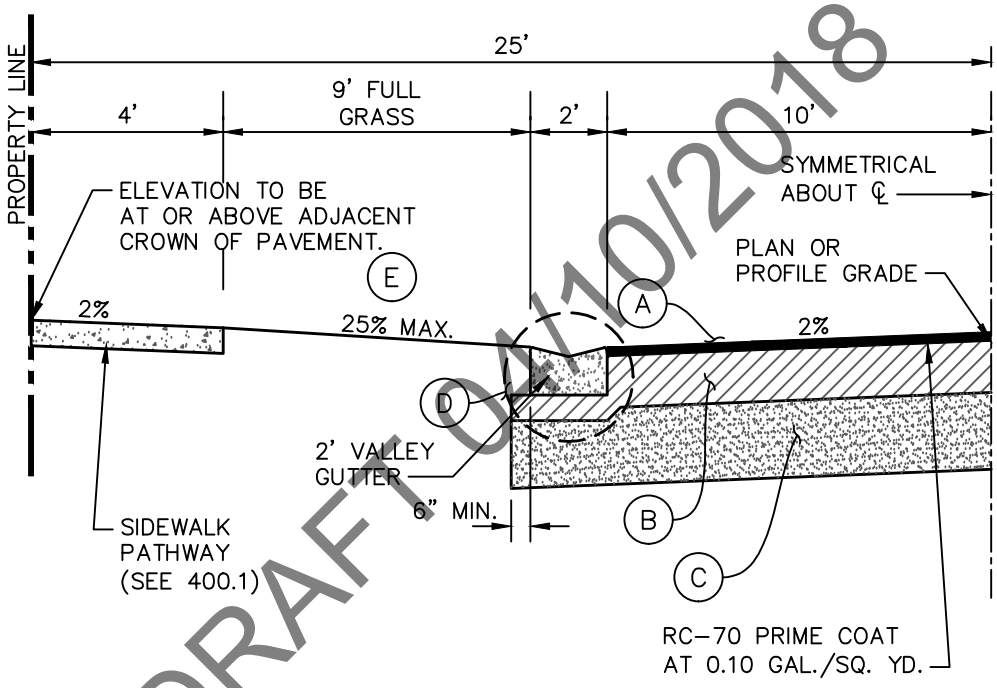
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				40' RESIDENTIAL ACCESS STREET: CROWN	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:	APPROVED: EFFECTIVE:	100.2A
J.R.R.	09/17				
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



Ⓐ WEARING SURFACE: SEE TABLE 100.6
Ⓑ BASE: SEE TABLE 100.6
Ⓒ SUBGRADE: SEE TABLE 100.6
Ⓓ PAVEMENT EDGE: SEE 600.5A
Ⓔ NOT TO EXCEED 10% IN LOT ACCESS & DRIVEWAY AREAS

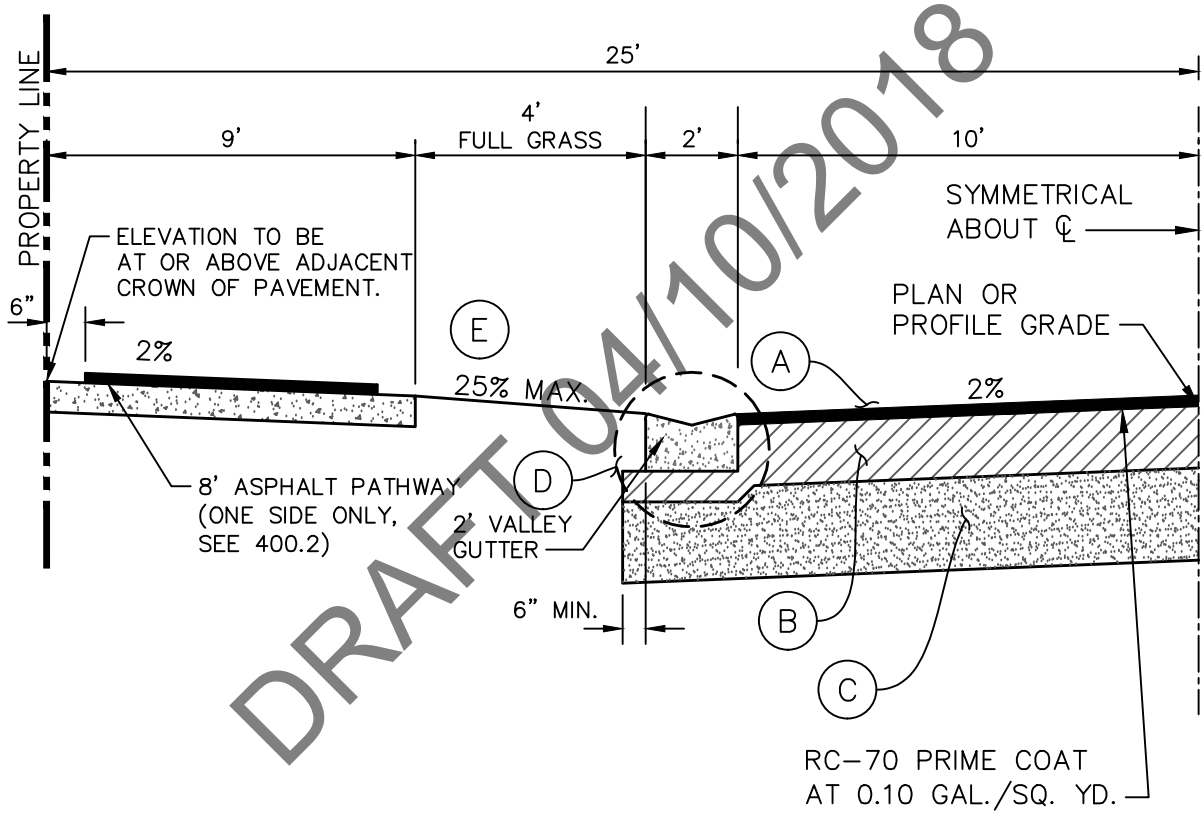
NOTE: THIS SECTION TO BE USED FOR PRIVATE STREET ONLY

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				40' RESIDENTIAL ACCESS STREET: TRANSVERSE SLOPE	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		100.2B
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



Ⓐ WEARING SURFACE: SEE TABLE 100.6
Ⓑ BASE: SEE TABLE 100.6
Ⓒ SUBGRADE: SEE TABLE 100.6
Ⓓ SHOOULDER AND PAVEMENT EDGE: SEE 600.5A
Ⓔ NOT TO EXCEED 10% IN LOT ACCESS & DRIVEWAY AREAS

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				50' LOCAL STREET: SIDEWALK PATHWAY	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		100.3A
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



Ⓐ WEARING SURFACE: SEE TABLE 100.6

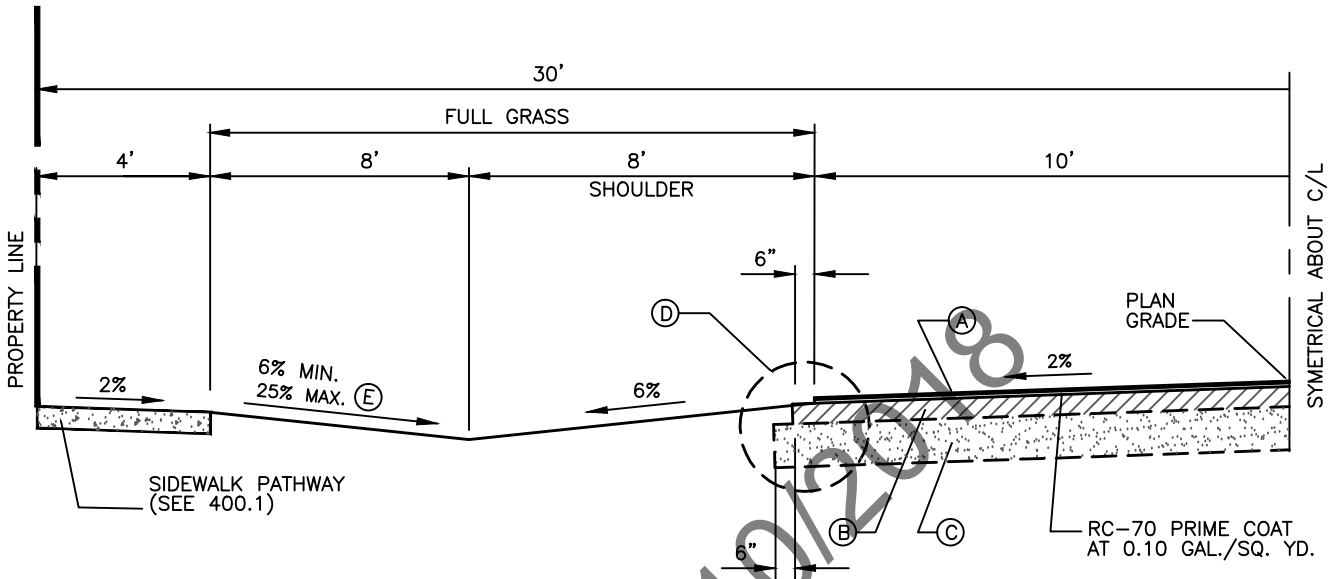
Ⓑ BASE: SEE TABLE 100.6

Ⓒ SUBGRADE: SEE TABLE 100.6

Ⓓ SHOOULDER AND PAVEMENT EDGE: SEE 600.5A

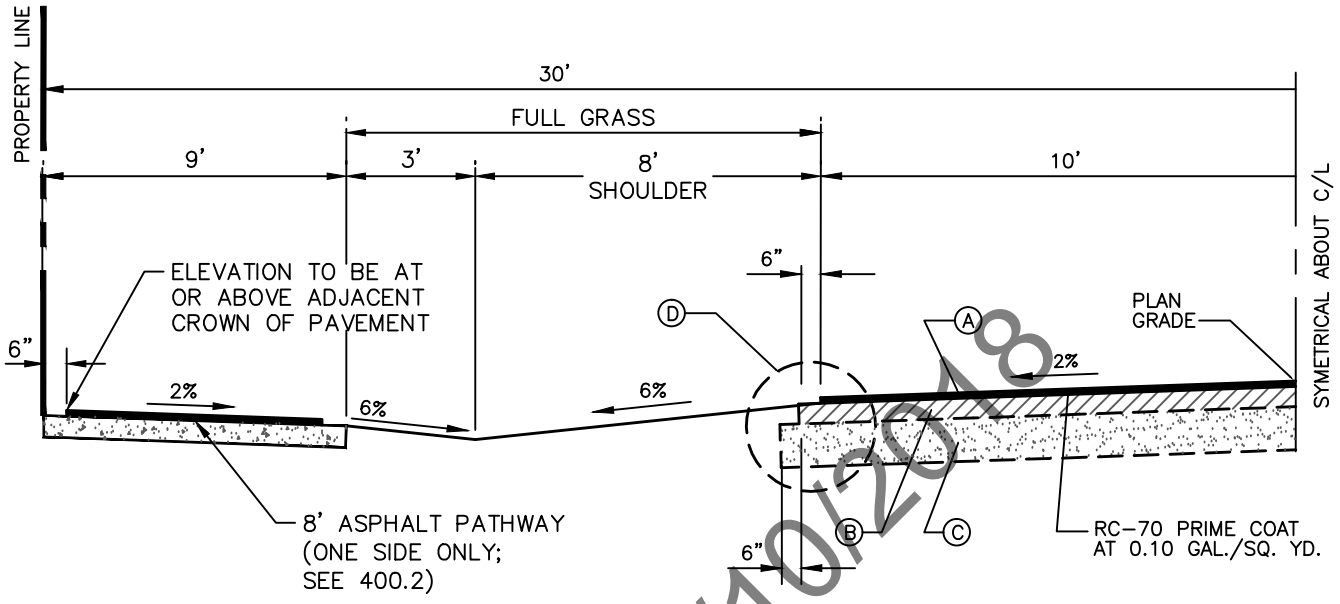
Ⓔ NOT TO EXCEED 10% IN LOT ACCESS & DRIVEWAY AREAS

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				50' LOCAL STREET: ASPHALT PATHWAY	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		100.3B
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



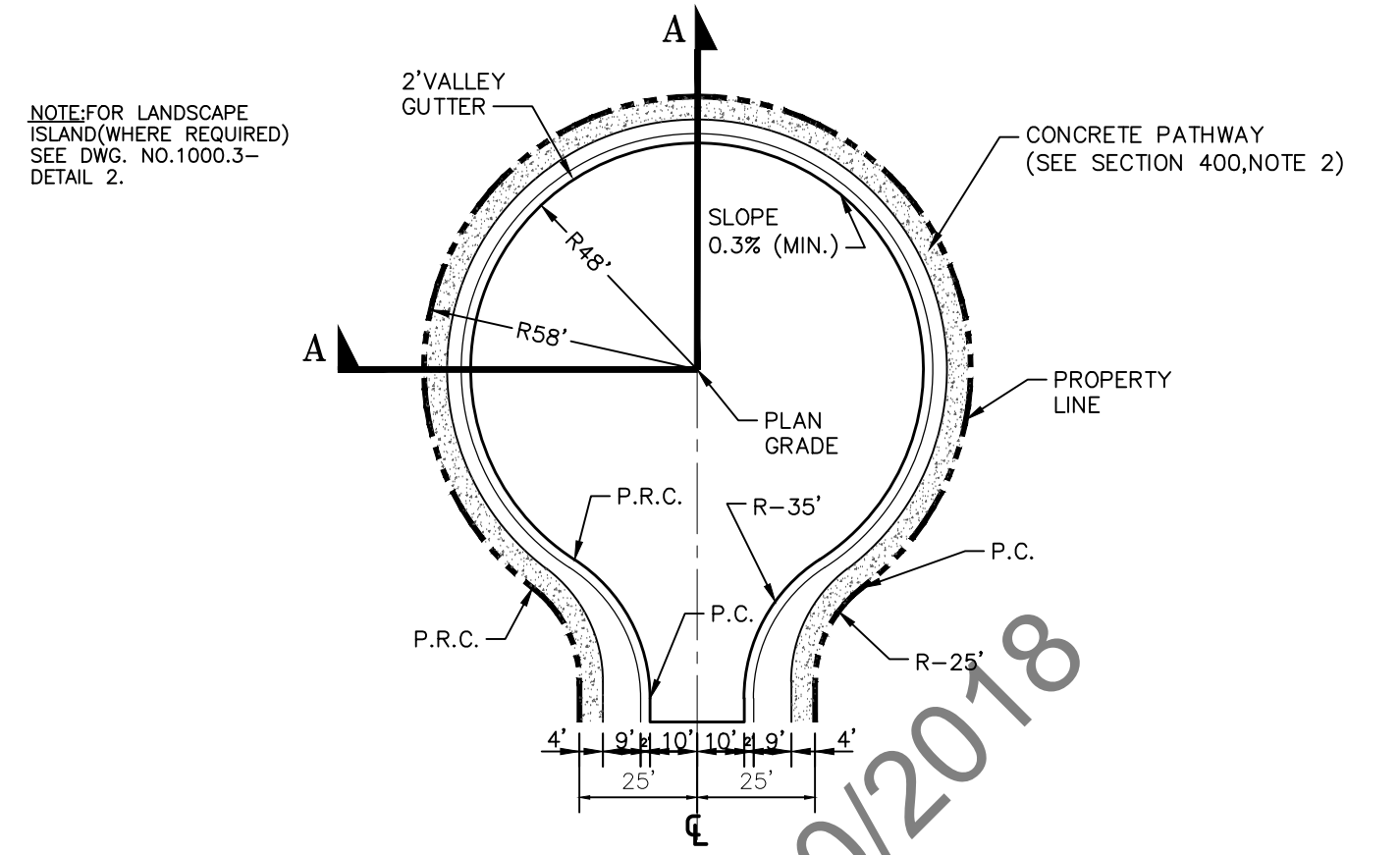
Ⓐ WEARING SURFACE: SEE TABLE 100.6
Ⓑ BASE: SEE TABLE 100.6
Ⓒ SUBGRADE: SEE TABLE 100.6
Ⓓ SHOOULDER AND PAVEMENT EDGE: SEE 600.5A
Ⓔ NOT TO EXCEED 8% IN LOT ACCESS & DRIVEWAY AREAS

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				60' LOCAL STREET: SIDEWALK PATHWAY	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		100.4A
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

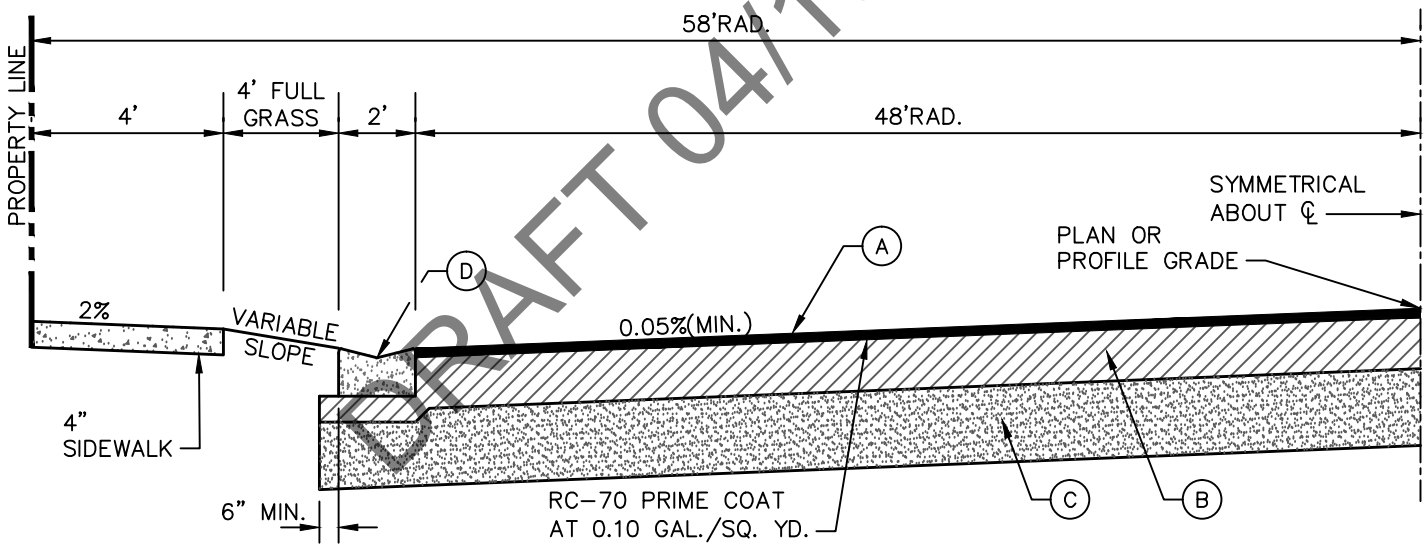


Ⓐ WEARING SURFACE: SEE TABLE 100.6
Ⓑ BASE: SEE TABLE 100.6
Ⓒ SUBGRADE: SEE TABLE 100.6
Ⓓ SHOOULDER AND PAVEMENT EDGE: SEE 600.5A
Ⓔ NOT TO EXCEED 8% IN LOT ACCESS & DRIVEWAY AREAS

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				60' LOCAL STREET: ASPHALT PATHWAY	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		100.4B
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



NOTE:FOR LANDSCAPE ISLAND(WHERE REQUIRED) SEE DWG. NO.1000.3-DETAIL 2.



SECTION A-A

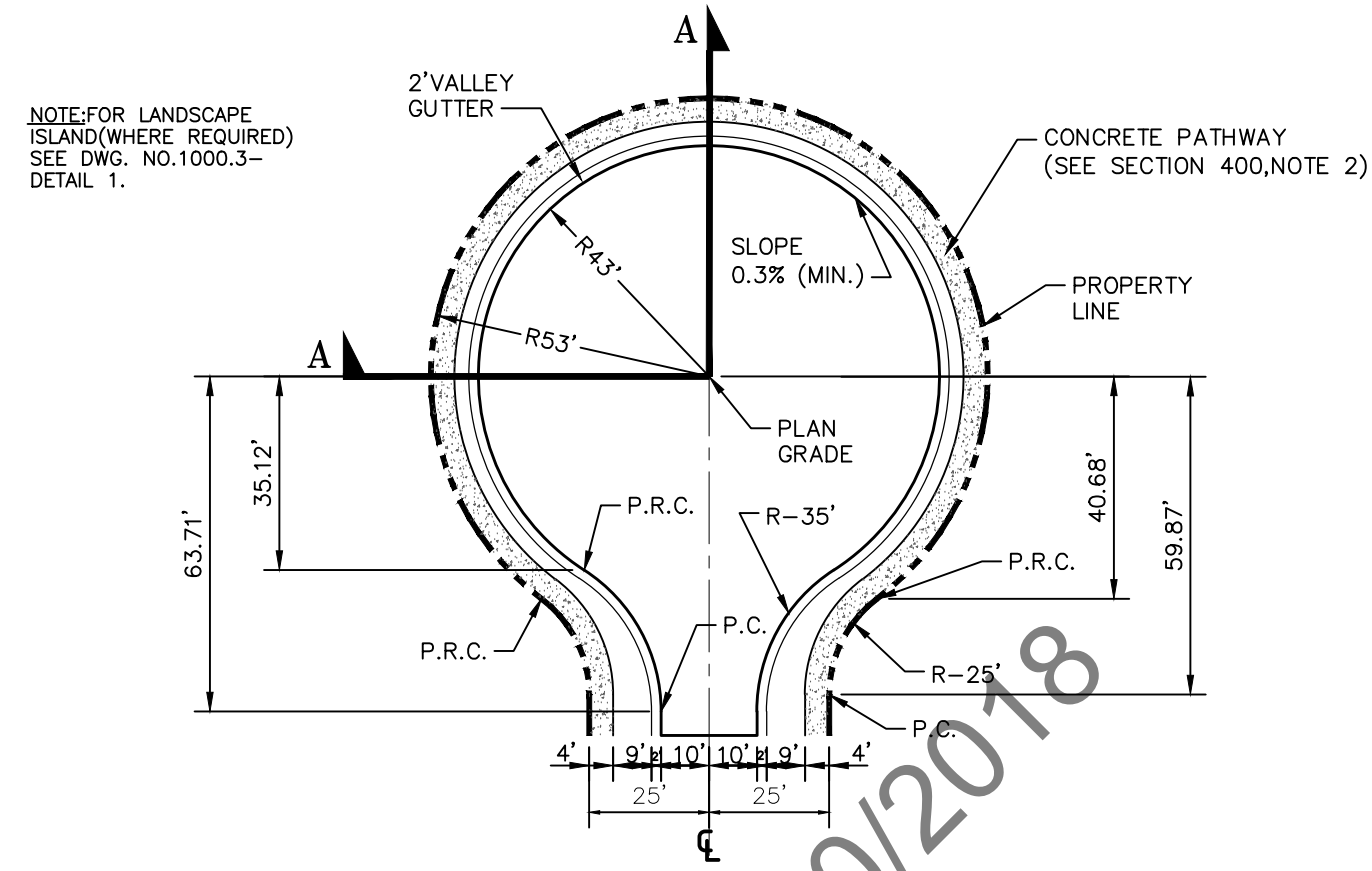
Ⓐ WEARING SURFACE: SEE TABLE 100.6

Ⓑ BASE: SEE TABLE ON 100.6

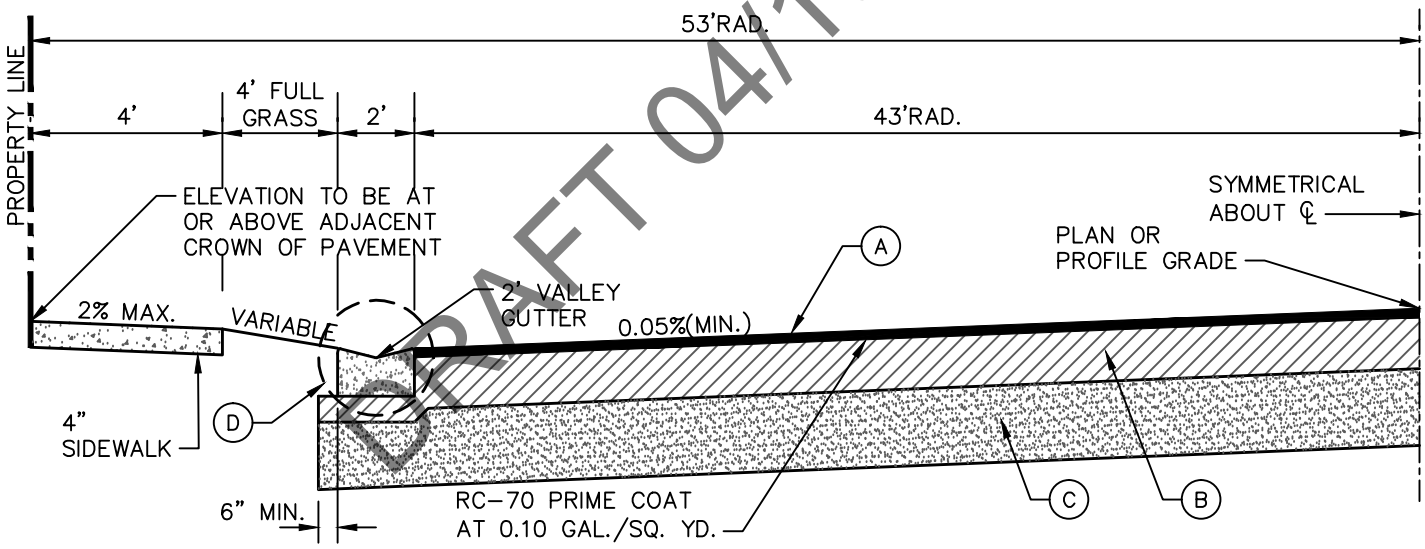
Ⓒ SUBGRADE: SEE TABLE 100.6

Ⓓ SHOULDER AND PAVEMENT EDGE: SEE 600.5A

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				CUL-DE-SAC FOR 50' LOCAL STREET	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		100.5A
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	(PAGE 1 OF 2)
				VILLAGE ENGINEER	



NOTE:FOR LANDSCAPE ISLAND(WHERE REQUIRED) SEE DWG. NO.1000.3-DETAIL 1.



SECTION A-A

NOTE: THIS SECTION MAY BE USED ONLY FOR DEAD END STREETS WITH A TOTAL LENGTH NOT EXCEEDING 150'FROM EDGE OF PAVEMENT OF THE INTERSECTING STREET TO CENTER OF CUL-DE-SAC, AND REQUIRES PRIOR APPROVAL FROM P.B.C. FIRE OFFICIAL.

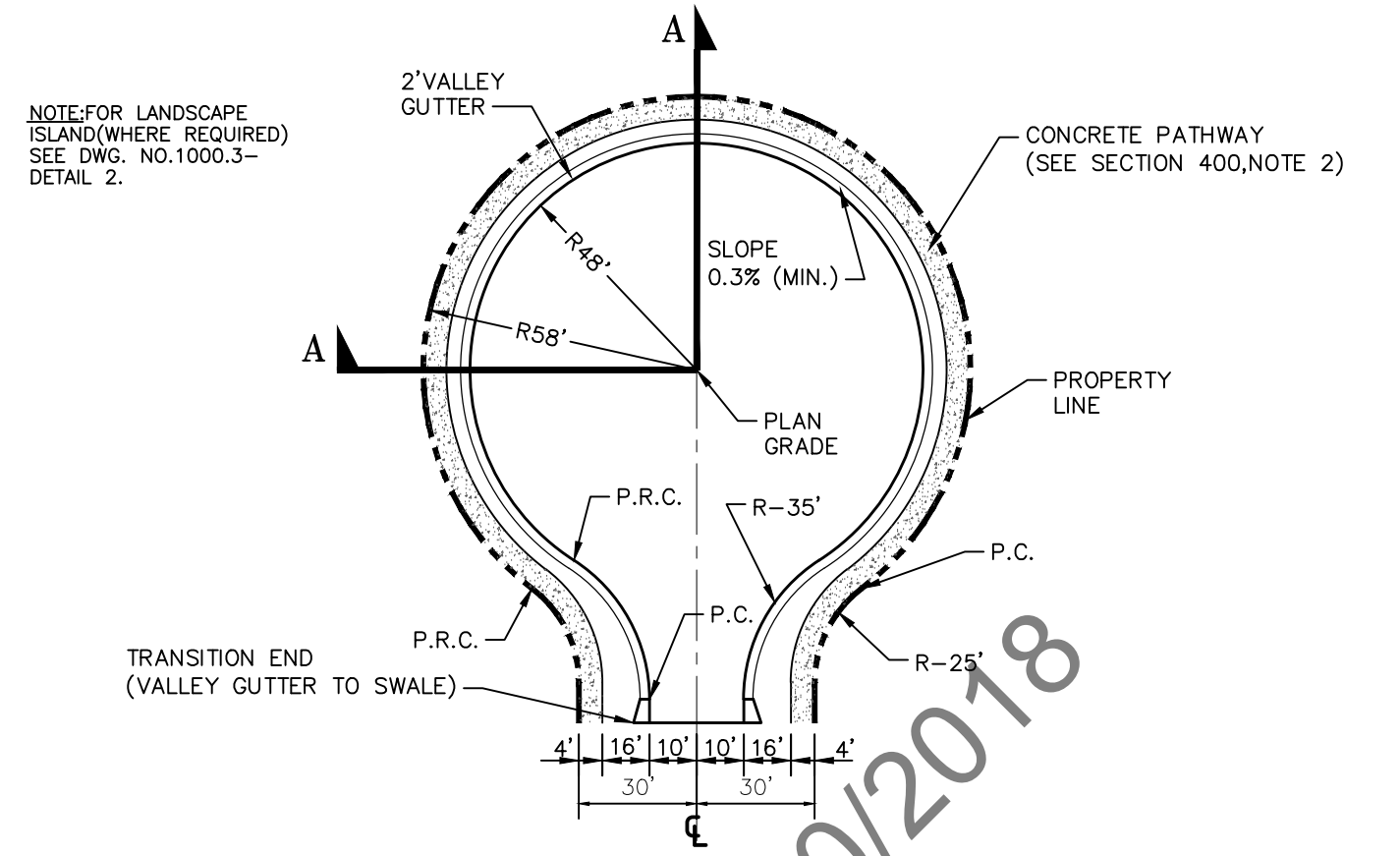
Ⓐ WEARING SURFACE: SEE TABLE 100.6

Ⓑ BASE: SEE TABLE ON 100.6

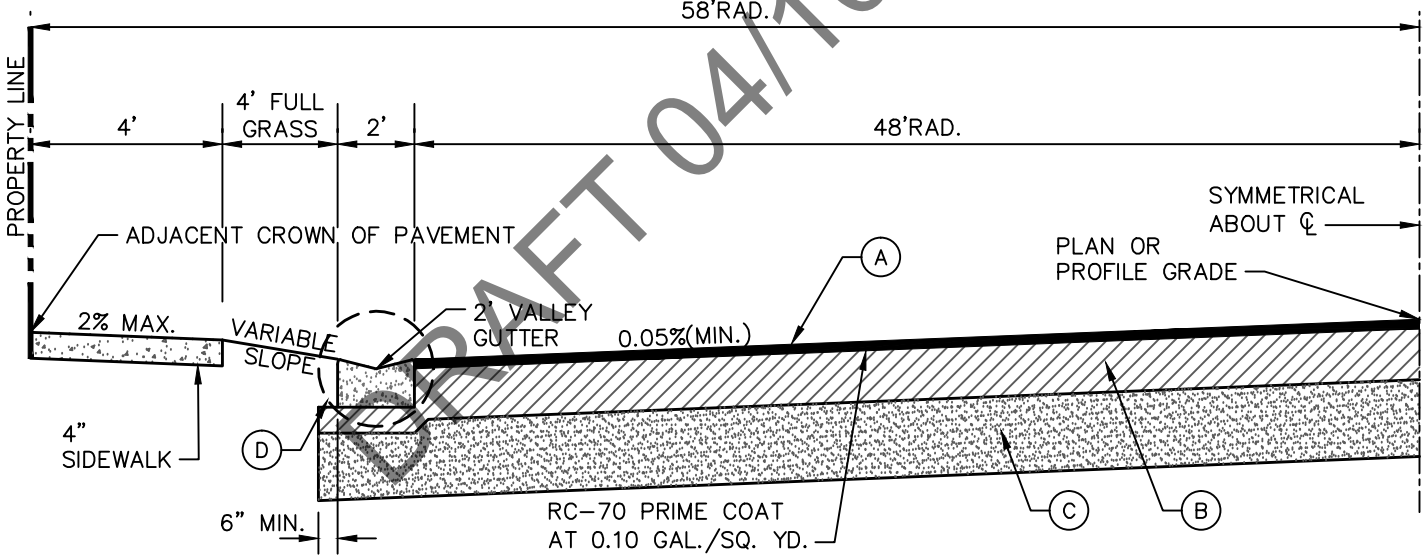
Ⓒ SUBGRADE: SEE TABLE 100.6

Ⓓ SHOULDER AND PAVEMENT EDGE: SEE 600.5A

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				CUL-DE-SAC FOR 50' LOCAL STREET (LENGTH OF 150' OR LESS)	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		
J.R.R.	09/17			APPROVED: EFFECTIVE:	100.5A
REVISED BY:	DATE:			DATE:	(PAGE 2 OF 2)
				VILLAGE ENGINEER	



NOTE:FOR LANDSCAPE ISLAND(WHERE REQUIRED) SEE DWG. NO.1000.3-DETAIL 2.



SECTION A-A

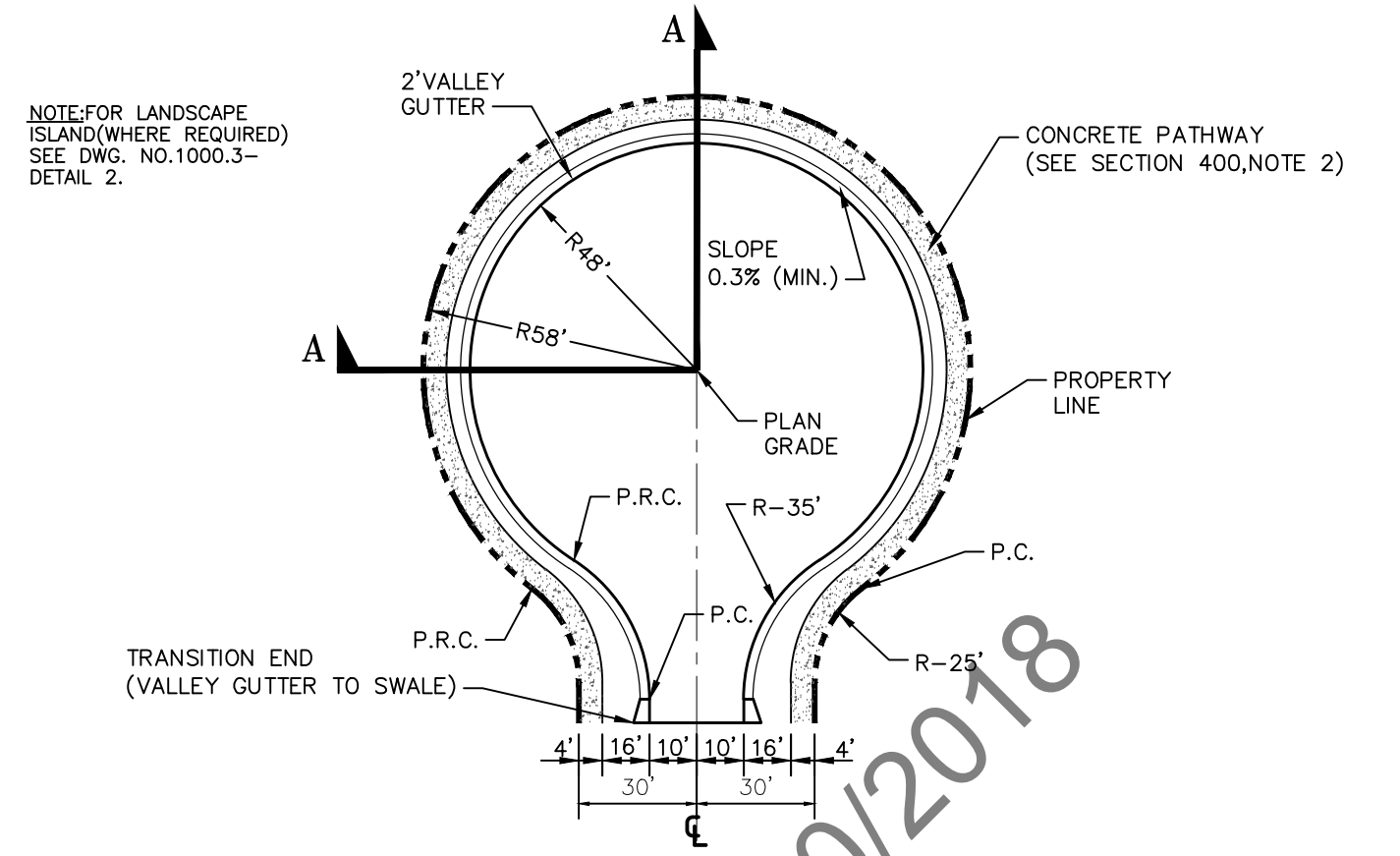
Ⓐ WEARING SURFACE: SEE TABLE 100.6

Ⓑ BASE: SEE TABLE ON 100.6

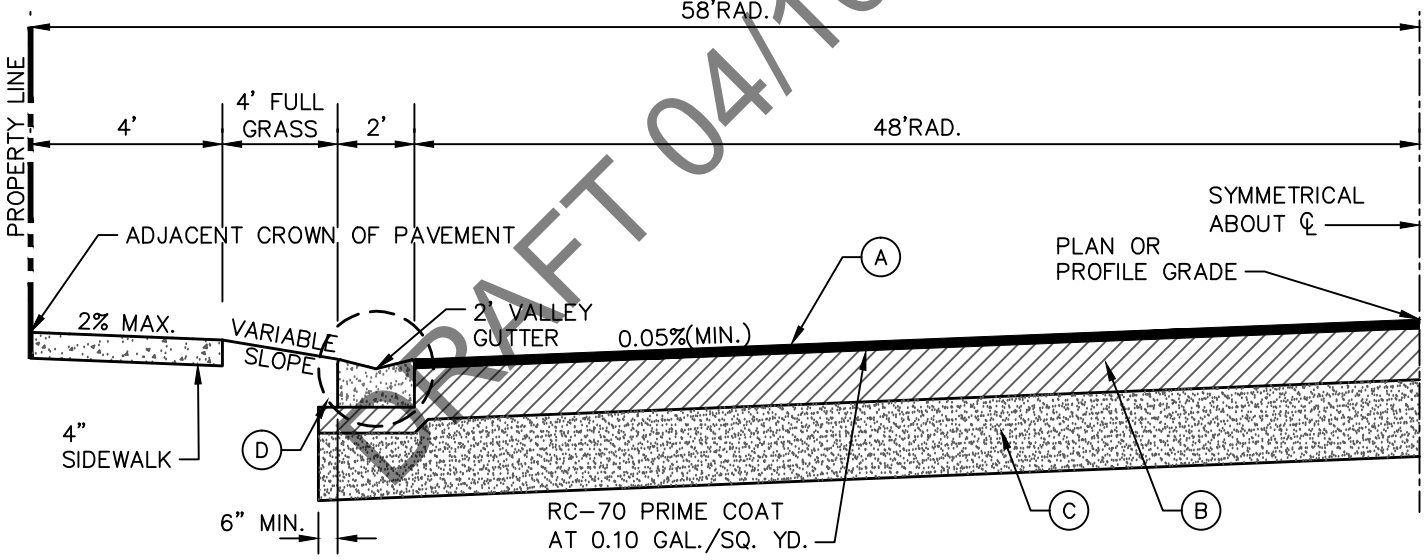
Ⓒ SUBGRADE: SEE TABLE 100.6

Ⓓ SHOULDER AND PAVEMENT EDGE: SEE 600.5A

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				CUL-DE-SAC FOR 60' LOCAL STREET	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		100.5B
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	(PAGE 1 OF 2)
				VILLAGE ENGINEER	



NOTE:FOR LANDSCAPE ISLAND(WHERE REQUIRED) SEE DWG. NO.1000.3-DETAIL 2.



SECTION A-A

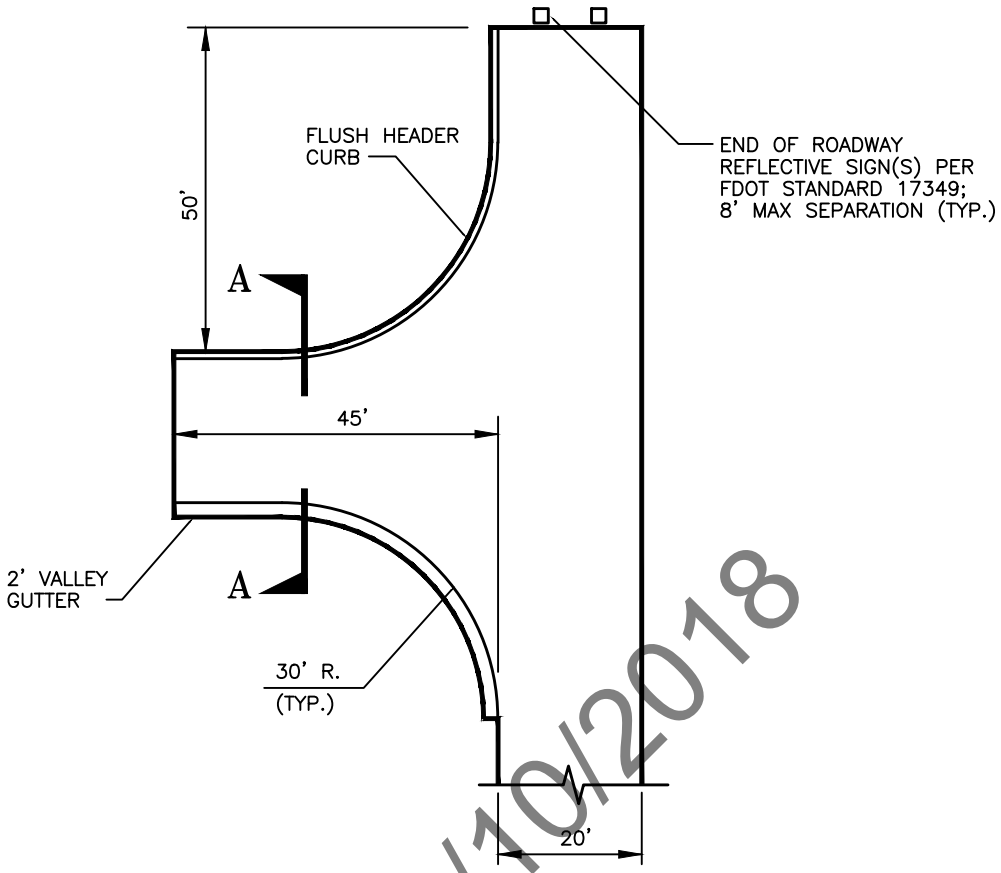
Ⓐ WEARING SURFACE: SEE TABLE 100.6

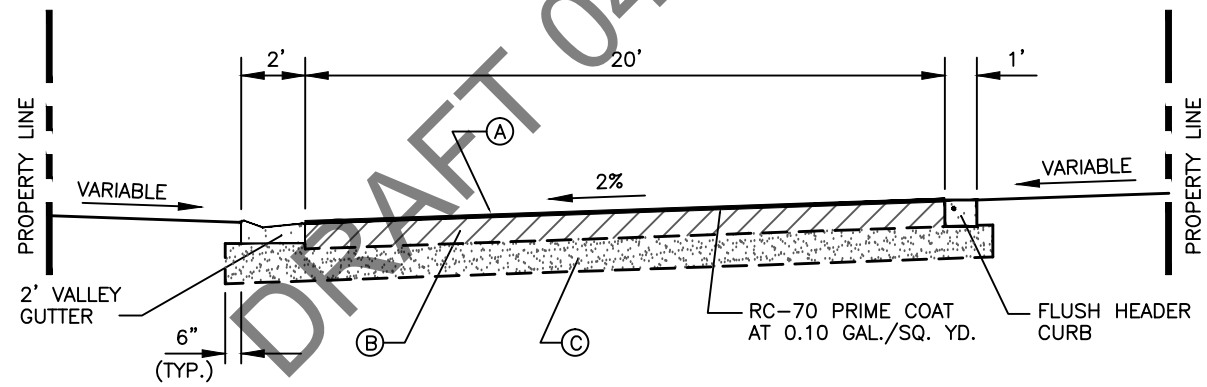
Ⓑ BASE: SEE TABLE ON 100.6

Ⓒ SUBGRADE: SEE TABLE 100.6

Ⓓ SHOULDER AND PAVEMENT EDGE: SEE 600.5A

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				CUL-DE-SAC FOR 60' LOCAL STREET (LENGTH OF 150' OR LESS)	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		
J.R.R.	09/17			APPROVED: EFFECTIVE:	100.5B
REVISED BY:	DATE:			DATE:	(PAGE 2 OF 2)
				VILLAGE ENGINEER	





SECTION A–A

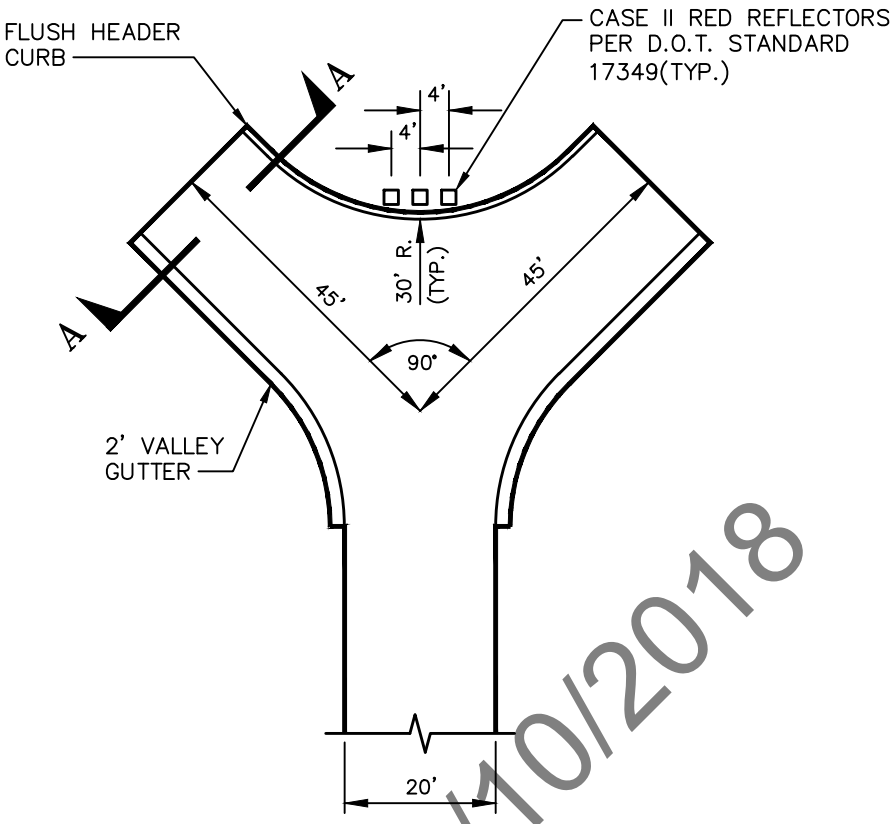
Ⓐ WEARING SURFACE: SEE TABLE 100.6

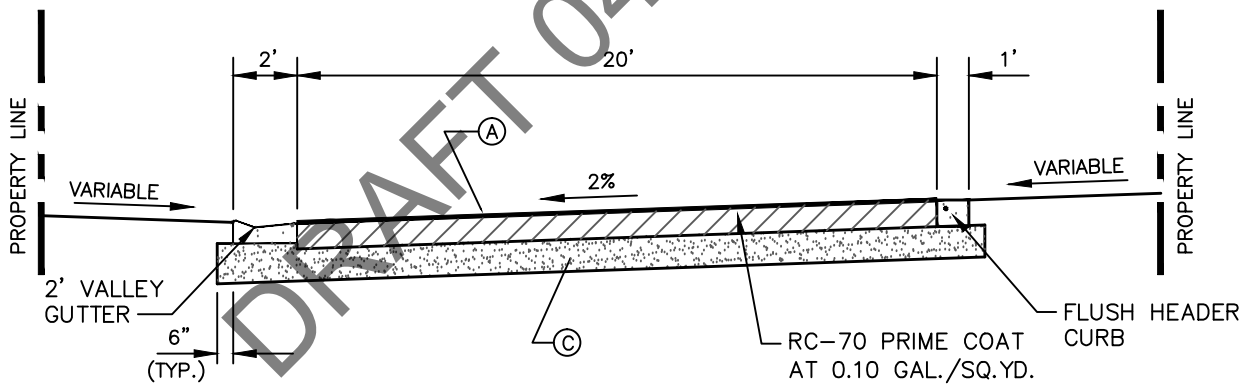
Ⓑ BASE: SEE TABLE ON 100.6

Ⓒ SUBGRADE: SEE TABLE 100.6

NOTE:
THIS CUT SECTION A–A SHALL BE ALLOWED ONLY AS A PERMANENT DEADEND TREATMENT ON 32' AND 40' RESIDENTIAL ACCESS STREETS.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				SHUNT TURNAROUND	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		100.5C
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	





SECTION A–A

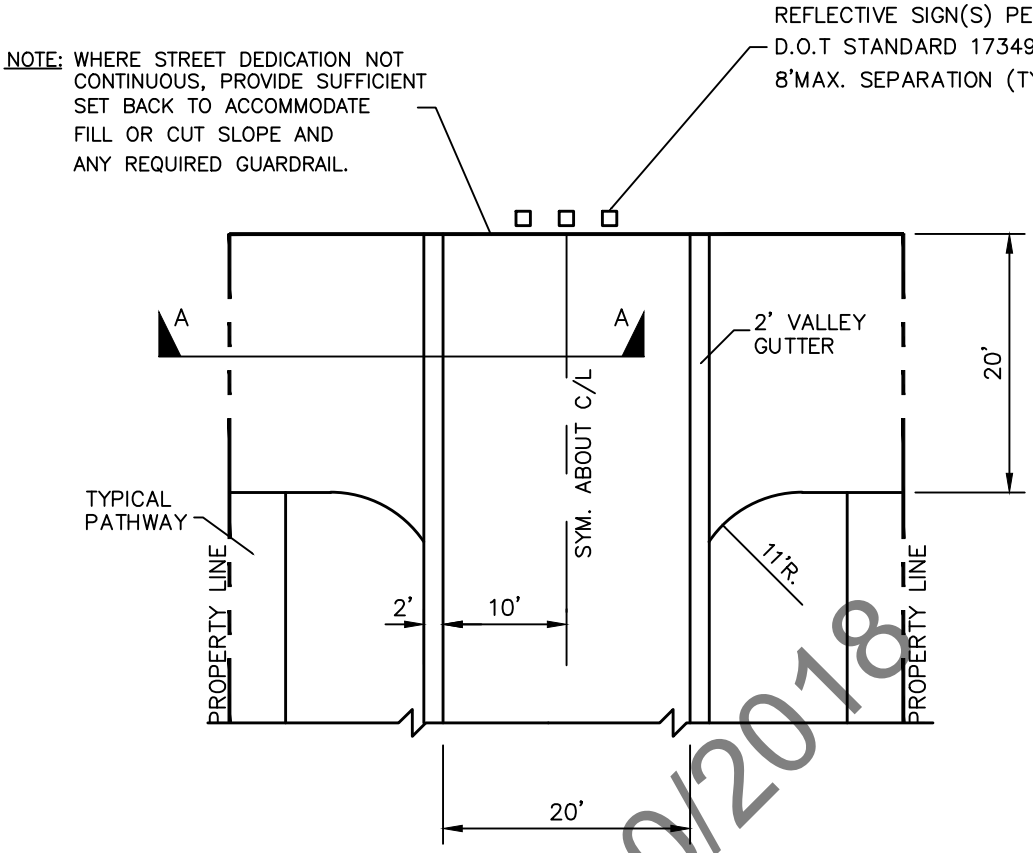
Ⓐ WEARING SURFACE: SEE TABLE 100.6

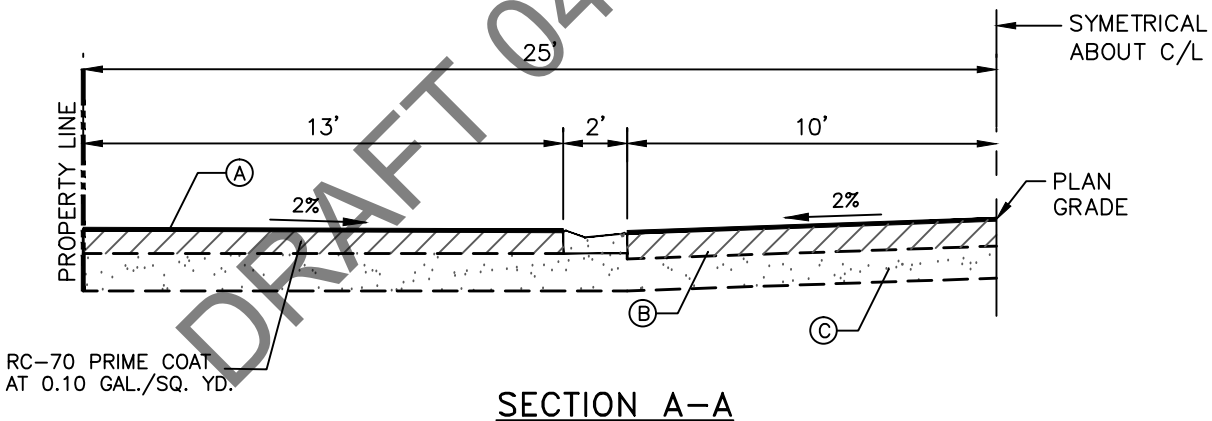
Ⓑ BASE: SEE TABLE 100.6

Ⓒ SUBGRADE: SEE TABLE 100.6

NOTE:
THIS CUT SECTION SHALL BE ALLOWED ONLY AS A PERMANENT DEADEND TREATMENT ON 32' AND 40' RESIDENTIAL ACCESS STREETS.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				WYE TURNAROUND	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		100.5D
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	





SECTION A–A

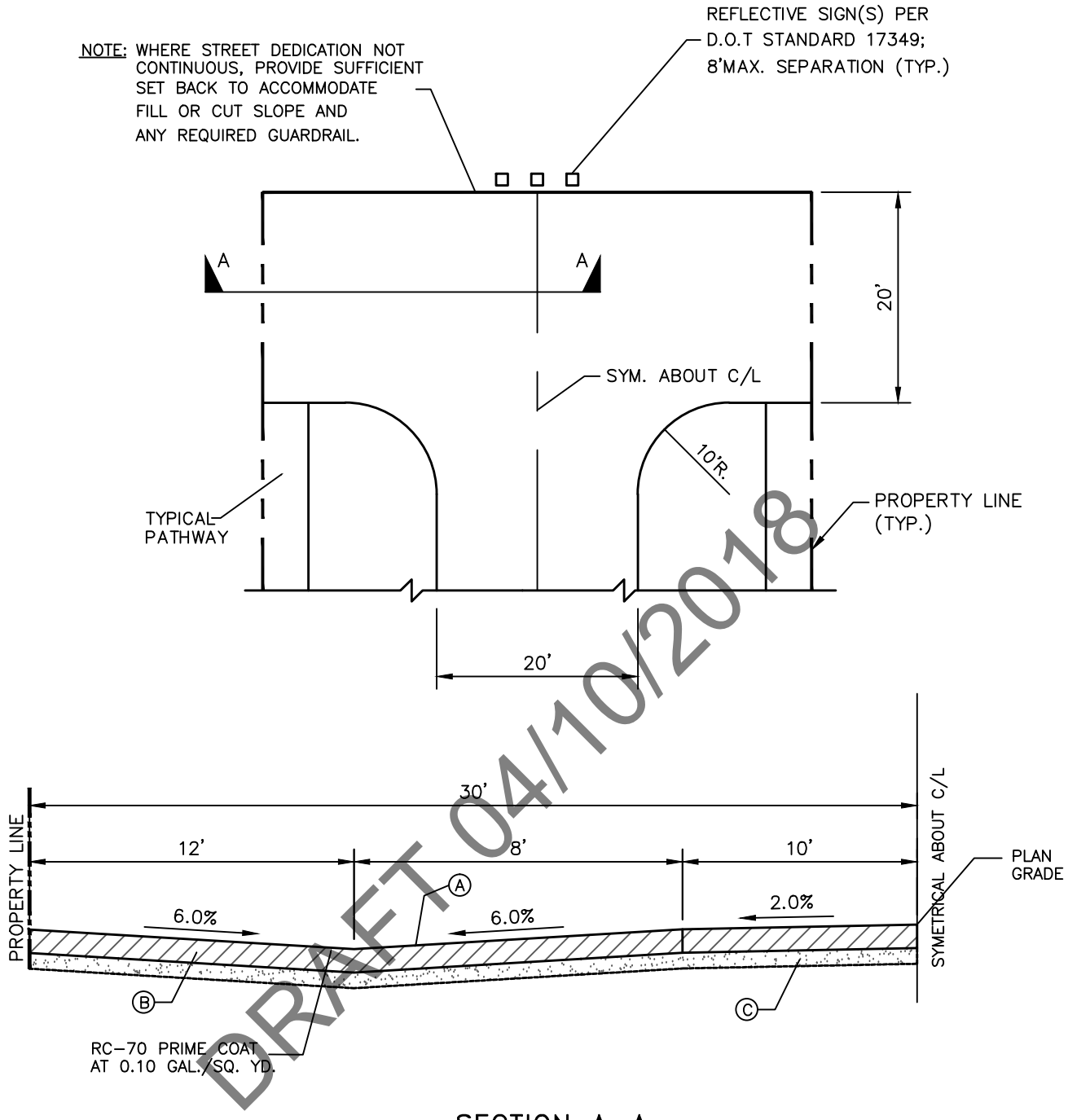
NOTES:
1. THIS TURNAROUND TO BE USED FOR TEMPORARY DEAD–END ONLY.
2. UPON EXTENSION OF STREET, EXCESS PAVEMENT TO BE REMOVED. BASE TO BE REMOVED FROM 1' BEHIND VALLEY GUTTER TO PROPERTY LINE. SHOULDER TO BE RECONSTRUCTED TO APPROPRIATE SECTION.

Ⓐ WEARING SURFACE: SEE TABLE 100.6

Ⓑ BASE: SEE TABLE 100.6

Ⓒ SUBGRADE: SEE TABLE 100.6

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				'T' TURNAROUND FOR 50' LOCAL STREET	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		100.5E
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



SECTION A-A

NOTES:
1. THIS TURNAROUND TO BE USED FOR TEMPORARY DEAD-END ONLY.
2. UPON EXTENSION OF STREET, EXCESS PAVEMENT TO BE NEATLY SAW-CUT AND REMOVED, BASE TO BE REMOVED FROM 1' BEYOND FINAL EDGE OF PAVEMENT TO PROPERTY LINE. SHOULDER TO BE RE-CONSTRUCTED TO APPROPRIATE SECTION.

(A) WEARING SURFACE: SEE TABLE 100.6

(B) BASE: SEE TABLE 100.6

(C) SUBGRADE: SEE TABLE 100.6

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				'T' TURNAROUND FOR 60' LOCAL STREET	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		100.5F
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

TABLE 100.6

TABLE OF MATERIALS AND CONSTRUCTION STANDARDS: RESIDENTIAL ACCESS AND LOCAL STREETS

COMPONENT (1)	DESCRIPTION OF MATERIALS	CONSTRUCTION STANDARDS MINIMUM IN PLACE		NOTES
		THICKNESS (2)	METHOD (3)	
Ⓐ	TYPE SP-12.5 ASPHALTIC CONCRETE OR: TYPE S-3 ASPHALTIC CONCRETE	1-1/2"	TWO (2) EQUAL LIFTS	TACK COAT REQUIRED WITH MULTIPLE LIFTS
Ⓑ	LIMEROCK CRUSHED CONCRETE	6 1/2" 8"	COMPACTED COMPACTED	SEE DETAIL DRAWINGS FOR PRIME COAT NOTATION
Ⓒ	SUBGRADE	12"	COMPACTED	

KEY

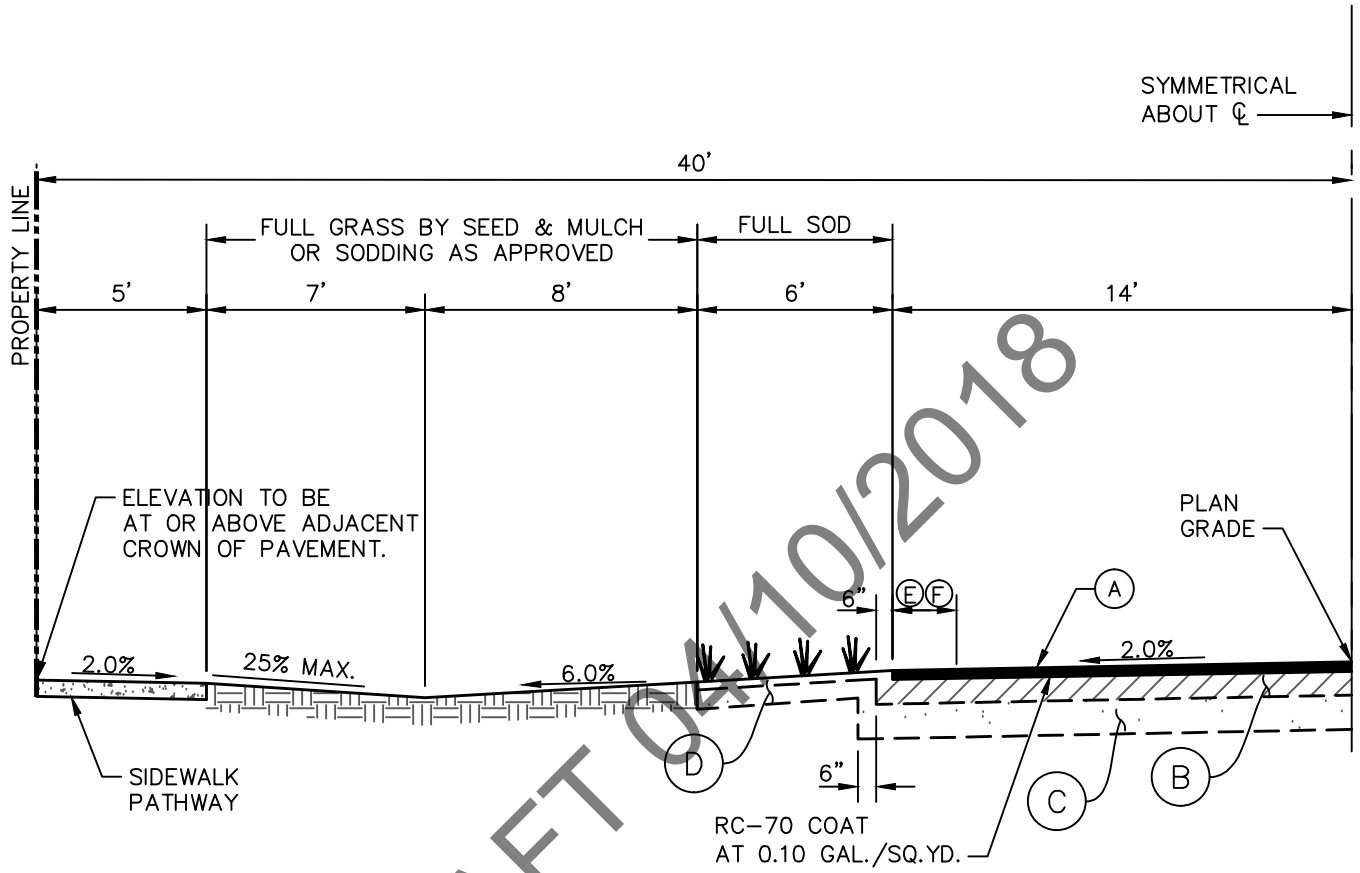
[1] A = PAVEMENT
B = BASE
C = SUBGRADE

[2] ALL DIMENSIONS REFER TO COMPACTED THICKNESS.

[3] COMPACTED TO AT LEAST 98% MAXIMUM DENSITY PER A.A.S.H.T.O. T-180.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				TABLE 100.6	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		100.6
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

NOTE:
THE SECTIONS FOR MAJOR STREETS MAY ALSO BE UTILIZED IN LIEU OF THIS SECTION. REFER TO THE ROADWAY PRODUCTION DIVISION'S DESIGN STANDARDS.

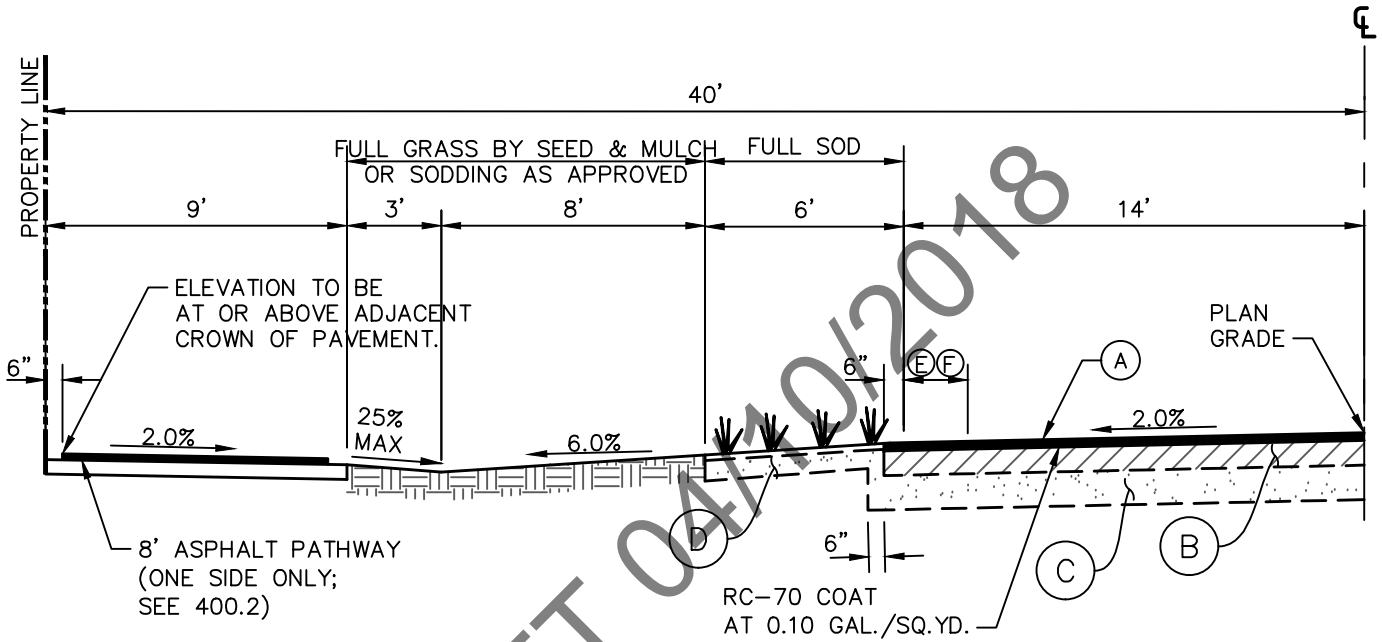


Ⓐ WEARING SURFACE: SEE TABLE 100.12
Ⓑ BASE: SEE TABLE 100.12
Ⓒ SUBGRADE: SEE TABLE 100.12
Ⓓ COMPACTED SHOULDER STABILIZED TO MIN. FBV 75 P.S.I. TO 6" DEPTH SHOULDER TO BE GRADED 0.2'BELOQ PLAN GRADE AND FULLY SODDED.

Ⓔ LANES: 12' WIDE WITH 2'PAVED SHOULDERS
Ⓕ STRIPING: SEE SECTION 500 NOTES

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				80' NON-PLAN COLLECTOR STREET: SWALE, SIDEWALK PATHWAY	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		100.10A
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

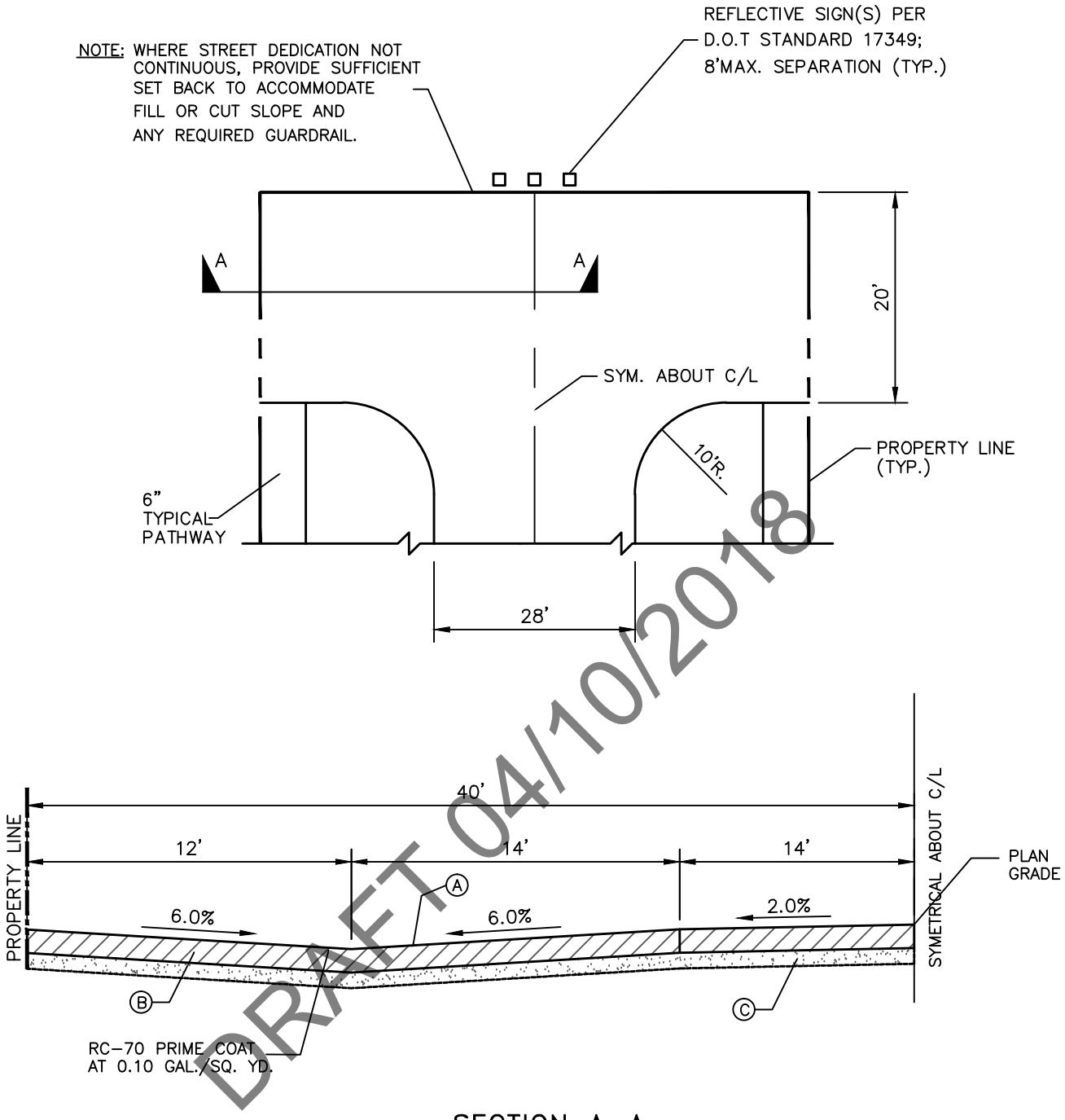
NOTE:
THE SECTIONS FOR MAJOR STREETS MAY ALSO BE UTILIZED IN LIEU OF THIS SECTION. REFER TO THE ROADWAY PRODUCTION DIVISION'S DESIGN STANDARDS.



Ⓐ WEARING SURFACE: SEE TABLE 100.12
Ⓑ BASE: SEE TABLE 100.12
Ⓒ SUBGRADE: SEE TABLE 100.12
Ⓓ COMPACTED SHOULDER STABILIZED TO MIN. FBV 75 P.S.I. TO 6" DEPTH SHOULDER TO BE GRADED 0.2' BELOW PLAN GRADE AND FULLY SODDED.

Ⓔ LANES: 12' WIDE WITH 2'PAVED SHOULDERS
Ⓕ STRIPING: SEE SECTION 500 NOTES

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				80' NON-PLAN COLLECTOR STREET: SWALE, ASPHALT PATHWAY	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:	APPROVED: EFFECTIVE:	100.10B
J.R.R.	09/17				
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



SECTION A-A

NOTES:
1. THIS TURNAROUND TO BE USED FOR TEMPORARY DEAD-END ONLY.
2. UPON EXTENSION OF STREET, EXCESS PAVEMENT TO BE NEATLY SAW-CUT AND REMOVED, BASE TO BE REMOVED FROM 1' BEYOND FINAL EDGE OF PAVEMENT TO PROPERTY LINE. SHOULDER TO BE RE-CONSTRUCTED TO APPROPRIATE SECTION.

(A) WEARING SURFACE: SEE TABLE 100.12

(B) BASE: SEE TABLE 100.12

(C) SUBGRADE: SEE TABLE 100.12

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				'T' TURNAROUND NON-PLAN 80' COLLECTOR STREET	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		100.11
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

TABLE 100.12

TABLE OF MATERIALS AND CONSTRUCTION STANDARDS: NON-PLAN COLLECTOR STREETS

COMPONENT (1)	DESCRIPTION OF MATERIALS	CONSTRUCTION STANDARDS MINIMUM IN PLACE		NOTES
		THICKNESS (2)	METHOD (3)	
Ⓐ	TYPE SP-12.5 ASPHALTIC CONCRETE OR: TYPE S-3 ASPHALTIC CONCRETE	1-1/2"	TWO (2) EQUAL LIFTS	TACK COAT REQUIRED WITH MULTIPLE LIFTS
Ⓑ	LIMEROCK	8"	COMPACTED	
	CRUSHED CONCRETE	10"	COMPACTED	SEE DETAIL DRAWINGS FOR PRIME COAT NOTATION
Ⓒ	SUBGRADE	12"	COMPACTED	SUBGRADE SHALL HAVE A MINIMUM FLORIDA BEARING VALUE OF 75 P.S.I.

KEY

[1] A = PAVEMENT
B = BASE
C = SUBGRADE

[2] ALL DIMENSIONS REFER TO COMPACTED THICKNESS.

[3] COMPACTED TO AT LEAST 98% MAXIMUM DENSITY PER A.A.S.H.T.O. T-180.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				TABLE 100.12	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		100.12
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

200

STREET INTERSECTIONS AND CONNECTIONS

200

STREET INTERSECTIONS AND CONNECTIONS

General Design and Construction Policies

1. THE DRAWINGS CONTAINED IN THIS SECTION ARE INTENDED TO ILLUSTRATE ACCEPTABLE TYPICAL DESIGN OF THE REQUIRED IMPROVEMENT. THE DRAWINGS ARE NOT INTENDED TO BE USED DIRECTLY AS DETAILS FOR CONSTRUCTION PLANS.

   EACH DRAWING MUST BE MODIFIED TO CONTAIN COMPLETE CONSTRUCTION DETAIL AND NOTATIONS IN ORDER TO BE USED ON CONSTRUCTION PLAN SUBMITTALS.

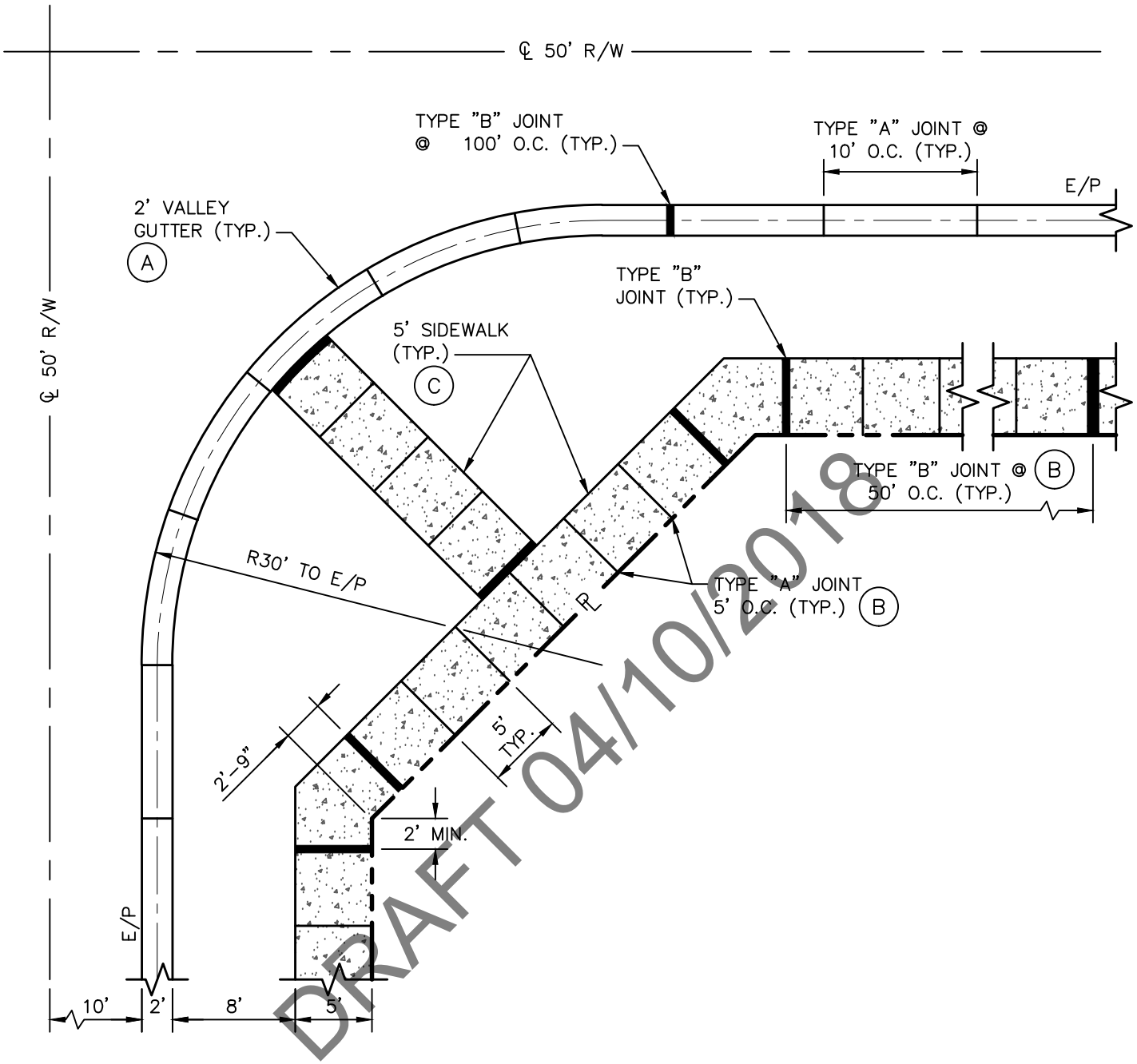
2. STREET WIDTH TRANSITIONS

   Except as otherwise approved by the Engineer to accommodate a guardhouse median or turn lane(s), transitions the width of the right-of-way or private street tract, as applicable, shall occur only at intersections.

3. INTERSECTION SIGHT DISTANCE

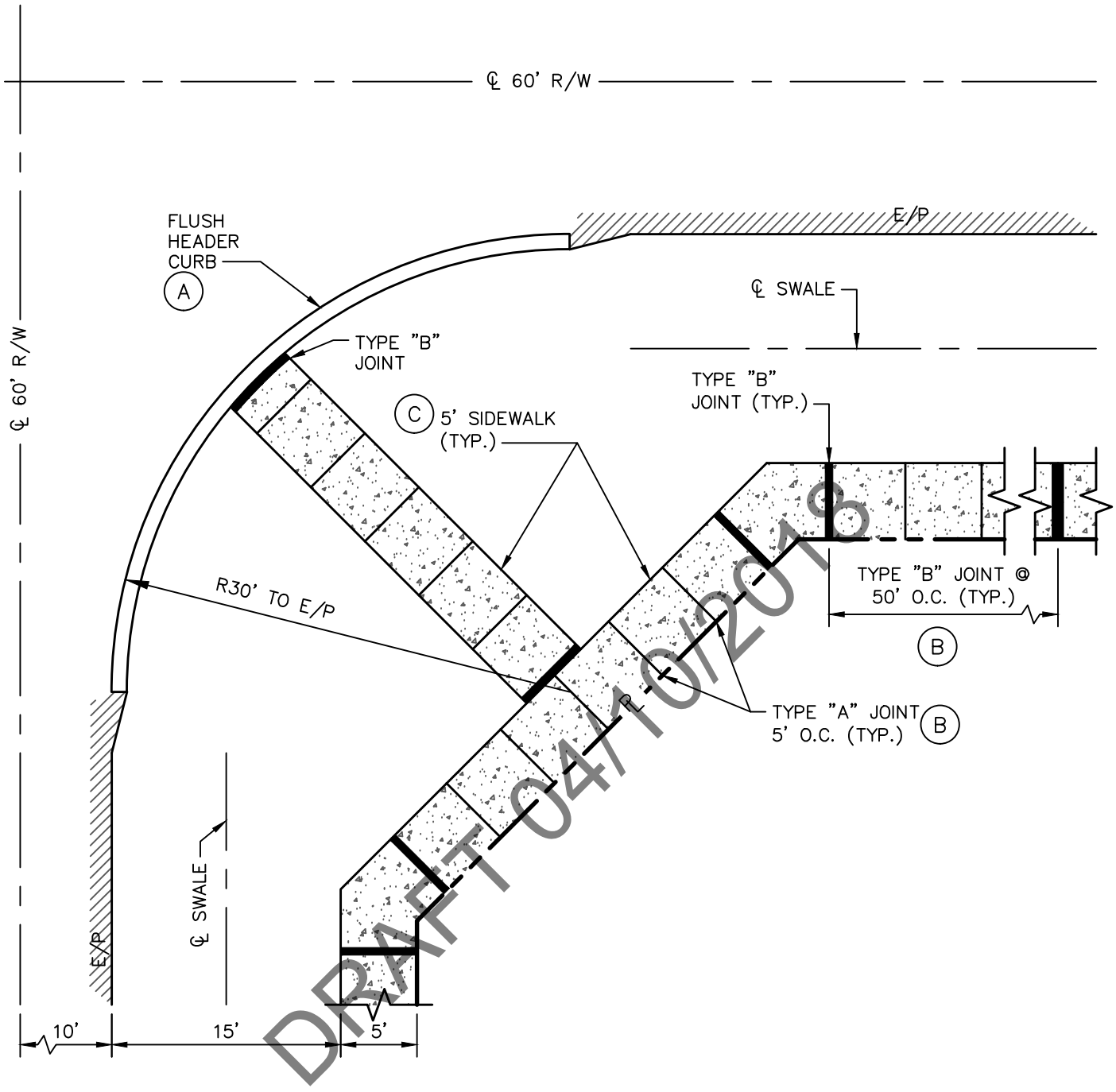
   Except as otherwise approved by the Engineer to accommodate a new intersection on an existing street, all required turning and crossing safe sight distance triangles (i.e. clear areas) shall be accommodated within the limits of the street right-of-way or tract, as applicable.

   Intersections shall be designed to provide turning and crossing sight distances in accordance with the FDOT Greenbook, Latest Edition, based on a design speed of twenty (20) m.p.h . for intersection with a residential access street, thirty (30) m.p.h. for intersection with a local street, and forty-five (45) m.p.h. for intersection with a non-plan collector street. A sight distance setback of fifteen (15) feet shall be used in all cases.



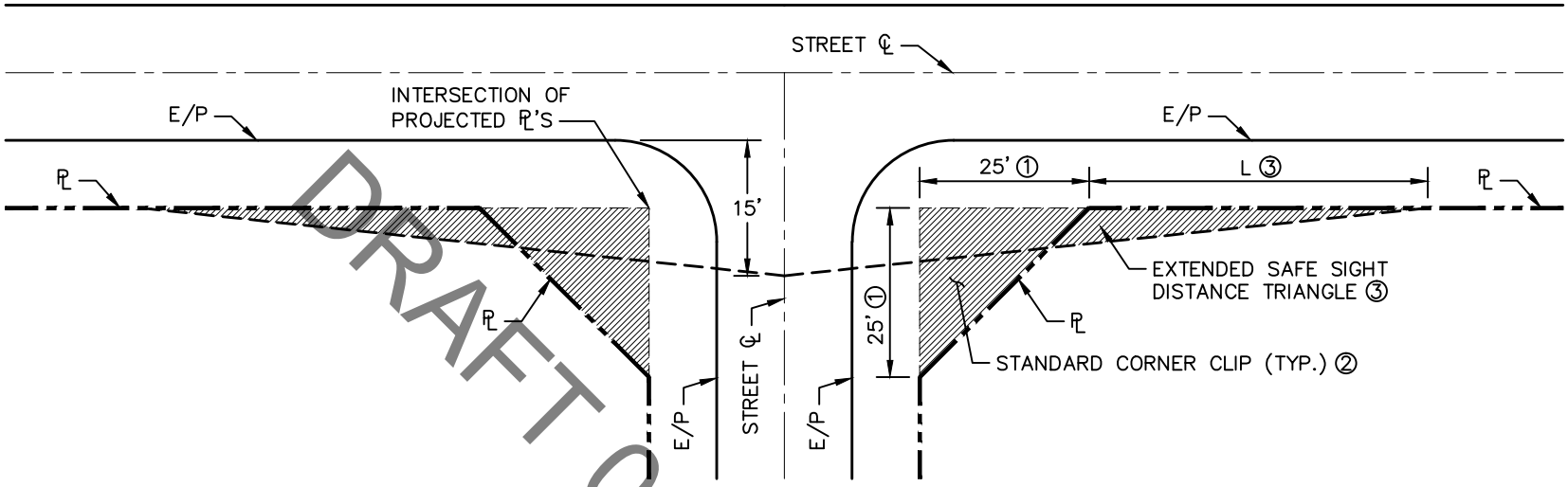
Ⓐ SEE DRAWING NO. 600.1 AND 600.5A
Ⓑ SEE DRAWING NO. 1000.1
Ⓒ SEE DRAWING NO. 400.1

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				SIDEWALK AND CURBING AT INTERSECTION OF 50' LOCAL STREETS	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		200.1
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



Ⓐ SEE DRAWING NO. 600.1 AND 600.5A
Ⓑ SEE DRAWING NO. 1000.1
Ⓒ SEE DRAWING NO. 400.1

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				SIDEWALK AND CURBING AT INTERSECTION OF 60' LOCAL STREETS	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		200.2
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

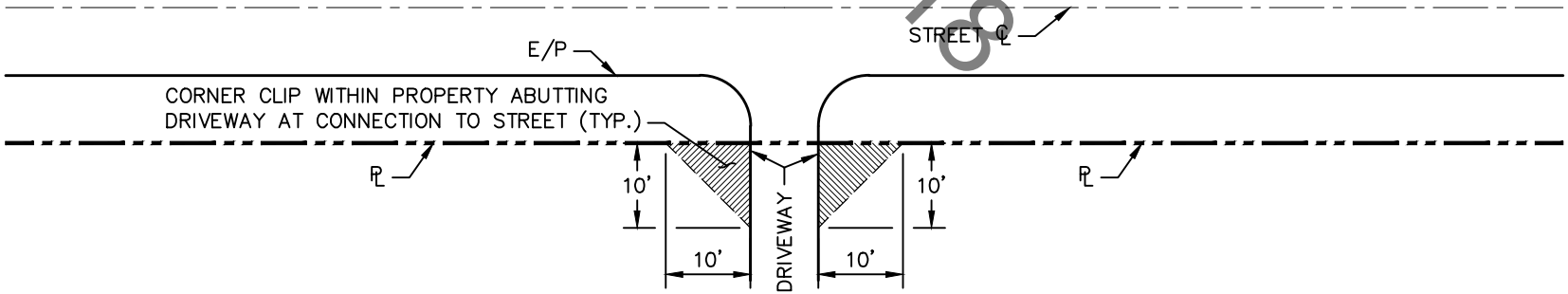


① FOR STANDARD CORNER CLIPS AT INTERSECTIONS OF TWO THOROUGHFARE PLAN STREETS, SEE "PALM BEACH COUNTY TYPICAL FOR PAVEMENT MARKINGS, SIGNING B, GEOMETRICS" (TRAFFIC DIVISION).

② STANDARD CORNER CLIPS ARE TO BE INCLUDED IN THE STREET RIGHT-OF-WAY AT INTERSECTIONS.

③ EXTENDED SAFE SIGHT DISTANCE TRIANGLE(S) MAY BE REQUIRED TO BE ESTABLISHED BY RESTRICTIVE EASEMENT, WITH .ADDITIONAL DISTANCE (L) AS NEEDED TO PROVIDE REQUIRED STOPPING AND TURNING SIGHT DISTANCE PER THE FDOT "GREENBOOK", LATEST EDITION. USE OF SUCH EASEMENTS MAY BE CONSIDERED FOR APPROVAL BY THE VILLAGE ENGINEER ONLY IN CASES WHERE A NEW STREET IS PROPOSED TO INTERSECT ALONG OR ADJACENT TO A CURVED SEGMENT OF AN EXISTING STREET, AND THE INTERSECTION CANNOT BE REASONABLY RELOCATED SO AS TO PROVIDE FOR REQUIRED SIGHT DISTANCES WITHIN THE LIMITS OF THE STREET TRACTS.

STREET INTERSECTIONS



DRIVEWAY CONNECTION TO STREET

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION

DRAWN BY: J.R.R. DATE: 09/17

REVISED BY: DATE:

REVISED BY: DATE:

CORNER CLIPS AND SAFE SIGHT DISTANCE TRIANGLES

APPROVED: EFFECTIVE:

VILLAGE ENGINEER DATE:

DRAWING NO. 200.4

300

DRIVEWAY AND OTHER TURNOUTS

SECTION 300
DRIVEWAYS AND OTHER TURNOUTS

General Design And Construction Policies

1. The drawings contained in this section are intended to illustrate acceptable typical design of the required improvement. **THE DRAWINGS ARE NOT INTENDED TO BE USED DIRECTLY AS DETAILS FOR CONSTRUCTION PLANS.**

   EACH DRAWING MUST BE MODIFIED TO CONTAIN COMPLETE CONSTRUCTION DETAIL AND NOTATIONS IN ORDER TO BE USED ON CONSTRUCTION PLAN SUBMITTALS.

2. Commercial driveways

   a. Unless otherwise specified herein, or by prior approval from the engineer for alternative design, driveways shall be constructed in accordance with FDOT design index no. 515 or 516, as applicable.

3. Driveway locations and spacing

   The following minimum standards shall apply to the location and spacing of street connections for all driveways. Where it is deemed necessary by the engineer for traffic safety and operational reasons, the following distances may be increased or decreased as a result of site specific conditions. The construction of turn lanes and physical barriers, such as medians, may be required by the engineer on adjacent streets, after his review of the specific site access proposal.

   a. Corner lots

   i. Along local streets, driveways to corner lots shall be located to provide a minimum of 35 feet from the intersection of the projection of the right -of -way lines to the near edge of driveway pavement. On zero lot line corner lots, driveways shall be located a minimum of 25 feet from the intersection of the projection of right-of-way lines to the near edge of driveway pavement.

   ii. Along minor (i.e., non-plan) collector streets, driveways to corner lots shall be located to provide a minimum of 50 feet from the intersection of the projection of the right-of-way lines to the near edge of driveway pavement. It is desirable to minimize the number of driveways connecting to a collector street. However, if required for access or circulation, a second driveway may be permitted on the side of the lot adjacent to the lanes departing the intersection, as long as the edge to edge distance between driveways is such that the pavement return radii are separated by at least 10 feet.

      In general, it is desirable to locate such driveways as far away from street intersections as possible.

   iii. Along major (i.e., plan) collector and arterial streets, driveways to corner lots shall be located in accordance with applicable requirements of i1access management standards for village roads shown on the thoroughfare right-of-way identification map", available from the traffic division.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				DRIVEWAYS AND OTHER TURNOUTS GENERAL NOTES	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		300–1
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

b. Mid-block lots

i. Along local streets, driveways serving abutting lots shall be located such that flares or returns are separated by at least 5 feet.
ii. Along minor collector streets, driveways shall be located such that the near edge of driveway pavement is at least 15 feet from the shared property line. Flares or returns for the proposed driveways shall be separated from the flares or returns for existing driveways on abutting lots by at least 10 feet.
iii. Along major collector and arterial streets, driveways shall be located in accordance with applicable requirements of "access management standards for village roads shown on the thoroughfare right-of-way identification map", available from the traffic division.
iv. Driveways serving shopping centers shall be well spaced, and the number of driveways shall be the minimum number practical to serve the site.

4. Driveway construction

Except for those driveways serving individual single family or duplex residential lots, each driveway shall be classified as one of the following types and constructed in accordance with the following requirements.

Where it is deemed necessary by the engineer for traffic safety and operational reasons, the applicable requirements may be increased or decreased as a result of site specific conditions. The construction of physical barriers, such as medians, may be required by the village engineer on adjacent streets, after his review of the specific site access proposal.

a. Minor driveway

A minor driveway is one that serves an average daily traffic volume of no more than sod vehicles (trips). The minimum distance from the street right of way at any driveway to any interior service drive or parking space shall be 25 feet, measured on a line perpendicular to the street right-of-way. Minor driveways shall provide minimum single lane widths of 12 feet and provide

Minimum pavement return radii of 20 feet. In cases when minor driveway connections are to be made to curbed streets the connections may be constructed using drop curb instead of radial returns. Minor driveways may have left and turn lanes and/or median modifications as required by the engineer.

b. Intermediate driveway

An intermediate driveway is one that serves an average daily traffic volume greater than 500 vehicles but not more than 2,000 vehicles (trips). The minimum distance from the street right of way at any driveway to any interior service .drive or parking space shall be so feet, measured on a line perpendicular to the street right-af-way. Intermediate driveways shall provide minimum ingress lanes 12 feet wide and egress lanes 12 feet wide. Where left and right turn egress is allowed, dual egress lanes may be provided and marked appropriately for use as left and right turn lanes. Intermediate driveways shall provide minimum pavement return radii of 30 feet. Intermediate driveways may have left and turn lanes and/or median modifications as required by the village engineer.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				DRIVEWAYS AND OTHER TURNOUTS GENERAL NOTES	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		300–2
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

c. Major driveway

A major driveway is one that serves an average daily traffic volume in excess of 2,000 vehicles (trips). The minimum distance from the street right-of-way at any driveway to any interior service drive or parking space shall be 100 feet, measured on a line perpendicular to the street right-of-way. Major driveways shall provide minimum ingress lanes 14 feet wide and egress lanes 12 feet wide. Where left and right turn egress is allowed, dual egress lanes shall be provided and marked appropriately for use as left and right turn lanes. Intermediate driveways shall provide minimum pavement return radii of 40 feet. Major driveways shall have left and right turn lanes and/or median modification as required by the engineer.

5. Turn lane requirements for driveways

a. Left turn lanes

A 12 foot wide left turn lane with appropriate storage and transitions shall be provided at each driveway where inbound peak hour left turning traffic is 30 vehicles or more. This requirement may be waived by the village engineer when, in his opinion, the speed and volume of opposing traffic is not sufficient to require a left turn lane.

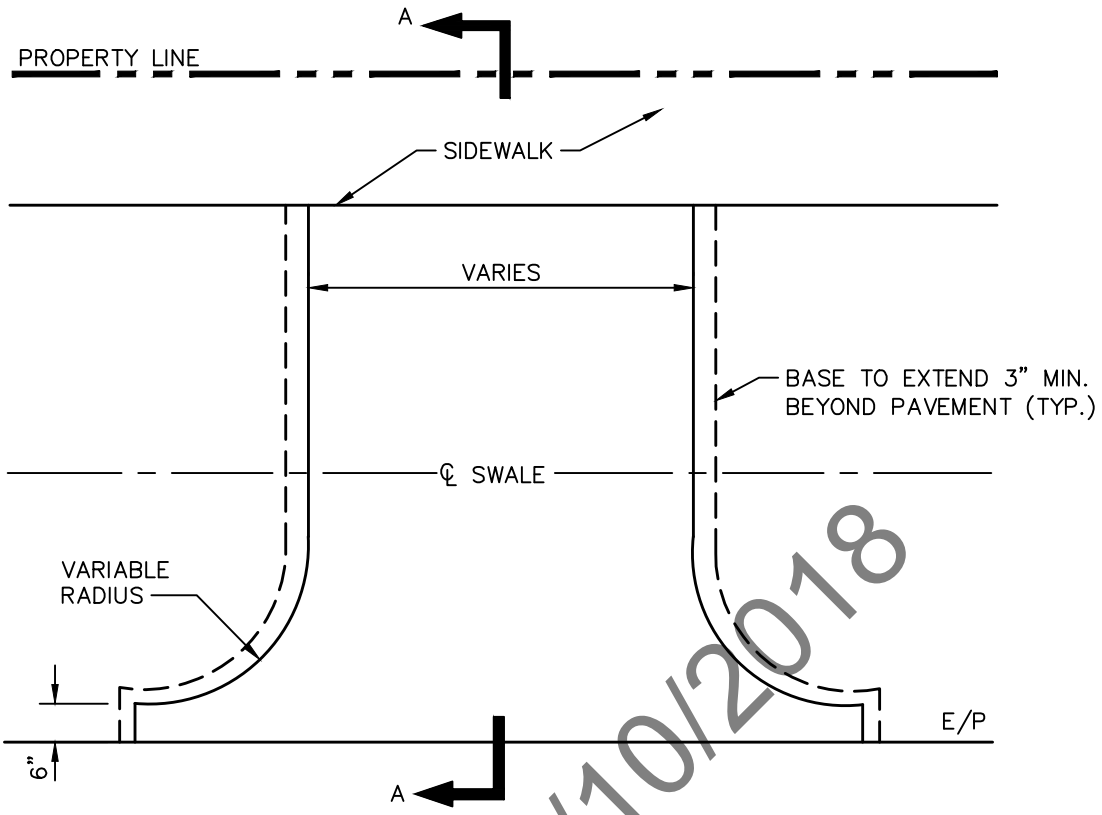
b. Right turn lanes

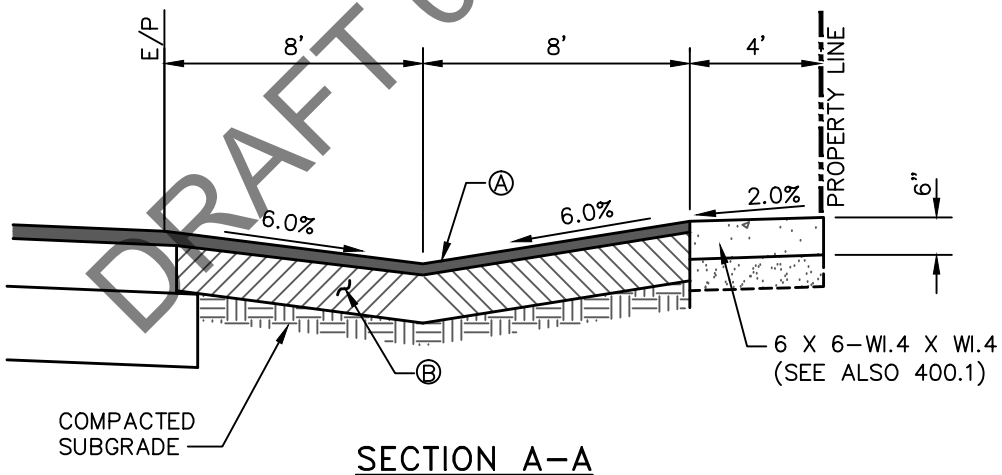
A 12 foot wide right turn lane with appropriate storage and transition shall be provided at each driveway where street average daily traffic volumes exceed 10,000 vehicles per day, and driveway volume exceeds 1,000 trips per day, with at least 75 right turns inbound in the peak hour.

6. Traffic signalization

Traffic signalization for driveway entrance(s) when warranted, as determined by the engineer, shall be installed at the sole expense of the project's developer.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				DRIVEWAYS AND OTHER TURNOUTS GENERAL NOTES	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		300–3
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



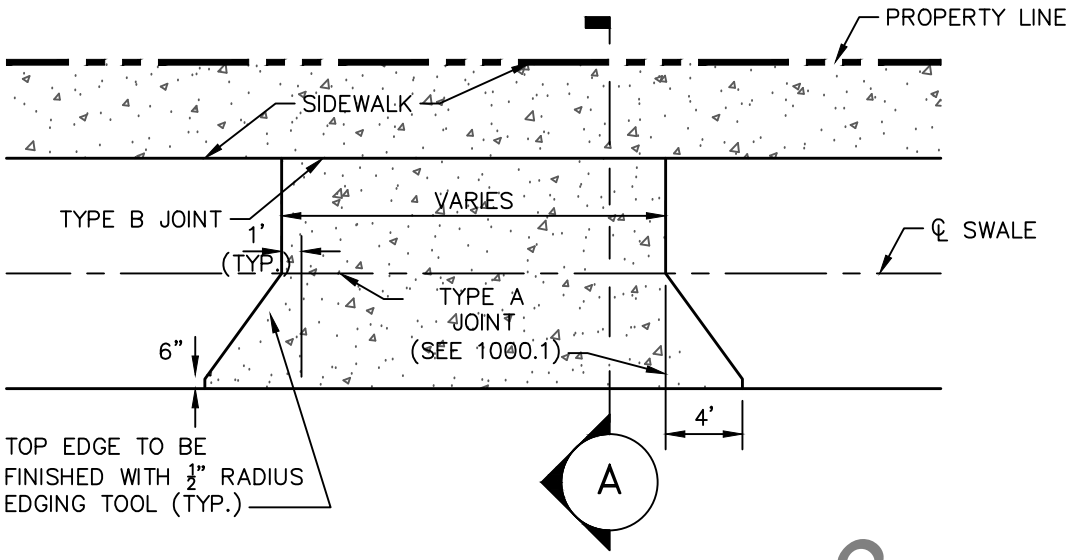


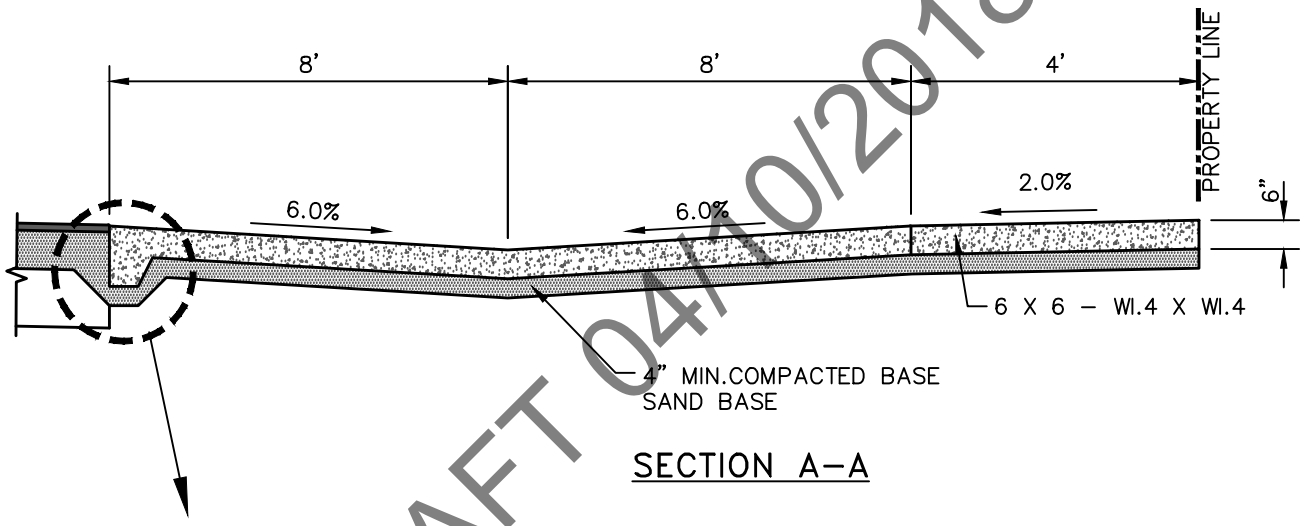
SECTION A–A

Ⓐ WEARING SURFACE: 1" ASPHALTIC CONCRETE

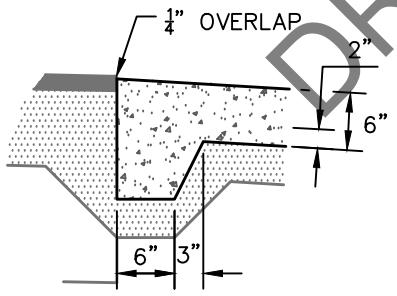
Ⓑ BASE: SEE TABLE 100.6

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				RESIDENTIAL DRIVEWAY SWALE SECTION (ASPHALT)	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		
J.R.R.	09/17			APPROVED: EFFECTIVE:	300.1A
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	





SECTION A–A

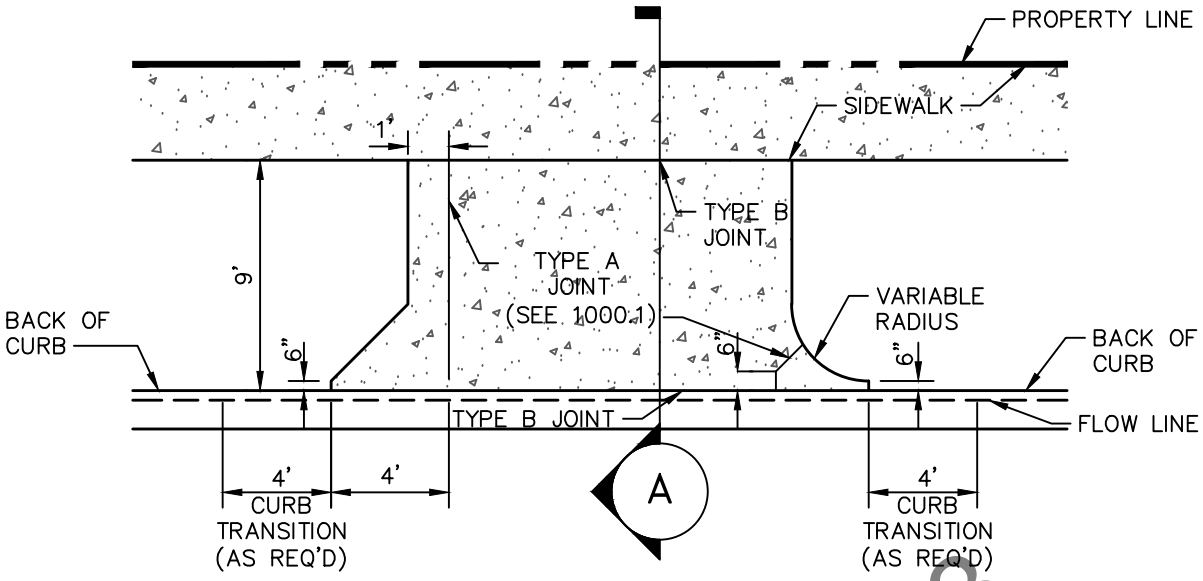


END DETAIL

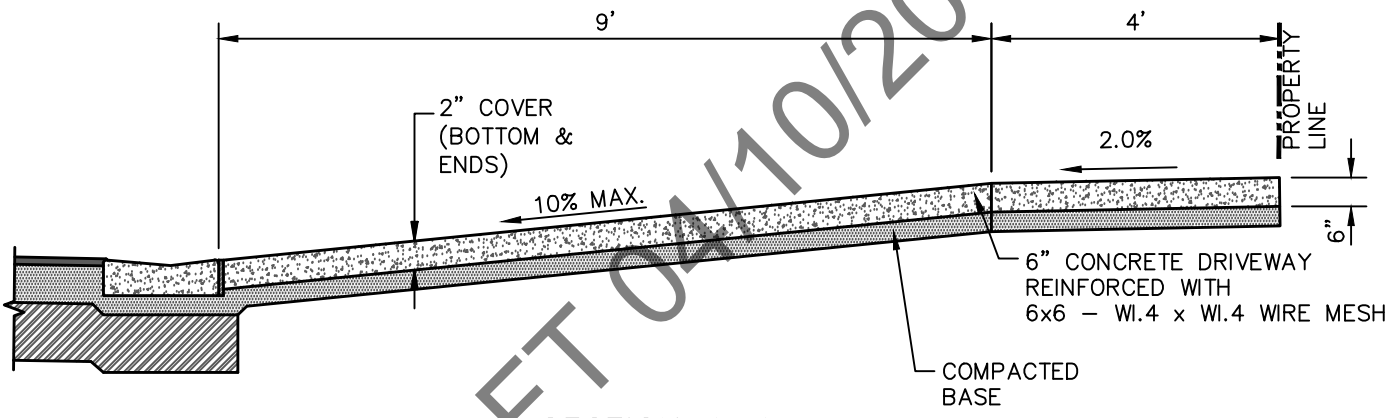
NOTES:

1. DRIVEWAY TO BE PORTLAND CEMENT CONCRETE, MIN. 3,000 PSI @ 28 DAYS.
2. BASE TO BE A MINIMUM OF 4" CLEAN SAND OR SANDY LOAM, FULLY COMPACTED, FULL WIDTH.
3. CONCRETE TO BE BRROM FINISHED WITH EVEN, DUSTLESS SURFACE.

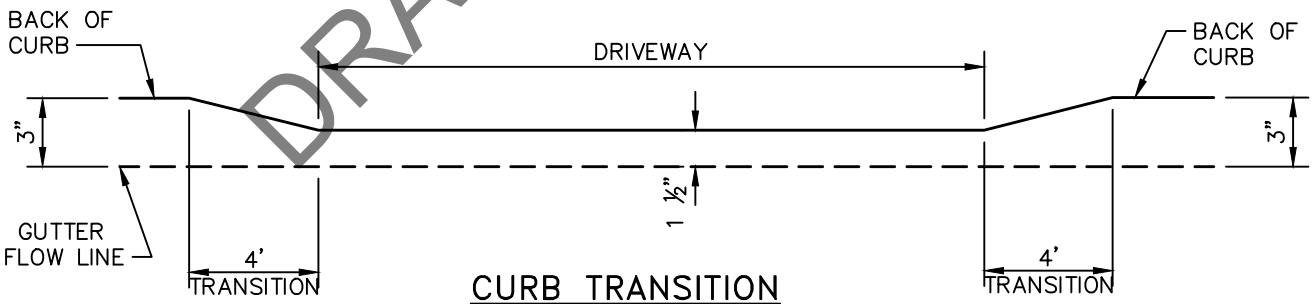
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				RESIDENTIAL DRIVEWAY SWALE SECTION (CONCRETE)	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		300.1B
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



FLARE TYPE "T" (OR) FLARE TYPE "R"



SECTION A–A

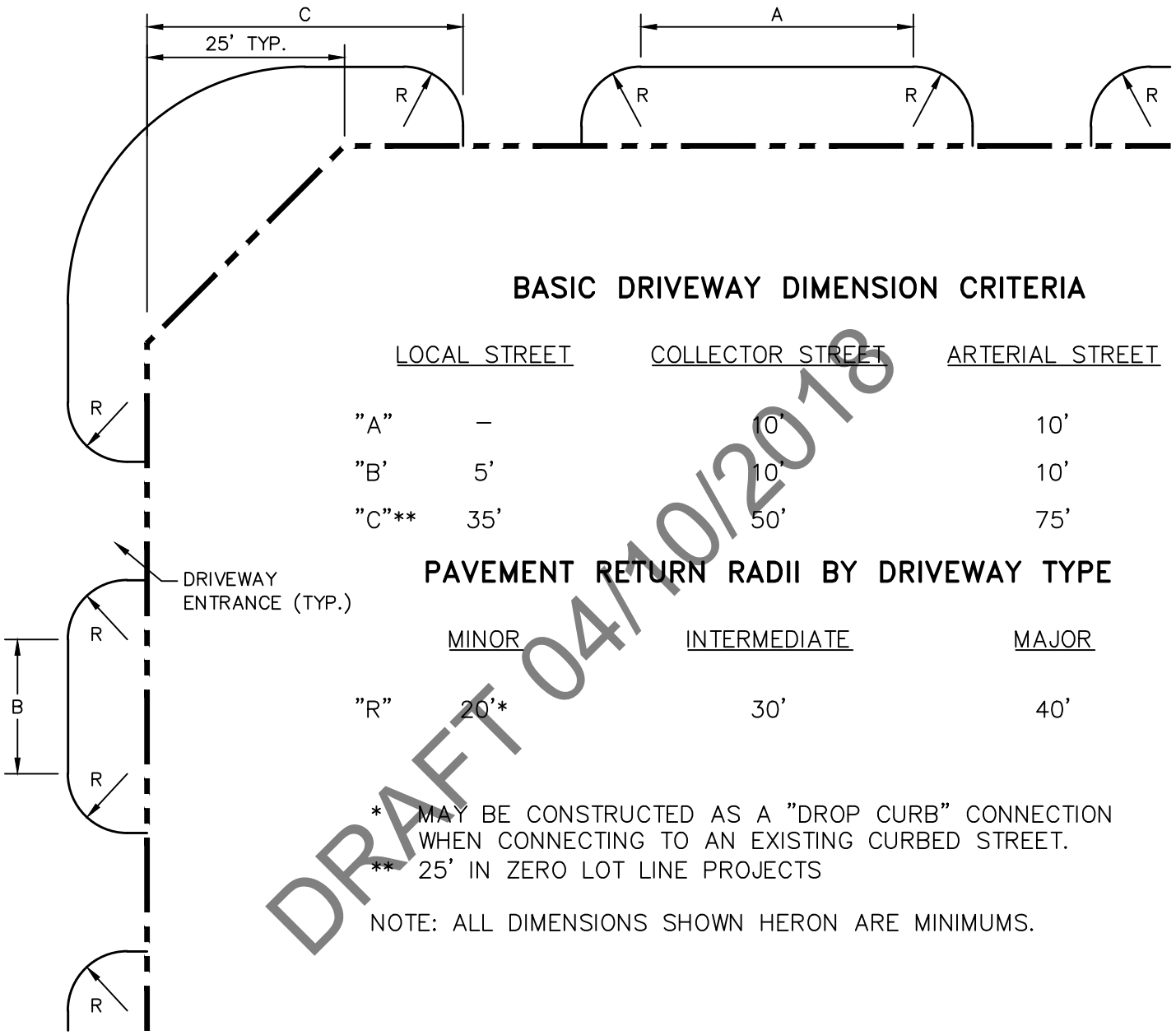


CURB TRANSITION PROFILE

NOTES:

1. DRIVEWAY TO BE PORTLAND CEMENT CONCRETE, MIN. 3,000 PSI @ 28 DAYS.
2. BASE TO BE A MINIMUM OF 4" CLEAN SAND OR SANDY LOAM, FULLY COMPACTED, FULL WIDTH.
3. CONCRETE TO BE BRROM FINISHED WITH EVEN, DUSTLESS SURFACE.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				RESIDENTIAL DRIVEWAY CURB AND GUTTER SECTION (CONCRETE)	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		
J.R.R.	09/17			APPROVED: EFFECTIVE:	300.1C
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



BASIC DRIVEWAY DIMENSION CRITERIA

	LOCAL STREET	COLLECTOR STREET	ARTERIAL STREET
"A"	–	10'	10'
"B'	5'	10'	10'
"C"**	35'	50'	75'

PAVEMENT RETURN RADII BY DRIVEWAY TYPE

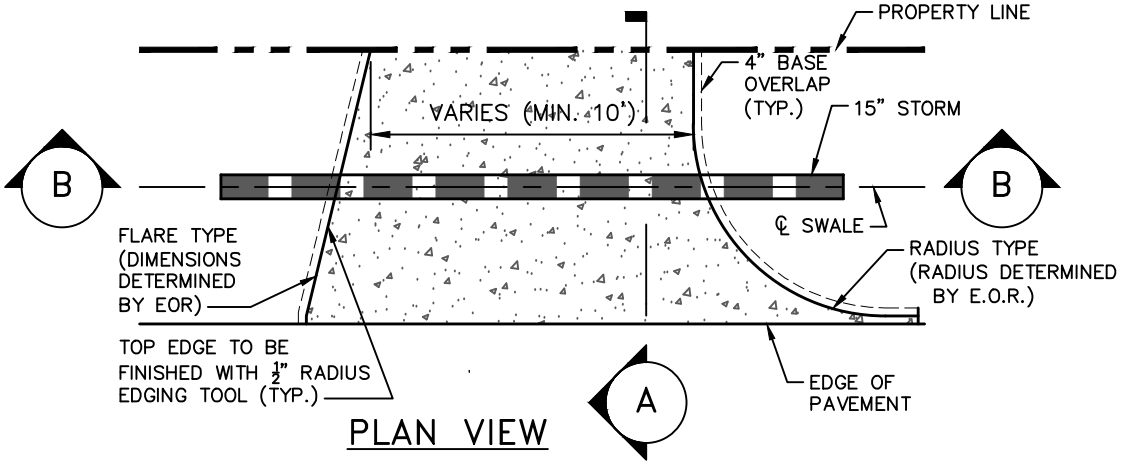
	MINOR	INTERMEDIATE	MAJOR
"R"	20'*	30'	40'

* MAY BE CONSTRUCTED AS A "DROP CURB" CONNECTION WHEN CONNECTING TO AN EXISTING CURBED STREET.

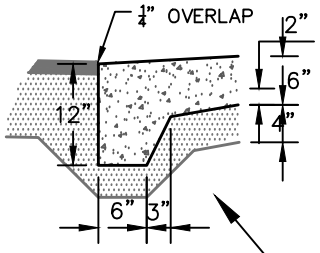
** 25' IN ZERO LOT LINE PROJECTS

NOTE: ALL DIMENSIONS SHOWN HERON ARE MINIMUMS.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				DRIVEWAY CRITERIA	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		300.2
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

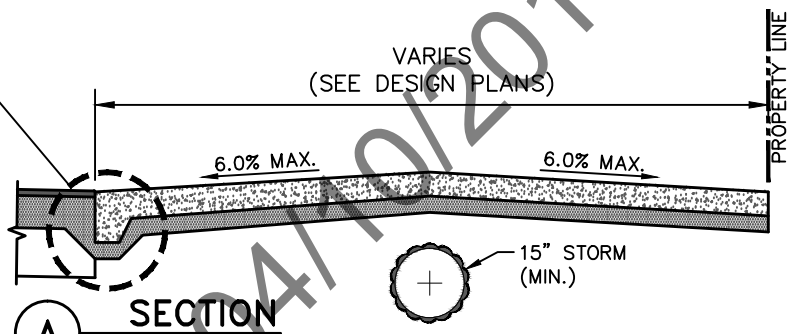


PLAN VIEW

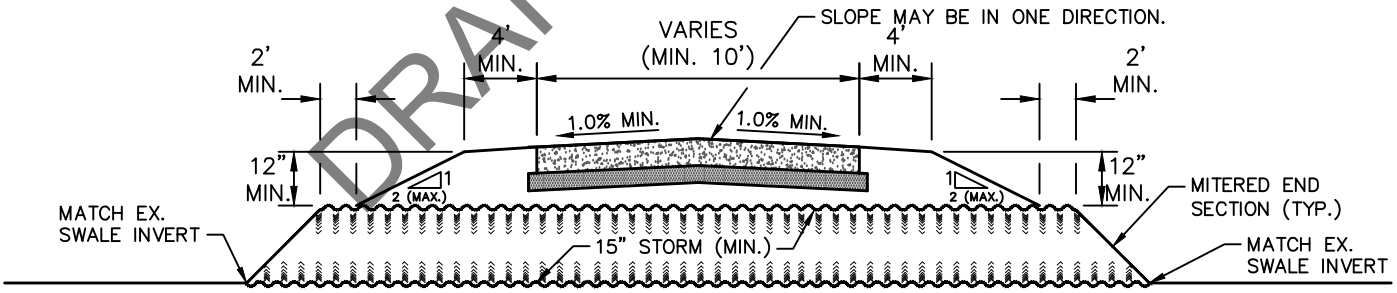


NOTES:

1. DRIVEWAY TO BE PORTLAND CEMENT CONCRETE, MIN. 3,000 PSI @ 28 DAYS.
2. BASE TO BE A MINIMUM OF 4" CLEAN SAND OR SANDY LOAM, FULLY COMPACTED, FULL WIDTH.
3. CONCRETE TO BE BRROM FINISHED WITH EVEN, DUSTLESS SURFACE.
4. ALTERNATIVE SECTIONS MAY BE CONSIDERED ON A CASE BY CASE BASIS AS DESIGNED BY THE ENGINEER OF RECORD.



A SECTION
N.T.S.

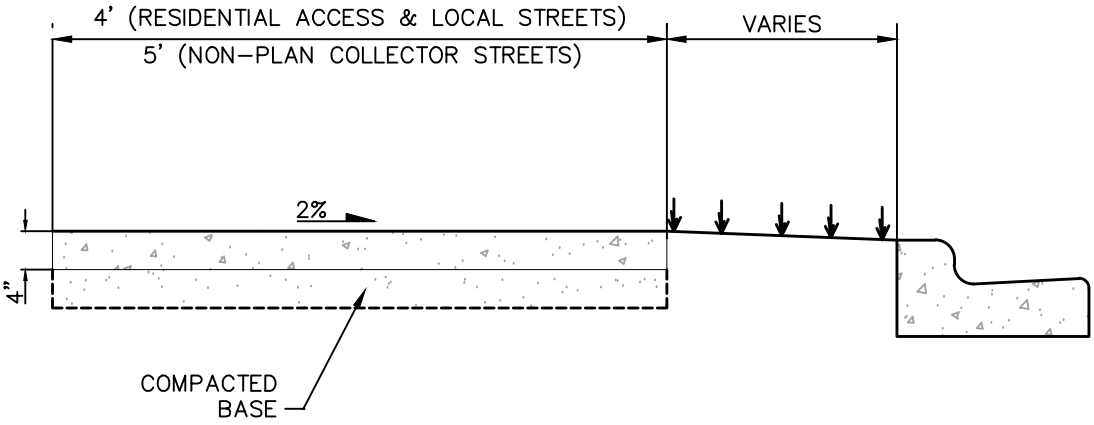


B SECTION
N.T.S.

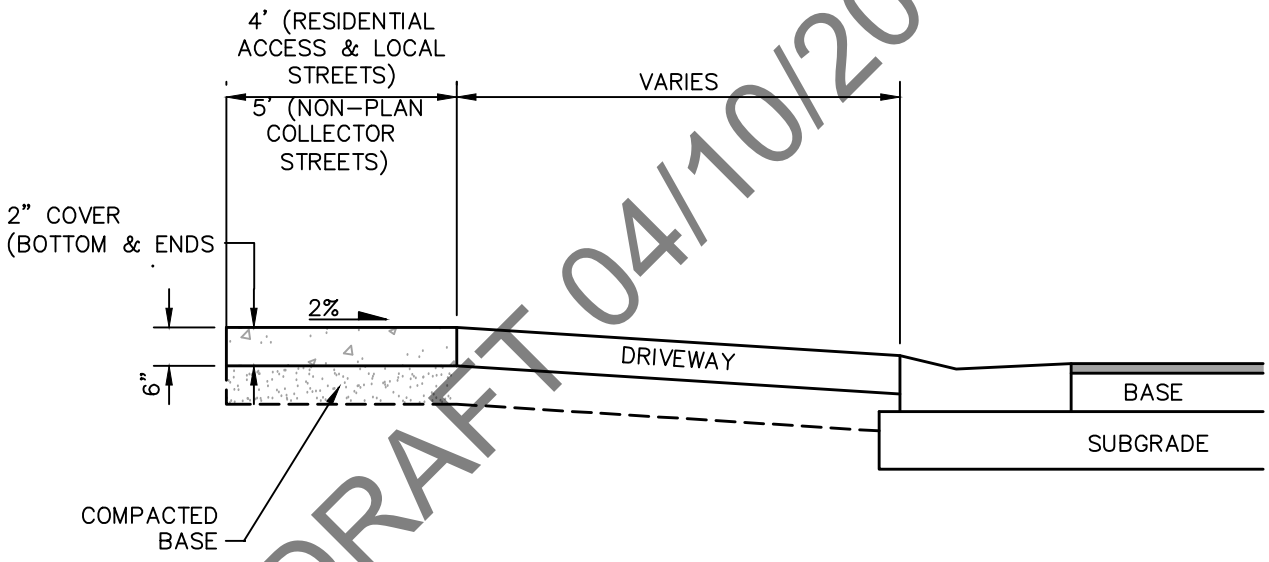
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				DRIVEWAY CULVERT CROSSING	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		300.3
J.R.R.	09/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

400

PATHWAYS



STANDARD SECTION

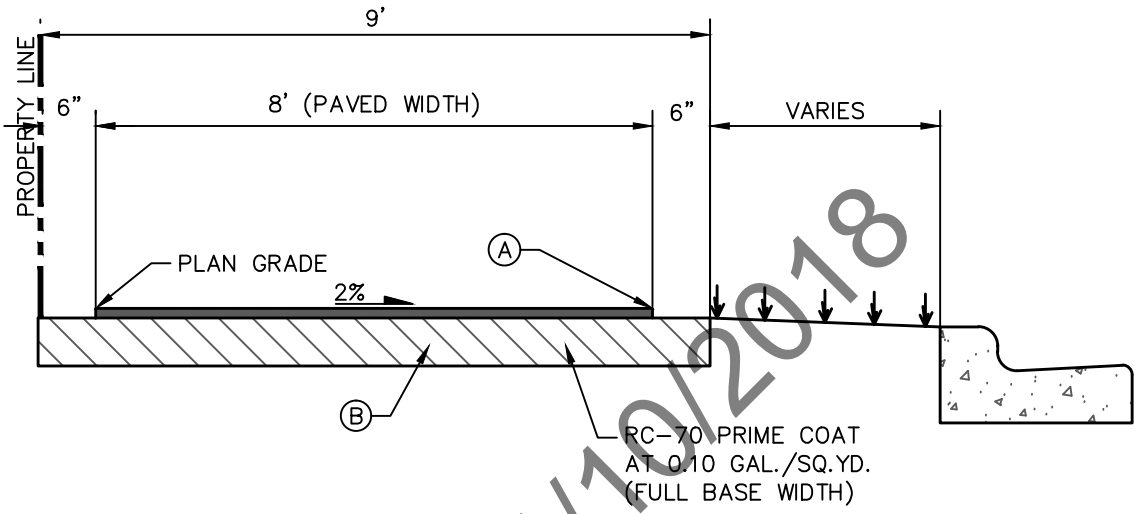


DRIVEWAYS (RESIDENTIAL AND NON-RESIDENTIAL AREAS)

NOTES:

1. SIDEWALKS TO BE PORTLAND CEMENT CONCRETE. MIN. 2500 P.S.I. @ 28 DAYS
2. BASE TO BE A MINIMUM 4" OF CLEAN SAND OR SANDY LOAM, FULLY COMPACTED, FULL WIDTH.
3. SIDEWALKS TO BE BROOM FINISHED WITH EVEN, DUSTLESS SURFACE.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				PATHWAY: SIDEWALK	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		400.1
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

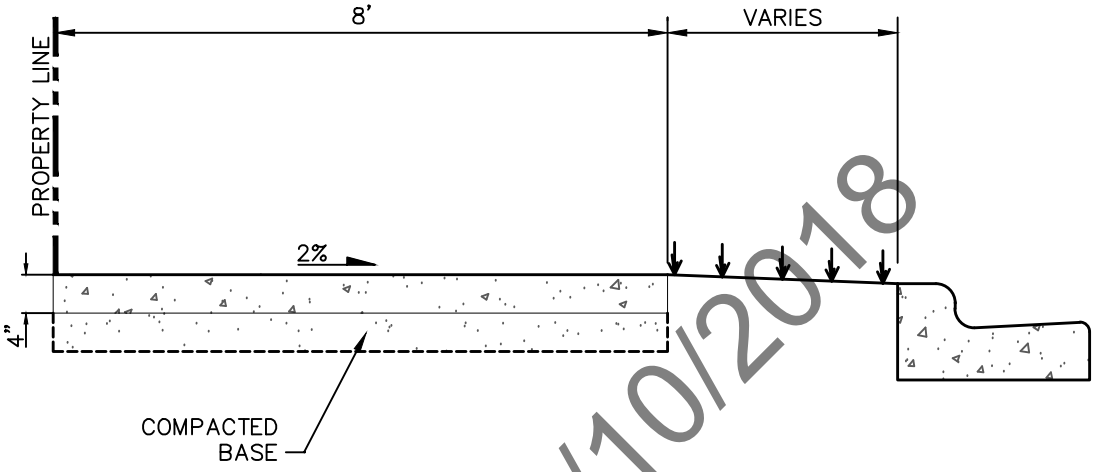


NOTES: THIS PATHWAY MAY ONLY BE USED WHERE SHOWN ON APPROVED MASTER CIRCULATION PLAN.

(A) WEARING SURFACE: 1"TYPE S-3 OR 1 ¼" TYPE II A.C. CONCRETE

(B) BASE: 4" COMPACTED SHELLROCK

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				PATHWAY: ASPHALT	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		400.2
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



NOTES: THIS PATHWAY MAY ONLY BE USED WHERE SHOWN ON APPROVED MASTER CIRCULATION PLAN.

NOTES:

1. SIDEWALKS TO BE PORTLAND CEMENT CONCRETE. MIN. 2500 P.S.I. @ 28 DAYS
2. BASE TO BE A MINIMUM 4" OF CLEAN SAND OR SANDY LOAM, FULLY COMPACTED, FULL WIDTH.
3. SIDEWALKS TO BE BROOM FINISHED WITH EVEN, DUSTLESS SURFACE.

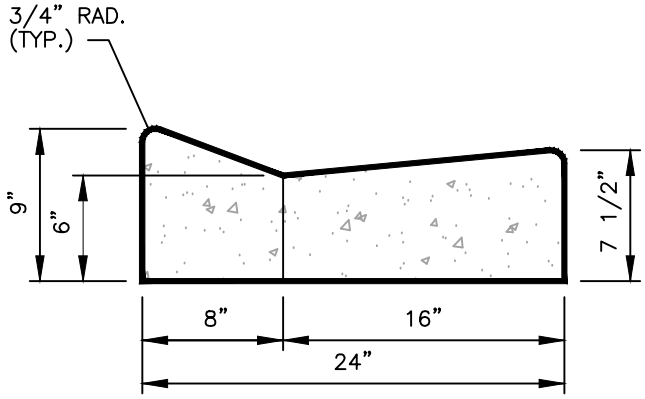
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				PATHWAY: 8'CONCRETE	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		400.3
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

500

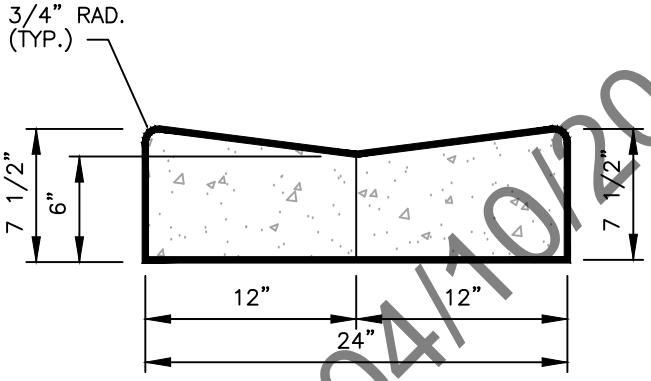
TRAFFIC CONTROL (RESERVED)

600

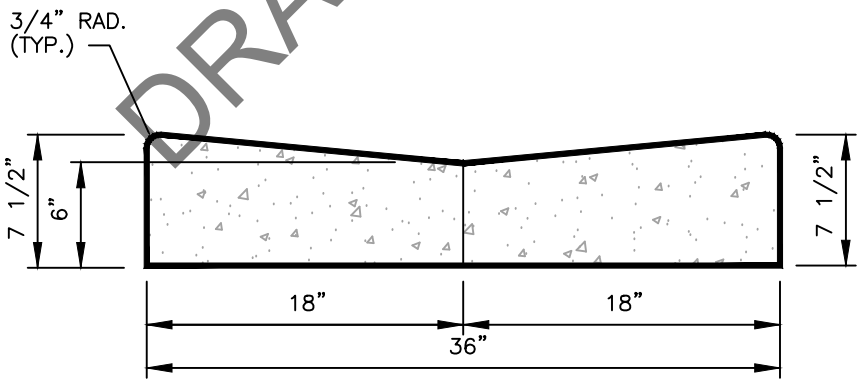
ROADSIDE DRAINAGE



2' VALLEY GUTTER – NON–SYMMETRICAL (A/K/A MIAMI CURB)

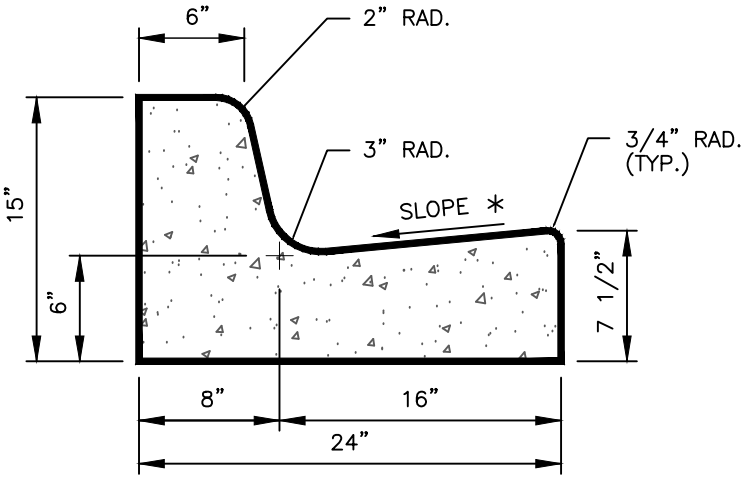


2' VALLEY GUTTER – SYMMETRICAL

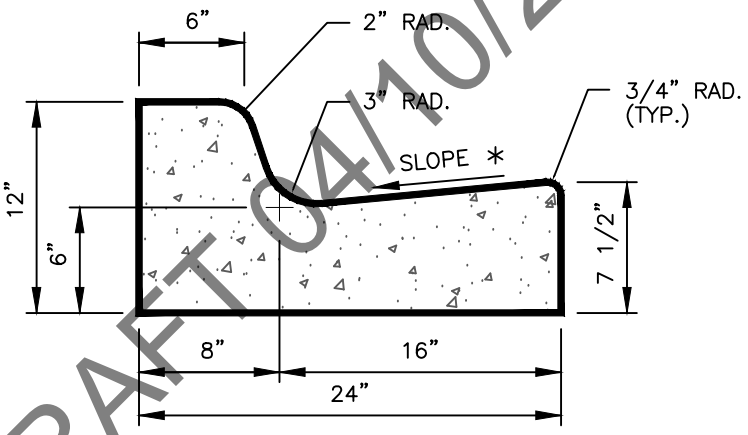


3' VALLEY GUTTER

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				VALLEY GUTTERS	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		600.1
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



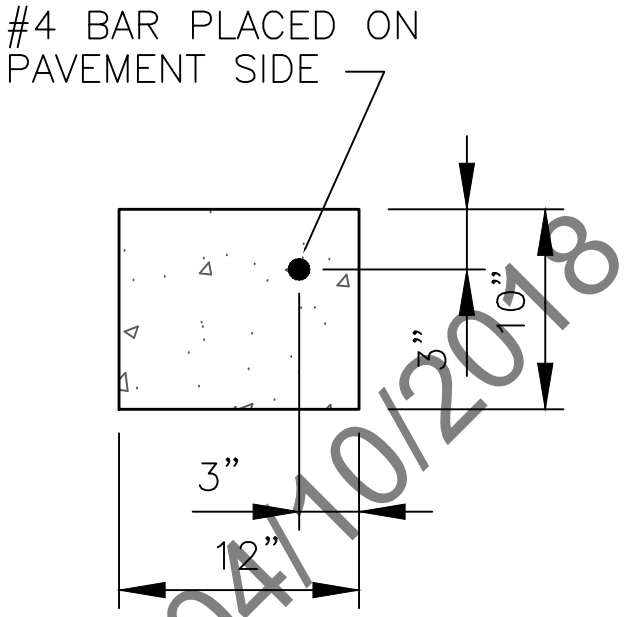
BARRIER CURB & GUTTER



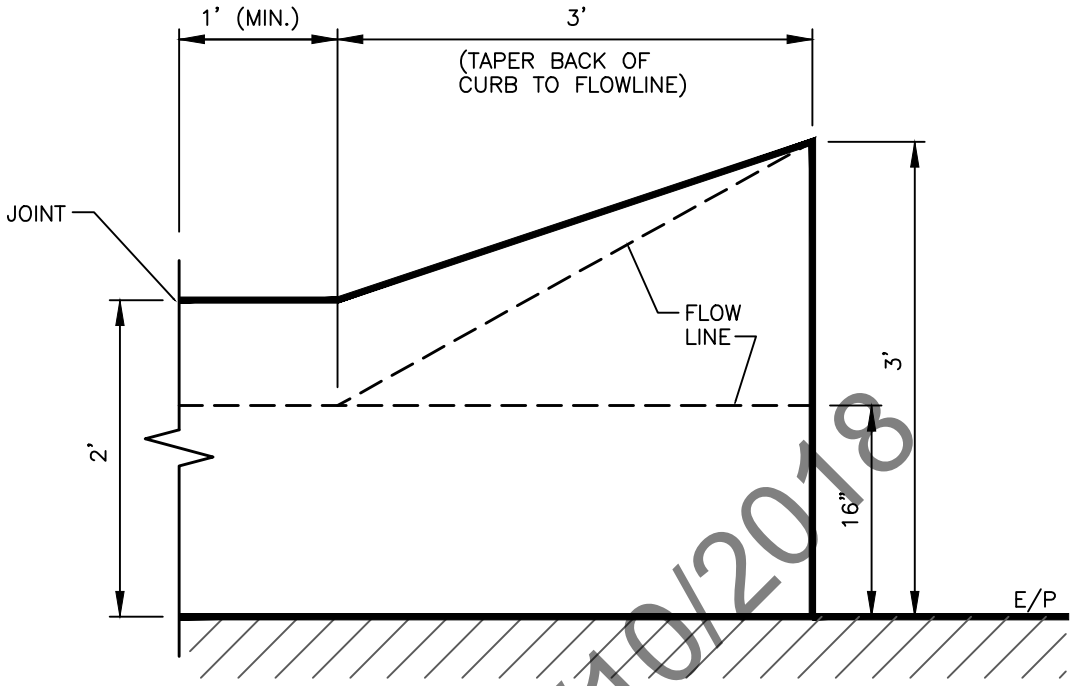
VERTICAL CURB & GUTTER

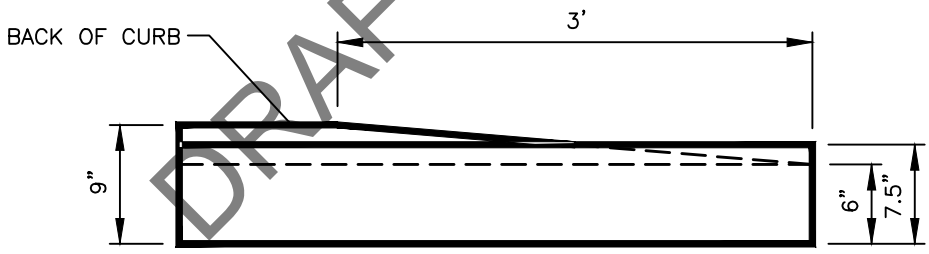
* NOTE: WHEN USED ON HIGH SIDE OF ROADWAYS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT AND THE THICKNESS OF THE LIP SHALL BE 6".

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				NON–MOUNTABLE CURB & GUTTER	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		600.2
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

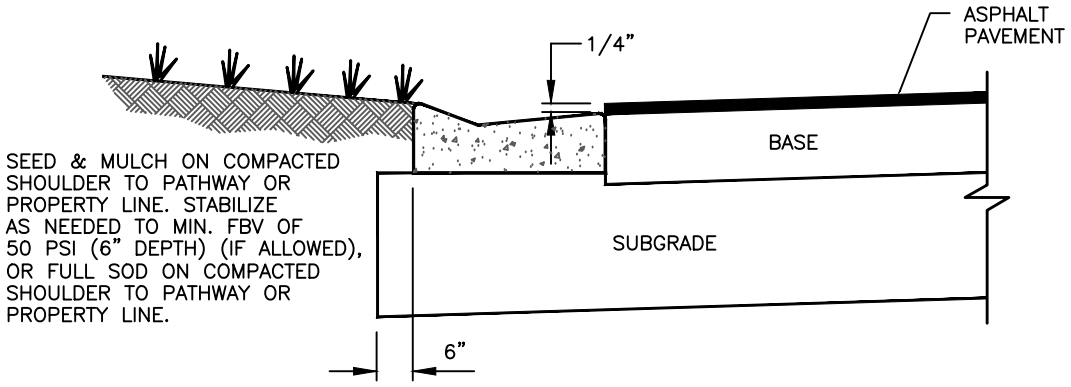


VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				FLUSH HEADER CURB	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		600.3
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

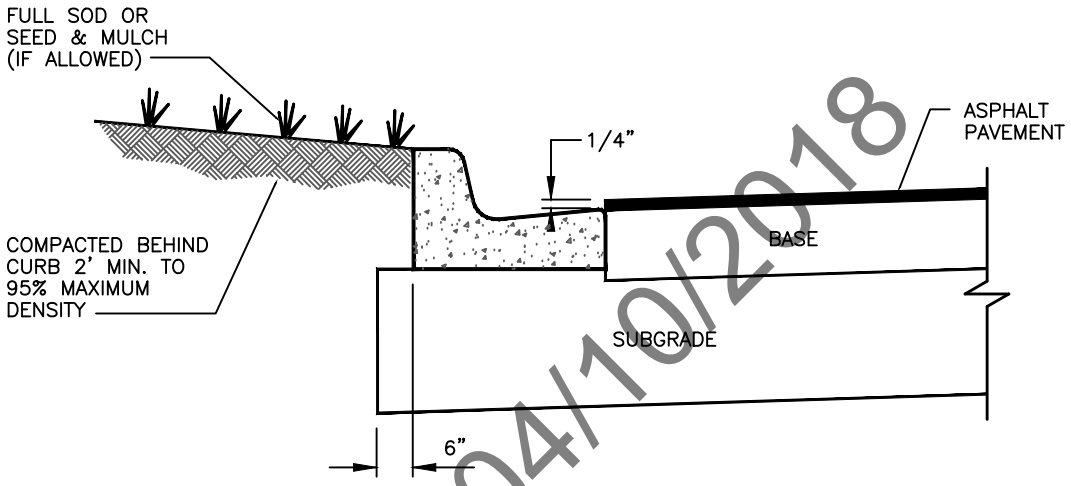




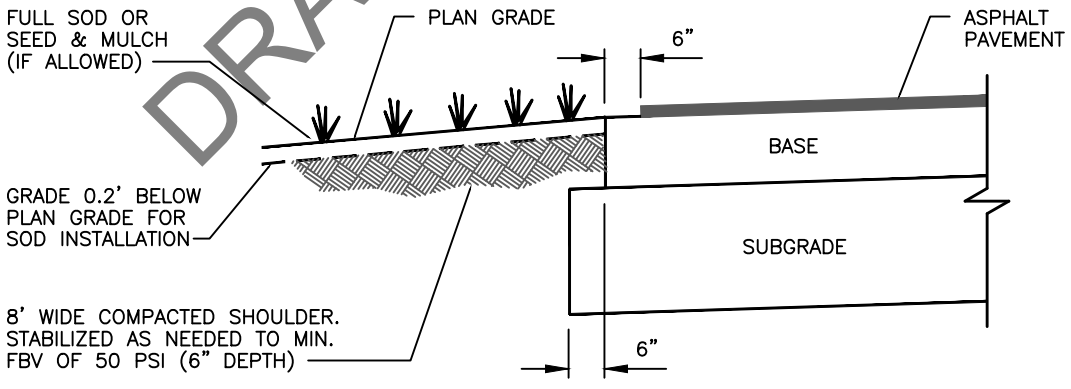
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				CONCRETE TRANSITION END (VALLEY GUTTER TO SWALE)	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		600.4
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



VALLEY GUTTERS

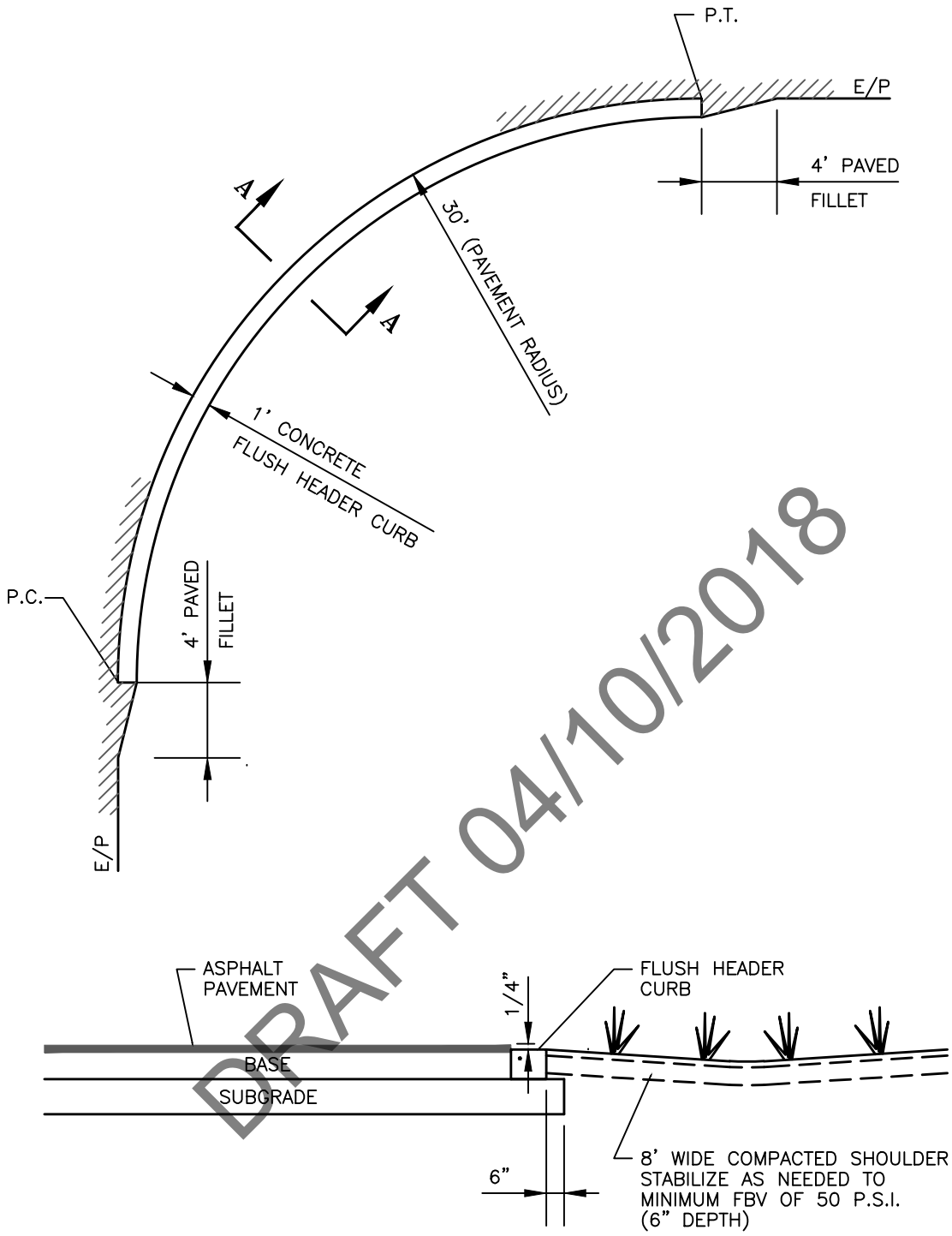


NON-MOUNTABLE CURB & GUTTER



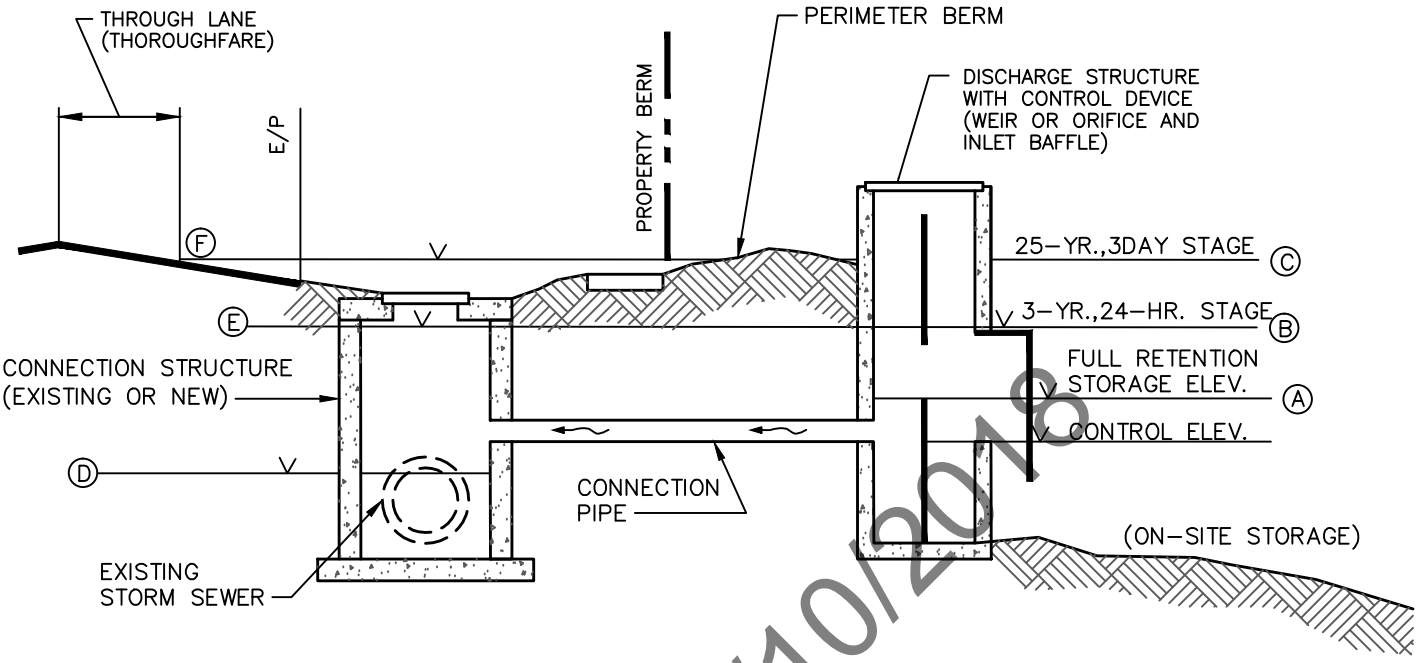
SWALE

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				LOCAL STREET PAVEMENT EDGE DETAILS	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		600.5A
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



SECTION A–A
N.T.S.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				LOCAL STREET PAVEMENT EDGE DETAILS FLUSH HEADER CURB	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		600.5B
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



Ⓐ ON-SITE STORAGE ELEVATION FOR GREATER OF FIRST 1 IN. OF RUNOFF OR TOTAL RUNOFF PRODUCED BY 3-YR., 1-HR. RAINFALL FROM TOTAL AREA DRAINED BY SERVICE CONNECTION.

Ⓑ PEAK ON-SITE STORAGE ELEVATION FOR RUNOFF PRODUCED BY 3-YR., 24-HR. RAINFALL FROM TOTAL AREA DRAINED BY SERVICE CONNECTION, NOT TO EXCEED H.G.L. ELEVATION AS NOTED IN Ⓔ .

Ⓒ PEAK ON-SITE STORAGE ELEVEATION FOR RUNOFF PRODUCED BY 25-YR., 3-DAY RAINFALL, NOT TO EXCEED LOWER OF SITE PERIMETER BERM ELEVATION OR (FOR THOROUGHFARE-PLAN STREETS) PAVEMENT ELEVATION AS NOTED IN Ⓕ .

Ⓓ STORM SEWER HYDRAULIC GRADE LINE ELEVATION AT ZERO FLOW IN RECEIVING SEWER (i.e., TAILWATER ELEVATION TO BE USED FOR DETERMINING STAGE VS. DISCHARGE OF CONTROL DEVICE).

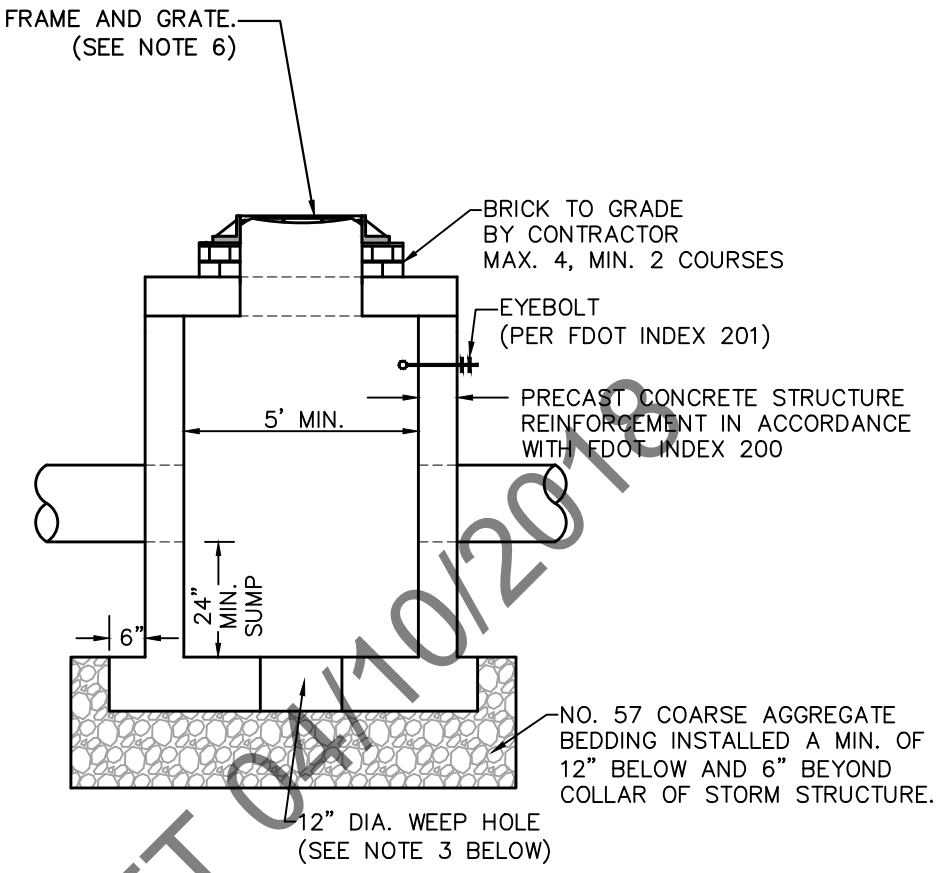
Ⓔ STORM SEWER HYDRAULIC GRADE LINE ELEVATION AT DESIGN PEAK FLOW AT POINT OF CONNECTION. IF NOT OTHERWISE KNOWN, USE 1 FT. BELOW INLET ELEVATION OF NEXT UPSTREAM ON-LINE INLET.

Ⓕ PAVEMENT ELEVATION AT OUTSIDE EDGE OF HIGHEST THROUGH LANES (ONE IN EACH DIRECTION) FOR THOROUGHFARE-PLAN STREET.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				SERVICE CONNECTION TO COUNTY STORM SEWER (HYDRAULIC DESIGN SCHEMATIC)	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	600.6
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

700

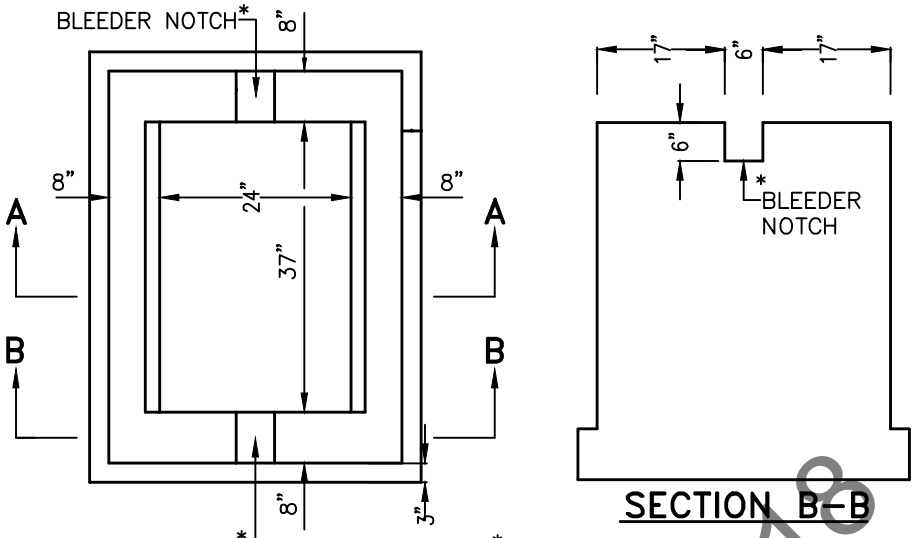
STORM SEWER & WATER MANAGEMENT AREAS



NOTE:

1. STRUCTURE MANUFACTURE AND/OR CONTRACTOR SHALL CONFIRM ALL REINFORCEMENT MEETS FDOT STANDARDS PER FDOT INDEX 200 PRIOR TO SUBMITTING ANY SHOP DRAWING FOR APPROVAL.
2. ALL DRAINAGE INLETS SHALL HAVE AN EYEBOLT AND CHAIN IN ACCORDANCE WITH FDOT INDEX 201.
3. USE WEEP HOLE ONLY WHEN BOTTOM OF STRUCTURE IS BELOW WATER TABLE. 3/4" WASH-ROCK TO BE INTALLED WHEN WEEP HOLE IS REQUIRED.
4. ENGINEER OF RECORD IS RESPONSIBLE FOR FINAL DESIGN OF STORM STRUCTURES, INCLUDING RIM ELEVATION, INVERTS, SUMP DEPTH, STRUCTURE WIDTH, GRATE TYPE AND CONCRETE REINFORCEMENT.
5. THE STRUCTURE SHOWN IS INTENDED FOR USE IN VEHICULAR AREAS. DITCH BOTTOM INLETS SHALL BE USED IN NON-VEHICULAR LOCATIONS.
6. ACCEPTABLE FRAME AND GRATES
   - 6.1. USF 5113-6194 FOR VALLEY GUTTER INLET ("VG")
   - 6.2. USF 5130-6168 FOR CURB INLET ("CI")
   - 6.3. USF 4155-6210 FOR ASPHALT ("CA")
   - 6.4. USF 420-C FOR MANHOLE ("MH")

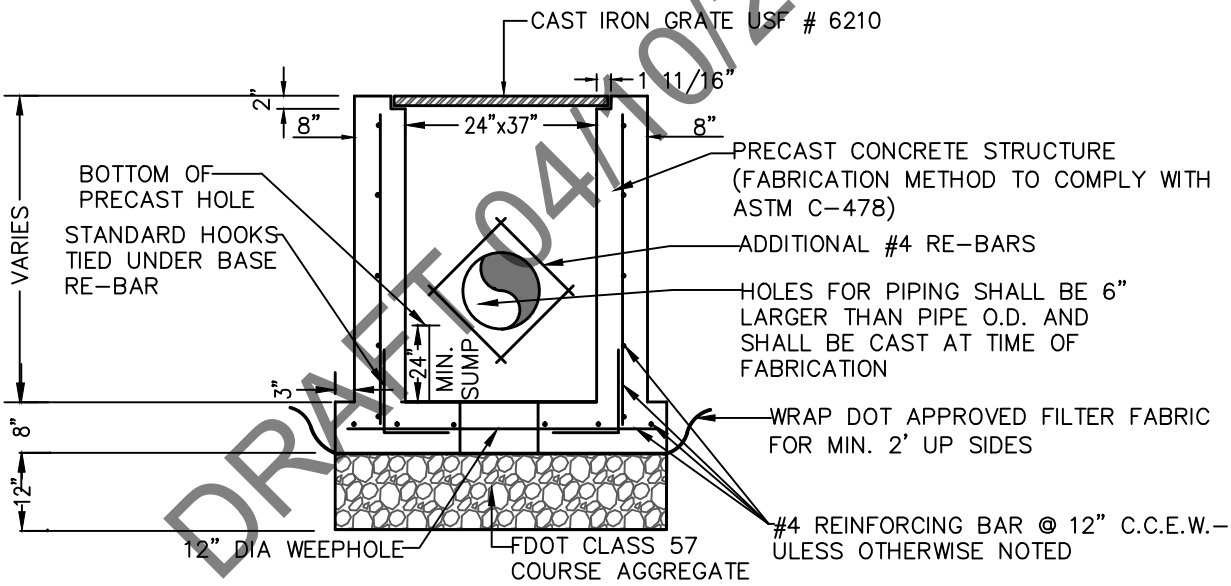
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				TYPICAL DRAINAGE STRUCTURE	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		700.1
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



PLAN

SECTION B–B

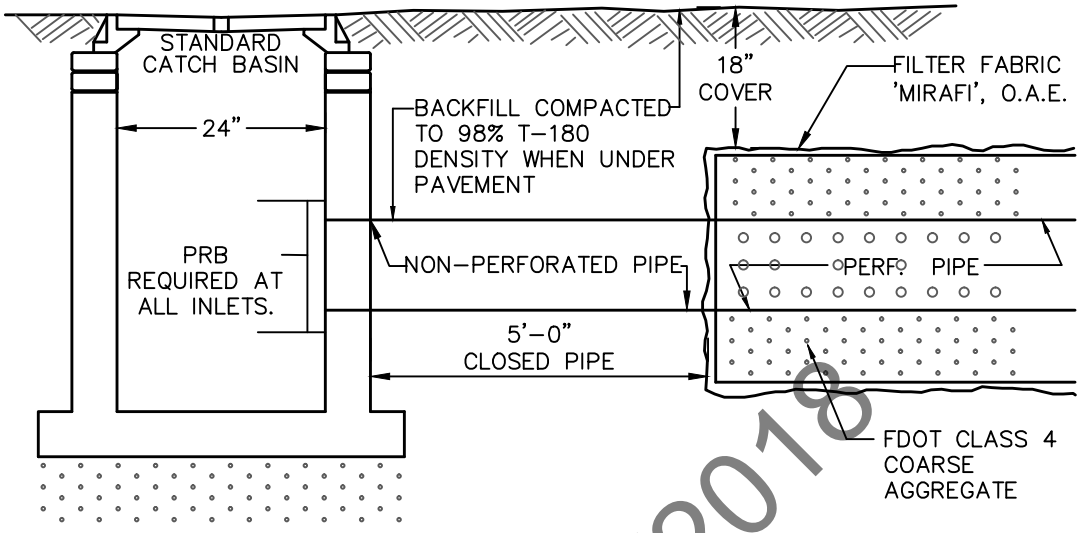
* BLEEDER NOTCH FOR RAISED STRUCTURES ONLY.

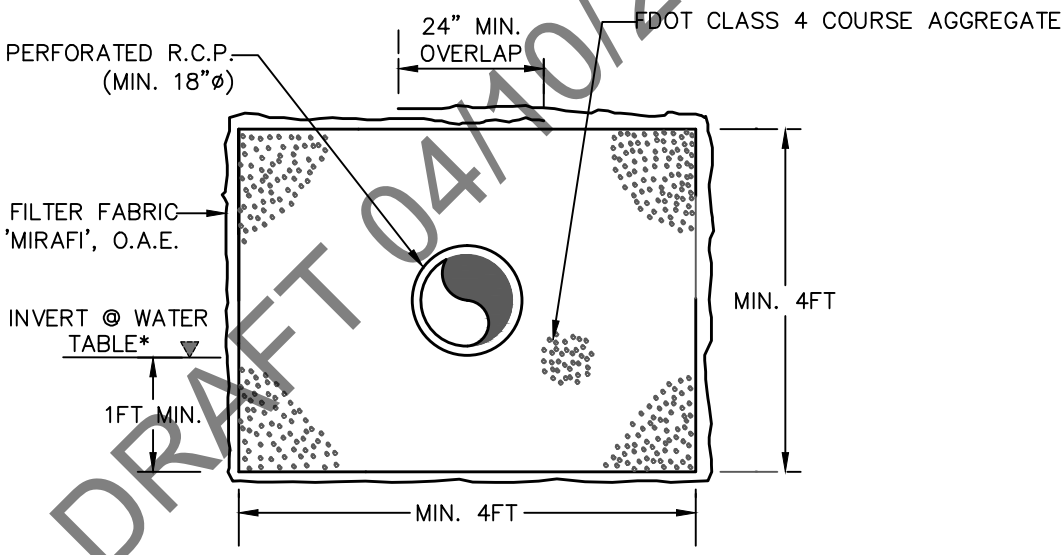


SECTION A–A

(DITCH BOTTOM INLET TYPE "E" IS SIMILAR TO "C", BUT WITH INTERIOR DIMENSIONS OF 36"x 54" AND U.S. FOUNDRY FRAME AND GRATES, DRAWING # 6608)

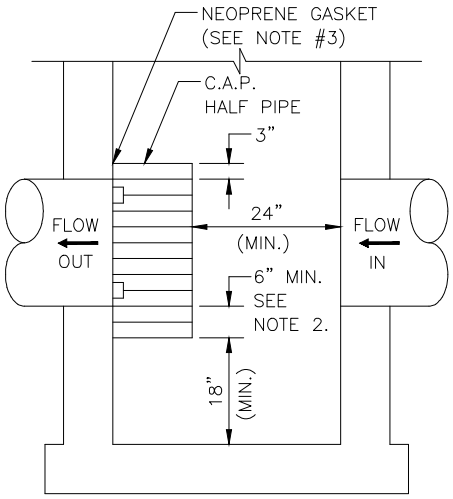
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				TYPE C & E DITCH BOTTOM INLET	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		700.2
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



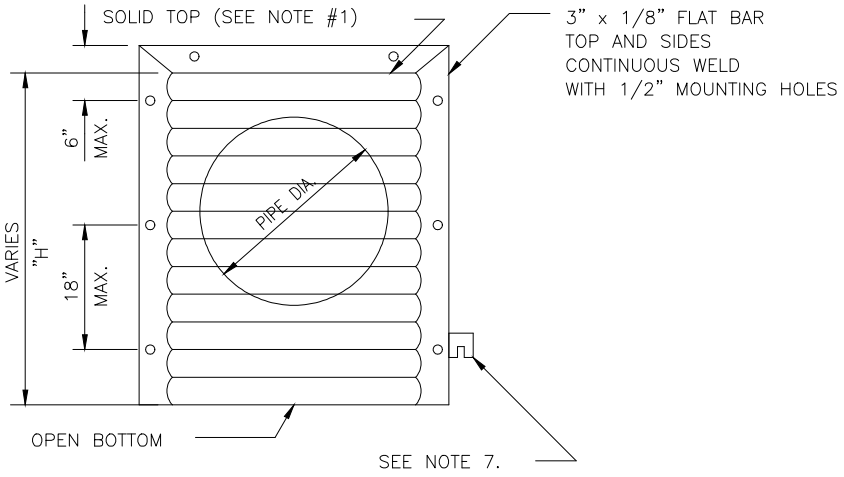


✳NOTE: BOTTOM OF EXFILTRATION TRENCH TO A MINIMUM OF 1FT ABOVE THE WATER TABLE IN A WELL PROTECTION AREA.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				EXFILTRATION TRENCH DETAIL	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		700.3
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



SIDE VIEW



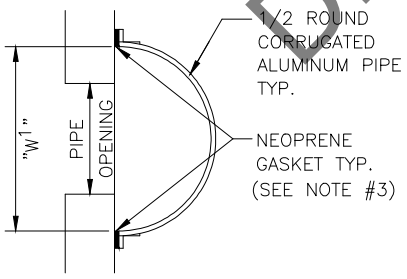
FRONT VIEW

PIPE DIA.	W^1 (IN)	W^2 (IN)	T (GAUGE)	H (IN)
15"	21"	21"	16	VARIES
18"	24"	24"	16	VARIES
21"	30"	30"	16	VARIES
24"	30"	36"	16	VARIES
30"	36"	42"	14	VARIES
36"	42"	48"	14	VARIES
42"	48"	54"	14	VARIES
48"	54"	60"	14	VARIES
54"	60"	66"	14	VARIES

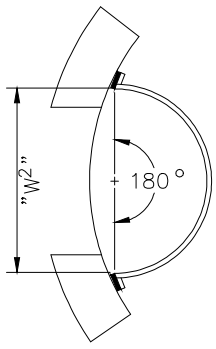
1. RECTANGULAR STRUCTURE
2. ROUND STRUCTURE

NOTES:

1. ALUMINUM SHEET OF SAME THICKNESS (GAUGE) AS PIPE SHALL BE WELDED TO CLOSE OPENING AT THE TOP.
2. THE BOTTOM ELEVATION OF THE POLLUTION RETARDANT BAFFLE MUST BE AT LEAST 2" BELOW CONTROL ELEVATION.
3. NEOPRENE ADHESIVE BACKED GASKET, OR APPROVED EQUAL (1" x 2") SHALL BE INSTALLED ON THE SIDES AND TOP OF ALL BAFFLES.
4. POLLUTION RETARDANT BAFFLE TO BE FASTENED IN PLACE WITH 3/8"x4" STAINLESS STEEL "RED HEADS", OR APPROVED EQUAL.
5. ALL EXFILTRATION TRENCHES SHALL HAVE A POLLUTION RETARDANT BAFFLE AT EACH CONNECTION POINT TO A STRUCTURE (SEE EXFILTRATION TRENCH DETAIL).
6. FIBERGLASS BAFFLES ARE NOT PERMITTED.
7. MOUNTING BRACKETS MAY BE ADDED TO FLAT BARS TO EASE INSTALLATION IN ROUND STRUCTURES. SPACING TO MATCH HOLES IN FLAT BARS.

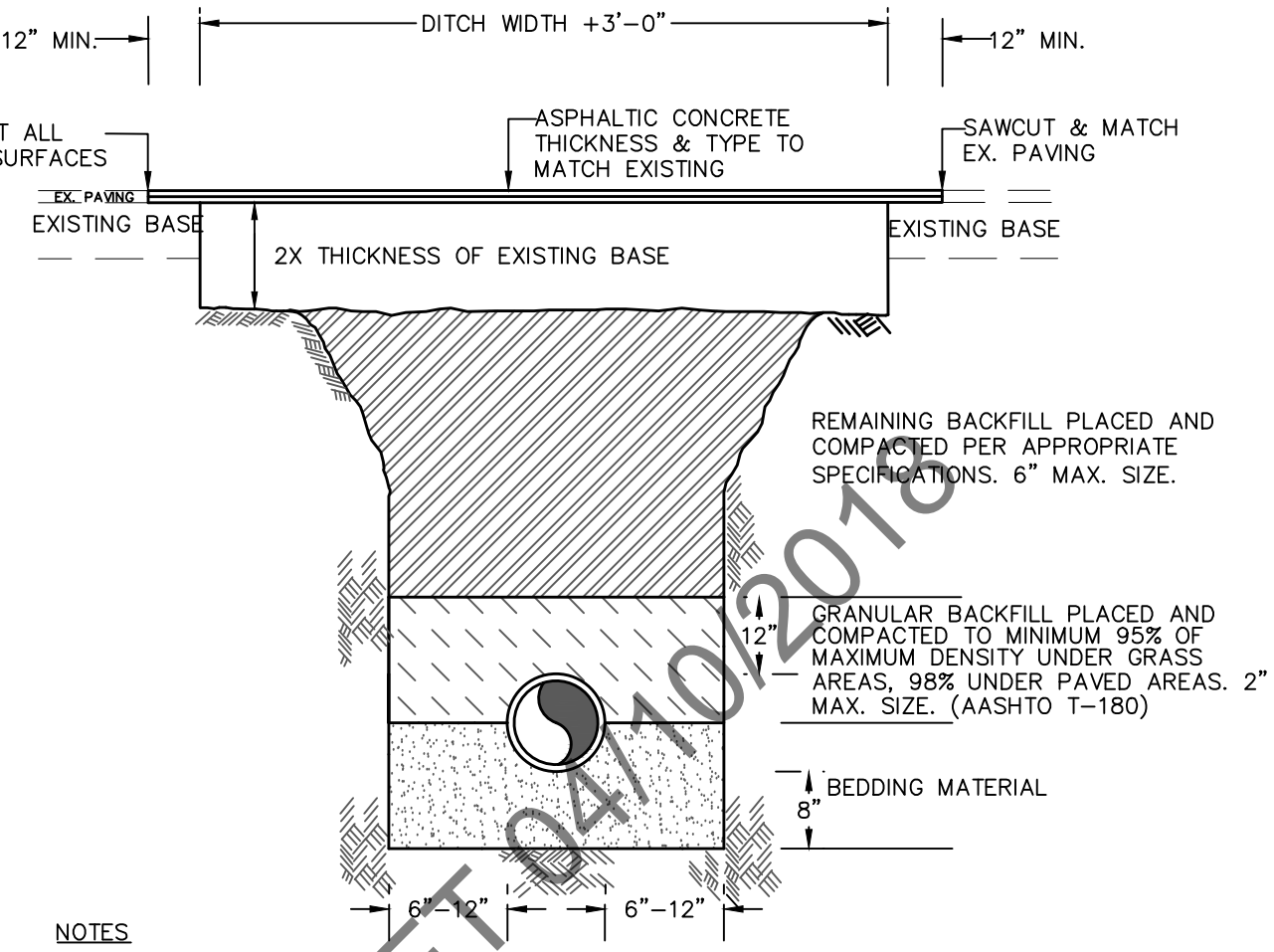


TOP VIEW
RECTANGULAR STRUCTURE



TOP VIEW
ROUND STRUCTURE

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				POLLUTANT RETARDANT BAFFLE DETAIL	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		700.4
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



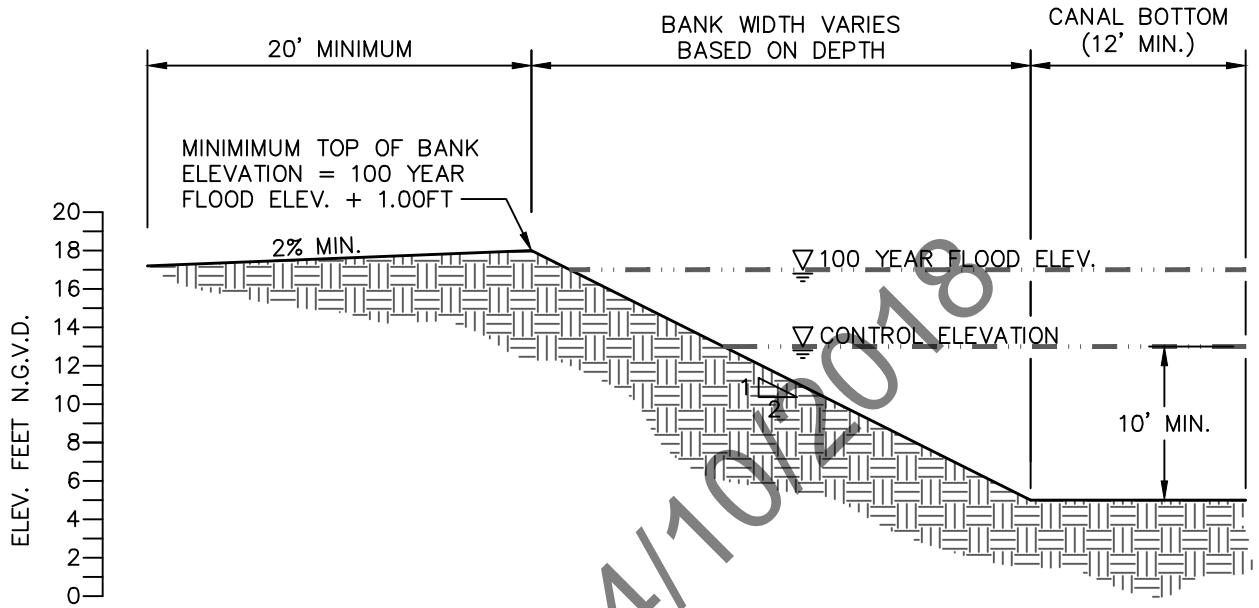
NOTES

1. BEDDING SHALL CONSIST OF IN-SITU GRANULAR MATERIAL OR WASHED AND GRADED LIMEROCK 3/8"-7/8" SIZING. UNSUITABLE IN-SITU MATERIALS SUCH AS MUCK, DEBRIS AND LARGER ROCK SHALL BE REMOVED.
2. THE PIPE SHALL BE FULLY SUPPORTED FOR ITS ENTIRE LENGTH WITH APPROPRIATE COMPACTION UNDER THE PIPE HAUNCHES.
3. THE PIPE SHALL BE PLACED IN A DRY TRENCH.
4. BACKFILL SHALL BE FREE OF UNSUITABLE MATERIAL SUCH AS LARGER ROCK, MUCK AND DEBRIS.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				ROADWAY RESTORATION DETAIL	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		700.5
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

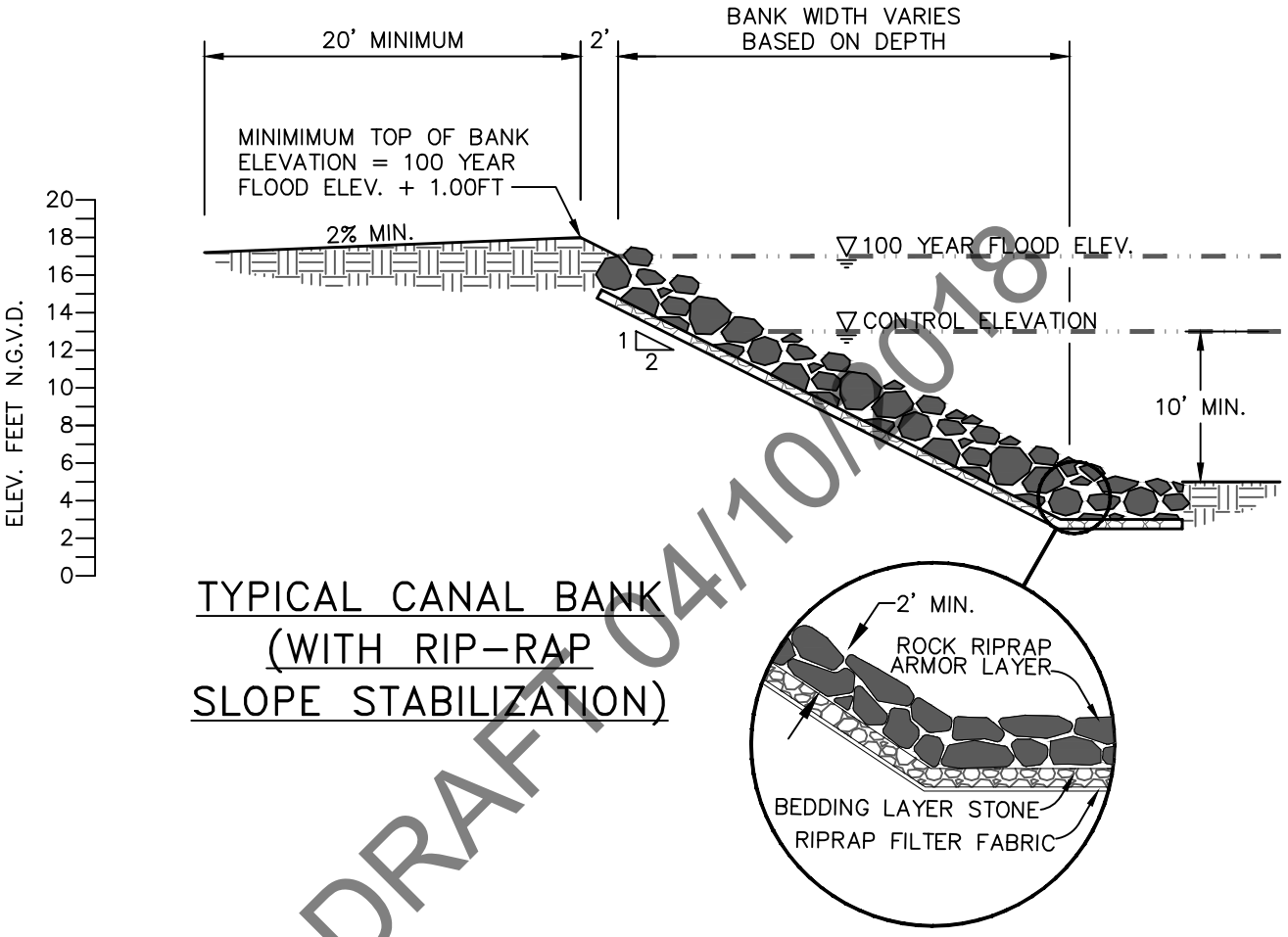
800

CANAL WORKS & FACILITIES CONNECTIONS



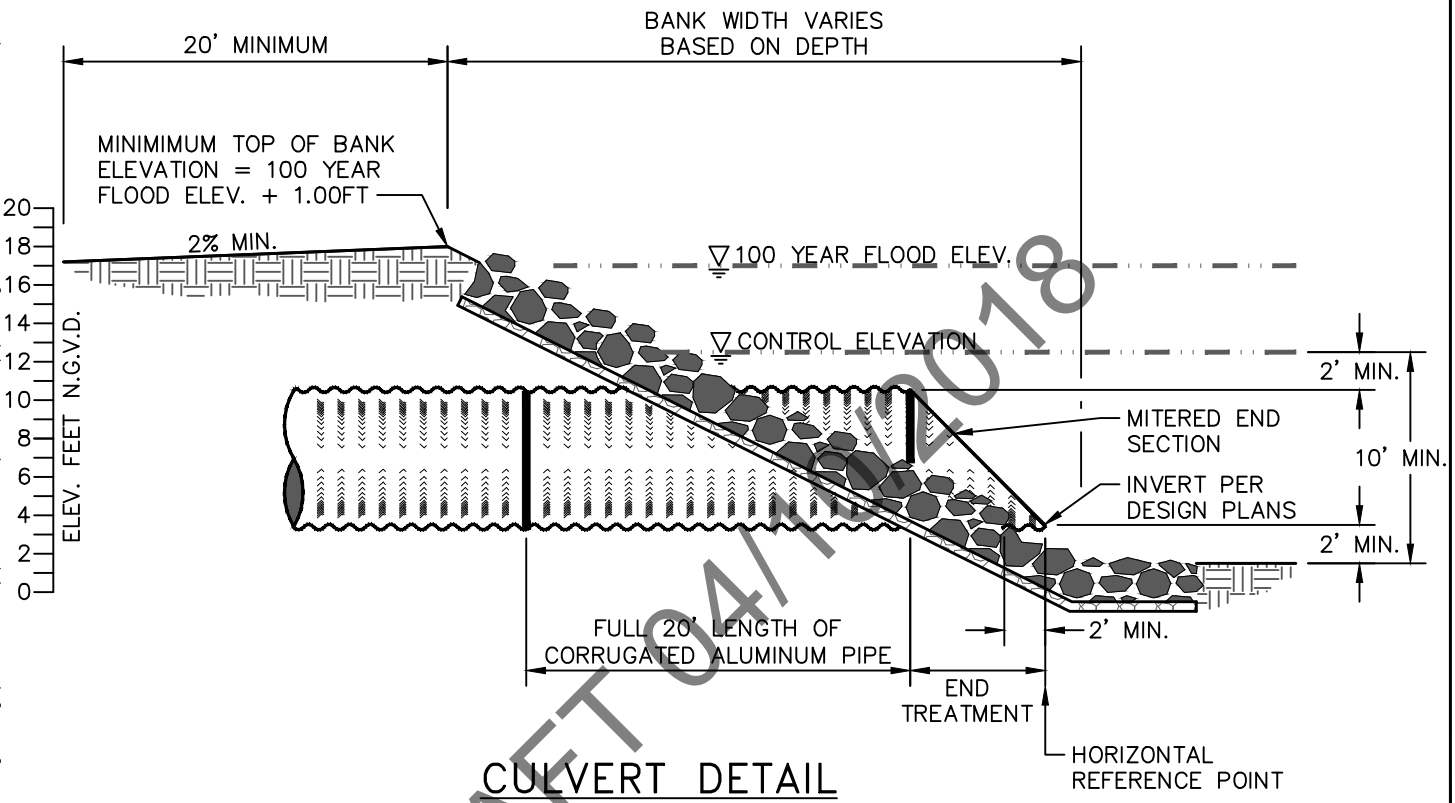
TYPICAL CANAL BANK

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				TYPICAL CANAL BANK (STABILIZED WITH SOD)	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		800.1
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



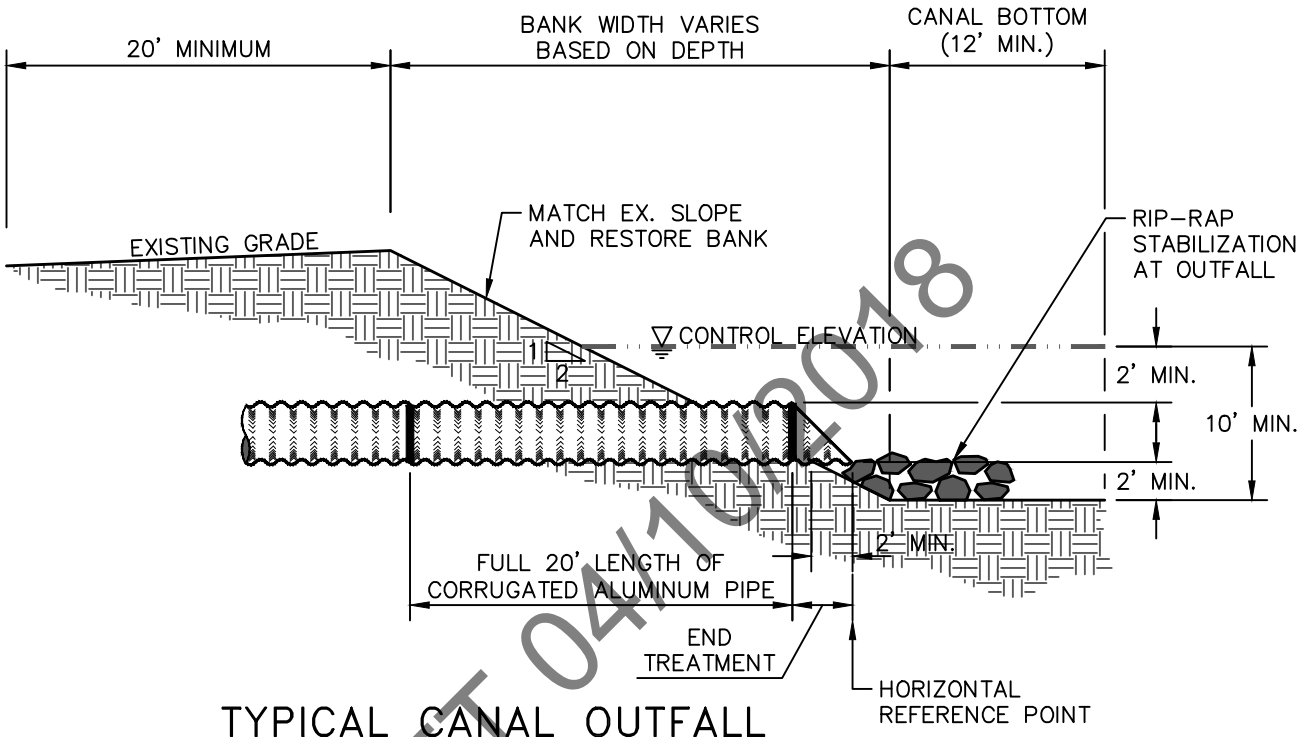
TYPICAL CANAL BANK (WITH RIP-RAP SLOPE STABILIZATION)

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				TYPICAL CANAL BANK (WITH RIP-RAP STABILIZATION)	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		800.2
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



CULVERT DETAIL
(SECTION VIEW)
84" SHOWN

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				CONVEYANCE CULVERT DETAIL	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		800.3
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



TYPICAL CANAL OUTFALL

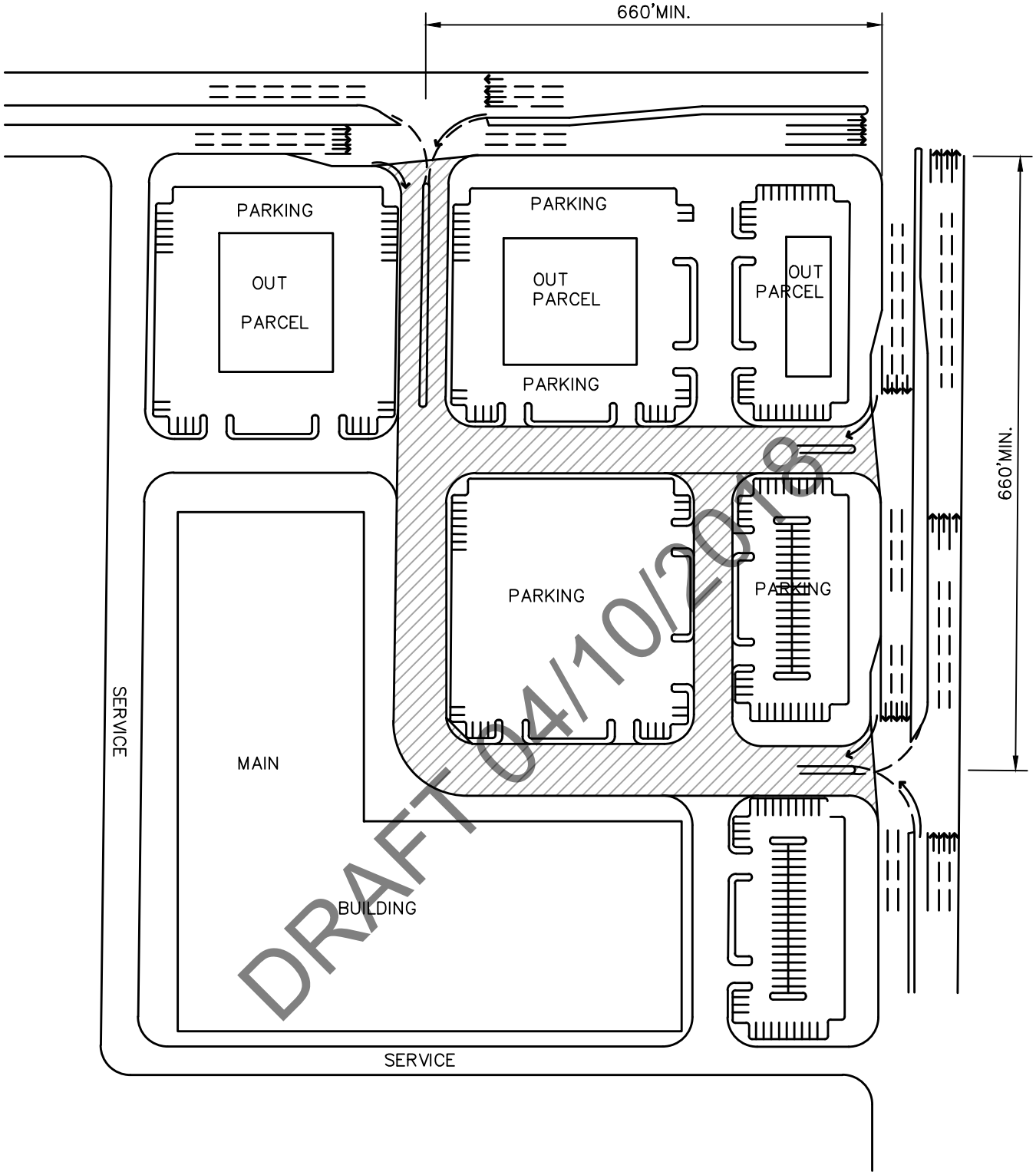
NOTE:

ALTERNATIVE OUTFALLS CONFIGURATIONS WILL BE CONSIDERED ON A CASE BY CASE BASIS.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				TYPICAL CULVERT CONNECTION DETAIL	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		800.4
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

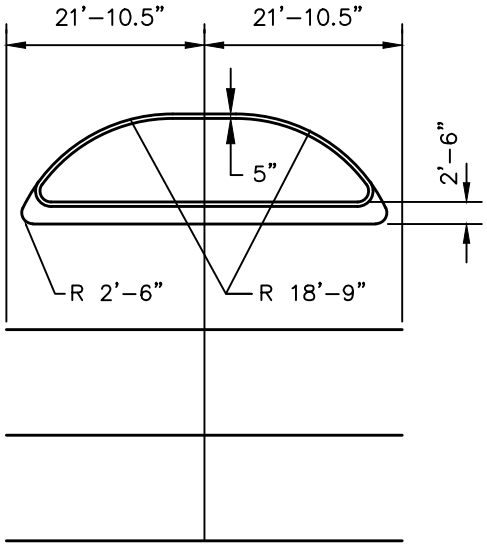
900

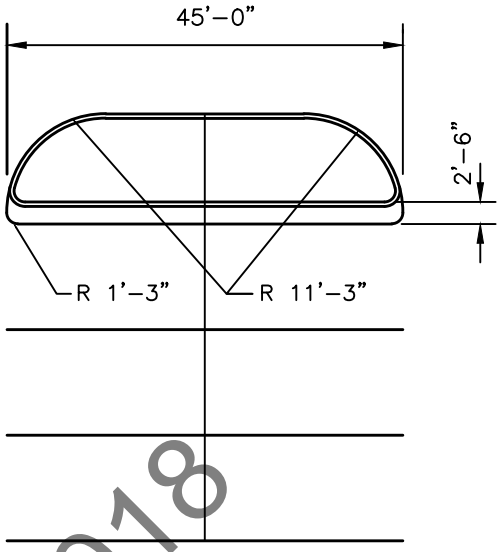
OFF-STREET PARKING

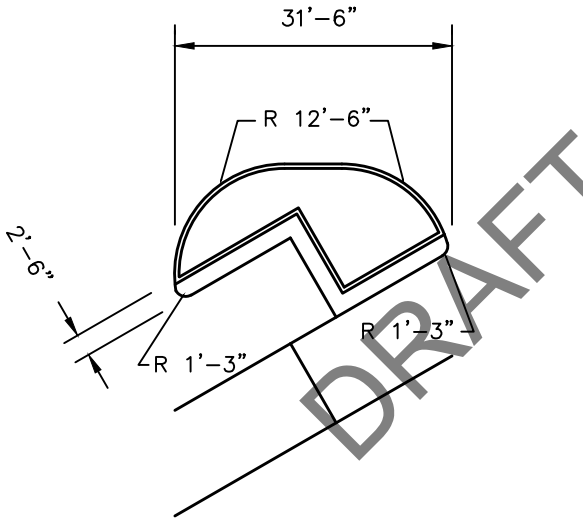


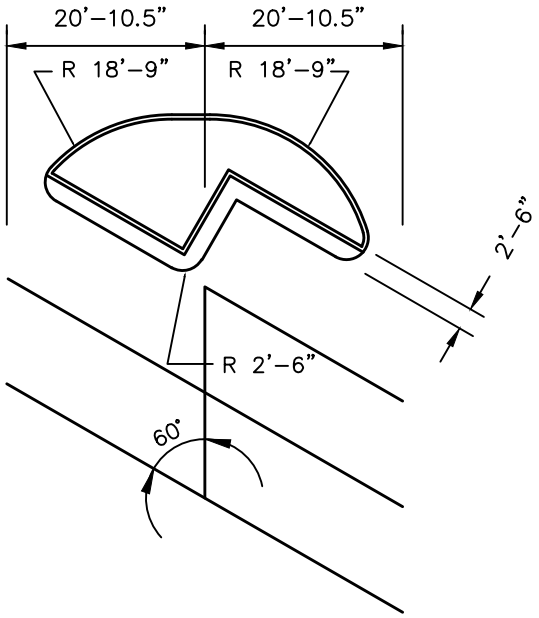
NOTE: NO PARKING ALLOWED ON RING ROAD.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				EXAMPLE OF RING ROAD	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		900.1
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

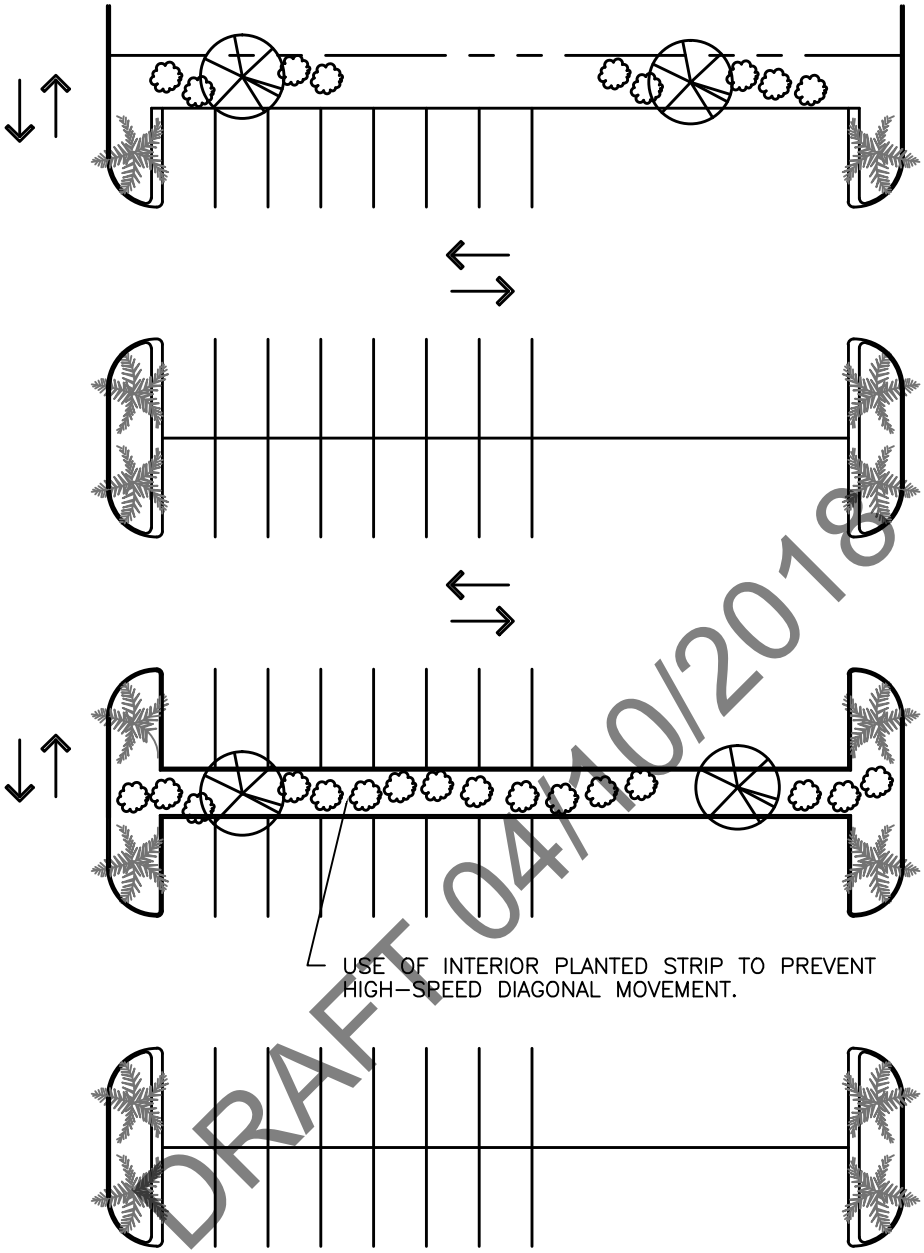






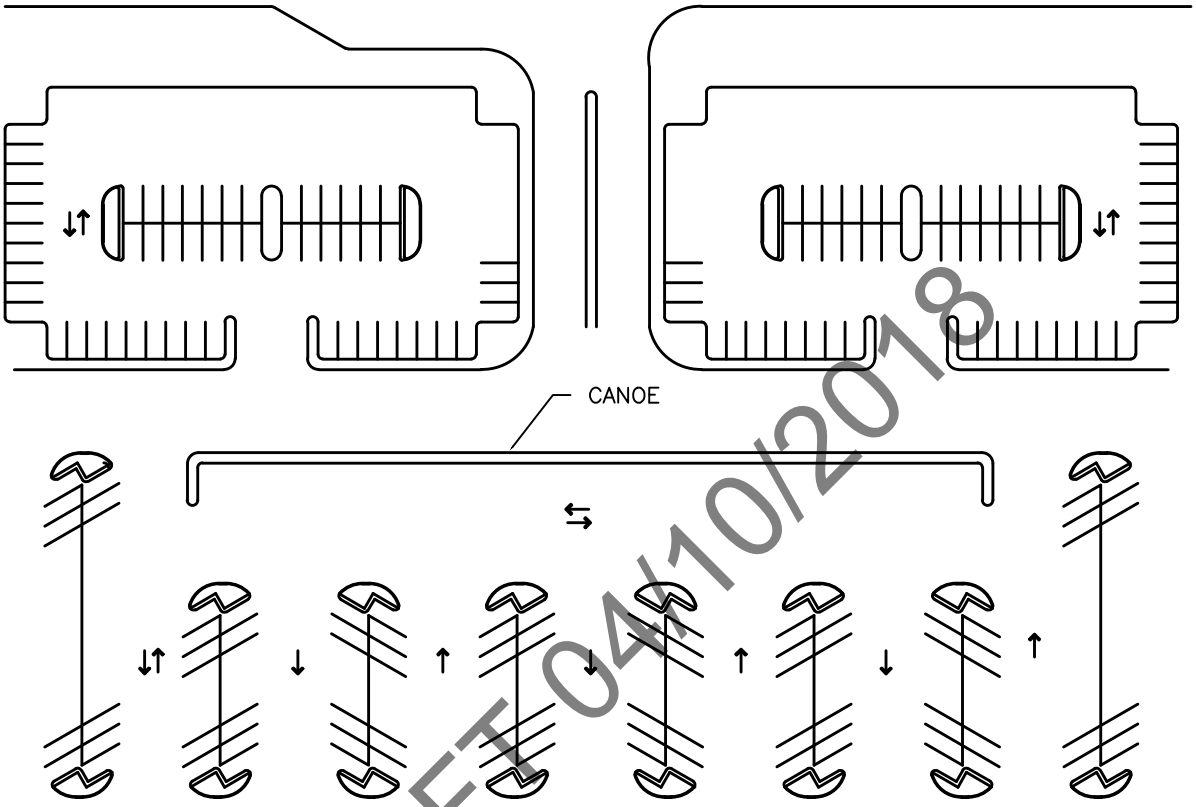


VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				TERMINAL ISLANDS	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		900.2
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

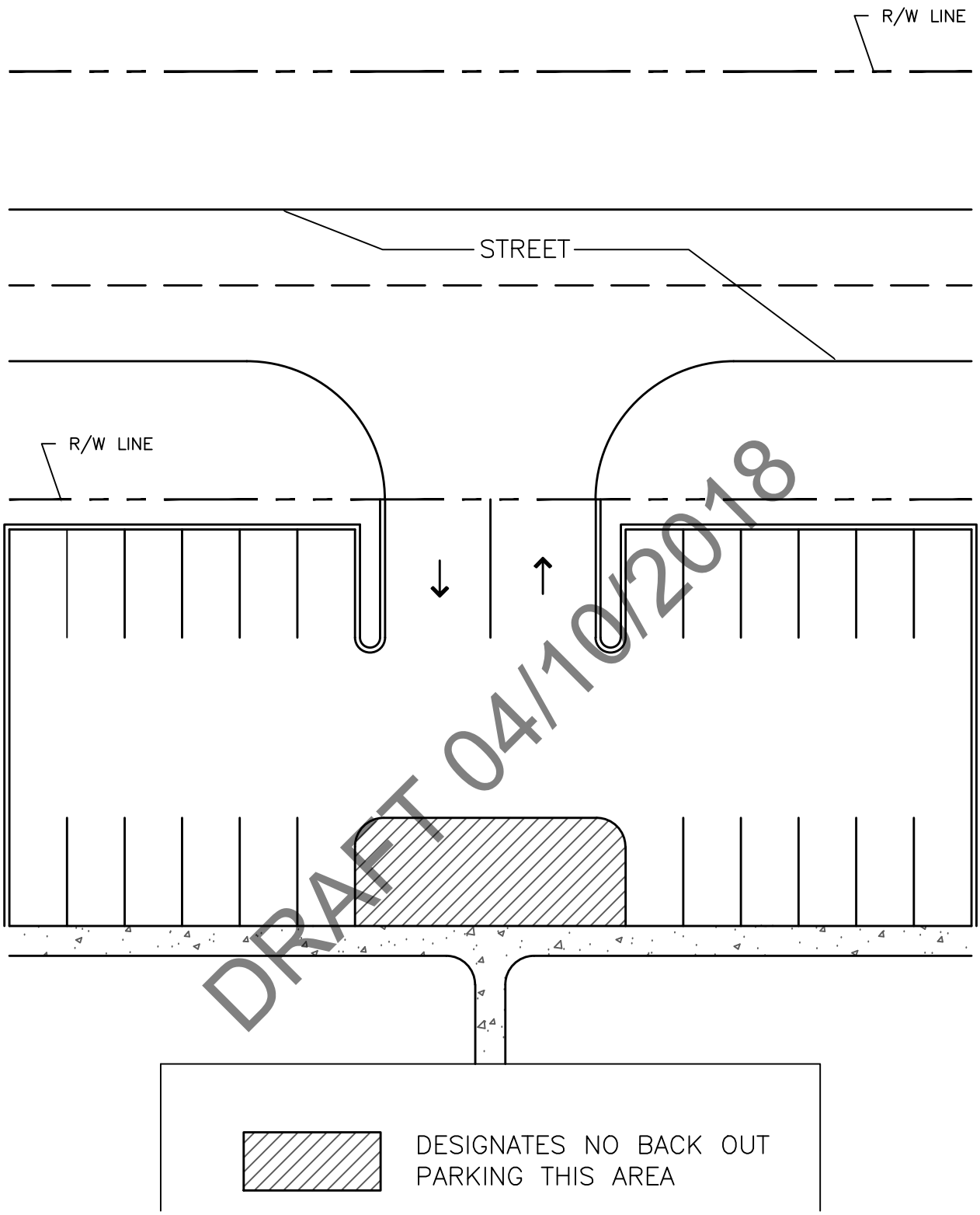


NOTE: NO MORE THAN THREE ROWS OF PARKING WITHOUT A LANDSCAPE STRIP.

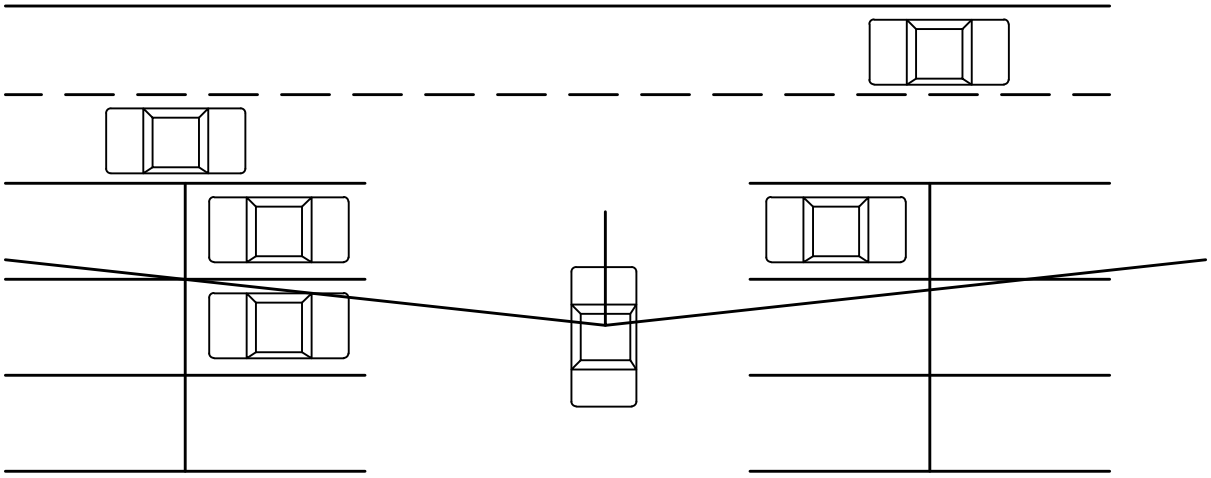
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				LANDSCAPE STRIPS	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		900.3
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



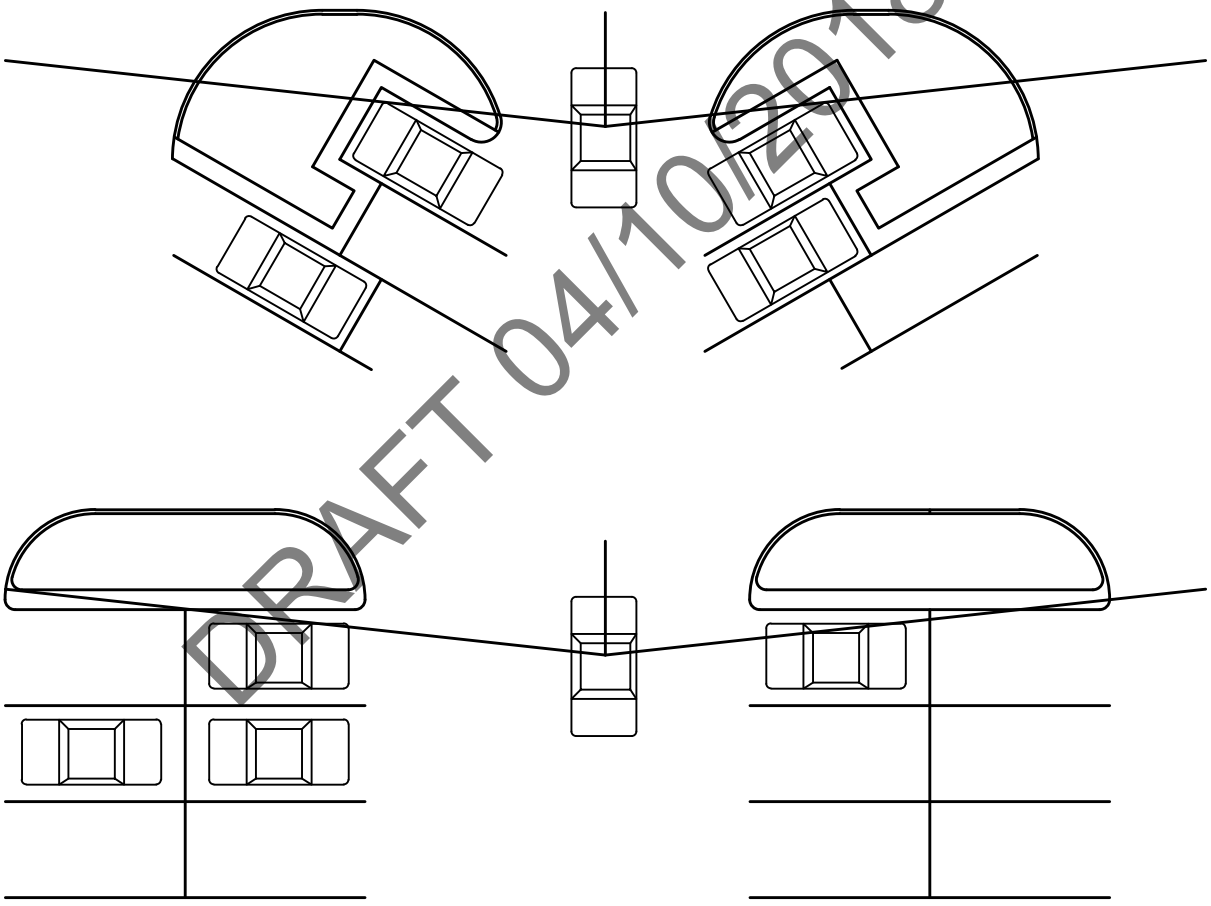
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				EXAMPLE OF "CANOE"	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		900.4
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				RESTRICTED PARKING AREA	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		900.5
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



MINIMUM SIGHT DISTANCE OBSTRUCTED WHEN END–STALL PARKING IS PERMITTED.

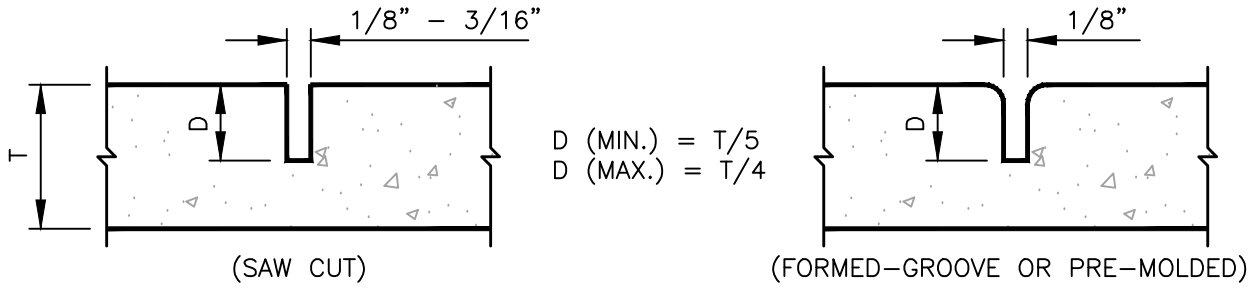


EXAMPLES OF TERMINAL ISLANDS TO PRECLUDE PARKING WITHIN THE SIGHT TRIANGLE.

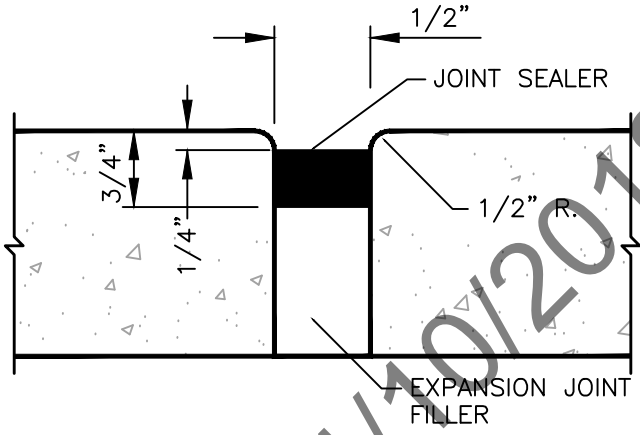
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				PARKING LOT SIGHT DISTANCE	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		900.6
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

1000

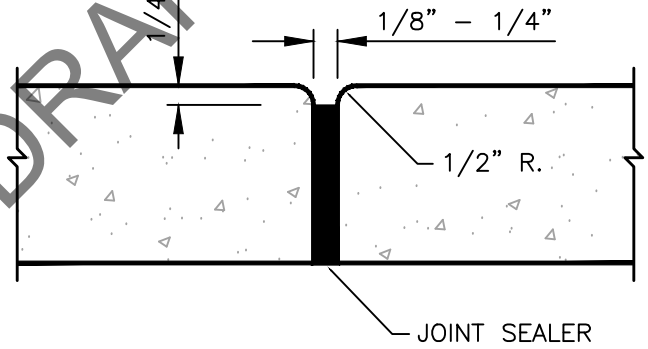
SUPPLEMENTAL AND MISCELLANEOUS DETAILS



TYPE A
CONTRACTION JOINT

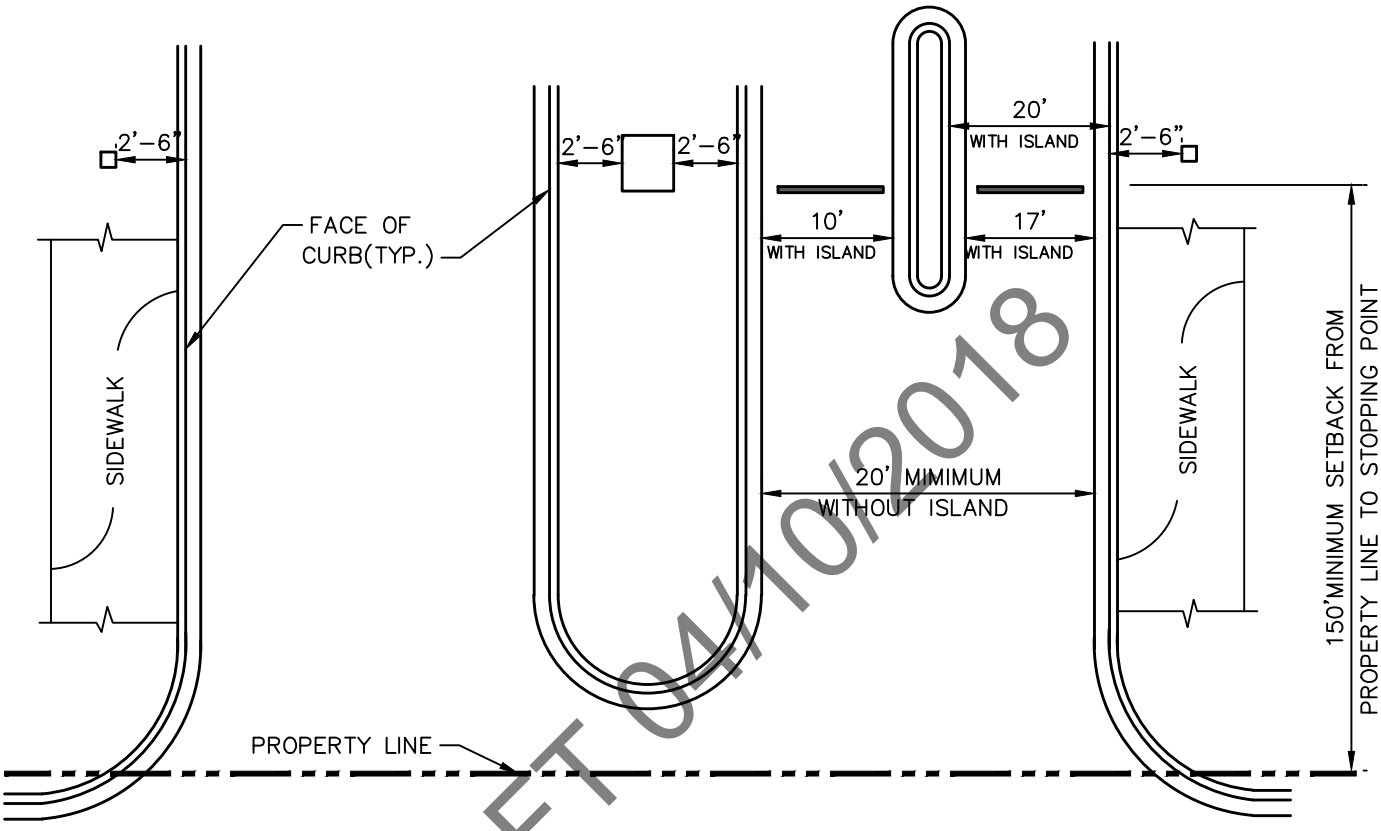


TYPE B
EXPANSION / ISOLATION JOINT



TYPE C
CONSTRUCTION JOINT

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				CONCRETE JOINTS	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1000.1
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



INTERSECTING ROADWAY

NOTES:

1. A TURNAROUND NEAR THE STOPPING POINT AND ACROSS THE MEDIAN IS RECOMMENDED FOR UNADMITTED VEHICLES.
2. A TURNAROUND WITH AN OUTSIDE RADIUS OF AT LEAST 55 FEET SHALL BE PROVIDED WHEN A SCHOOL BUS SHELTER AND TURNAROUND ARE REQUIRED AS A CONDITION OF FINAL SUBDIVISION PLAN OR ZONNING APPROVAL.
3. 150' MINIMUM SETBACK MAY BE INCREASED BASED ON TRAFFIC VOLUME AND ALIGNMENT OF ENTRANCE.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION

DRAWN BY:	DATE:	REVISED BY:	DATE:
J.R.R.	07/12/17		
REVISED BY:	DATE:		

GUARDHOUSE
(PRIVATE STREETS ONLY)

APPROVED: EFFECTIVE:

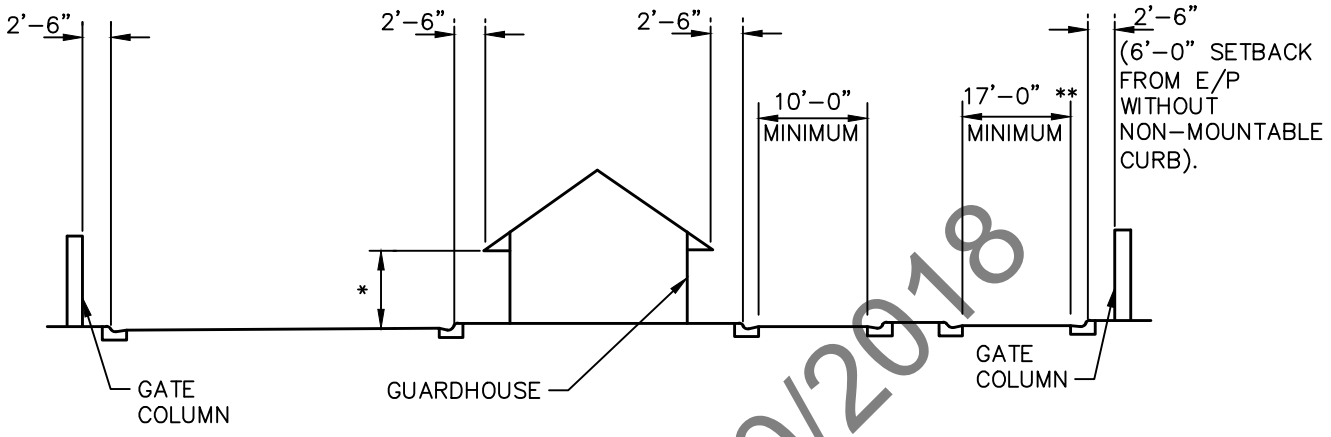
DATE:

VILLAGE ENGINEER

DRAWING NO.

1000.2

(PAGE 1 OF 2)



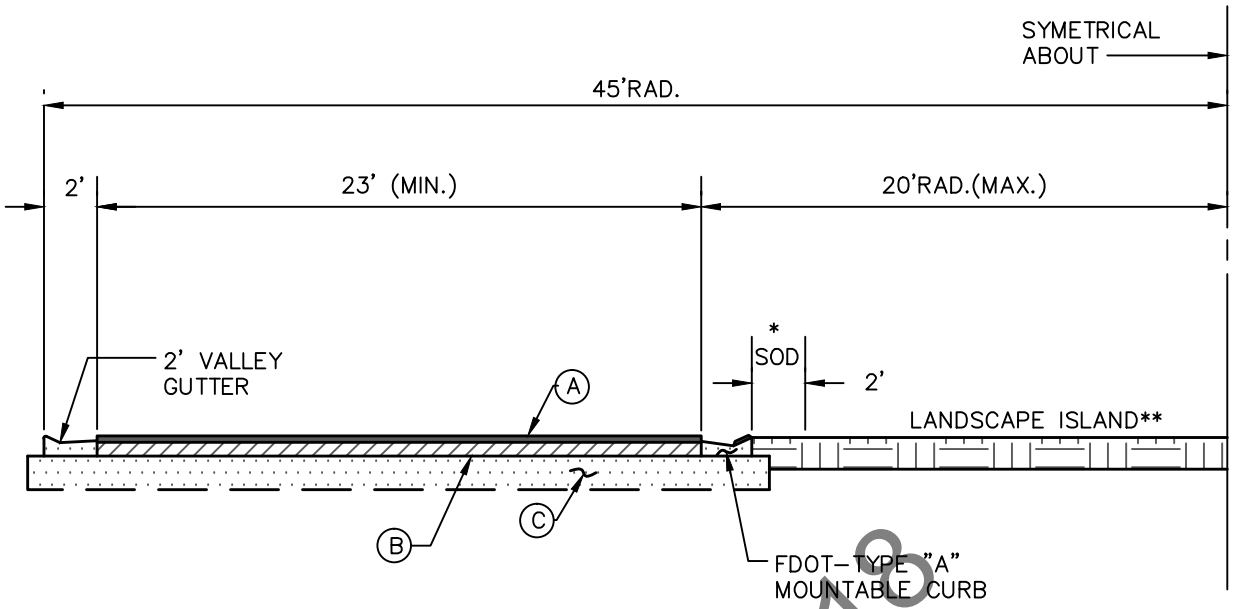
CROSS-SECTION VIEW

THE MINIMUM SETBACK FROM FACE OF A RAISED CURB TO ANY OBSTRUCTION (GUARDHOUSE,CARD READER, TELEPHONE,ETC.) IS TO BE 2'-6". EXCEPTIONS TO THIS SETBACK ARE A BREAK-AWAY BASE FOR CARD READERS AND TELEPHONES. THE PALM BEACH COUNTY FIRE MARSHAL MUST ALSO APPROVE PLANS.

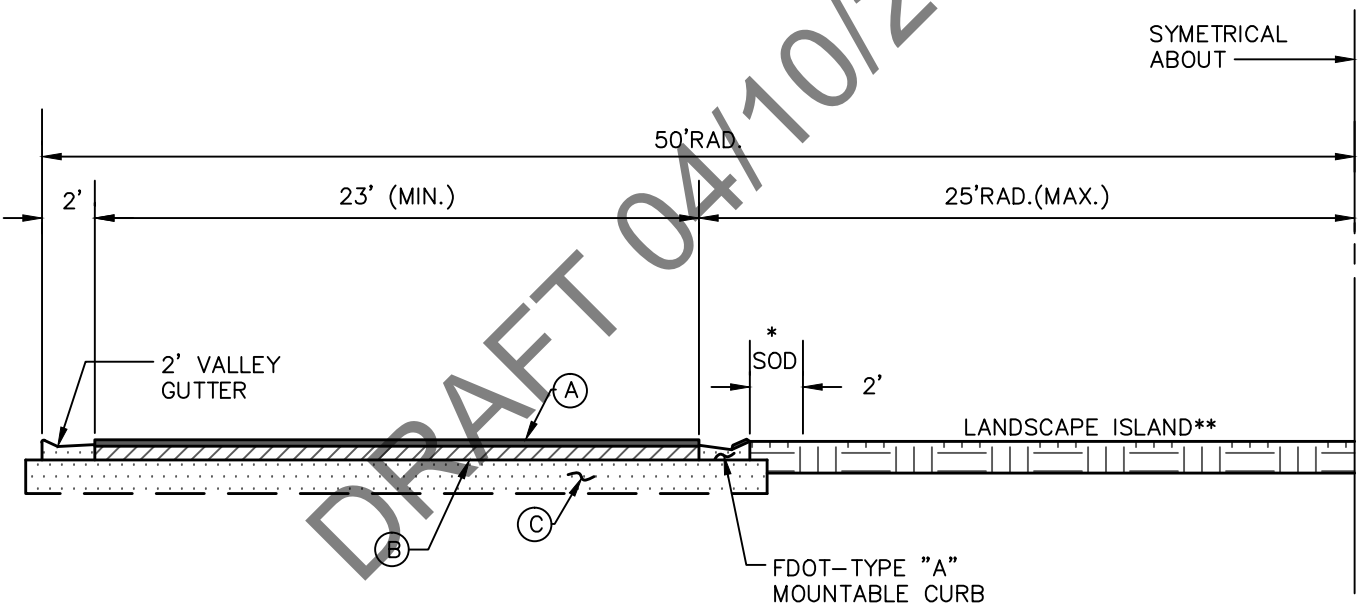
* THE 2'-6" SETBACK IS NOT REQUIRED FOR ROOF OVERHANGS ABOVE A 13'-6" VERTICAL CLEARANCE FROM THE ROADWAY.

** FOR FIRE/RESCUE EQUIPMENT, PROVIDE A MINIMUM OF 20'FROM FACE OF CURB TO FACE OF CURB.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				GUARDHOUSE (PRIVATE STREETS ONLY)	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1000.2 (PAGE 2 OF 2)
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



DETAIL 1



DETAIL 2

(A) WEARING SURFACE: SEE TABLE 100.6

(B) BASE: SEE TABLE 100.6

(C) SUBGRADE: SEE TABLE 100.6

*MAINTAIN 2'MOWING STRIP
**TREES & SHRUBS TO BE SET BACK 4'(MIN.)FROM BACK OF CURB

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				CUL-DE-SAC LANDSCAPE ISLAND	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1000.3
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

1100

EQUESTRIAN TRAILS & BEST MANAGEMENT PRACTICES

EQUESTRIAN/PEDESTRIAN CROSSING ADVANCE WARNING FLASHER ASSEMBLY SPECIFICATIONS

COMPLETE 15–FT SPUN POLE KIT TO INCLUDE ALL MOUNTING HARDWARE TO INCLUDE 15–FT CRASH TESTED 4" ROUND ALUMINUM SPUN POLE WITH PEDESTAL BASE, TOP CAP, ANCHOR BOLTS, SIGNAL HEAD MOUNT ARM, CONTROL BOX MOUNT.

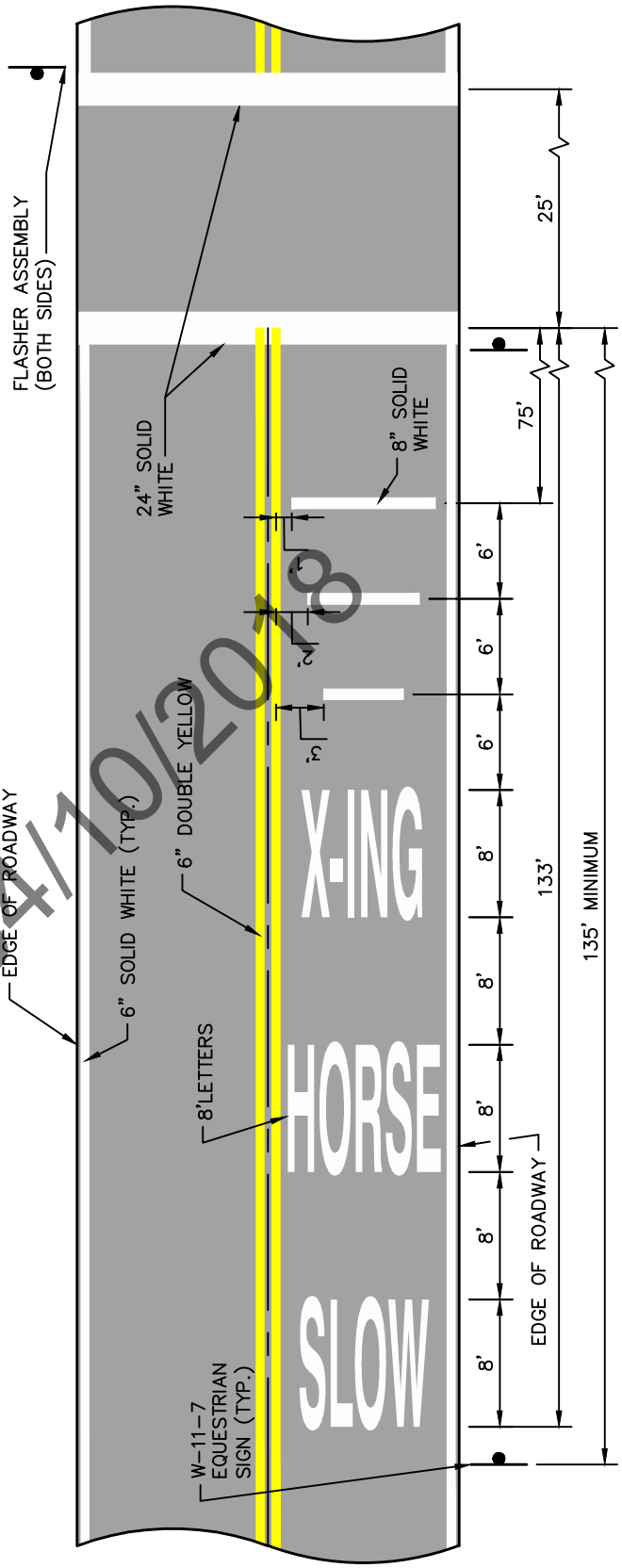
PUSH BUTTON/CROSSWALK SYSTEM TO INCLUDE DOUBLE 12" YELLOW/AMBER LED'S INSTALLED IN 12" LIGHT HOUSING PLASTIC INJECTED MOLDED POLYSTYRENE TUFEN U.V. IMPREGNATED MATERIAL FOR ULTRA VIOLET RAYS, POLYCARBONATE HEADS, 20–WATT SOLAR PANEL WITH MOUNTING BRACKET, PROGRAMMABLE TIMER MODULE, ALUMINUM BATTERY BOX, CONTROLLER SOLAR POWER PACKAGE INCLUDING 2–18 AMP BATTERIES (12V–DC, 18 AMP) MOUNTING HARDWARE TO MOUNT TO EXISTING POLE AND RADIO. CONTROL CABINET IS 7–1/2" X 11–1/4" X4", .063 ALUMINUM, LOCATED BELOW SOLAR PANEL.

CROSSWALK PUSH BUTTON SYSTEM CONSISTING OF 2" BUTTON WITH MOMENTARY SWITCH RATED AT 36VDC AND 5"LX7" BUTTON FIXTURE WITH CROSSING SIGN INSERTED; HEAVY DUTY LONG LIFE SWITCH. SUBASSEMBLY (FOR CrossTalk OR SPLasher). 4 PUSH BUTTONS REQUIRED, 2 PER POLE. ON EACH POLE, ONE PUSH BUTTON SHALL BE INSTALLED AT 40" ABOVE GRADE FOR PEDESTRIAN USAGE AND ONE PUSH BUTTON SHALL BE INSTALLED AT 70" ABOVE GRADE FOR HORSE RIDER USAGE.

30"X30" INTERNATIONAL (PICTURE) HORSE CROSSING SIGN WITH HIGH INTENSITY REFLECTIVITY.

ASSEMBLY SHALL BE AS MANUFACTURED BY K&K INC. MODEL NO. ECO–132–12, OR EQUAL.

W–11–07 EQUESTRIAN CROSSING SIGN
N.T.S.



VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION

DRAWN BY:	DATE:	REVISED BY:	DATE:
J.R.R.	07/12/17		
REVISED BY:	DATE:		

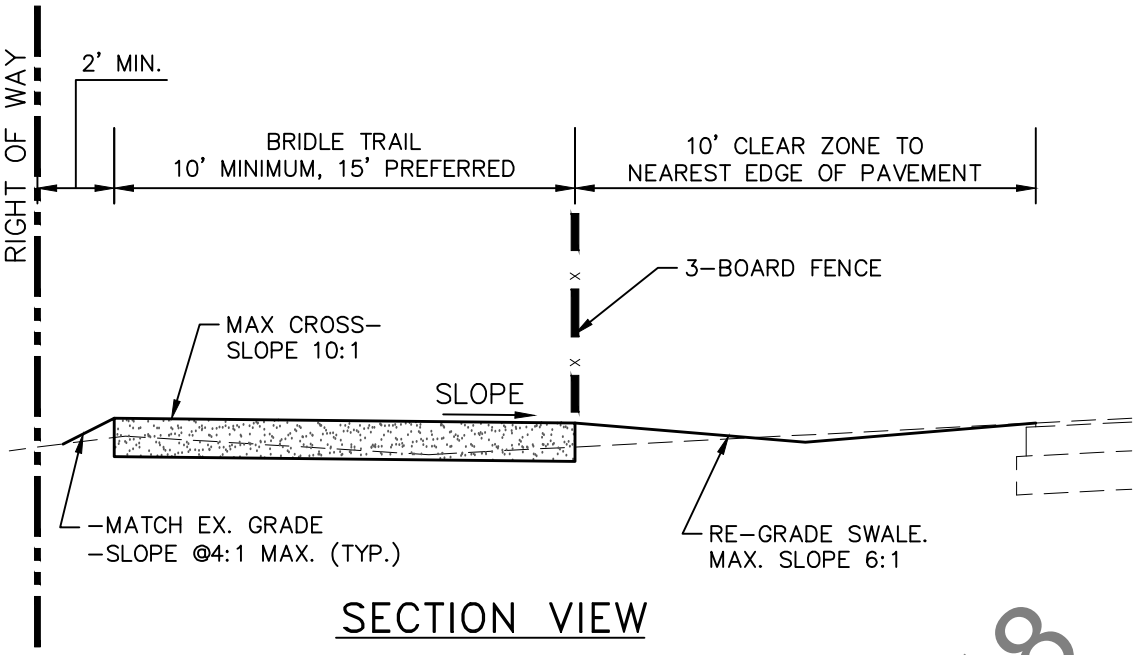
EQUESTRIAN CROSSING WITH SOLAR FLASHERS

APPROVED: EFFECTIVE:

DATE:

VILLAGE ENGINEER

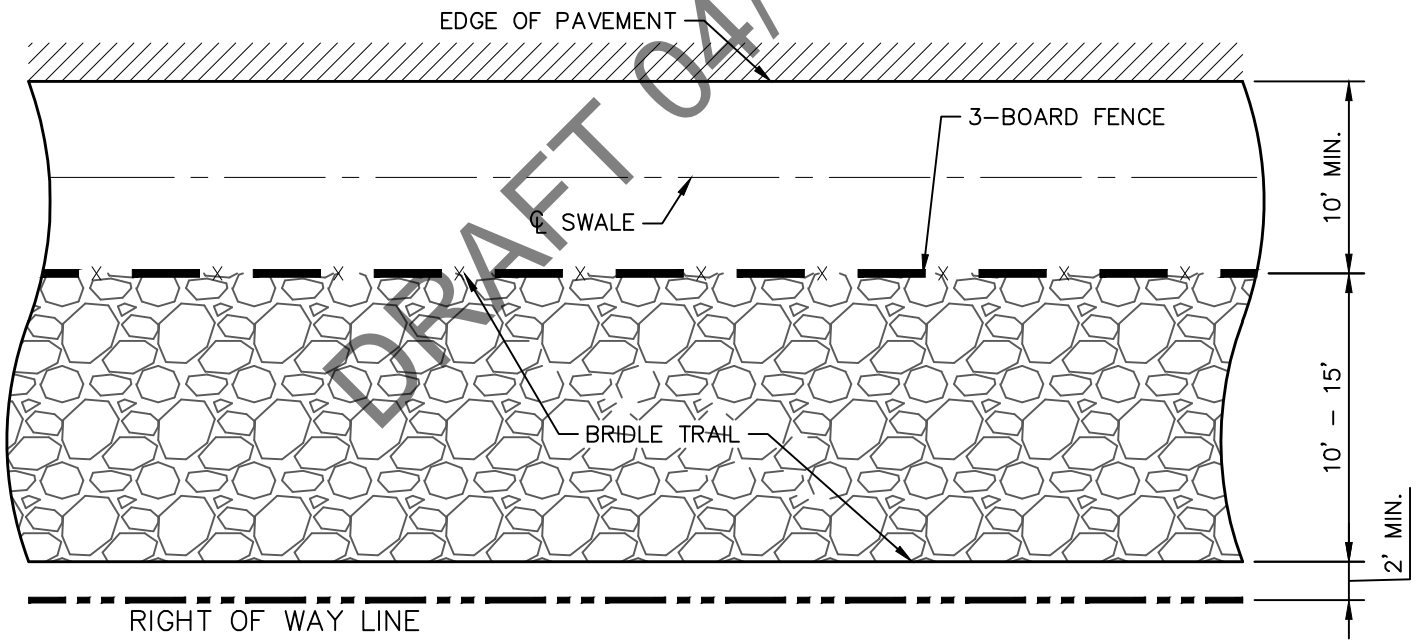
DRAWING NO. 1100.1



SECTION VIEW

BRIDLE PATH SPECIFICATIONS

12" TYPE B STABILIZATION (LBR 40)
2" OF TOP SOIL
BAHIA SOD



PLAN VIEW

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				TYPICAL BRIDLE TRAIL (OPTION 1)	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1100.2.1
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

RESERVED BRIDLE TRAIL DETAILS

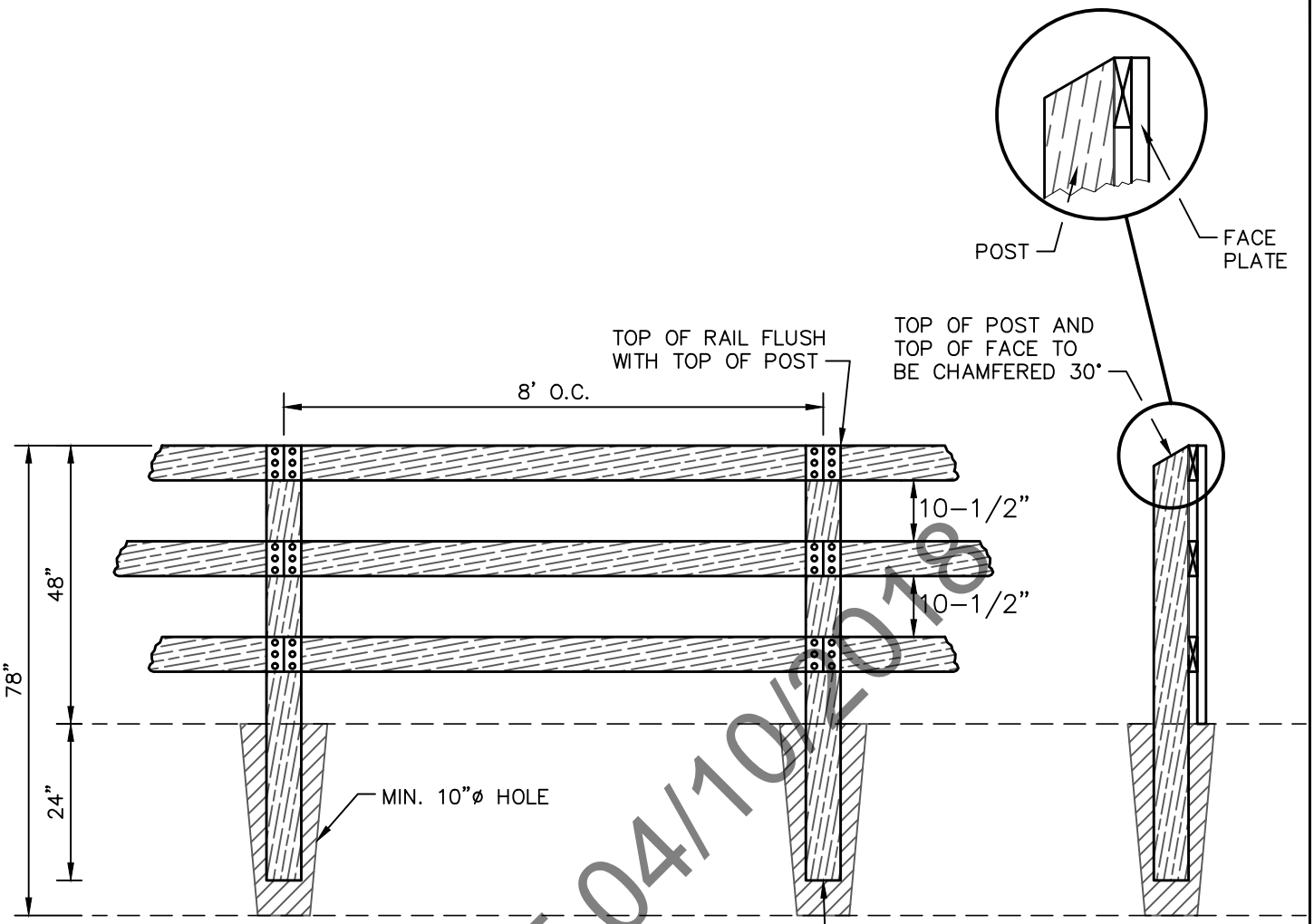
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				TYPICAL BRIDLE TRAIL (OPTION 2)	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1100.2.2
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

RESERVED BRIDLE TRAIL DETAILS

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				TYPICAL BRIDLE TRAIL (OPTION 3)	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1100.2.3
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

RESERVED BRIDLE TRAIL DETAILS

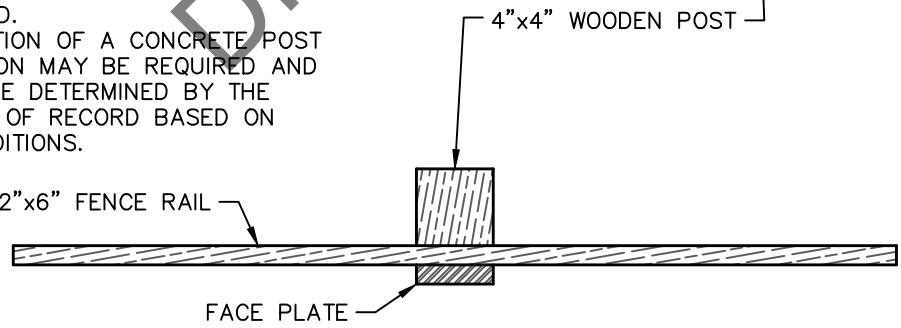
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				TYPICAL BRIDLE TRAIL (OPTION 4)	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1100.2.4
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



PROFILE VIEW
N.T.S.

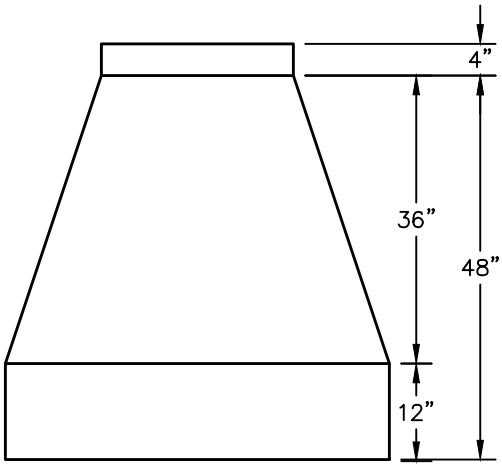
SECTION VIEW
N.T.S.

NOTES:
1. ALL WOOD SHALL BE PRESSURE TREATED
2. ALL FACE PLATES & FENCE RAILS SHALL FACE THE 'STREET SIDE' OF THE POSTS.
3. FASTENERS TO BE 3" GALVANIZED WOOD SCREWS
4. WOODEN POST TO BE DIRECT BURIED IN GROUND.
5. THE ADDITION OF A CONCRETE POST FOUNDATION MAY BE REQUIRED AND SHOULD BE DETERMINED BY THE ENGINEER OF RECORD BASED ON SITE CONDITIONS.

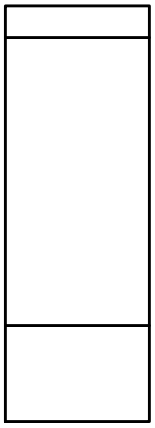


PLAN VIEW
N.T.S.

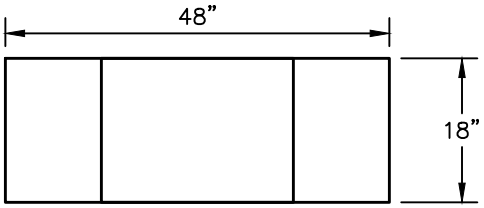
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				3-RAIL FENCE DETAIL	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1100.3
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



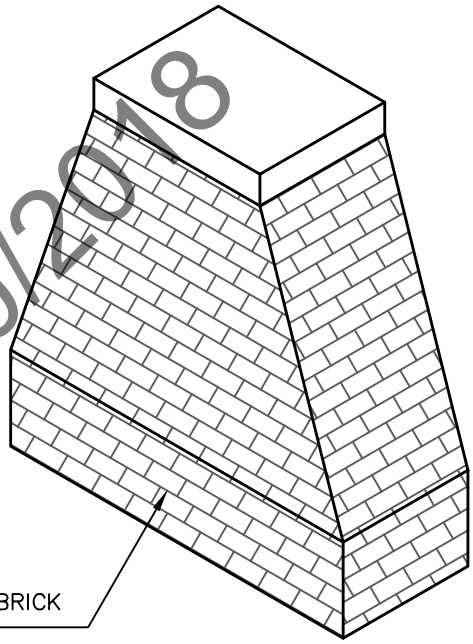
PROFILE VIEW
N.T.S.



SIDE VIEW
N.T.S.

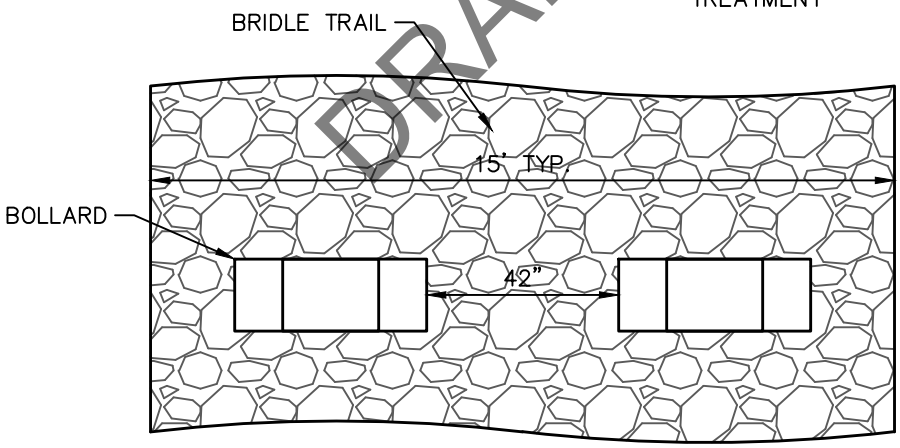


PLAN VIEW
N.T.S.



ISOMETRIC VIEW
N.T.S.

NOTES
1. FOR DIMENSIONAL AND LAYOUT PURPOSES ONLY.
2. CONSULT MANUFACTURERS SPECIFICATIONS FOR INSTALLATION PROCEDURES.



TYPICAL LAYOUT
N.T.S.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION

DRAWN BY:	DATE:	REVISED BY:	DATE:
J.R.R.	07/12/17		
REVISED BY:	DATE:		

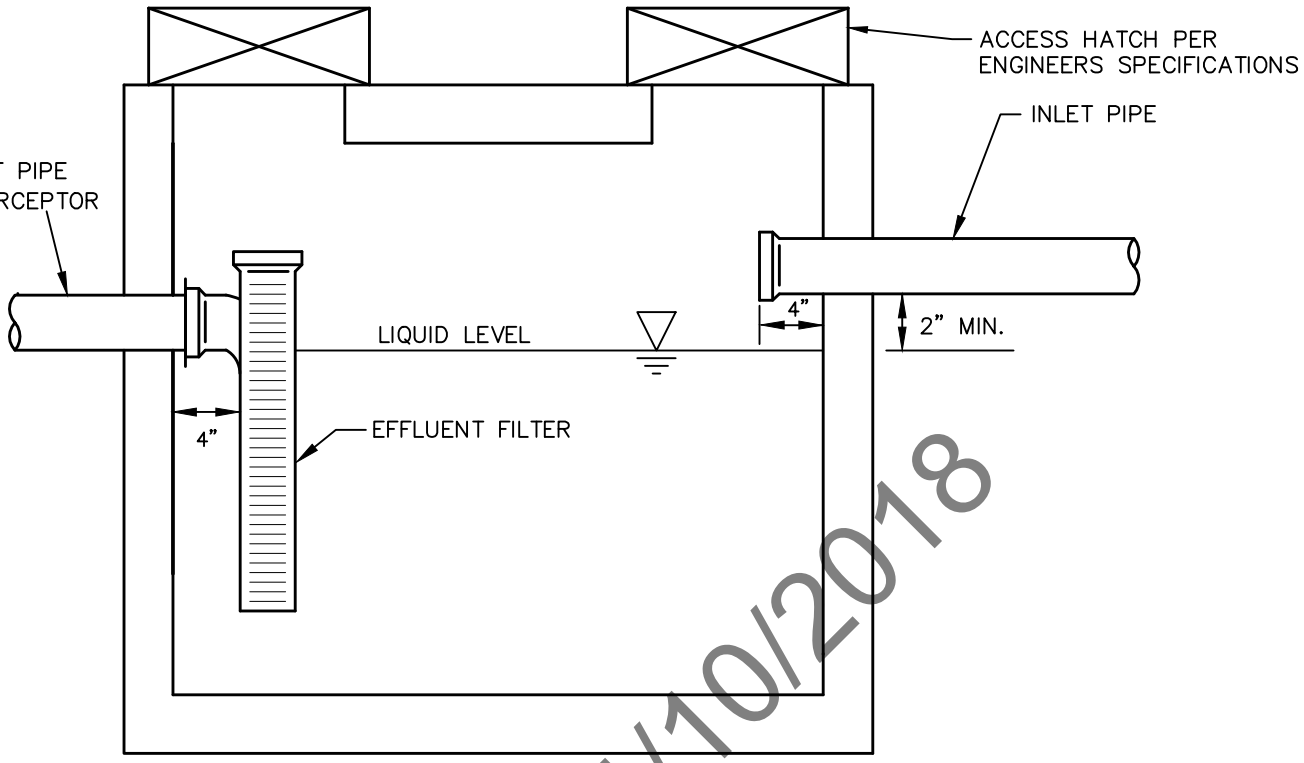
EQUESTRIAN TRAIL
OLLARD DETAIL

APPROVED: EFFECTIVE:

DATE:

VILLAGE ENGINEER

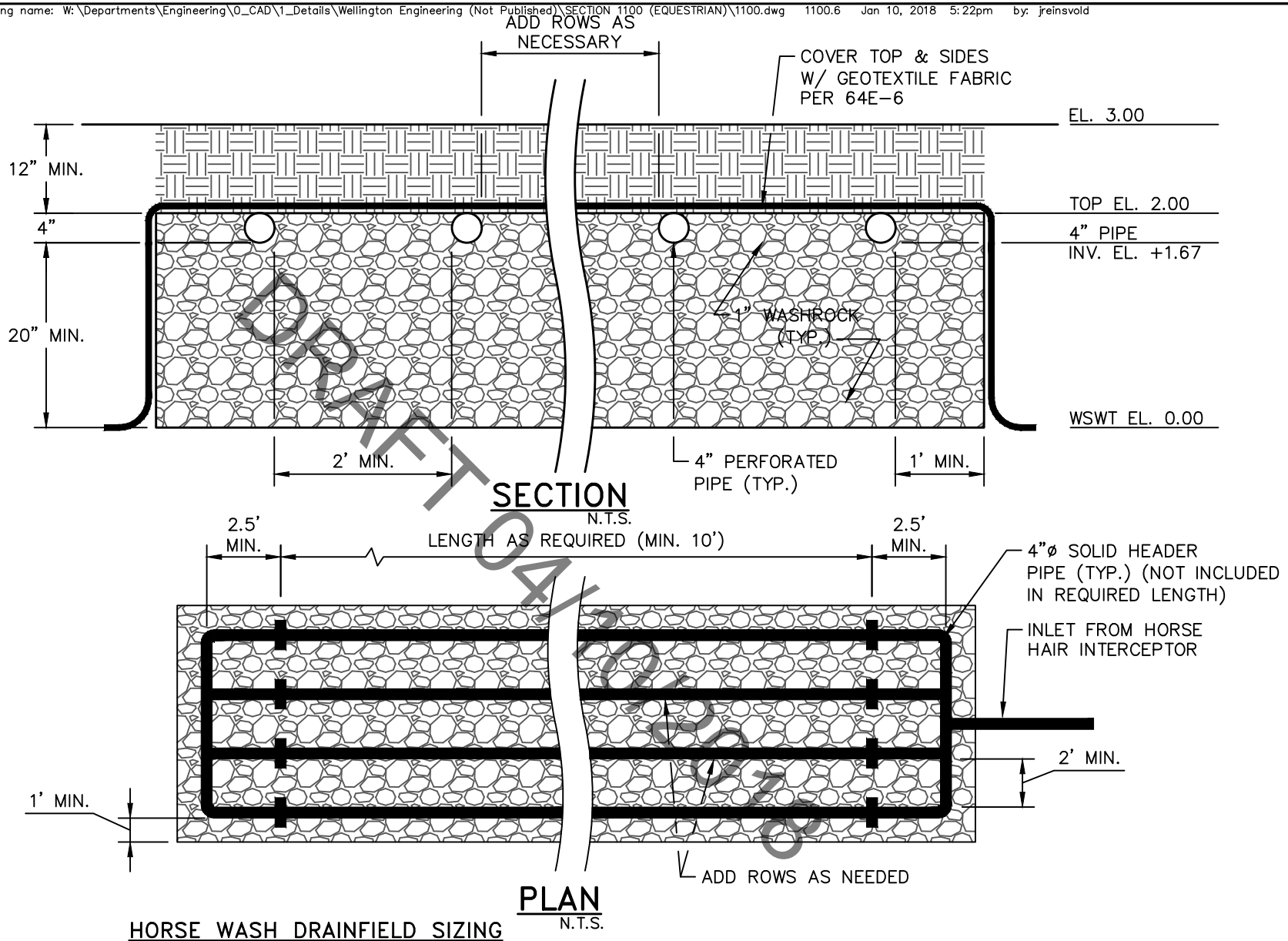
DRAWING NO.
1100.4



NOTES:

1. THIS DRAWING IS FOR INFORMATIONAL PURPOSES INTENDED ONLY TO SHOW THE MINIMUM REQUIRED COMPONENTS OF A HORSE HAIR INTERCEPTOR.
2. THIS DRAWING IS NOT INTENDED FOR USE ON CONSTRUCTION PLANS.
3. SHOP DRAWINGS SUBMITTAL REQUIRED FOR REVIEW AND APPROVAL PRIOR TO PRE-CONSTRUCTION MEETING.
4. OTHER DESIGNS MAY BE USED UPON SUBMITTAL, REVIEW AND APPROVAL OF SHOP DRAWINGS.
5. TANK SIZING AND FINAL SPECIFICATIONS SHALL BE DETERMINED BY THE ENGINEER OF RECORD. TANKS SHALL BE NO SMALLER THAN 500 GALLONS
6. WHEN THE REQUIRED EFFECTIVE CAPACITY OF THE TANK IS GREATER THAN 1,250 GALLONS, INSTALLATION OF MULTIPLE INTERCEPTORS IN SERIES IS REQUIRED.
7. TANK SHALL BE TRAFFIC BEARING WHERE APPLICABLE.
8. FRAME & COVER FLUSH WITH GROUND.
9. PIPING SHALL BE INSTALLED USING PRECAST RUBBER BOOT.
10. ALL PIPING SHALL BE A MINIMUM OF 4" PVC.
11. SANITARY "T" OUTLET SHALL BE INSTALLED 4" INSIDE OF WALL.
12. ALL OPENINGS AND PIPE ENTERING OR EXITING INTERCEPTOR SHALL BE SEALED WITH A WATERPROOF NON-SHRINKING GROUT OR APPROVED EQUAL.

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				HORSE HAIR INTERCEPTOR DETAIL	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1100.5
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



HORSE WASH DRAINFIELD SIZING

REQUIREMENT: 10LF OF DRAINFIELD PER STALL PLUS 10LF.

CALCULATION: ___ STALLS X 10LF / STALL + 10LF = ___ LF DRAINFIELD;

___ L.F X 2 = ___ S.F OF 2' DEEP TRENCH

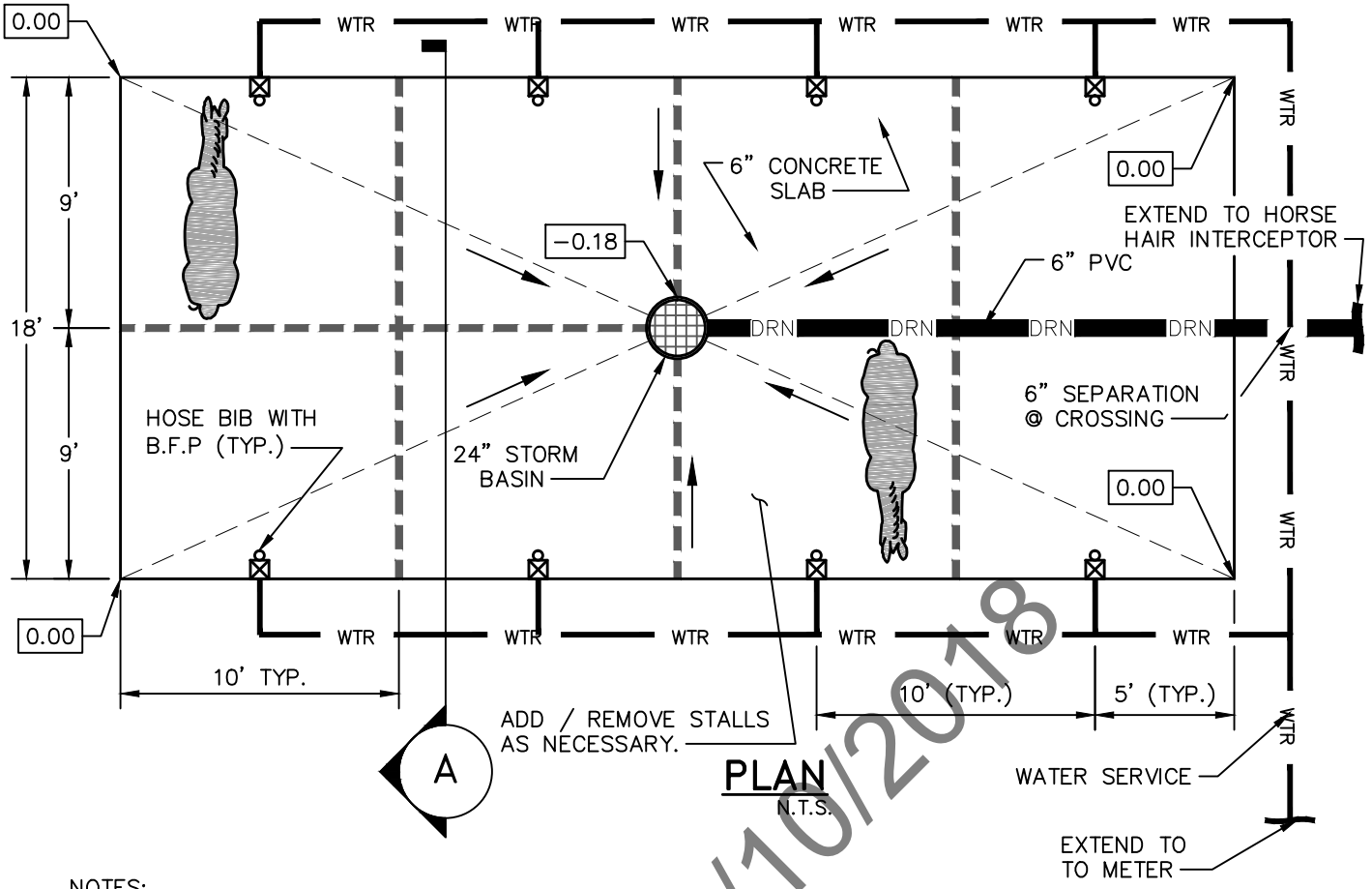
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION

HORSEWASH DRAINFIELD DETAIL

DRAWN BY: J.R.R.
DATE: 07/12/17
REVISED BY:
DATE:
REVISED BY:
DATE:

APPROVED:
VILLAGE ENGINEER
DATE:
EFFECTIVE:

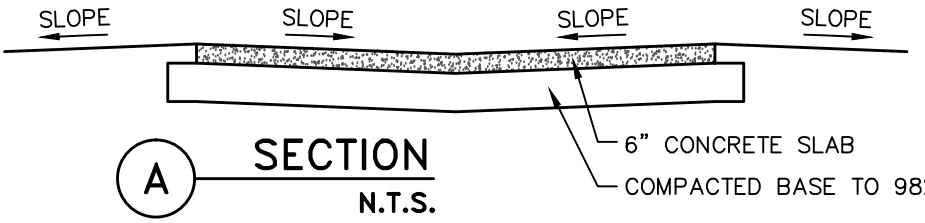
DRAWING NO. 1100.6



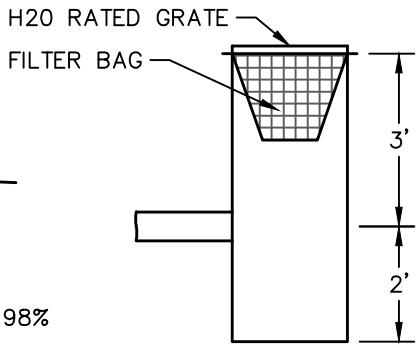
PLAN
N.T.S.

NOTES:

1. THIS DETAIL IS FOR INFORMATIONAL PURPOSES ONLY. ACTUAL DESIGN AND LAYOUT TO BE DETERMINED BY THE ENGINEER OF RECORD.
2. ALL HOSE BIBS ARE TO BE EQUIPPED WITH AN AUTOMATIC SHUT-OFF NOZZLE TO LIMIT WATER FLOW INTO THE DRAINFIELD.
3. DURING MAINTENANCE WHEN THE FILTER IS REMOVED TO BE CLEANED, THE FILTER CONTAINER SHALL BE REPLACED WITH NO DISCHARGE OPENING TO PREVENT DISCHARGE TO THE DRAINFIELD.
4. ALL FACILITIES SHALL COMPLY WITH THE VILLAGE OF WELLINGTON BEST MANAGEMENT PRACTICES.
5. MINIMUM SLAB ELEVATION AT OR ABOVE THE 100 YEAR 3-DAY FLOOD.



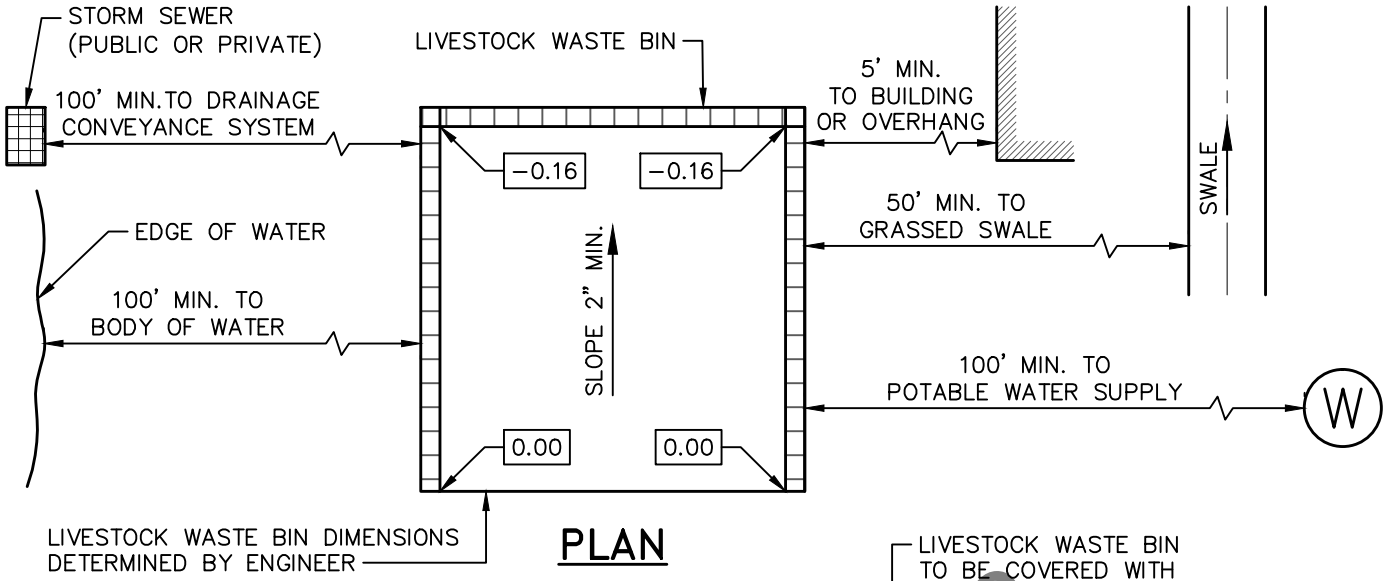
A SECTION
N.T.S.



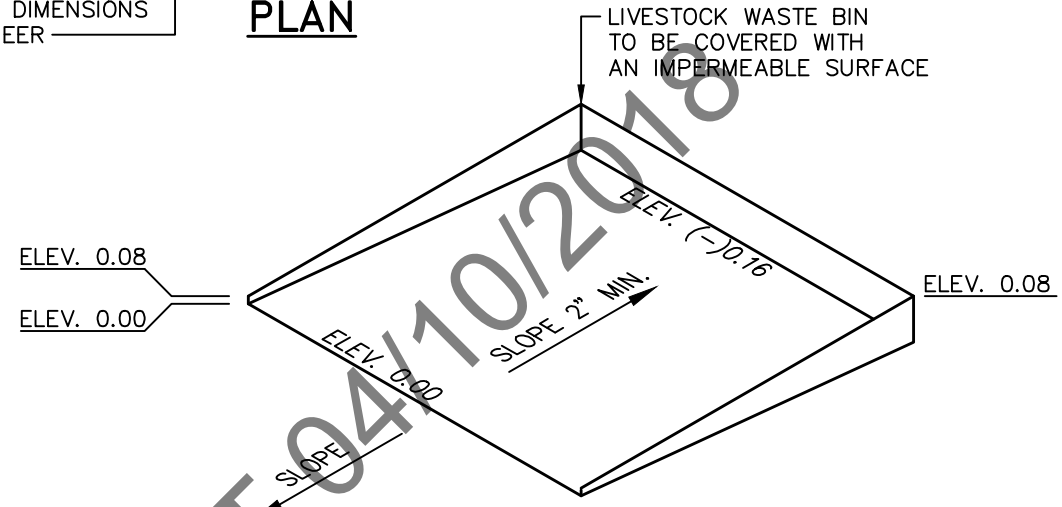
24" BASIN DETAIL
N.T.S.

Drawing name: W:\Departments\Engineering\0_CAD\1_Details\Wellington Engineering (Not Published)\SECTION 1100 (EQUESTRIAN)\1100.dwg 1100.7 Jan 10, 2018 5:22pm by: jreinsvold

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				HORSE WASH-DOWN AREA DETAIL	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1100.7
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



PLAN



ISOMETRIC VIEW

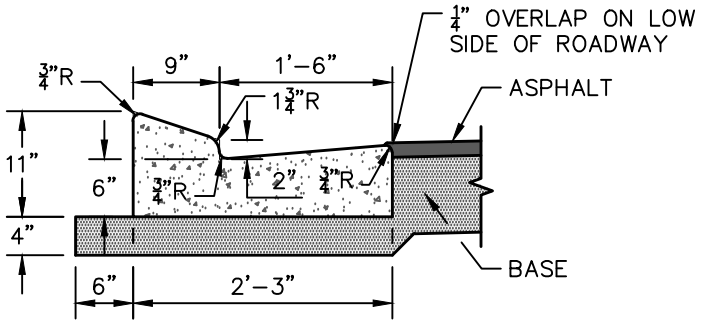
NOTES:

1. FINAL DESIGN/LAYOUT TO BE DETERMINED BY ENGINEER OF RECORD.
2. SETBACKS ARE IN ALL DIRECTIONS
3. MANURE BINS FOR LIVESTOCK WASTE SHALL COMPLY WITH THE VILLAGE OF WELLINGTON'S CODE OF ORDINANCES CHAPTER 30, ARTICLE V, SEC. 30-153 LATEST VERSION.
4. THIS DRAWING IS PROVIDED AS A GRAPHICAL REPRESENTATION OF SEC. 30-153. THE PROVISIONS OF SEC. 330-153 SHALL GOVERN IN THE EVENT OF ERRORS OR OMISSIONS IN THIS DRAWING.
5. THE LATEST ORDINANCE CAN BE FOUND AT MUNICODE https://library.municode.com/index.aspx?clientId=13115

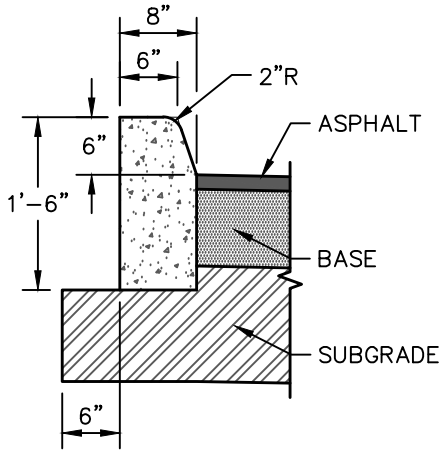
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				MANURE BIN DETAIL	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1100.8
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

1200

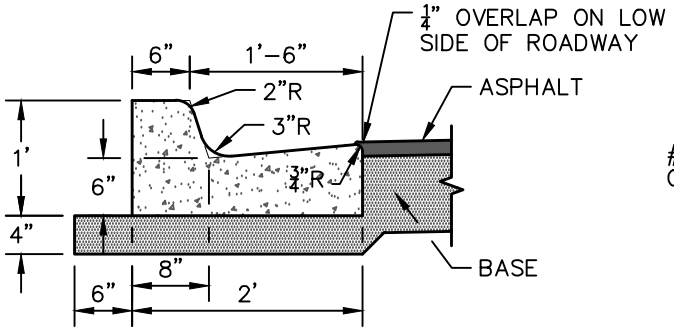
SITE DETAILS



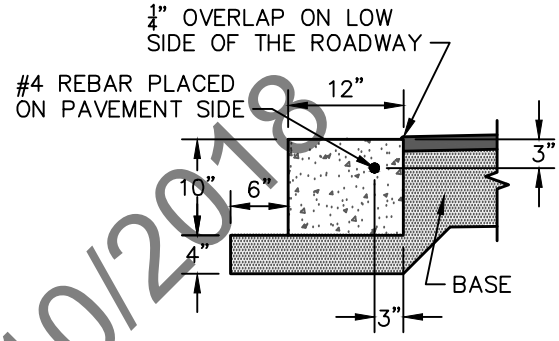
TYPE E CURB AND GUTTER



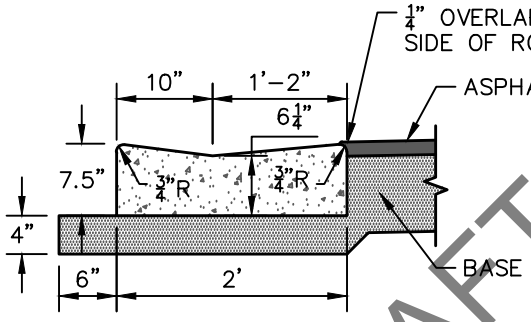
TYPE D CURB



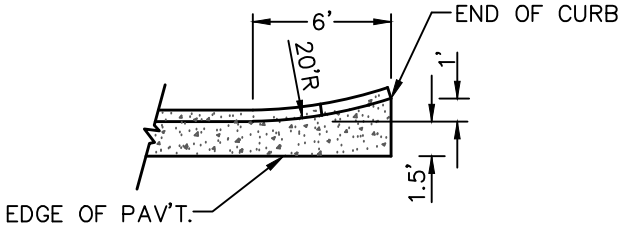
TYPE F CURB AND GUTTER



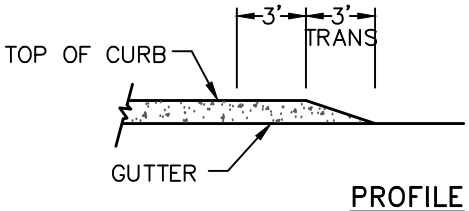
HEADER CURB



DROP CURB AND GUTTER



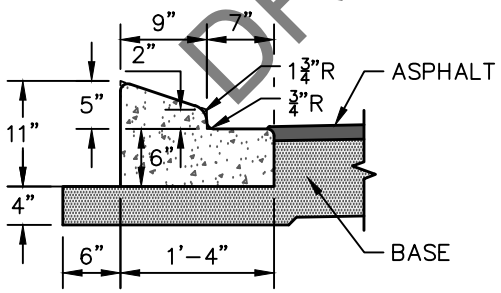
PLAN



PROFILE

FLARED END DETAIL

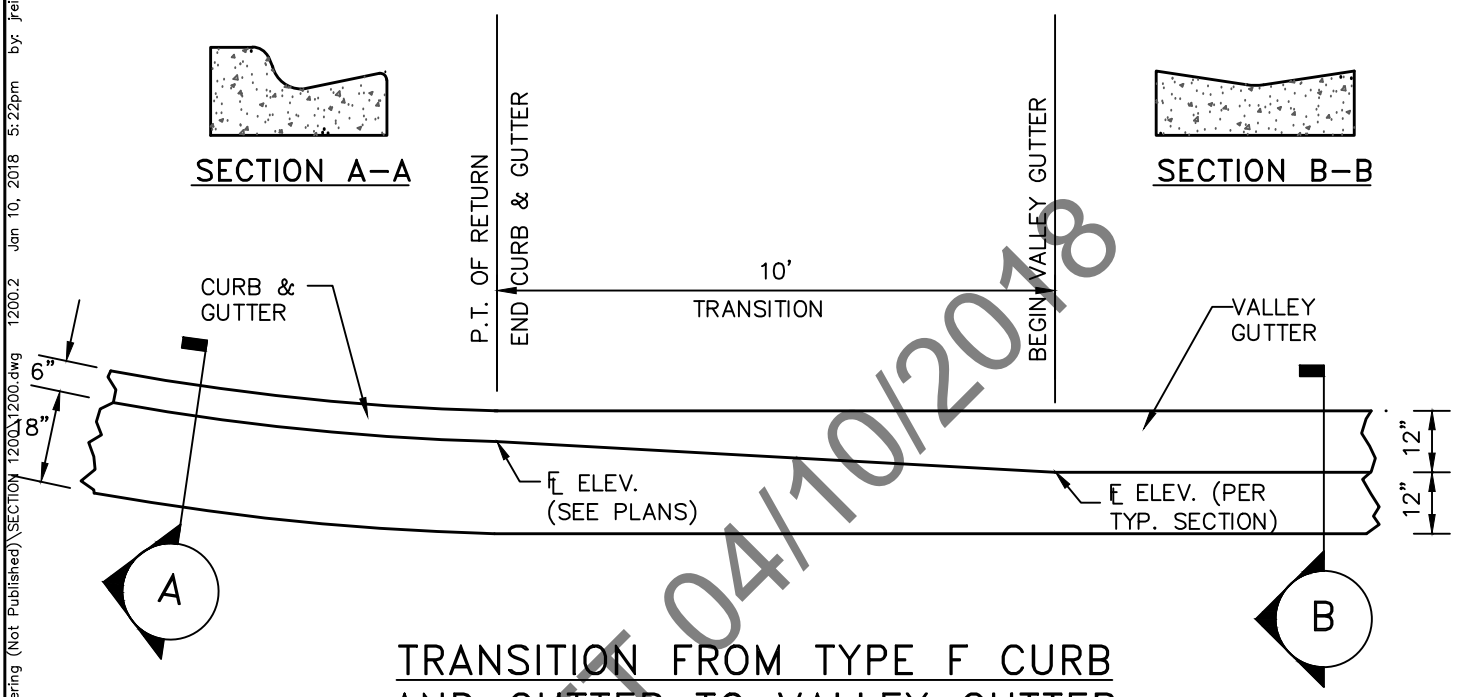
N.T.S.



TYPE A MOUNTABLE CURB

NOTE: SEE FDOT INDEX NO. 300 FOR ADDITIONAL INFORMATION

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				CONCRETE CURBING	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1200.1
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

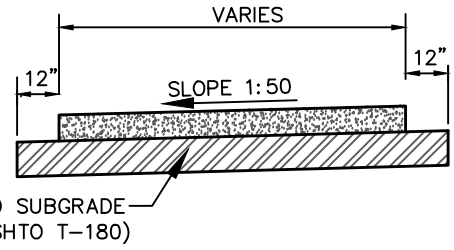


TRANSITION FROM TYPE F CURB AND GUTTER TO VALLEY GUTTER

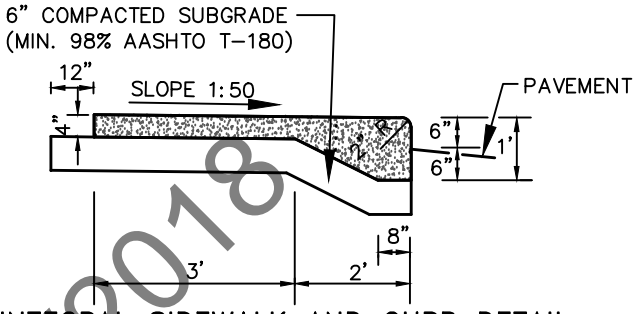
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				TRANSITION FROM TYPE F CURB AND GUTTER TO VALLEY GUTTER	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	1200.2
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

NOTE:

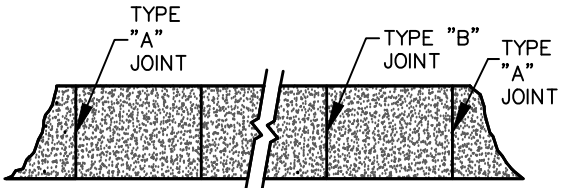
SIDEWALK SHALL BE 4" THICK EXCEPT IN DRIVEWAYS WHERE THE THICKNESS SHALL BE 6". SEE SECTION ___ FOR SIDEWALKS WITHIN STREETS AND RIGHT OF WAYS.



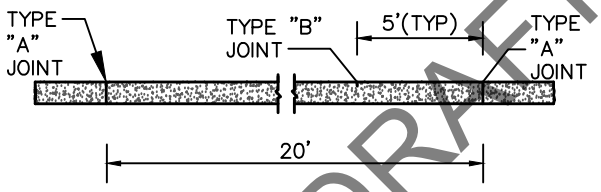
SECTION



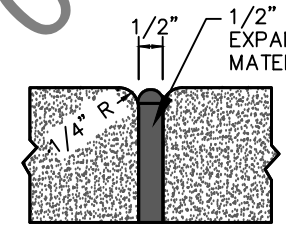
INTEGRAL SIDEWALK AND CURB DETAIL



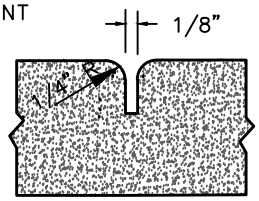
PLAN



ELEVATION



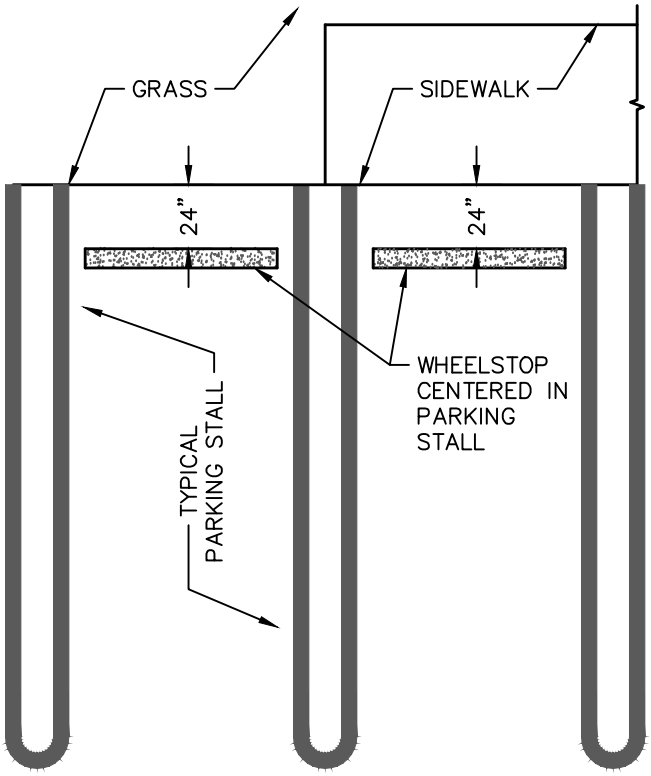
TYPE "A" JOINT



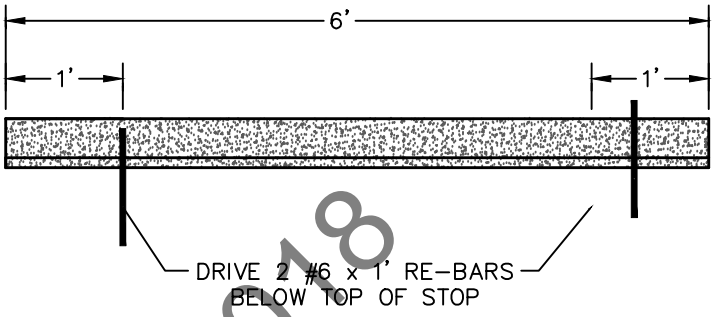
TYPE "B" JOINT

SIDEWALK

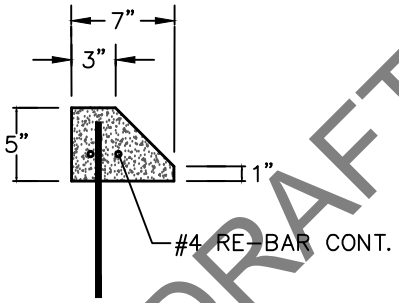
VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				CONCRETE SIDEWALK	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1200.3
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



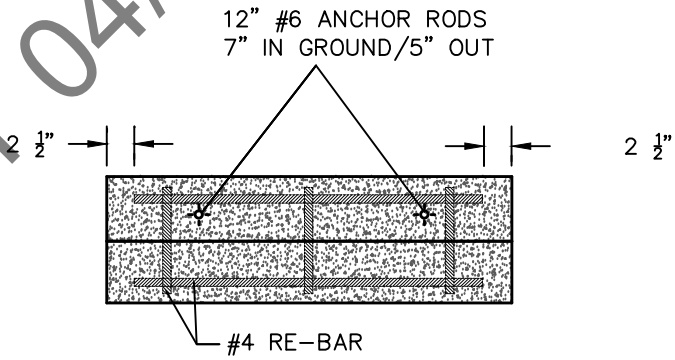
PLACEMENT DETAIL



PROFILE



SECTION



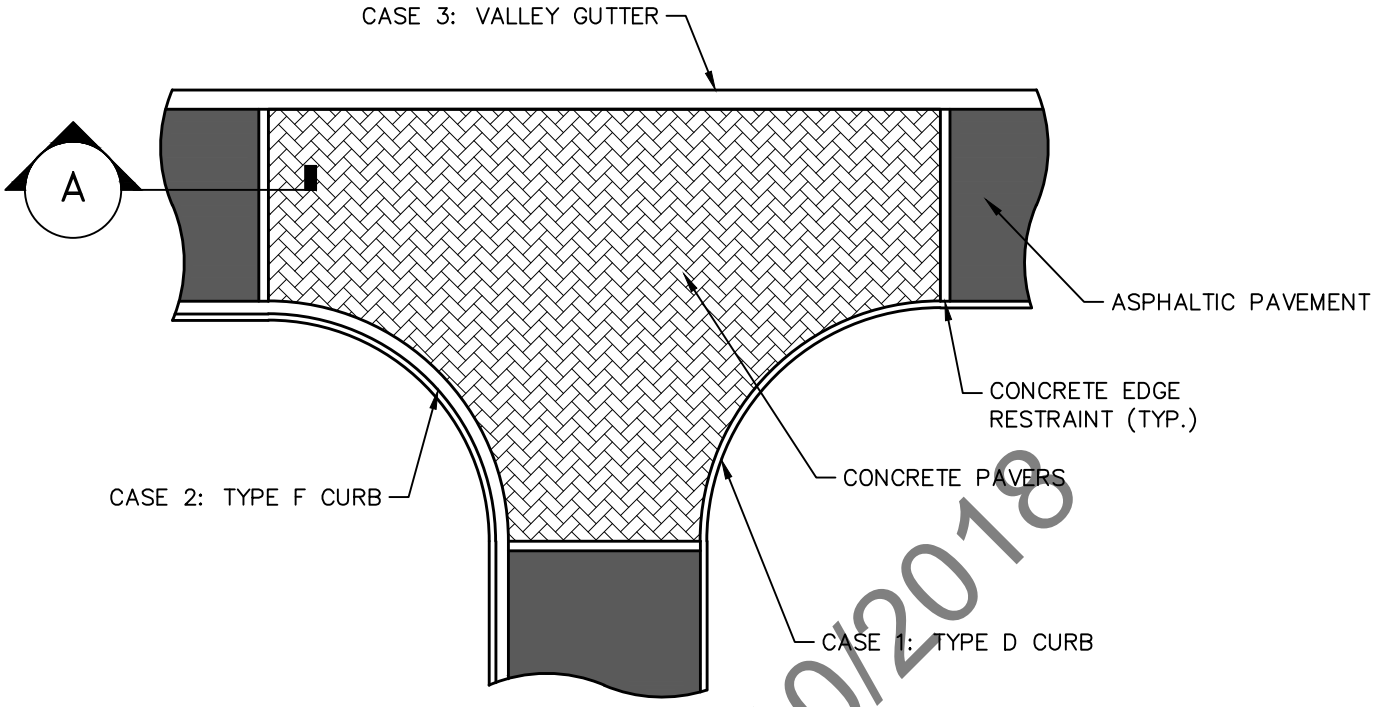
PLAN (REINFORCING)

NOTES:

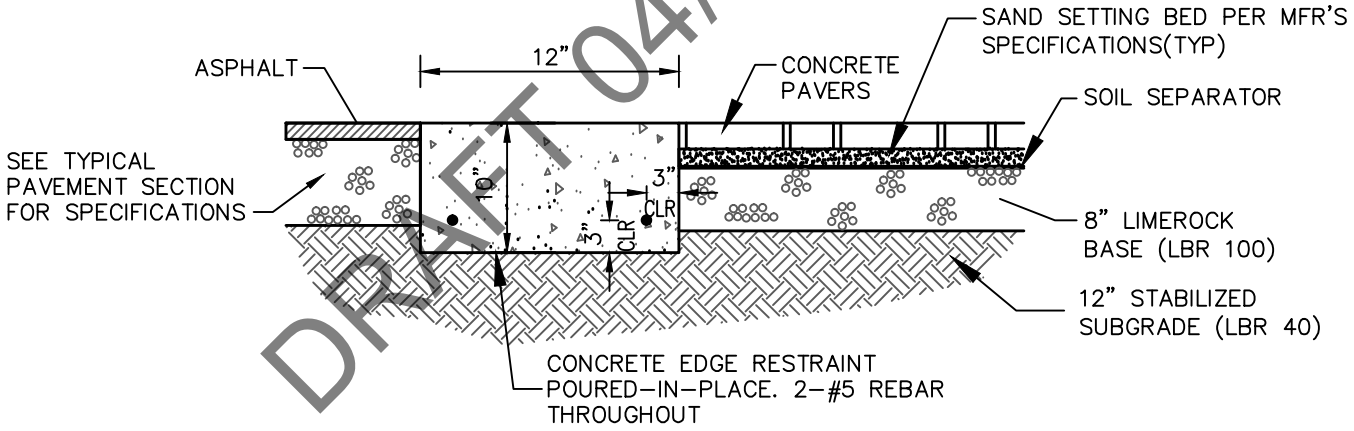
1. ALIGN BACK OF WHEEL STOP 4" FROM EDGE OF PAVEMENT FOR GRASS OVERHANG SPACES & 2' FROM END OF STALL ON PAVED OVERHANG SPACES.
2. USE MINIMUM 3400 PSI CONC. IN 28 DAYS
3. CONTRACTOR MAY SUBMIT ALTERNATE WHEEL STOP SECTIONS FOR APPROVAL

WHEEL STOP DETAIL

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				PARKING WHEEL STOP DETAIL	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1200.4
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



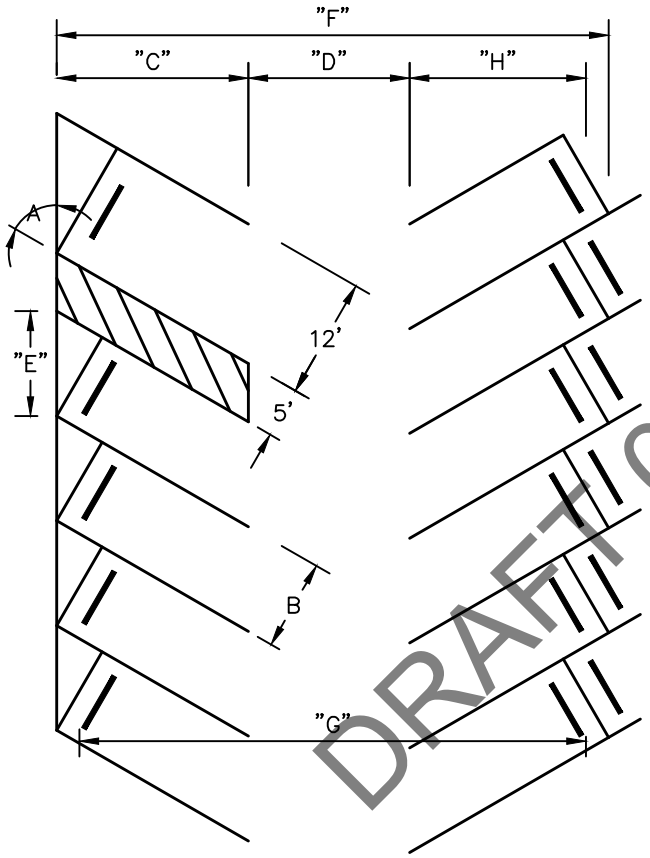
TYPICAL PLAN



A SECTION
N.T.S.

PAVER DETAIL

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				BRICK PAVER DETAIL & TYPICAL INTERSECTION	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1200.5
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



PARKING SCHEMATIC
HEAD IN PARKING

A	B Space Width	C Space Depth	D Aisle Width	E Curb Length	F Wall-to-Wall Width	G Interlock-to-Interlock Width	H Space Depth to Interlock	
Angle	(feet)	(feet)	(feet)	(feet)	(feet)	(feet)	(feet)	Land Use
45	9.0	17.5	12.0	12.5	47.0	43.0	15.5	General
	9.5		12.0	13.5	47.0	43.0	15.5	Retail
	12.0		12.0	17.0	47.0	43.0	15.5	Handicap
60	9.0	19.0	16.0	10.5	55.0	51.0	17.5	General
	9.5		15.0	11.0	54.0	50.0	17.5	Retail
	12.0		14.0	14.0	53.0	49.0	17.5	Handicap
70	9.0	19.5	19.0	9.5	58.0	56.0	18.5	General
	9.5		18.0	10.0	57.0	55.0	18.5	Retail
	12.0		17.0	12.5	56.0	54.0	18.5	Handicap
75	9.0	19.5	23.0	9.5	62.0	60.0	18.5	General
	9.5		22.0	10.0	61.0	59.0	18.5	Retail
	12.0		21.0	12.5	60.0	58.0	18.5	Handicap
80	9.0	19.5	24.0	9.0	63.0	62.0	19.0	General
	9.5		23.0	9.5	62.0	61.0	19.0	Retail
	12.0		22.0	12.0	61.0	60.0	19.0	Handicap
90	9.0	18.5	26.0	9.0	63.0	63.0	18.5	General
	9.5		25.0	9.5	62.0	62.0	18.5	Retail
	12.0		24.0	12.0	61.0	61.0	18.5	Handicap

MINIMUM PARKING BAY DIMENSIONS
(REFERENCE ULDC)

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION

PARKING STALL AND AISLE DIMENSIONS

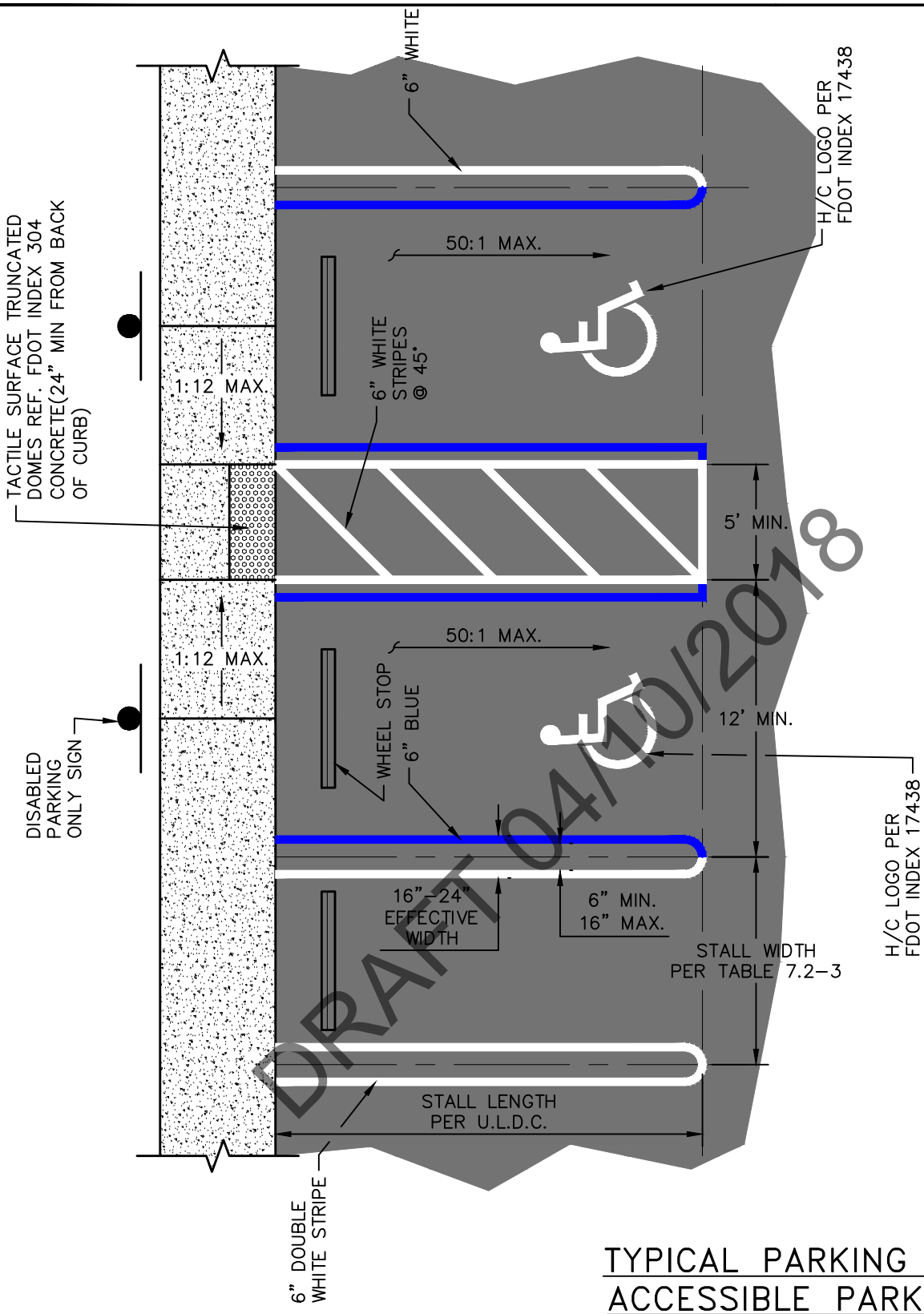
DRAWING NO. 1200.6

DRAWN BY:	DATE:	REVISED BY:	DATE:
J.R.R.	07/12/17		
REVISED BY:	DATE:		

APPROVED: EFFECTIVE:

DATE:

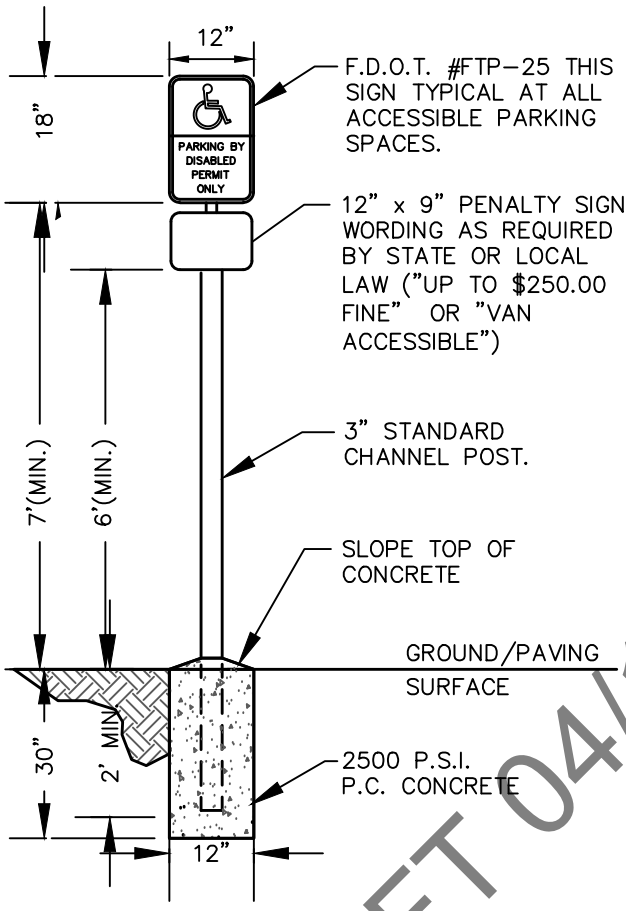
VILLAGE ENGINEER



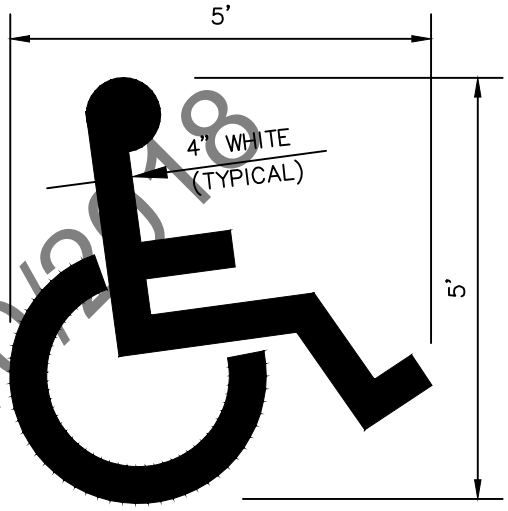
TYPICAL PARKING STALL AND ACCESSIBLE PARKING DETAIL

(REFERENCE U.L.D.C.)

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				TYPICAL PARKING STALL AND ACCESSIBLE PARKING DETAIL	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1200.7
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



ACCESSIBLE PARKING SIGN



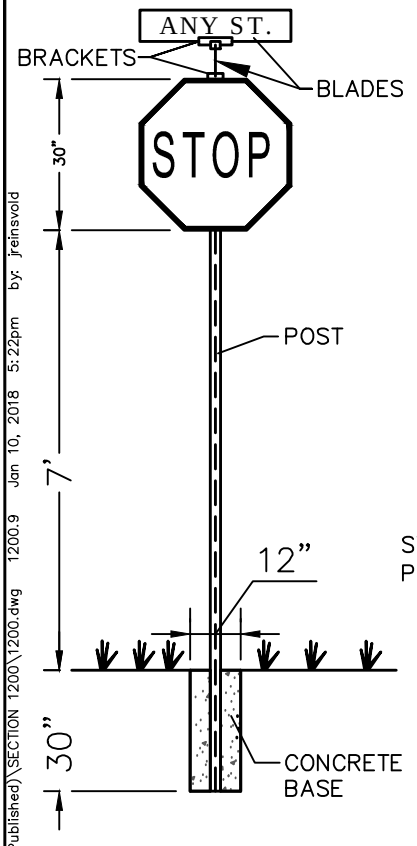
LOCATE IN CENTER OF PARKING SPACE

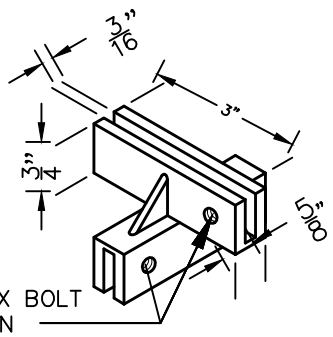
ACCESSIBLE PARKING SYMBOL DETAIL

PER FDOT INDEX 17355 (FTP-26)

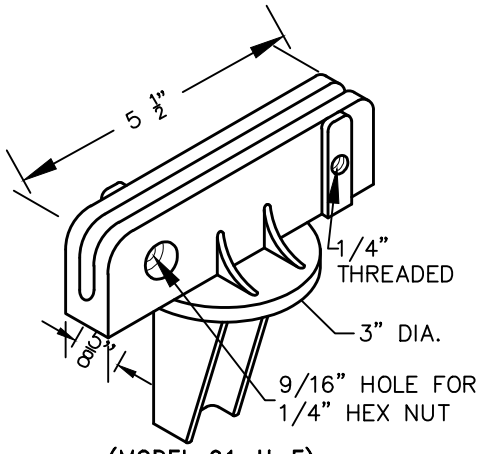
DISABLED SIGNAGE

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				HANDICAP ACCESSIBLE SIGNAGE	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1200.8
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	

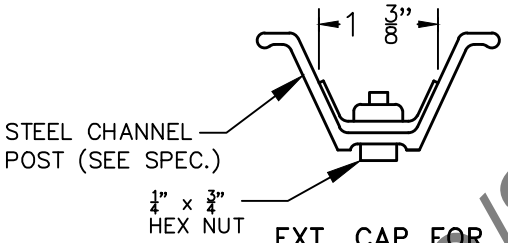




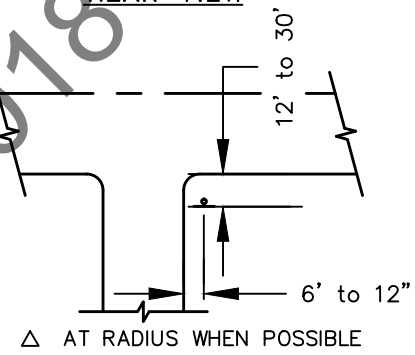
EXT. 90° CROSS W/ LOCKING SLOTS



(MODEL 91-U-F) REAR VIEW

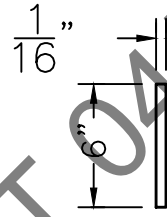


EXT. CAP FOR "U" CHANNEL POST

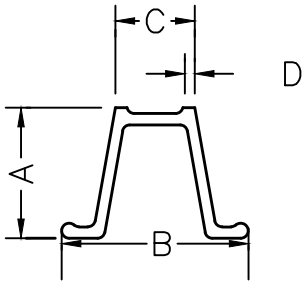


△ AT RADIUS WHEN POSSIBLE

TYPICAL STOP SIGN PLACEMENT



SHEET BLADE SECTION



DIMENSION TOL.	2.00	3.00
'A' ±3/32"	1-15/32"	1-7/8"
'B' ±1/8"	3-1/16"	3-1/2"
'C' ±1/16"	1-9/32"	1-5/16"
'D' ±1/32"	3/16"	7/32"

CHANNEL POST

GENERAL SPECIFICATIONS:

SHEET BLADE: ALCOA #86054.6063-T6 ALLOY ETCHED, DEGREASED WITH #1200 ALODINE FINISH WITH #2277 GREEN SCOTCHLITE BACKGRAOUND OR EQUAL DIMENSIONS - 6" H., 24",30" OR 36" L.

LETTER: NAME - 4" SERIES 'B' #2270 SCOTCHLITE (SYLVER) OR EQUAL - SUFFIX - 2" SERIES AS ABOVE.

BRACKETS: SUPR-LOK PRUF.

POST: STEEL FLANGED CHANNEL POST WITH BAKED GREEN ALKYD FINISH PER A.S.T.M. - A - 123 WITHOUT ANCHOR PLATES. SEE DETAIL SHEET.

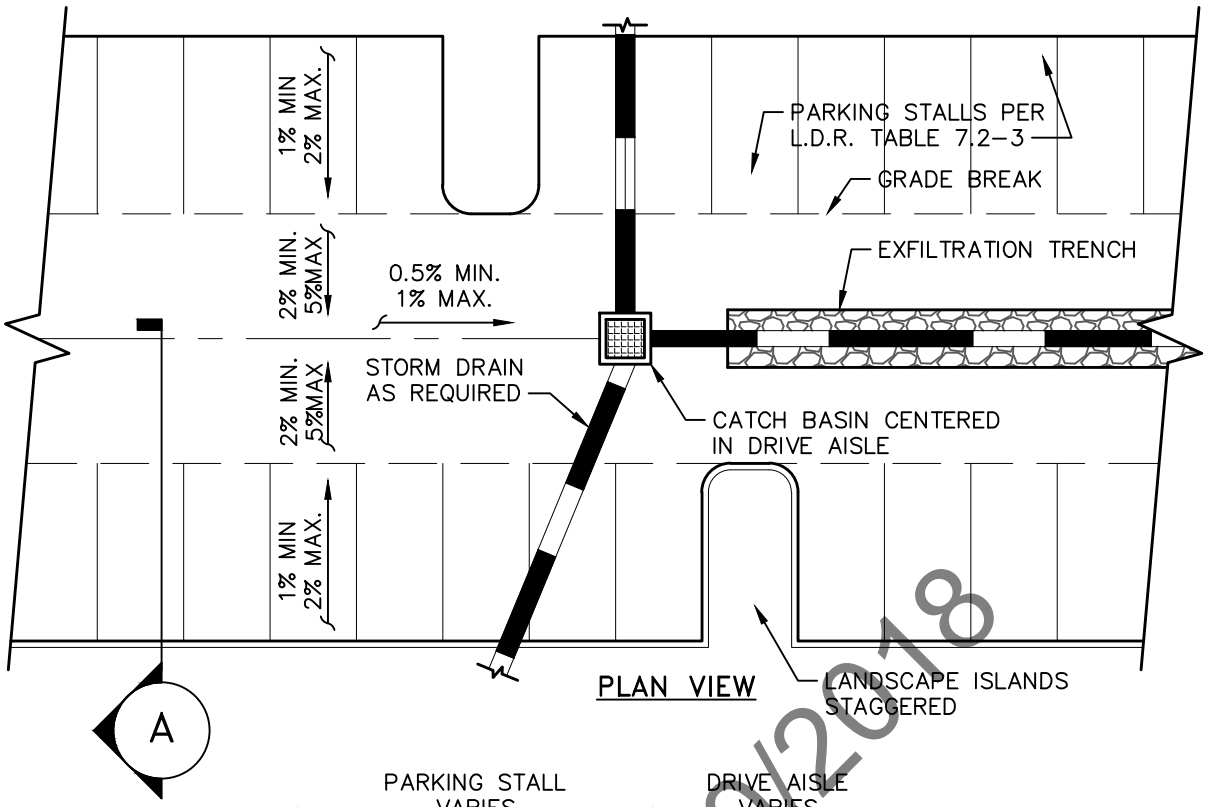
CONCRETE BASE: 2000# AS SHOWN.

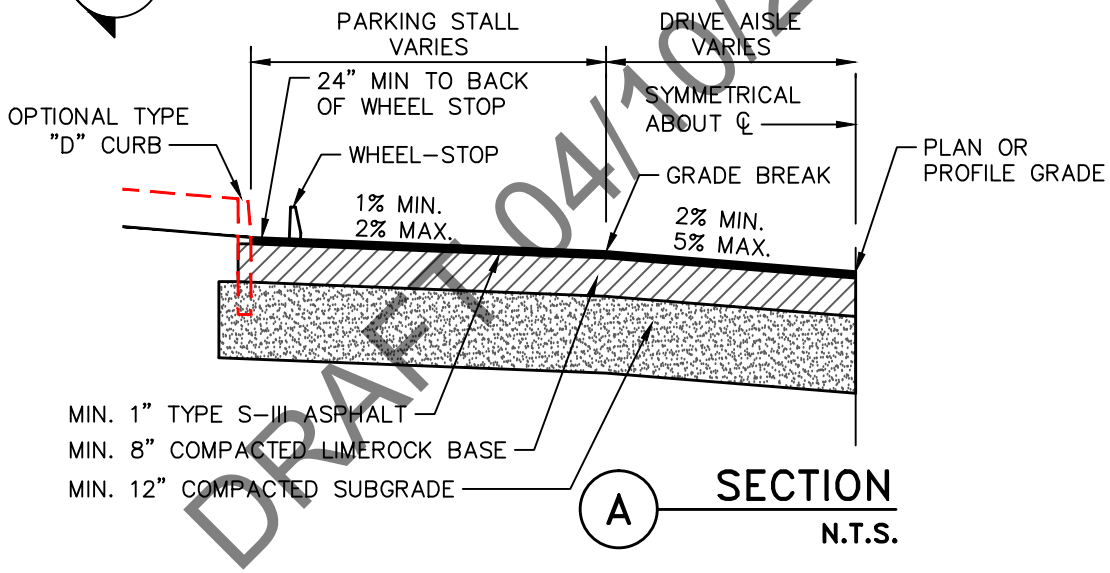
STOP SIGN: R1-1 MUTCD - 30"x30" (HIGH INTENSITY)

LOCATION: ONE PER INTERSECTION AS INDICATED ON THE PLANS.

STOP SIGN DETAIL

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				STREET SIGN/STOP SIGN DETAIL	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1200.9
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	(PAGE 1 OF 2)
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



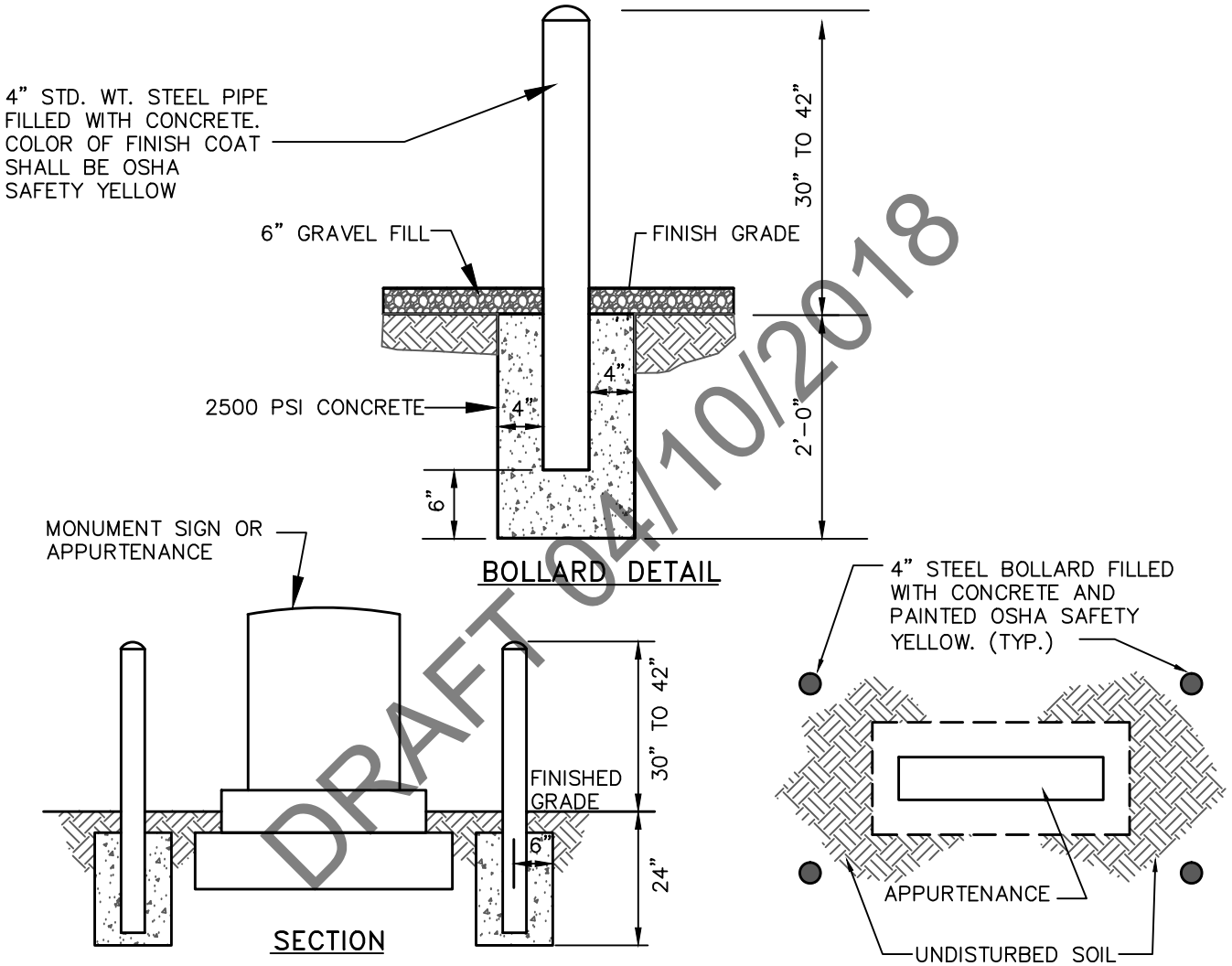


TYPICAL PARKING LOT DETAIL

NOTES:

1. PARKING STALL AND AISLE WIDTHS SHALL CONFORM WITH L.D.R. TABLE 7.2-3.
2. ALTERNATIVE DRAINAGE CONFIGURATIONS WILL REVIEWED ON A CASE BY CASE BASIS. (REF: L.D.R. 7.2.3.L.2.C.i)
3. ALTERNATIVE PAVEMENT SECTIONS WILL BE REVIEWED ON A CASE BY CASE BASIS. (REF: L.D.R. 7.2.3.L.2.C.ii)

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				TYPICAL PARKING LOT DETAIL	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1200.10
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	(PAGE 2 OF 2)
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	



INSTALLATION WITH BOLLARDS

BOLLARD DETAIL

VILLAGE OF WELLINGTON DEPARTMENT OF ENGINEERING AND CONSTRUCTION				BOLLARD DETAIL	DRAWING NO.
DRAWN BY:	DATE:	REVISED BY:	DATE:		1200.11
J.R.R.	07/12/17			APPROVED: EFFECTIVE:	
REVISED BY:	DATE:			DATE:	
				VILLAGE ENGINEER	