FLAGLER COUNTY, FLORIDA

PUBLIC WORKS MANUAL

(Revised October 2003)

THIS MANUAL IS:

1. Issued by the Flagler County Board of County Commissioners.

2. Has been issued to:
   (Address):

   and is identified by Issuance No. _____.

3. Amendments to this Manual will be forwarded to the holder of the manual at the address shown above.

This manual will be updated on an as needed basis. Technology and methods of construction are changing continuously. Flagler County will review these advancements for consideration of inclusion in this manual.

ISSUANCE
ORIGINAL OCTOBER 2003

FLAGLER COUNTY, FLORIDA
PUBLIC WORKS MANUAL

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PUBLIC WORKS MANUAL

PART A

GENERAL

The Flagler County Highway System depends on the overall condition of all streets and roads. Not only are the roads within the unincorporated areas important to the operation of the system, but those road systems within the incorporated sections of the County, which tie into the County System, affect the capacity of the County system. Given the growth rate of both incorporated and unincorporated Flagler County, the Highway System is of critical importance. The requirements of this Public Works Manual must be carefully considered when highway design is undertaken. The operating characteristics of the entire system is critical to continue safe and efficient traffic movement.

SECTION I INTRODUCTION AND DEFINITION OF TERMS

The Board of County Commissioners of Flagler County, Florida has adopted this Public Works Manual, with stipulations allowing for periodic modifications. It is the intent of this Manual to utilize standards and criteria for design, construction and maintenance of streets and roads within the unincorporated boundaries of Flagler County, that were developed in connection with Florida Statutes 336.045 and any amendments thereto. The State of Florida Department of Transportation publication entitled MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS (FDOT Manual) has been copied directly in many instances throughout this manual and, in some instances, has been modified to meet the criteria established by the Flagler County Land Development Code, but in no instance have the modifications been made less restrictive than the requirements of the FDOT Manual.

It is the intent of Flagler County that this manual be used by Engineers and others involved in design, construction, and maintenance of streets and highways in unincorporated Flagler County. Any deviation from the standards shown herein that result in a reduction of these minimum standards shall necessarily be approved by the County prior to implementation. Such approval shall be based on a written report submitted by the Design Engineer outlining the reasons for such deviation and the anticipated results therefrom.

The following terms shall, for purposes of this Manual, have the meanings respectively ascribed to them, except in instances where the context clearly indicates a different meaning.

AASHTO - The American Association of State Highway and Transportation Officials.

ADT - Average Daily two-way volume of traffic.

ALLEY - A right-of-way which affords only a secondary means of access to property abutting thereon.

ASTM - The American Society for Testing and Materials.

AVERAGE RUNNING SPEED - For all traffic, or components thereof, the summation of distances covered divided by summation of running times.

BIKEWAY - Any road, path, or other facility, which is, in some manner, specifically designated as being open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

COUNTY - Flagler County, Florida

COUNTY ADMINISTRATOR - The individual duly appointed by the Board of County Commissioners of Flagler County to administer the rules and policies of that Board, or his designated representative.

COUNTY ATTORNEY - The individual appointed by the Board of County Commissioners of Flagler County to perform legal services on behalf of the County, or his designated representative.

COUNTY ENGINEER - The individual appointed to administer the requirements of this Manual. The County Engineer of Flagler County or his designated representative.

CROSSWALK - A pedestrian right-of-way within a block, dedicated to the Public use and intended primarily for pedestrian traffic, but which may include utilities, where necessary, but from which motor vehicles are excluded.

DHV - Design hourly two-way volume of traffic.

DESIGN SPEED - A speed determined for design and correlation of the physical features of a highway that influence vehicle operation. It is the maximum safe speed that can be maintained over a specified section of highway when conditions are so favorable that the design features of the highway govern.

DEVELOPER - Any entity engaged in developing, dividing, subdividing, or improving a lot or group of lots for any use or occupancy.

D.O.T. or F.D.O.T. - State of Florida Department of Transportation.

EASEMENT - A grant by a property owner for the use of land for a specific purpose.

EXPRESSWAY - A divided arterial highway for through traffic with full or partial control of access and generally with grade separations at major intersections.

FRONTAGE ROAD - A street or highway constructed adjacent to a higher classification street or other roadway network for the purpose of serving adjacent property or control of access.

FREEWAY - An expressway with fully controlled access.

GRADE - The slope of a roadway, street, utility, or other structures, expressed in percent(%).

GRADE SEPARATION - A crossing of two roadways or a roadway and a railroad or a roadway and pedestrian pathway at different levels.

HIGH SPEED - Speeds of 50 mph or greater.

HIGHWAY, STREET or ROAD – See Article 4 of Flagler County Land Development Code.

INTERSECTION - The general area where two or more streets or highways join or cross.

NEW CONSTRUCTION - The construction of any public road facility (paved or unpaved) where none existed before, or the act of paving any previously unpaved road, except as provided in hereinafter.

OPERATING SPEED - The highest overall speed at which a driver can travel on a given roadway under favorable weather conditions and under prevailing traffic conditions without at any time exceeding the safe speed, as determined by the design speed, on a section-by-section basis.

PASSENGER PAD - As defined in Section 10.2.1 of the Federal Register, Vol. 56, No. 173 as part of the Americans with Disabilities Act of 1991 (ADA); a firm, stable surface with a minimum clear length of 96 inches (measured from the curb or vehicle roadway edge) and minimum clear width of 60 inches (measured parallel to the vehicle roadway) to the maximum extent allowed by legal or site constraints; and shall be connected to streets, sidewalks or pedestrian path by an accessible route.

PAVEMENT - The term “pavement” includes the subgrade, base and surface.

PAVEMENT WIDTH - Pavement width is the measurement from one edge of the surface to the other edge, normal to the centerline of roadway, excluding curbs, curb and gutters, and edge gutters, if any.

PROFESSIONAL ENGINEER - An Engineer currently registered to practice Engineering in the State of Florida.

REGISTERED SURVEYOR - A surveyor currently registered to practice surveying in the State of Florida.

RIGHT-OF-WAY – See Article 4 of Flagler County Land Development Code.

ROAD RECONSTRUCTION - Any road construction other than new construction.

ROADWAY - The portion of a street or highway, including shoulders, for the intended use of vehicles.

SIDEWALK - That portion of a street, or cross sidewalk, paved or otherwise surfaced, intended for pedestrian use.

STREET - A public or private vehicular right-of-way which affords a primary means of access to abutting properties, whether designated as street, avenue, highway, road, boulevard, parkway or however otherwise designated, but excepting driveways to other buildings. The term "Street" shall include all road designations shown on the Flagler County thoroughfare plan.

TRAVELED WAY (Travel Way) - The portion of the roadway constructed and maintained for the movement of vehicles, exclusive of the shoulders.

TURNING ROADWAY - A connecting roadway for traffic turning between two intersection legs.

VEHICLE - Every device in, upon, or by which any person or property is or may be transported or drawn upon a travelway, excepting devices used exclusively on stationary rails or tracks.

WIDE CURB LANE - A portion of the roadway which can be used by bicycles and motorized traffic, characterized by a curb lane which is of such width that

bicycle and motorized traffic can be accommodated in the same lane. This lane shall always be the through lane closest to the curb, when the curb is provided, or the shoulder edge of the road when a curb is not provided.

When used in this Public Works Design Manual, the following terms shall have the designated meaning:

SHALL - A mandatory condition. Where certain requirements are described with the Ashall≅ stipulation, it is mandatory that those requirements be met.

SHOULD - An advisory condition. Where requirements are described with the Ashould≅ stipulation, it is considered to be an advisory usage, recommended but not mandatory.

MAY - A permissive condition. Where requirements are described with the Amay≅ stipulation, it is considered to denote permissive usage.

SECTION II - ROAD CLASSIFICATIONS

The basic functional classification used in this Manual includes Arterial, Collector and Local Roads, which are further subdivided into principal, major and minor levels which, in turn, are further divided into rural and urban categories. These classifications may be somewhat different than those classifications given in the Flagler County Land Development Code, but are used herein for consistency with State of Florida classifications. The following categories used herein and the corresponding category shown in the Land Development code are offered as clarification.

LAND DEVELOPMENT CODE	PUBLIC WORKS MANUAL
*****PRINCIPAL ARTERIAL	MAJOR ARTERIAL
SECONDARY ARTERIAL	MINOR ARTERIAL
COLLECTOR	COLLECTOR (MAJOR & MINOR)
LOCAL	LOCAL (MAJOR & MINOR)

***** "Principal Arterial" as used in this Manual shall refer to those roadways whose function is to carry large volumes of traffic across the State or through two or more Counties within the State. Those roadways are shown on the Flagler County Thoroughfare Plan, are generally a part of the Federal and/or State Highway System, and are under the jurisdiction of the State of Florida Department of Transportation.

Minor Arterials (Secondary Arterials) are those roads designated on the Flagler County Thoroughfare Plan that are capable of providing services that are generally of relatively continuous, high volume, generally higher operating speed and of high mobility importance. Those roads may be all within city limits, totally within the unincorporated area or transverse both incorporated and unincorporated areas.

Collector Road, both major and minor and both urban and rural, are those streets or roads which provide service of relatively moderate traffic volumes, moderate trip length and moderate trip speeds. These streets and roads collect and distribute traffic between Local Roads and /or Arterial Roads and serve as a linkage between land access and mobility needs.

Local Roads are those routes, which carry relatively low traffic volumes, short, average trip lengths and are generally used for land access to abutting property.

Generally, the terms AMajor≅ and AMinor≅ classify those streets or roads in accordance with the traffic volumes, trip lengths and mobility. The Aurban/rural≅ designation is utilized as a means of differentiating between those areas served as opposed to using incorporated/unincorporated since any area, such as a subdivision where lots are of such size as to create an urban setting, can be classified as urban with respect to the design criteria contained herein. In those urban settings highway users will generally accept lower speeds and levels of service. Minor modifications to design criteria are, therefore, appropriate for urban streets. The County Engineer, in writing, unless specifically allowed by the data contained herein, shall approve any such modification(s).

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PART B – ELEMENTS OF DESIGN

Many of the requirements of PART B are copied directly from the State of Florida Department of Transportation (FDOT) MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS, CHAPTER III, GEOMETRIC DESIGN. The Designer is also referred to the FDOT ROADWAY AND TRAFFIC DESIGN STANDARDS, which contains useful data and standard elements of design that are readily available in the State of Florida.

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FLAGLER COUNTY PUBLIC WORK MANUAL

SECTION I

PURPOSE OF MANUAL

The purpose of this publication is to provide guidance to the Designer and others as to the requirements of Flagler County with respect to infrastructures and, more specially, as to roads and related facilities. It is intended as an aid to standardizing those construction items that are identified as ones which occur frequently, while providing the Designer with some degree of flexibility. The intent is to provide uniformity in structural quality without sacrificing quality with respect to appearance.

In establishing the various standards herein, the guidelines of the State of Florida Department of Transportation's Publication, entitled "Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways" has been freely utilized, as has elements of the Florida Department of Transportation publication "Roadway and Traffic Design Standards". In those instances where this manual is silent, the foregoing publications are useful.

Unless otherwise noted, the data contained in this Public Works Manual is that which are the ***minimum*** allowable design standards. The Designer is urged to utilize best design practices to assure a quality product is achieved.

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SECTION II

TYPICAL LANE CONFIGURATION & STREET NAMES

Figure II – 1 illustrates typical examples of methodology involved in naming streets according to function. The purposed name for a Boulevard, Road, Parkway, Street, Avenue, Court, Place, Circle, Drive, Lane or Way shall be submitted to the Planning Department well ahead of the completion of a Plat or Construction Plans to allow sufficient time for that Department to review the proposed names to assure no duplication of names in Flagler County.

Figures II-2 thru II- 3 illustrates those configurations that are acceptable and those, which are not acceptable, as well as certain requirements with respect to sight distance requirements.

The Designer is expected to review the data contained in the illustrations and perform the roadway design in accordance with those acceptable features.

The use of cul-de-sac is not encouraged, nor is the use of a marginal access road where a reverse frontage road can be utilized instead. Jog intersections are not acceptable, nor are intersections at acute angles.

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SECTION III

STREET & ROAD DESIGN

1. OBJECTIVE

The purpose of a transportation system is the movement of goods and people from one point to another smoothly, quickly, safely and economically. Is has no other purpose.

The objective of the design criteria included herein is to define those functions, which most clearly affect the purpose of a transportation system in such a way that the Designer can use the data to provide a functional system with minimal effort.

2. GUIDELINES

This Manual has been prepared for design and plan preparation for all roads in Flagler County, not necessarily for only those major thorofares that are designed for movement of substantial traffic volumes, but also for those streets that serve residential units. The major difference between the criteria used in design is the amount and type of traffic utilizing the facility.

The guidelines used in this manual are, for the most part, general in nature; however those guidelines noted as being "maximum" or "minimum" may ***not*** be exceeded and must be met. In any event, designs which are less than "maximum" and/or more than "minimum" are acceptable and are usually economical while adding to the safety of the traveling public.

In establishing the minimum standards tabulated on TABLES III –1 thru III – 10 every effort has been made to provide guidance toward road sections that are economical and require only routine maintenance. It is stressed that those standards are minimum. The Designer should consider the location of the roadway (well-drained or poorly-drained soil conditions, roadway elevation with respect to existing ground, proximity to drainage ditches, etc.), roadway grades and other factors in establishing the roadway section. Also the use of curb and gutter section sections have an affect on the movement of water on the roadway surface, while use of side ditches may affect the structural capacity of the subgrade.

Minimum cross slope for pavement is 2% (0.02 FT/FT of width), minimum grades for curb and gutter is 0.3% and stormwater run off may ***not*** cover more than one-half (½) of a lane under a twenty-five (25) year, twenty-four (24) hour storm event for those roads utilizing curbs or curb and gutters. Inlets and drainage pipes shall be designed to accommodate ten (10) year, twenty-four (24) hour storm event. Roadway side ditches (swales) shall be designed for a ten (10) year, twenty-four (24) hour storm event and stormwater may ***not***

reach the edge of pavement under a twenty-five (25) year, twenty-four (24) hour event. Storm ditches (swales) shall be designed with a minimum grade of 0.2%. Since roads serving residential or commercial units will, of necessity, require culverts under access point, the side ditches (swales) shall be designed so that a culvert can be located at each lot with a defined invert elevation at that lot, and the required culvert size (opening) identified.

Minimum pavement widths shall be twenty (20) feet for residential streets and twenty-four (24) feet for those streets serving commercial or industrial units. Minimum rights-of-way shall be fifty (50) feet. Pavement and rights-of-way widths vary with traffic and design shall be in accordance with the Typical Sections included herein.

Roads designed with side ditches (swale) drainage shall have not less than 2' wide shoulders, sloped at 6%. In-slope shall not be steeper than one (1) foot vertical to four (4) feet horizontal (4:1 Slopes) and back slopes shall not be steeper than one (1) foot vertical to three (3) feet horizontal (3:1). Roadway shoulders shall be stabilized to meet a FDOT Florida Bearing Value (FBV) of 50 PSI and roadbeds (subgrades) shall be stabilized to meet FDOT requirements for a Limerock Bearing Ratio (LBR) of forty (40) or more.

Base material shall meet or exceed minimum FDOT requirements for the type base material used. Only soil-cement, limerock, crushed concrete and portland cement base course is allowed on roads in Flagler County. Soil-cement base shall be plant mixed, unless otherwise specifically approved by the County Engineer. All material used in road base shall meet the applicable requirements of the State of Florida Specifications for Road and Bridge Construction, latest edition, or the Flagler County Specifications.

Roadway surface may be construction of either portland cement concrete or Asphaltic Concrete, in either case meeting or exceeding the requirements of the Florida Department of Transportation Standards and any modifications contained in Section X of this manual.

The Designer's attention is directed to the fact that much of Flagler County is low-lying and is under-lain with hardpan and/or thick clay. It may be necessary to provide under-drains and/or to under-cut the foundation to obtain a suitable base for the roadway. Copies of all Geo-Technical reports shall be furnished to the County Engineering Department, together with copies of the pavement design performed for each roadway, prior to finalization of the roadway plans.

Road design shall be based on traffic volumes estimated for a period of time equal to fifteen (15) years from the project's anticipated completion date. Standard trip generation estimates shall be as outlined by the Institute of Traffic Engineers (ITE) Trip Generation methods, however, not less than 7.5 trips per day per Equivalent Residential Unit (ERU) shall be used. One (1) ERU, for purpose of these computations shall be considered one (1) dwelling unit for residential development or one thousand two hundred fifty (1,250) square feet of building for commercial and industrial developments.

Entrances onto and exits from existing County roads shall meet the requirements of the "Access Management Ordinance" as contained in Section VII of this Manual and as graphically illustrated in that Section VII. Acceleration and/or deceleration lanes shall be required where design traffic entering or exiting the development warrants those speed change lanes. A continuous right turn lane is required for entrances/exits onto or off Old Kings Road, both North and South Bound. In instances where warranted, left turn lanes shall be required, and ***are*** required for any development between on Old Kings Road.

Where warranted, traffic signals shall be installed at intersections. Traffic signal installation, if required, shall be in accordance with standard FDOT design, ***except*** controllers and other components shall be designed and installed to be interchangeable with the County's existing Signal System components. If within 1,500 Linear Feet of another signalized intersection, as measured from center to center of the intersection, the signal's timing shall be inter-connected.

Traffic signs, street signs and other signage installed on County thoroughfares shall be in accordance with the following criteria:

1. Street Names shall be in accordance with this manual.

2. Stop Signs, Yield Signs, and other Warning Signs shall be in accordance with the FDOT Manual of Uniform Traffic Control Devices.

3. Sign standards shall be round, 3 inch in diameter and made of either aluminum or galvanized steel.

Ornamental signs or structures not specifically intended for traffic control or that do not meet the requirements of the FDOT Manual of Uniform Traffic Control Device are not permitted on County right-of-way, ***except*** those signs or structures ***specifically*** permitted by the Board of County Commissioners.

Street names shall be approved by the Flagler County Board of County Commissioners upon recommendation of the Flagler County Planning Department and E-911 Coordinator.

3. DEFINITION OF TERMS

Flagler County utilizes the following terms for streets and roads under its jurisdiction. In order to avoid confusion that might ensure as a result of the use of terms, which may differ from those, used elsewhere, the following definitions are established:

a. Residential (Local) Street/Road. A travelway for vehicular traffic that serves residential units located along one (1) or both sides of the travel way.

Generally, such travelways are relatively short although long residential streets may be used provided the lengths are interrupted by Collector or Arterial roads. Residential streets that service more than one hundred (100) residential units, or are greater than 4,000 feet in length without access to a Collector or Arterial Road are discouraged. Those roads serving one hundred twenty (120) residential units or are greater than 4,500 feet in length are prohibited and are automatically classified as Neighborhood Collectors, with resultant requirements for that classification. In Flagler County, Residential (Local) Street names, generally end in "Lane", "Way", "Place", "Court", "Circle" or "Drive".

b. Neighborhood Collectors are streets/roads that may or may not service residential units direct. Those facilities may, however, be travelways that exceed the lengths or services for Residential Streets/Roads, as mentioned in a., above. Because of that relationship Neighborhood Collector names may end in "Drive", "Avenue" or "Street" but are generally designated as "Drive".

c. Collectors are those streets, which, by virtue of their location, remove traffic from Residential or Neighborhood Collectors and carry it to other, more heavily traveled ways, or to local traffic generators such as parks, shopping centers and local stores. Collectors may, or may not, service residential or commercial units directly. Collectors that intersect and service Residential (Local) and/or Neighborhood Collectors may not be designed to carry less than 2,500 ADT, but those, which also serve residential or commercial traffic along its corridor shall be designed for not less than 4,000 ADT. Collector roads are generally designated as "Avenue" or "Street".

d. Thorofares or Arterials are those streets or roads that are designed and designated to carry substantial amounts of traffic. Generally those units do not provide direct access from either residential or commercial units, but receive contributing traffic from Neighborhood Collectors and/or Collectors, although there are some exceptions to that generalization. Thoroughfares or Arterials are designed to carry substantial volumes of traffic. These roads usually carry the designation of "Boulevard", "Road", or "Parkway".

e. The words "Rural" and "Urban" as used herein referred to the ***type*** of road as opposed to the area served by the road. A "Rural" road or section is one which features grassed or partially paved shoulders, with open side ditches or swales, "Urban" roads or sections are those, which provide for stormwater conveyance by way of curbs, curbs, gutters, and culvert pipes. Combinations of rural and urban sections, while not prohibited, are

discouraged not only because of the aesthetics involved, but because of the problems such combinations cause with maintenance efforts.

f. Farm Roads are defined herein as roads which are used primarily to service agricultural interests or which are constructed for the sole purpose of collecting single family traffic originating on five (5) acre or larger tracts or parcels and conducting that traffic to a Federal, State or County maintained paved roads. Roads intended for use in operations of an agricultural endeavor, lying wholly within the confines of a land holding by an individual, a company, a corporation, a family or by another entity and intended for use solely by that entity are unclassified and are not addressed in this Manual. It is the intent of this definition and data contained herein, describing Farm Roads, to provide a means whereby roads in an Agricultural Community can be constructed in a manner that will provide a useful surface structure.

Construction requirements for Farm Roads that are intended to be turned over to Flagler County for maintenance or are intended as private roads serving a Farm Community are illustrated on Page III-15 of this Manual. Design for such roads shall be in accordance with TABLES III-1 thru III-10 for Residential and/or Local Roads.

Farm roads that <u>will not</u> become a part of the County's maintained inventory, but which will carry from 0-50 vehicles per day or which serve not more than ten (10) residential farm units may be constructed in accordance with the detailed illustrated for "Any Type of Surface" at 0-75 vpd, and without base, if base (limerock or shell) is not desired. County will not be responsible for maintaining such roads whether on County right-of-way or not.

DESIGN SPEED (MPH)	20	30	40	50	60	65	70
MAXIMUM ALLOWABLE % CHANGE IN GRADE	1.20	1.00	0.80	0.60	0.40	0.30	0.20

MAXIMUM ALLOWABLE CHANGE IN GRADE WITHOUT USING A VERTICAL CURVE

TABLE III – 1

DESIGN SPEED (MPH)	20	30	35	40	45	50	55	60	65	70
K VALUE FOR CREST VERTICAL CURVES	10	30	40	60	80	120	150	190	230	290
K VALUE FOR SAG VERTICAL CURVES	20	40	50	60	70	90	100	120	130	150

ROUNDED "K" VALUES FOR COMPUTING MINIMUM LENGTHS OF VERTICAL CURVES

(For use in the Equation L=KA, where L= Minimum Length of Vertical Curve and A=Algebraic difference in Grades in %)

NOTE: **THE LENGTH OF ANY VERTICAL CURVE SHALL NOT BE LESS THAN 10 X DESIGN SPEED.**

CURVE LENGTHS DETERMINED BY THE EQUATION L=KA SHALL BE ROUNDED UPWARD TO THE NEXT HIGHEST EVEN 10 FEET.

MINIMUM ALLOWABLE LENGTH OF VERTICAL CURVES

TABLE III – 2

DESIGN SPEED (MPH)	50	60	70
DESIGN SPEED (MPH)	50	60	70
MINIMUM LENGTH OF CREST VERTICAL CURVES	300	400	500
MINIMUM LENGTH OF SAG VERTICAL CURVES	200	300	400

MINIMUM ALLOWABLE LENGTH OF VERTICAL CURVES FOR THOROUGHFARES

TABLE III – 3

DESIGN SPEED (MPH)	20	30	35	40	45	50	55	60	65	70
STOPPING SIGHT DISTANCE (FEET)	125	200	225	275	325	400	450	525	550	625

NOTE: **Values are based on height of eye at 3.50 feet and height of object at 6 inches above Road Surface.**

MINIMUM STOPPING SIGHT DISTANCE

TABLE III – 4

DESIGN SPEED (MPH)	20	30	40	50	60	65	70
MINIMUM PASSING SIGHT DISTANCE (FEET)	800	1,100	1,500	1,800	2,100	2,300	2,500

NOTE: **Values are based on height of eye at 3.50 feet and height of object at 4.25 feet above Road Surface.**

MINIMUM PASSING SIGHT DISTANCE

TABLE III – 5

DESIGN SPEED (MPH)	20	30	40	50	60	65	70
MINIMUM STOPPING SIGHT DISTANCE (FEET)	125	200	275	400	525	550	625

MINIMUM STOPPING SIGHT DISTANCE FOR APPROACH TO STOPS

TABLE III –6

DESIGN SPEED (MPH)	MAXIMUM ALLOWABLE DEGREE OF CURVE AT 0.10 FT/FT SUPER ELEVATION	LATERAL CLEARANCE REQUIRED (FEET) FROM EDGE OF PAVEMENT TO ANY OBSTRUCTION IN LINE OF SIGHT TO PROVIDE STOPPING SIGHT DISTANCE
30	24° 45’	16’
35	17° 45’	14’
40	13° 15’	16’
45	10° 15’	18’
50	8° 15’	23’
55	6° 30’	23’
60	5° 15’	26’
65	4° 15’	22’
70	3° 30’	24’

RURAL ROADS – HORIZONTAL CURVES

TABLE III –7

DESIGN SPEED (MPH)	HIGH SPEED ROADS	RESIDENTIAL & LOW SPEED ROADS	
	MAXIMUM DEGREE OF CURVE WITH 0.05 FT/FT. SUPER ELEVATION	MINIMUM RADIUS OF CURVE WITH 0.05 FT/FT SUPER ELEVATION	MINIMUM RADIUS OF CURVE WITH NO SUPER EVALUATION
20	Not Applicable	75’	95’
25	Not Applicable	140’	180’
30	20° 00’	225’	300’
35	14° 15’	Not Applicable	Not Applicable
40	10° 45’	Not Applicable	Not Applicable
45	8° 15’	Not Applicable	Not Applicable
50	6° 30’	Not Applicable	Not Applicable
55	5° 00’	Not Applicable	Not Applicable

URBAN & LOW SPEED ROADS – HORIZONTAL CURVES

TABLE III –8

RURAL HIGHWAYS		URBAN STREETS	
DESIGN SPEED (MPH)	MINIMUM WIDTH	DESIGN SPEED (MPH)	MINIMUM WIDTH
55 and Over	40 ft.	55 and Over	25 ft.
Under 55	22 ft.	45 – 50	19.5 ft.
		40 and Less	15.5 ft.

NOTE: **PAVED MEDIANS (MINIMUM 11 FT. WIDE) MAY BE USED FOR TURN LANES AND MEDIANS MARKED WITH THERMOPLASTIC PAVEMENT STRIPES WHEN DESIGN SPEEDS ARE 40 MPH OR LESS, IF APPROVED BY THE COUNTY ENGINEER.**

MINIMUM ALLOWABLE MEDIAN WIDTHS

TABLE III –9

DESIGN SPEED (MPH)	TYPE OF FACILITY			
	LOCAL STREETS	COLLECTORS	ARTERIALS	WITH CURB & GUTTER
25 & Under	6’	6’	6’	2’ - 6’
30	6’	10’	14’	4’
35	6’	10’	14’	4’
40	Not Applicable	10’	14’	4’
45	Not Applicable	14’	18’	4’
50	Not Applicable	14’	18’	Not Applicable
55	Not Applicable	18’	24’	Not Applicable
60 & Under	Not Applicable	18’	30’	Not Applicable

NOTE: **MAXIMUM DESIGN SPEED FOR LOCAL STREETS IS 35 MPH. NO CURB & GUTTER PERMITTED.**

MINIMUM WIDTH OF CLEAR ZONE

TABLE III –10

FLAGLER COUNTY PUBLIC WORK MANUAL

SECTION IV

STORMWATER MANAGEMENT

I. GENERAL

Stormwater management is one of the most important aspect of public works design, if not ***the single*** most important requirement for that design. Regardless of the structure involved, improper drainage can and will lead to the ultimate total deterioration of that structure. In addition, improperly designed drainage features create public nuisances and general dissatisfaction with what might otherwise be an acceptable and even outstanding design.

Flagler County requires that all stormwater run-off be treated prior to introduction into any receiving body of water for eventual discharge into the Waters of the State. The degree of treatment depends on the receiving body and the treatment that can be obtained within the receiving body, as well as the eventual discharge point or points. As a minimum, stormwater run-off from roadways needs to traverse grassed shoulders and swales for initial treatment. If curb and gutter sections are used for roads then some means of treatment prior to entering a retention area should be provided. Examples of such prior treatment might be a swale outfall with appropriate means of reducing contaminates (grassed, ditch checks with skimmers or other similar means).

When a stormwater permit application is submitted to any agency for that agency's review a copy of the application and the supporting data shall be sent to Flagler County Engineering for its review as well. This will save the Designer's time since the County will not approve a Stormwater Management plan that requires State or Federal approval unless that approval is in hand and, in those instances where County facilities are involved, the County needs to review the effect of the plan on those County facilities. Also, regardless of any approvals by outside agencies, Flagler County will not approve a drainage plan without a thorough review of that plan.

Flagler County requires stormwater drainage design be based on a ten (10) year, twenty-four (24) hour storm event for roadways and roadside ditches with a twenty-five (25), twenty-four (24) hour event for culverts, inlets and other structures. In addition, the stipulations in SECTION III regarding requirements for maintaining pavements free of stormwater shall be met.

FLAGLER COUNTY PUBLIC WORK MANUAL

SECTION V

BRIDGES, RETAINING WALLS, BULK HEADS AND OTHER STRUCTURES

BRIDGES

Bridges carrying vehicular traffic in Flagler County shall be designed and constructed to the following ***minimum*** standards:

A. Loading. The minimum loading shall be equal to or exceed HS20 or such other standard as may be established by the Florida Department of Transportation for State bridges. In no case shall the design be based on less than HS20 loading.

B. Width. The minimum width of any bridge in an urban area shall be the full width of roadway, and shoulders of the roadway being carried by the structure ***plus*** sidewalks at 6' – 6" width on each side of the bridge. The sidewalks shall be separated from the roadway and shoulders by a barrier. Bridges more than one hundred feet (100') in length shall be a minimum of forty-four feet (44') in width between sidewalk barriers and shall include the 6' – 6" sidewalk on each side in addition. For bridges in rural areas the requirement for sidewalks with barriers may be waived, dependent on the amount of residential growth in the area of the bridge.

C. Clearance. Minimum vertical clearance for bridges crossing waterways shall be two feet (2') above design high water for the body of water being crossed. Minimum vertical clearance for bridges crossing roadway shall be 16' – 6" or, if crossing a State highway, such clearance as is required by Florida Department of Transportation. Minimum vertical clearance for bridges crossing sidewalks or bike paths shall be ten feet (10').

D. Treatment at bridge ends shall consist of rip-rap or other erosion control material approved by the County Engineering Department. For bridges crossing roadways, sidewalks, or pathways, the bridge ends shall be protected by slope pavement.

All bridges shall be designed by a professional Engineer licensed in the State of Florida who shall sign and seal one (1) complete set of prints and shall sign each sheet of the

duplicate reproducible drawings, both of which shall be submitted to the Office of the County Engineer for approval prior to construction of the structure, together with such other data as the County Engineer may require to aid in review. Approval of bridge plans by the County shall not relieve the Designer from the responsibility for the design but is intended only to indicate the minimum standards set forth herein have been met or exceeded.

RETAINING WALLS

Retaining walls shall be designed by a professional Engineer licensed in the State of Florida. The Designer is urged to utilize form relief or other architectural treatment on the exposed faces of retaining walls that are apt to be seen by the public, in order to avoid a blank monotonous appearance. Such treatment is not a requirement unless the wall is utilized on a County facility, either roadway or other County maintained structure, in which case the Designer shall submit the proposed treatment to the County Engineer for approval.

Prior to start of construction one (1) set of reproducible drawings signed by the Designer and one (1) set of prints signed and sealed by the Designer, shall be submitted to the Office of the County Engineer for approval.

FLAGLER COUNTY PUBLIC WORK MANUAL

SECTION VI

SIDEWALKS AND PATHWAY

Pedestrian sidewalks or bikeway shall be constructed of portland cement concrete (2,500 psi, 7 day strength) and shall be a minimum of eight feet (8') in width and four inches (4") thick. Where the sidewalk crosses an unpaved driveway or unpaved street, the thickness shall be increased to six inches (6") and standard mesh reinforcement provided two inches (2") above the bottom of the pavement.

If constructed at the same time as a street or road, a pathway may be constructed for one-way bicycle traffic on each side of the road, of the same material as the road and designated as a pathway by thermoplastic striping. In the latter instance the section to be constructed on each side of the roadway shall not be less than five feet (5') in width.

Portland cement concrete pathways may be constructed abutting existing pavement that is in compliance with the width required by Section III herein for a five foot (5') minimum width each side of the existing pavement and striped full width as indicated above, if that location is approved by the County Engineering Department. If the existing pavement is less than that required by Section III, the sidewalk shall be widened to provide a total width equal to the required pavement width of the roadway plus the five foot (5') minimum widths for the sidewalks as specified above.

FLAGLER COUNTY PUBLIC WORK MANUAL

SECTION VII

ACCESS MANAGEMENT

Ordinance No. 98-04, commonly known as the Transportation Access Management System is included in this Section. The preamble and the legal language adopted with the Ordinance have been eliminated for purposes of this manual and the Section Numbers have been modified for clarity herein. For additional data the Reader is referred to the complete Ordinance.

FLAGLER COUNTY ORDINANCE NO. 98-04

ORDINANCE TO AMEND THE LAND MANAGEMENT CODE TO PROVIDE FOR TRAFFIC ACCESS MANAGEMENT, PROVIDING FOR INCLUSION IN THE CODE; PROVIDING FOR SEVERABILITY AND PROVIDING AN EFFECTIVE DATE.

SECTION 1. FINDINGS: The Board of County Commissioners make the following findings:

A. The Flagler County comprehensive Plan promotes efficient and effective use of the County=s transportation infrastructures.

B. The Flagler County Comprehensive Plan is aimed at protection to the levels of services on roadways.

C. The Flagler County Comprehensive Plan promotes an aesthetically well planned community.

D. The Flagler County comprehensive Plan depends on conserving transportation resources.

E. Transportation access management has been utilized by Flagler County through its various development processes to minimize traffic conflicts, promote safety and to maintaining the capacity of roadways.

F. Traffic access management, when effectively done, minimizes the impact of rapid growth, especially along transportation corridors.

G. Effective transportation access management enhances commercial and residential property values.

H. Effective transportation access management promotes the general health and welfare of the County.

SECTION 2. DEFINITIONS: Specific definitions of certain terms used in this ordinance are:

A. ADT - The ten-year projected Average Daily Traffic unitizing the roadway.

B. Acceleration Lane - That portion of the roadway adjoining the travel way for the purpose of enabling a vehicle entering a roadway to increase its speed to a rate at which it can safely merge with through traffic.

C. Access Point - The connection of a driveway at the right-of-way line to a roadway.

D. Deceleration Lane - That portion of the roadway adjoining the travel way for the purpose of enabling a vehicle exiting a roadway to decrease its speed to a rate at which it can safely enter an access point.

E. Design Speed - The speed determined for design and correlation of the physical features of a highway that influence vehicle operation. The maximum safe speed that can be maintained over a segment of roadway when conditions are so favorable that the design features of a highway govern.

F. Divided Highway - A roadway on which traffic traveling in opposite directions is separated by a physical barrier consisting of a grassed median, guard rail or some other means of delineating the directional lanes of traffic.

G. Driveway - Ingress/Egress across public right-of-way to private property.

H. Function Classification - The classification assigned to a roadway based on that roadway=s function in the over-all traffic operations of a particular area.

I. Green Book - The short term identifying the Manual of Uniform Minimum Standards for Design, Construction and Maintenance of Streets and Highways, published by the Florida Department of Transportation.

SECTION 3. ACCESS PROVISIONS:

A. GENERAL

1. All access locations shall have adequate sight distance available for the safe execution of entrance, exit, and crossing maneuvers.

2. Location of access points near structures or decision points shall be avoided.

3. Driveways shall not be placed in proximity to intersections or other points that would tend to produce traffic conflicts.

4. Spacing of access points shall be adequate to prevent conflict or mutual interference of traffic flow.

5. Transportation access management improvements shall be designed to minimize the need for future transportation retrofitting; to reserve the designated level of service, and to promote community aesthetics by orienting improvements to maximize natural vistas and minimize sign clutter.

SECTION 4. SPECIFIC REQUIREMENTS

A. A minimum number of driveways to accommodate access to and from adjacent property will be allowed. The following table shall be used to determine the driveway spacing on County roads:

POSTED SPEED IN MILES PER HOUR	MINIMUM SPACING IN FEET
15	60
25	100
35	150
45	225
50	280

Exceptions from the minimum spacing requirements may be granted by the County Engineer only when one or more of the following conditions exist:

1. Construction of a driveway in compliance with the spacing requirements would interfere with an in-use utility easement or above ground utility structure:

2. Construction of a driveway in compliance with the spacing requirements would destroy or ecologically compromise a wetland protected by the Comprehensive Plan or Land Development Code;

3. Construction of a driveway in compliance with the spacing requirements would destroy or ecologically compromise a roadside hardwood tree canopy providing aesthetic appeal to the roadway; or

4. The lot or parcel in question is a legal lot or parcel under the Land Development Code, and the amount of road frontage within the lot or parcel is inadequate based on the location of existing driveways or connections.

The exception shall be granted by the County Engineer based upon the Applicant=s presentation of written, photographic, survey or mapping information and, if granted, shall be only the minimum exception from the spacing standards necessary. In the event of an exception, the owner is entitled to reasonable access to and from the road system with the minimum number of connections, direct or indirect,

necessary to provide safe ingress and egress to the road system based on the standards of this ordinance, projected connection and roadway traffic volumes, and the type and intensity of the land use.

B. Driveways or minor roadways on opposite sides of undivided roads functionally classified as collector or arterial roads shall either be aligned on the same centerline or offset the distance given in the above table for the posted speed.

Requests for more than one driveway will be considered based on the following criteria:

1. Parcels (frontage length) shall be sufficient length to accommodate the requested driveways within the spacing listed in the above table, or

2. A single driveway cannot accommodate the entering and exiting traffic without formation of queues of such length as to create a traffic hazard.

SECTION 5. DESIGN CRITERIA

A. General Acceleration and/or deceleration lanes are not required for access points serving residences of fewer than then (10) residential units.

B. Acceleration Lanes shall be the same width as the adjacent travel lane, but shall not be less than 11 feet wide. The paved lane is to extend, at the approved width, for a distance equal to the length of the lane plus the length of the taper. Tapers shall be delineated by use of pavement markings. The length of acceleration lanes and tapers are shown in the following table:

POSTED SPEED (THRU ROAD) IN MPH	TOTAL LENGTH OF FULL WIDTH LANE (FT)	LENGTH OF TAPER (FT)	EFFECTIVE LENGTH OF ACCELERATION SECTION (FT)
45	460	250	210
50	700	470	230
60	1,125	855	270

When right turn peak hour traffic from the driveway exceeds 75 vehicles per hour a right turn acceleration lane is required that meets the criteria for the appropriate posted speed on that through road.

C. Deceleration Lanes shall be the same width as the adjacent travel lane, but not less than 11 feet wide, for the full length of the deceleration lane and the taper. The taper shall be delineated by roadway markings. The length of deceleration lanes and tapers are shown in the following table:

DESIGN SPEED (THRU ROAD) IN MPH	TOTAL LENGTH OF FULL LENGTH LANE (FT)	LENGTH* OF TAPER (FT)	EFFECTIVE LENGTH OF DECELERATION SECTION (FT)
45	400	210*****	190
50	425	230*****	195
60	500	270*****	230

*****Tapers may be shortened on urban streets with reduced operating speeds to a ratio of 8 feet longitudinally for each foot of lane width, without reducing the total required length of lane.

C. Continuous right turn lanes shall be provided where:

1. Driveway spacing is at or below the standard driveway spacing, or

2. On roadways serving commercial development with lot frontages of 300 feet or less, or

3. Where the installation of acceleration and deceleration lanes, in accordance with the criteria established in this Section, would either overlap or driveway spacing would be such that less than 100 feet would separate the acceleration lane on one driveway from the deceleration lane on the next driveway.

Continuous right turn lanes shall be not be less than 12 feet in width and shall be striped and marked as right-turn lanes, even though portions of the lane will serve as an acceleration lane.

D. Median openings between intersections on divided roadways shall be kept to a minimum, however the need for such openings to provide for reduction of U-Turns at street intersections and to allow left turn movements from the traveled roadway to driveways where a substantial number of vehicles access a particular development or commercial area is recognized. The following table establishes the minimum spacing of median openings and/or the minimum distances from street intersection to a median crossing for driveway connections:

POSTED SPEED (MPH)	**MINIMUM SPACING (FEET)**
25	240
30	310
35	400
40	490
45 Or Greater	660

Left turn deceleration lanes shall meet the requirements for right turn deceleration lanes.

FLAGLER COUNTY PUBLIC WORKS MANUAL

SECTION VIII

RIGHT-OF-WAY UTILIZATION ORDINANCE

Ordinance No. 98-02, known as the Right-of-Way Utilization Ordinance is included in this Section. For the purpose of this manual, the preamble and ending legal language for the Right-of-Way Utilization Ordinance has been omitted and the Section Numbers revised to provide for clarity. The Reader is referred to the entire Ordinance for that data.

FLAGLER COUNTY PUBLIC WORK MANUAL

SECTION VIII

RIGHT-OF-WAY UTILIZATION ORDINANCE

FLAGLER COUNTY ORDINANCE NO. 98-02

SECTION 1. INTENT: To promote, protect and improve the safety, health, and welfare of the citizens of Flagler County. This Ordinance is for the purpose of providing necessary regulations for use of any County right-of-way within the unincorporated County and shall apply to all private contractors, private citizens, utility companies and any person or persons proposing to install, construct, maintain or repair any facility or structure within existing or planned right-of-ways, traveled ways or easements, dedicated, or planned to be dedicated, to the public for use within the unincorporated County whether or not maintained by Flagler County.

SECTION 2. DEFINITIONS: Specific definitions of certain terms used in this ordinance are:

A. Applicant - The contractor, company person or persons responsible for the construction, installation, maintenance or repair of the facility or structure being applied for.

B. County - The Flagler County Board of County Commissioners or its designee.

C. Drainage Easement - Land in which the public or Flagler County has an easement devoted to, planned, proposed or required for use as drainage system.

D. Driveway - Ingress/Egress across public right-of-way to private property.

E. Emergency Repair - Work necessary to protect the health, safety and welfare that would present an immediate threat to any of these if left not repaired.

F. Permit - The completed application when approved and signed by the County Engineer or such other officer as may be designated by the Board of County Commissioners.

G. Permittee - The contractor, company, person or persons named in the Permit. The entity responsible to the County for performing the work as specified by the Permit.

H. Right-of-Way - Land in which Flagler County owns the fee or has received a dedication for or has an easement devoted to, or required for, the use of a public road, the use of stormwater management or for any other public use.

I. Road - The term **"road"** shall include streets, alleys, highways, sidewalks, bike paths and any other ways open, or unopened, to travel by the public including the road bed, right-of-way and all culverts, drains, ditches, inlets, embankments, bridges, retaining walls, guardrails, or other appurtenances necessary for the maintenance of travel.

J. Swale - A man-made conveyance facility which: (1) contains contiguous areas of flowing water following a rainfall event and, (2) is planted with or has stabilized vegetation suitable for soil stabilization, stormwater treatment and nutrient uptake, and (3) is designed to take into account the soil erodibility, soil percolation, slope, slope length, and drainage area so as to prevent erosion and reduce pollutant concentration of any discharge.

K. Traveled Way - That portion of the road surface between both edges of the pavement including, but not limited to, turn lanes, tapers, parking lanes, deceleration and accelerations lanes or twelve (12') feet each side of the centerline of the right-of-way of unpaved roads.

SECTION 3. STIPULATIONS:

A. THE permit provided herein is a license for a permissive use only and the placing of facilities upon/within public property pursuant to the permit shall not operate to create or to vest any property right in the holder thereof. The issuance of a Right-of-Way Utilization Permit does not relieve the permit holder of the need for obtaining any other permits that may be required by any other appropriate authorities. A permit may be revoked if the County finds that the work performed thereunder is or will be detrimental to the public interest, such as creating a health or safety hazard or an increase in maintenance requirements.

B. THE rights and privileges herein set out are granted only to the extent of the County's right, title and interest in the land to be entered upon and used by the applicant. The applicant will be required at all times to assume all risks of, and defend the County from and against, any and all loss, damage, cost or expense arising in any manner on account of the exercise or attempted exercise by the applicant of the aforesaid rights and privileges.

C. INTERFERENCE or Encroachment - The construction and/or maintenance of a utility or any other facility shall not interfere or encroach upon the property and rights of a prior occupant.

D. IN the event of future widening, repair, re-construction or improvement upon the right-of-way the Permittee shall, upon notice by the County, relocate or protect the permitted facilities to clear such construction in a manner acceptable to the County and at no cost to the County.

With respect to future widening, re-construction or improvements upon the right-of-way, the County will consider the facilities located within the right-of-way and will attempt, through planning design and/or construction, to minimize the relocation or protection requirements.

SECTION 4. SUPPORTING REGULATIONS:

A. WHEN applicable, the provisions of the latest editions of the following references shall apply:

1. Flagler County, Florida Land Development Code, Article IV, Subdivision Regulations

2. Florida Statute 125.42 (and its successors) entitled Water, Sewage, Gas, Power, Telephone, other Utility, and television lines along County roads and highways.

3. Florida Statute 337.401 (and its successors) entitled Use of Right-of-Way For Utilities subject to Regulation.

4. Chapter 556, Florida Statutes entitled Underground Facility Damage Prevention and Safety Act.

5. Florida Department of Transportation Standard Specifications for Road and Bridge Construction. (F.D.O.T. Specs 2000 Edition)

6. Manual on Traffic Controls and Safe Practices for Street and Highway Construction, Maintenance and Utility Operations, Florida Department of Transportation.

7. State of Florida Department of Transportation Utility Accommodation Guide.

8. Manual on Uniform Traffic Control Devices for Streets and Highways(MUTCD).

9. Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways (Green Book), as published by the Florida Department of Transportation.

B. IN the event of conflict between the provisions of the regulations and specifications referred to in A. above, and these right-of-way utilization permit regulations, whichever regulation is more restrictive shall apply.

SECTION 5. QUALIFICATIONS OF PERMITTEE:

A. **SUBJECT** to the satisfaction of and compliance with requirements contained herein, permits may be issued to the following:

1. Utility corporations or companies that will be servicing the installed facility.

2. Contractors responsible for the installation, maintenance or repair of any facility or structure subject to these regulations.

3. Private citizens, corporations or organizations with a reasonable and legitimate purpose in using the right-of-way, which purpose poses no threat or danger to the public health, safety, or welfare.

SECTION 6. EXCEPTIONS:

A. **SCHEDULED** short side service connections with no pavement or sidewalk cut, or road or sidewalk crossings, and all scheduled maintenance repair (i.e., pole replacement or placement in existing pole lines)with no change in location or alignment, splice pits or line repair not involving subterranean crossing or removal of roads, sidewalks, etc. in the right-of-way, where limits of excavation are not in or within six (6') feet of the edge of the traveled way will not require an individual Permit. The requirements governing construction, clean-up and restoration contained herein will, however, apply to such activities as if set forth in detail.

B. **ON** approved County reconstruction projects, within the construction limits, permit applications need not be submitted for approval provided the proposed relocation and/or construction has been approved and coordinated with the County Engineer. Timely coordination in relocation of utilities and other obstructions, between the County Engineer and the contractor for a construction or reconstruction project is required to be observed. Construction work outside of the proposed construction limits, determined not to be an integral part of the highway construction project or scheduled after completion of the project, will require permitting in the normal manner.

C. **UTILITY** companies may apply for a **General Permit** to cover residential unit connections where the work involved requires disturbance to the right-of-way. The General Permit shall describe, in general terms, the routine services to be provided, the general location of transmission and distribution lines with respect to the roadway pavement, the methods to be used in providing the services and the methods proposed for repairing any damage to the County roads or rights-of-way, as well as statements as to the repair of any damaged private or public property. A statement listing the units supplied with service connections the previous month shall

be sent to the County Engineer on the first work day of each month, together with the appropriate fee for those units. Failure to properly report the activities involved or to pay the fees required shall result in revocation of the **General Permit**.

D. EMERGENCY Repair - Emergency repair as defined in Section 4.E above, may be performed without obtaining a permit prior to such repair. Emergency repair work shall be completed in accordance with applicable directives from the County or other authority as expeditiously as possible. The County shall be notified on all emergency repair work by 10:00 A.M., the workday following beginning of such repair work and the proper applications made at that time.

SECTION 7. RESPONSIBILITY FOR COMPLIANCE: (ALL APPLICANTS)

A. THE applicant assumes full and total responsibility for compliance with these regulations, supporting regulations, additional requirements of the permit, with County, State or Federal Laws, Ordinances or Codes.

B. THE applicant shall agree to indemnify and hold harmless Flagler County from any costs that occur as a result of the issuance of the permit and the work performed thereunder.

SECTION 8. NOTIFICATION TO OTHER AGENCIES; (UTILITY INSTALLATIONS)

A. THE applicant for utility installation shall notify all other right-of-way users in the immediate vicinity of the proposed construction/installation locations, either through stating the work proposed by the applicant and enclosing a plan of the proposed construction/installation or by notifying Sunshine State One-Call of Florida (SSOCOF) in accordance with Section 556.102(7), Florida Statutes. Any location conflicts or objections to the applicant's proposed construction/installation by affected right-of-way users must be forwarded in writing to the applicant and the County Engineer within seven (7) days of the proposed work. The County will hold a permit application for a period of seven (7) days to allow time for the receipt of objections to the proposed use of the right-of-way. For the purpose of expediting the handling of a permit application, the seven (7) day period may be shortened by including with the permit application a separate statement or letter from the other right-of-way users stating that said users have no objections to the immediate issuance of the Right-of-Way Utilization Permit for the proposed construction.

B. THE applicant shall verify the notification to other users by completing the section provided in the application for such verification. It is the full and complete responsibility of the applicant to determine that all other users are notified of the

proposed work. Any work performed without such notification, shall be at the sole risk of the applicant and may be stopped by the County if deemed necessary.

SECTION 9. LOCATION STANDARDS: (UTILITY INSTALLATIONS)

A. THE primary concern in the design and location of utility installations is protection of the right-of -way and the safety of the highway user. In all cases, full consideration shall be given to sound Engineering principles.

B. WHERE possible, all longitudinal underground utility facilities should be placed in an area within seven (7') feet inside the outer edge of the right-of-way line except where potable water and sanitary sewers lie along the same side of the road, requiring a separation of ten (10) feet between those utility lines. These and other similar situations will be considered on a case-by-case basis. Above ground facilities should be placed at or close as practical to the right-of-way line. Under no condition shall a utility installation interfere with the roadway storm drain system.

C. PROPOSED location of poles, fire hydrants, water meters, telephone and cable boxes, etc., should take into consideration future road widening, sidewalk, storm drainage, or other construction. Minimum guidelines for roadside recovery area are shown in the State of Florida Department of Transportation Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways. Any deviation from those requirements require prior approval by the County.

D. WATER meter boxes & telephone boxes shall be installed flush with or below the ground. If installation must protrude to the extent such boxes may be a hindrance to drainage maintenance or mowing, they must be located within two (2') feet of the right-of-way line whether their parallel line runs along the right-of-way line or not: Water meter boxes, telephone boxes or television cable boxes shall not be placed within the limits of a proposed or existing sidewalk, curb, gutter or bike path.

E. PURSUANT to County Code Section 27 no person shall place or maintain upon any Flagler County roadway any sign or signal bearing thereon any commercial advertising.

SECTION 10. DRIVEWAYS

A. RESIDENTIAL DRIVEWAYS Driveways entering upon a paved County road (except on cul-de-sacs) shall be constructed of portland cement concrete, or of such other rigid paving material as the County Engineer may approve, shall be a minimum of ten feet (10') wide at the right-of-way line and sixteen feet (16') wide at the

roadway edge. That widening may be provided by a taper. Driveway shoulder within the road right-of-way shall be a be a minimum of two feet (2') in width and shall be stabilized and sodded. Driveway thickness on the right-of-way shall be either six inches (6") on firmly compacted subgrade of clean granular material or five inches (5") on three inches(3") of limerock or shell base. These concrete thickness may be reduced by one inch (1") by the addition of 6" x 6" remesh or fiber mesh concrete reinforcing wire. Culvert pipe shall be of the size and set in the location (horizontal and vertical)established by the County and required by the permit. Mitered or tapered end sections are required on driveway pipes, except where otherwise approved by the County Engineer. Culvert pipes with less than twelve inches (12") of cover below the bottom of driveway pavement to the top of pipe shall either be constructed of reinforced concrete or encased in concrete from the middle of the pipe to the bottom of the concrete driveway. For driveways entering upon a cul-de-sac the minimum width at the roadway edge and the placement of the culvert pipe will be modified to best suit the actual conditions at the site. Existing residential driveways, cut or destroyed by utility installation may be re- constructed to the same section as that original driveway with prior approval from the County. Residential driveways in the Planned Urban Service District, constructed as a part of a Building Permit require no additional permit. All other requirements contained herein remain the same.

B. COMMERCIAL DRIVEWAYS Requirements for commercial driveway shall be dependent on the nature of the business being served by the driveway. As a minimum, however, commercial driveways shall be constructed of portland cement concrete six inches (6") thick on six inch (6") thick compacted limerock or shell base or eight inches (8") thick on four inches (4") of limerock or shell base. Commercial driveway width depends on the type traffic scheduled to utilize the driveway. As a minimum, the width at the right-of-way line for a one-way driveway shall be fourteen feet(14') and for a two-way driveway shall be twenty-four feet (24'). Minimum width at the roadway pavement edge shall be not less than forty-eight feet (48') for one-way commercial driveways and not less than sixty-four feet (64') for a two-way commercial driveway. The widening shall be provided by a taper not less than twenty feet (20') long as measured along the centerline of the driveway Shoulders for commercial driveways shall be six feet (6') in width, stabilized and sodded. In addition, turn lanes or acceleration and deceleration lanes may be required, dependent on the road involved and the traffic on that road.

Culvert pipes for commercial driveways shall be reinforced concrete pipe culverts, with mitered end sections. Culverts shall be sized and located, horizontally and vertically, as specified by the County and shown on the permit. Commercial driveway damaged by utility installations shall be re-constructed to the section described herein.

C. PORTLAND CEMENT CONCRETE MATERIAL

1. Residential drives shall be constructed using material with a minimum twenty-eight (28) day compressive strength of three thousand pounds(2,500 lbs.) per square inch.

2. Commercial drives shall be constructed using Florida Department of Transportation Class 1 material with a minimum twenty-eight (28) day compressive strength of three thousand pounds (3,000 lbs.) per square inch placed with a maximum slump of five (5) inches.

D. FIELD ENTRANCES & TEMPORARY DRIVEWAYS

Access to fields and temporary access for residential or commercial units from County roads will be permitted under the following conditions:

1. Responsible party submits application for a permit.

2. County representatives will visit the site and determine the size, type and length of culvert pipe needed to provide proper drainage (if any).

3. Permit will state size, type, length and elevations for culvert installation, as well as width of access point at the roadway and at the right-of-way line, and any other conditions.

4. For field entrances, with sufficient cover over the culvert to protect the drainage structure, where heavy equipment is expected to use the entrance on an intermittent basis, no surface material will normally be required. For field entrances expected to carry a high concentration of heavy vehicles, the surface shall be stabilized with limerock or shell.

5. For driveways, installed to provide temporary access prior to constructing on the property, the surface shall be stabilized sufficiently to permit passage of vehicular traffic without rutting.

6. All culvert pipes shall be back filled with select granular material, compacted to a tight homogeneous mass. The Permittee shall be responsible for maintaining the access in a passable condition. The County will not re-grade or surface these entrances.

7. Permits for temporary driveways are valid for one (1) year from date of issue and a permanent access permit must be obtained prior to that time. Such permits may be extended for another one (1) year period, provided the Permittee demonstrates an acceptable reason for the delay in obtaining a permanent permit. Field entrance permits are deemed permanent and need not be renewed provided the facilities are properly maintained by the Permittee, all permit conditions are complied with

and they are not servicing a residential or commercial unit. A Right-of-way Utilization Permit for a permanent access shall be required for any access from a County road to residential or commercial building.

8. The fee for Field Entrances and Temporary Driveways shall be the same as for a permanent driveway; however no additional fee will be charged to replace a Field Entrance or Temporary Driveway with a permanent access to the same parcel or tract of land, provided the permitted Field Entrance or Temporary Driveway is removed, or becomes the permanent access. Permanent driveways shall meet the requirements listed hereinafter. The County will not participate in the installation of any access from/to County road(s) for any type access.

SECTION 11. FEES:

A. **FEES** for Right-of-Way Utilization Permits shall be set by the Flagler County Board of County Commissioners by resolution and, except as provided herein, shall be paid by the applicant upon submission of the permit application. For those Utility Companies which provide continuing service under a GENERAL PERMIT, a monthly billing process can be established.

B. **CASHIERS** Checks, money orders, cash or other acceptable forms of payment will be payable to the Board of County Commissioners for the exact fee amount. Payments shall be made to the Board of County Commissioners at the Development Services Department .

C. **WORK** commenced without a permit will incur a late charge fee as prescribed by resolution of the Board of County Commissioners. **Emergency repair work is excluded from this late fee.**

SECTION 12. PERMIT APPLICATION:

A. A single application form furnished by the County shall be used when applying for a Right-of-Way Utilization Permit. Applications forms may be obtained at the

Flagler County Development Services Department
1200 E. Moody Blvd. No. 6, Bunnell, Florida 32110
(386) 437-7484, Fax (386) 437- 8269

Completed applications shall be submitted to that office.

B. **INFORMATION** provided by the applicant in completing the application form shall be typewritten or printed in ink. The application must be legible and all requested information must be provided. Instructions for completing the application are printed on the backside of the application. Incomplete applications **WILL NOT BE ACCEPTED**.

Three (3) sets of a sketch or plan, not necessarily to scale, shall accompany the application and shall reflect both a plan and cross-section view of the proposed work. This shall be a drawing that can be folded to a size not to exceed 8 1/2" x 11". It shall show the OFF-SET FROM THE CENTERLINE of the right-of-way or roads to the proposed work, the road right-of -way width and pavement width, the distance from edge of pavement to the utility, sidewalk/bikeway, driveway pipe, etc. and the location of all utilities within the area of work.

One or more typical cross-sections, as required to adequately reflect the vertical location of the work, shall be shown. The minimum vertical clearance above or below the pavement shall be shown. Additional information such as the location in relation to the nearest road intersection, bridges, railroad crossings, and other physical features shall be indicated on the drawing and identified. A simple key map showing the location of the proposed facility shall be included either on the sketch or plan itself, or as a separate sketch or plan, showing the general location of the installation, and indicating the applicable section, block and lot, street address, or other information necessary to identity the site.

C. **UPON** approval of the application and payment of the fee, one copy of the approved application (permit) with attachments will be returned to the applicant.

SECTION 13. PERMITS:

A. **ALL** work performed on County right-of-way must be in accordance with the terms and requirements of the permit. Additional work or revisions, not authorized by the original terms of the permit, will require a new permit or modification of the existing permit.

B. **THE** permit must be available at all times at the work site while work is being performed. Any work in progress on, or use of, the right-of-way without a valid permit available at the site, shall be suspended until such time as a valid permit is produced on the site.

C. **THE** County shall have the right to inspect and approve materials affecting the right-of-way during all phases of the work. Final inspection and acceptance of work by the County must be obtained to document the completion of the work. Work will

be considered incomplete until that portion of the permit indicating final inspection and approval has been signed and dated by the County.

D. **PERMITS** shall become null and void if the work authorized is not commenced within ninety (90) days of the scheduled start date, or the permit approval date, or is not completed within one (1) year from the date of issuance of the permit. That ninety (90) day requirement may be extended for a singular period of ninety (90) days upon written application for such an extension by the Permittee, listing those reasons for the delay which must be those beyond the Permittee's control. If work has already commenced, within the ninety (90) day period, and the one (1) year expiration date arrives, the permit may be extended for a singular period of not more than six (6) months upon written request by the applicant. The permit shall also become null and void if the work authorized by such permits is suspended or abandoned for a period of ninety (90) days at any time after the work is commenced, except for delays caused by Acts of God, or such causes beyond the Permittee's control, provided however that the Permittee notifies the County Engineer of such causes as soon thereafter as possible. Except for delays beyond the Permittee's control, before such work can again be commenced or completed, a new permit must first be applied for and obtained as for an original permit. Permit fees for the work to be done will be assessed as for an original permit.

E. **LETTER** requests for modification of permits will be processed in accordance with the provisions of Section 14 hereof. The letter requesting modification must verify that the other right-of-way users have no objection to the requested modification.

SECTION 14. UTILITY OR STORMWATER CROSSINGS:

A. **GENERAL CONSIDERATIONS:** The normal crossing under paved surfaces will be made without cutting the pavement. Pavement cuts will be considered only under unusual conditions and permission must be requested in writing.

Casings will be required for crossing of underground utilities under existing pavement, where the carrier conduit is of insufficient strength due to composition or depth of cover. No jetting (air, water, etc.) is authorized within any rights-of-way in the Flagler County.

1. All subterranean crossings of a traveled way, thirty (30') feet or more in width, shall require a track type bore and jack, with encased auger. Crossings of traveled ways less than thirty (30') feet wide may be made by boring, jacking, pushing, pulling, driving, or some combination of these, having a positive horizontal and vertical control. Pits required for these crossings must be constructed no closer than six (6') feet from the edge of the traveled way.

2. Closed end jacking may be permitted for pipes with a maximum outside diameter of three (3") inches. The pipe shall extend a minimum of six (6') feet beyond the edge of the pavement, except where connections to another utility, closer than the specified six feet (6'), is necessary.

3. All other pipe must be jacked with the end open or bore and jacked and extend a minimum of six (6') feet beyond the edge of pavement or as otherwise approved by the County.

4. If mechanical boring is used, the tip of the drill head shall not precede the end of the jacked pipe by more than two (2") inches.

5. All such crossing shall be continuous operation and shall be completed and the pits backfilled and properly compacted and the site cleaned up and sodded prior to ceasing the operation.

6. Directional Boring, or methods other than those described above may be permitted, provided the Applicant can demonstrate expertise in the proposed method to the satisfaction of the County Engineer.

7. OPEN STREET CUTS:

a. Traffic through the construction area shall be maintained in accordance with the requirements shown on the Permit.

b. Restoration of the right-of-way will be in accordance with the Permit requirements.

B. CANALS, DITCHES AND SWALES:

1. The minimum depth of cover for crossings under facilities identified as part of the County's Primary Drainage System, and County Secondary Drainage Facilities, which are of comparable size to the Primary Facilities, shall be eighteen inches (18")from the top of the utility installation to the design or existing (whichever is the lowest elevation) canal or ditch bottom. The minimum depth of cover for crossings under all other canals and ditches shall be twenty-four inches (24") from the top of the utility installation to the design, or existing, ditch bottom whichever is lowest.

2. The minimum vertical distance for crossings over any waterway shall be twenty-four inches (24") from the bottom of the utility to the 100 Year Flood Elevation, except those ditches or waterways where small boat traffic can be expected, where the minimum clear vertical clearance shall be forty-eight inches (48"). No overhead crossings of navigatible canals will be permitted. The minimum vertical

clearance shall be implemented for the full length of the crossing from the top-of-bank to top-of-bank. The crossing shall not increase the existing 100 Year Flood Elevation. A childproof barrier shall be required for crossings over waterways. The crossing shall not impede maintenance equipment or maintenance operations of the waterway.

3. Drainage swales shall be restored to a design grade and any damage to swale area shall be fully repaired, including sodding, to conform to such condition as the swale existed prior to construction or to such other shape and grade as may be approved by the County Engineer.

C. FAULTY WORKMANSHIP OR MATERIALS:

Faulty workmanship shall be repaired within thirty (30) days of notification from the County to like or better condition than existing prior to construction unless a longer period is approved by the County Engineer.

Any repairs or replacement not completed within the thirty (30) day time limit may result in refusal to issue further right-of-way permits to the applicant concerned. The County reserves the right to repair such damages, after the thirty (30) day time limit, with its own forces and charge the Contractor and/or Owner for One Hundred Fifty percent (150%) of the cost of such repairs.

SECTION 15. CONSTRUCTION STANDARDS:

A. **ALL** construction shall be in accordance with current County Road Construction Specifications and Standards, the Subdivision Regulations, Utility Standards and this Ordinance.

B. BURIED UTILITY LINES:
Minimum vertical clearance for direct buried cable, conduit casings, utility lines, and duct systems shall be per location criteria for utilities in the State of Florida Department of Transportation Utility Accommodation Manual or in accordance with the requirements of Flagler County's Cable TV regulatory ordinance where that ordinance applies. Coaxial and glass fiber cables shall be buried a minimum of twenty-four inches (24") below the existing ground.

C. STORM DRAINAGE STRUCTURES:
Installation shall be in accordance with the County Subdivision Regulations, the County Road Construction Specifications, and this Ordinance.

D. BACKFILL AND COMPACTION:

Backfill with clean granule material and testing requirements shall be in accordance with County requirements and this Ordinance. Backfill shall be in accordance with the State of Florida Department of Transportation Utility Accommodation Manual unless otherwise stated in permit requirements. If requested by the Applicant, special back filling materials and/or methods will be considered.

E. TRAFFIC SIGNALS:

Utilities or contractors working at intersections where traffic signals are located must contact the County Engineer for location of underground signal wiring, both within the roadway and the right-of-way. Damages incurred to signal wiring will be the responsibility of the Permittee. Repairs may be made by contract personnel, but must be made with the concurrence and under the requirements as set forth by the County Engineer. In some instances, repairs may be made by Flagler County, with total costs billed to the Permittee. Permittee shall be fully responsible for damage or loss of any traffic sign or control device caused by any commission or omission, neglect, or misconduct in the performance of the work by and/or for the Permittee.

F. TRAFFIC SIGNS:

When traffic signs are located within the area of approved installation or construction, the Permittee is required to notify the County Engineer to arrange for removal and/or relocation. Costs incurred by the County for the removal and resetting, or relocations of signs will be billed to the Permittee. Permittee shall be fully responsible for the replacement or cost of any traffic sign or device removed or damaged due to its operation. Relocation/re-setting shall comply with MUTCD.

G. PAVEMENT MARKINGS:

1. Utility companies or contractors having permitted installation or construction within paved sections of roadway that disturb or destroy current pavement markings shall be required to replace said pavement markings with approved thermoplastic marking material and to restore such markings to their original condition.

2. When new turn, bypass, deceleration, and/or acceleration lanes are constructed in accordance with County approved plans, a striping plan shall be submitted for County approval. Striping shall be accomplished by the Permittee in accordance with the approved plans.

H. TUNNELLING or jetting within Flagler County rights- of-way is prohibited.

SECTION 16. TESTING:

A. **DENSITY** tests conducted in accordance with applicable F.D.O.T. Specs for determination of the specified backfill, base, and other compaction shall be made be an independent testing laboratory, licensed in the State of Florida and approved by the County, or by a certified technician utilizing a method approved by the County Engineer at the expense of the Permittee and copies of all reports from those Technicians or testing laboratory shall be submitted to the County Engineer.

B. **IF** any test results are unsatisfactory, the Permittee shall re-excavate and recompact the backfill at its expense until the desired compaction is obtained. Additional compaction tests shall be made to each side of an unsatisfactory test, as directed by the County, to determine the extent of re-excavation and recompaction necessary.

C. **CONCRETE** compressive strength tests are required and copies of the results of such tests shall be submitted to the County Engineer.

SECTION 17. INSPECTION:

A. **THE** Permittee shall notify the County Engineer at least twenty-four (24) hours prior to beginning work. The date, time, and location regarding the work must be given at the time of this notification. The County Engineer shall be immediately notified of any revisions to the schedule.

B. **UNDERGROUND** facilities (buried cable, water lines, drainage structures etc.) will not be covered until inspected and approved by the County Engineer or his Designee except in instances where the Permittee has sufficient density tests to confirm proper compaction has been obtained and leaving the facility uncovered would create an unsafe or unsound condition. Cable facilities need not be left exposed when buried by the direct burial process provided the contractor has demonstrated his competence in such construction. The County reserves the right to require exposure of all or portions of the installation to verify correct depth of cover.

C. **FAILURE** of the Permittee to obtain the appropriate inspections prior to proceeding with work shall not relieve the Permittee from re-excavation or other measures necessary for the inspection of the work and cost of such re-excavation shall be the Permittee's sole expense.

D. **ANY** items not in compliance with these requirements will be immediately corrected by the Permittee.

E. **THE** inspector's signature on the completion line on the permit terminates that permit and no further work may be done under that permit except such repairs or area clean up as are directed by the County Engineer.

F. RE-INSPECTIONS: Permittee shall be charged an additional fee for each re-inspection required should Permittee call for an inspection and NOT be prepared or have said work ready for requested inspection. Re-inspection fees shall be established by resolution of the Flagler County Board of County Commissioners.

SECTION 18. WORKING HOURS:

A. OPERATIONS permitted by this regulation which require inspection by County Forces shall normally be conducted from 7:00 A.M. to 5:00 P.M. Monday through Friday, excluding holidays. Any deviation from those hours requires prior approval from the County, and any overtime payments for inspection will be billed at current manpower expense rates. Those charges will be paid by the Permittee, in accordance with current County billing requirements. A minimum of two (2) working days notice, in writing, requesting deviation from normal working hours, must be provided. Such written notice is not required if the work times have been included as a part of the permit. Emergency repairs are excluded from this time restriction.

SECTION 19. MAINTENANCE OF TRAFFIC:

A. EXCEPT for residential driveways and emergency repairs, if the work involves construction on or near a traveled way, the Permittee shall provide the County Engineer with its proposed Maintenance of Traffic plan at least five (5) working days prior to commencement of any work on the project and shall not commence work until the plan has been approved by the County Engineer. Notification to affected emergency agencies (Fire, Rescue, Police, etc.) shall be the responsibility of the County Engineer; however the Permittee may be required to notify the news media in some instances, including the possibility of paid advertisements, and to bear the costs of such notifications.

B. UNLESS otherwise provided, all roads within the limits of the permit shall be kept open to traffic. When approved by the County, traffic may be by-passed over an approved detour route. The Permittee shall keep the portion of the project being used by the public, whether it be through or local traffic, in such condition that traffic will be adequately accommodated. He shall furnish, erect, and maintain barricades, warning signs, delineators, flagmen, or pilot cars in accordance with the Manual on Traffic Controls and Safe Practices for Street Operations published by the Florida Department of Transportation.

He shall also provide and maintain temporary approaches or crossings, and intersections with trails, roads, streets, businesses, parking lots, residences, garages, and farms in a safe condition. The Permittee shall bear all expense of maintaining the traffic over the section of road undergoing construction and of maintaining such approaches, crossings, intersections and detours and other features as may be necessary. Materials stored at the site of the work shall be so placed as to cause no

obstruction to vehicular or pedestrian traffic. Any equipment or materials stored within the right-of-way shall be properly barricaded. No roadway shall be closed or re-opened except by express permission of the County Engineer.

C. **WHEN** an open cut of a road has been authorized, and a detour/diversion traffic route has not been requested or approved by the County, no lane closure will be authorized prior to 8:00 A.M. or later than 3:00 P.M. without specific and individual approval. In the case of a 2-way/2-lane road one lane traffic may be authorized during this period. In the case of a 2-way/4-lane road, 2-way/2-lane traffic will normally be required.

SECTION 20. RESTORATION AND CLEAN UP

A. **THE** Permittee shall insure that all monuments, section corners and property markers shall be protected, or replaced, at his expense.

B. **THE** Permittee shall be liable for all damage, injury, or loss to persons or property of any character arising from or resulting from any act of commission, omission, neglect, or misconduct in the performance of work by the Permittee, his employees, or agents. The Permittee shall be further liable for damage, injury, or loss to persons or property arising from or as a result of defective work or materials.

C. **WHERE** any work disturbs the area outside the roadway, the Permittee shall insure that the area is completely restored to a like or better condition than that which existed prior to construction or, in a manner acceptable to the County. Sod that is removed shall be replaced with sod of the same type. Unsodded areas shall be graded and then seeded and mulched or sodded if required by the County Engineer. The Permittee is responsible for establishing a dense stand of permanent type grass within a reasonable time.

Shrubbery that is removed or destroyed shall be replaced with plants of equal types and sizes. Sodding and grassing and mulching operations are to begin immediately after construction/installation has been completed. All landscape items damaged or disturbed during construction shall be replaced by the Permittee at its expense, as directed by the County. Any plantings on private property damaged or disturbed by the Permittee shall be replaced to the satisfaction of the County and property owner unless otherwise directed by the County Engineer. All debris shall be removed by the Permittee at its expense.

D. **EXISTING** utilities that are damaged, destroyed or temporarily removed by the Permittee shall be replaced or repaired by the Permittee at the direction of the owner, with no expense to the County or of the existing utility.

E. **THE** Permittee shall insure that work site cleanup and property restoration follows construction/installation operations without delay. In order to maintain an acceptable site, debris and waste material shall be removed from the site daily and swale trenching shall be coordinated to minimize overnight swale drainage blockage. Site maintenance, along with ongoing cleanup and final property restoration shall be subject to the approval of the County Engineer.

SECTION 21. SAFETY AND CONVENIENCE:

A. **THE** safety provisions of applicable laws, ordinances, building codes and construction codes shall be observed.

The Permittee shall take all reasonable precautions for initiating, maintaining and supervising all programs relating to the safety of all persons and property affected by or involved in the performance of its work under a Right-of-Way Permit. The Permittee will take all reasonable precautions to prevent damage, injury, or loss to:

1. All persons who may be affected by the performance of its work, including employees;

2. All materials and equipment at the work site location; and

3. All property, public or private, at or surrounding the work site.

In any emergency affecting the safety of persons or property, the Permittee will act with reasonable care and discretion to prevent any damage, injury or loss.

SECTION 22. WARRANTY:

A. **PERMITS** shall be issued with the understanding that the Permittee shall unconditionally guarantee all work performed under the terms of the permit for a period of one (1) year from the date of completion as certified on the permit by the County unless otherwise required.

If inadequate design, settlement, or faulty construction of a deceleration/acceleration lane, authorized by a permit issued by the County, results in an inverted crown or ponding affect at the juncture of said lane and the traveled way of the main road within the one (1) year period or within any warranty period required by County Regulations:

1. A complete overlay of the deceleration/acceleration or the right-of-way lane and the traveled way of the main road, and other auxiliary lanes within the right-of-way, will be required in accordance with the County requirements.

2. Any failure shall be repaired by the Permittee, at the direction of the County, within thirty (30) working days, unless the urgency of the problem requires a quicker reaction time.

3. For work exceeding a construction cost of Two Thousand Five Hundred Dollars ($2,500.00) the Permittee will be required to post surety guaranteeing the work for a period of one (1) year after acceptance by the County. The surety may be in the form of a Cashier's Check, Money Order, Letter of Credit, or cash and shall be in the amount of ten percent (10%)of the cost of the construction in the right-of-way. For projects where construction in the right-of-way costs exceed Ten Thousand Dollars ($10,000.00) the guarantee may be in the form of a Surety Bond, or any of the forms listed above. Utility installations may be guaranteed by posting a bond, suitable in size to cover its average day-to-day operations for a ninety (90) Day Period and in a form satisfactory to the County Attorney.

SECTION 23. LANDSCAPING AND IRRIGATION SYSTEMS:

A. GENERAL REQUIREMENTS

1. Installation of any landscaping and irrigation systems, and/or related materials within dedicated or planned public rights-of-way is prohibited without the express approval of the County. This approval shall be based on issuance of a Right-of-Way Utilization Permit authorizing such installation or construction. Maintenance of any of the aforementioned project will be the responsibility of the signatories.

2. Persons and equipment maintaining any authorized landscaping or irrigation systems, must perform such maintenance work in a manner so as not to create safety hazards or obstruct vision or normal traffic flow. Spray patterns shall not cross pedestrian walk ways nor shall any irrigation water be allowed to fall on a County travelway, except as hereinafter provided.

3. If, in the opinion of the County, damages in or adjacent to the right-of-way are deemed to have been caused by construction, then maintenance or restoration of a landscaping or irrigation system will be the responsibility of the Right -of-Way Utilization Permittee.

B. LANDSCAPING:

1. No landscaping, or improvement to existing landscaping shall be planted or constructed within the right-of-way unless such landscape construction plans have been approved by the County Engineer and a valid Right-of-Way Utilization Permit has been authorized and issued by the County.

2. Landscaping in a median island and within one hundred (100') feet of a median nose shall be installed and maintained at a maximum height of twenty-four (24") inches above road grade at the centerline of travelway. Normally trees will not be allowed to be installed in medians, unless clear zone and clear sight distance zone requirements will allow installation without violation of those clear zone requirements.

3. A four (4') foot minimum mowing strip shall be maintained between plantings and the curb or pavement edge.

4. No rocks, boulders railroad cross ties, heavy timbers or other obstructions, shall be used within the right-of-way without special and specific written permission.

5. On divided or undivided highways or roads, trees will not be allowed to be planted or to remain in the clear recovery zone. The required minimum width of the clear recovery zone adjacent to the traveled way is shown in the Manual of Uniform Minimum Standards for Design Construction and Maintenance for Streets and Highways (Green Book) as published by the Florida Department of Transportation. Trees and other plants on private property shall not be allowed to overhang the right-of-way to the extent they screen traffic sight distances at intersections.

6. Poisonous or exotic pest plant species shall not be planted in any planned or dedicated public rights-of-way.

7. Landscaping planned for either a parkway or median strip will not be authorized if, in the opinion of the County, such installation would possibly create a safety hazard or sight obstruction. Safety of the public will be a predominant factor in all decisions. The applicant shall demonstrate at the time of the permitting that the sight distance will not be impaired to the motoring public in any direction by landscaping and plantings now or in the future. The Manual on Uniform Traffic Control Devices and the Florida Manual on Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways shall be used as a reference.

C. IRRIGATION SYSTEMS:

1. No irrigation systems, or appurtenances thereto, shall be placed within the right-of-way, unless irrigation construction plans have been approved by the County and a valid **Right-of-Way Utilization Permit**, applied for by a County or State licensed contractor, has been authorized by the County.

2. Sprinkler heads within the safe recovery area must be of the pop-up type (no stand-ups authorized). Feeder hoses with drip lines may be used. The sprinkler system must be installed in such a manner so that it will not create a traffic or safety hazard.

3. Underground systems and crossings will be made in accordance with the Utility requirements of this regulation, and any deviation from that regulation will result in issuance of a violation notice and revocation of the permit.

4. Minimum cover, other than beneath the traveled way or within six feet (6') of the traveled way, for irrigations systems shall be twelve (12") inches, if piping is used, and six (6") inches, if a feeder hose with drip line is used.

5. No jetting (air, water etc.) is authorized within any rights-of-way in the Flagler County.

6. Pumps, wells, electrical control devices, and other associated items, relating to irrigation systems, unless specifically approved by the County, will not be permitted in the rights-of-way.

7. Irrigation systems shall not be allowed to be constructed, either in the public right-of-way, or on private property, that are designed or constructed in such a manner that water flows from sprinkler heads over roads, sidewalks and/or bike paths that have been constructed for and used by the public, unless the Permit allows, and the Permittee specifically agrees, that the irrigation system will not be operated during the hours that pedestrians and cyclists are apt to be passing. Unauthorized irrigation systems such as herein described will be subject to legal action and penalty as prescribed by law and/or revocation of the **"Right-of-Way Utilization Permit".**

SECTION 24. OTHER OBSTRUCTIONS:

County Code Section 26-4, prohibits the construction, placement or allowance of encroachments within the public right-of-way that are deemed to be a safety or traffic hazard.

FLAGLER COUNTY PUBLIC WORKS MANUAL

SECTION IX

WATER, WASTEWATER & OTHER UTILITIES

I. GENERAL

Except as may be otherwise stipulated in the Flagler County Land Development Code or by requirements set forth hereinafter the requirements of the State of Florida, Department of Transportation Utility Accommodation Guide shall govern utilities in Flagler County Rights-of-Way. Including herein, in PART B – SECTION VIII, is Flagler County Ordinance No. 98-02, which provides guidance as to utility accommodation on County Rights-of-Way. In the event the requirements of Ordinance No. 98-02, or amendments thereto, conflict with the State of Florida Utility Accommodation Guide, the requirements of Ordinance No. 98-02, as amended, shall govern.

Construction details in connection with utility installations are illustrated in PART C – CONSTRUCTION DETAILS.

FLAGLER COUNTY PUBLIC WORKS MANUAL

SECTION X

HIGHWAYS & ROADS

GENERAL

Except as otherwise approved as part of a Development Plan or by order of the Flagler County Board of County Commissioners, the following technical specifications shall govern all highway, street or alley construction in Flagler County.

DIVISION I - GENERAL REQUIREMENTS AND COVENANTS

Delete Section 2, 3

DIVISION II - CONSTRUCTION DETAILS

SECTION 102 - MAINTENANCE OF TRAFFIC

102-1.3 There shall be no detours permitted on existing County Roads except those specifically approved by the County Engineer.

SECTION 104 - PREVENTION, CONTROL AND ABATEMENT OF EROSION AND WATER POLLUTION

104-7.2 Mowing - Delete the exception for the mowing of slopes which are steeper than four horizontal to one vertical.

As a minimum, all grassed areas shall be mowed immediately prior to final inspection and acceptance of the project.

SECTION 160 - STABILIZING

Stabilization is designated as Type B.

SECTION 162 - TOPSOIL

The requirement of this Section shall apply to work on County roads.

SECTION 270 - SOIL-CEMENT BASE Delete in its entirety and substitute Therefore:

270-1 Description

The work specified in this section consists of the construction of a base course composed of a combination of soil, portland cement and water; proportioned, mixed, shaped, compacted, finished and cured in accordance with these specifications and in reasonably close conformity with the lines, grades, thickness and typical cross sections shown in the plans.

All soil-cement base material shall be processed by the central-plant-mixed method except when the County Engineer specifically approves the mixed-in-place method.

270-2 Materials

The materials used shall conform with the requirements specified in Division III.

Specific references are as follows:

Cement:
Portland Cement, Type I, II, III or Type 1-P.....Section 921

Water: Shall be free from substances deleterious to hardening of the soil-cement mixture.

Curing Material:
Emulsified Asphalt Grade SS, RS, or MS as approved by the Engineer..... Section 916-4

These shall be diluted as recommended by the manufacturer.

Soil: The soil used for base course construction shall be either the material existing in the location to be occupied by the base, a suitably friable material furnished by the Contractor or a combination of these. If the material existing in the location to be occupied by the base does not meet the requirements set out below, it shall be removed and replaced with suitable soil.

Material pits shall be approved prior to use. Material pits shall be excavated in a manner so as to achieve a uniformly mixed materials with reasonably consistent characteristics.

Any blending of strata of differing materials shall be done in accordance with a procedure approved by the Engineer. Proposed recycled materials maybe considered on a case-by-case basis.

Specific Requirements For Soil:

Organic Material..... Maximum 5%
(As per FM 1-T257)
Total Clay and Silt Content (minus 200 sieve) Maximum 25%
(As per FM 1-T0881, no hydrometer test)
Plastic Index ..... Maximum 10%
(As per FM 1-T090)
Liquid Limit ..... Maximum 25%
(As per FM 1-T089)

Gradation:
Passing 2-inch sieve..... Minimum 100%
Passing No.4 sieve ..... Minimum 55%
Passing No.10 sieve ..... Minimum 37%
(As per FM 1-T088)

The soil shall be free from all substances deleterious to hardening of the soil-cement mixture.

As an exception to the above requirements, any material meeting the requirements for Limerock in Section 911 may be used.

270-3 Proportioning of Mix

270-3.1 General: The soil-cement mixture shall be proportioned in accordance with Strength Design or Brush Loss Criteria as set out below.

The Contractor shall submit for approval a design mix for the soil the proposes to use in soil-cement construction prepared by a testing laboratory approved by the Engineer.

The design mix submittal shall include the results of tests run to verify that the soil meets the requirements set in 270-2, results of tests used to establish the cement content, and a final design laboratory sample. The design mix shall be submitted to the Department's Engineer for approval a minimum of sixty (60) calendar days prior to beginning of soil-cement construction for Strength Design Method.

Laboratory testing for design mix evaluation shall be accomplished using water from the source

proposed for use during construction.

The cement shall be expressed in percentage of the dry unit weight of the soil. For mixed-in-place construction, the rate of application of cement shall be based on the maximum density of the soil, determined in accordance with ASHTO T-99 rounded up to the nearest pound.

370-3.2 Strength Design Criteria: When the soil-cement mixture is to be proportioned in accordance with strength design, the minimum cement content shall be determined by Florida Test Method FM 5-520 - Laboratory Design of Soil-Cement Mixtures. The design compressive strength is 500 p.s.i. and shall be achieved in seven days. The cement content shall not be less than five percent by weight except as noted in 270-3.4.

270-3.3 Brush Loss Design Criteria: When the soil-cement mixture is to be proportioned in accordance with this criteria, the minimum cement content shall be determined according to AASHTO 135 (Wetting and Drying Tests of Compacted Soil-Cement Mixtures). The soil-cement loss at the completion of 12 cycles of testing shall conform to the following limits:

AASHTO Soils Groups A-1, A-2-4, A-2-6, and A-3…not over 14%
AASHTO Soils Groups A-2-6, 1.A-2-7, A-4 and A-5… not over 10%
AASHTO Soils Groups A-6, and A-7.....not over 7%
The cement content shall not be less than five percent by weight except as noted in 270-3.4.

When proportioning of Soil-Cement mixture is done by the Brush Loss Design Criteria Method and processing is done by Central Plant Mixing where the requirements of 270-3.4 are met, strength testing of field specimens will not be required. The

properties of the parent material shall be confirmed during the processing of a random frequency to assure that the final mix has not changed from the original design. The producer shall furnish a printout of each day's production that shows proportioning of the mixture to meet the approved Brush Loss Design, including cement.

270-3.4 Exception for Central Mixed Materials: If the soil material, used in producing a soil-cement mixture, is being obtained from a commercial source (not to exclude recycled materials) where soil properties are consistently uniform, and the mixture is processed in a central mix plant that automatically weighs components and automatically records the weight of each component on a printed ticket, tape, or other digital record, the minimum five percent cement content specified in 270-3.2 and 270-3.3 shall not apply.

270-4 Construction Methods.

270-4.1 Equipment: For performing the work specified in this Section, the Contractor may use any machine, combination of machines, or equipment that is in good, safe working condition and that will produce results meeting the requirements for cement application, soil pulverization, mixing water application, compaction, finishing, and curing, as required herein. Special attention is directed to the necessity for utilizing compaction equipment which will produce the required density in a particular coil-cement blend.

270-4.2 Preparation:

270-4.2.1 Subgrade: Before base construction operations are begun, the sub-grade shall have been completed. The subgrade shall be firm enough to support the equipment used in the soil-cement base operations without appreciable distortion or displacement. Any unsuitable material shall have been removed and replaced with suitable material.

When the base is to be constructed of central plant-mixed soil-cement, the subgrade shall be graded and shaped to the lines, grades, and typical cross section shown in the plans. The subgrade shall be moist but not ponded at the time the mixed base course material is placed.

270-4.2.2 Base Soil for Mixed-in-Place Processing: The area over which the base is to be constructed shall be graded and shaped to an elevation which will provide a base in conformance with the grades, lines, thickness, and typical cross sections shown on the plans. All roots, sticks, and other deleterious matter shall be removed during processing.

270-4.3 General: Mixing of the soil, cement, and water shall be accomplished by central plant-mix methods, unless the Engineer specifically approves the mixed-in-place method.

The percentage of moisture in the soil at the time of cement application shall not exceed the quantity that will permit a uniform and intimate mixture of soil and cement during mixing operations. With certain types of soils, the Engineer shall designate a moisture range.

During seasons of freezing temperature, no cement or soil-cement mixture shall be spread unless the ambient temperature is at least 40 F in the shade and rising.

At the completion of moist-mixing, the soil shall be pulverized so the 100 percent passes a 1 2-inch sieve, 95 to 100 percent passes the one inch sieve and a minimum of 80 percent passes a No.4 sieve, exclusive of gravel, shell, or stone.

The operations specified in 270-4.3, 270-4.4, 270-4.5 and 270-4.6 shall be continuous and shall be completed within a period of four hours starting from the time mixing commences.

270-4.3.2 Mixed-in-Place Method: Where this process is permitted, the entire width of the base shall be processed in a single operation. The design quantity of cement shall be spread uniformly on the soil at the required rate of application, by means of an approved method. Spread cement that becomes displaced shall be replaced before mixing is started. Uniformity of spread rate will be checked by (a) weight of cement spread/square yards covered for a short trial section or (b) use of a square yard cloth/box. The trial section shall be between 100 and 300 feet in length. After the cement has been applied, mixing shall begin within sixty (60) minutes unless otherwise directed by the Engineer. The soil and cement shall be initially mixed until the cement has sufficiently blended with the soil to prevent formation of cement balls when additional water is applied; then water added if necessary and the soil-cement mixture re-mixed. **Windrow mixing will not be permitted.**

Processing may be full depth in one course provided that satisfactory distribution of cement and water and the specified density can be obtained. If not, construction shall be in courses of such thickness that satisfactory results are obtained. Provisions shall be made to achieve adequate bonding between courses.

Immediately after mixing of the soil and cement, any additional water that is necessary shall be added. If the moisture content exceeds that specified, the soil-cement mixture shall be manipulated by re-mixing or blading, as required, to reduce the moisture content to within the specified range. Excessive concentrations of water shall be avoided. During the time of application of water and after all mixing water has been applied, mixing shall continue until a uniform and intimate mixture of soil, cement and water has been obtained. As an alternative to the above described procedure, the Contractor may use an approved machine that will blend the cement and the soil and then add and mix-in any additional water that is necessary.

270-4.3.3 Central Plant Mixed Method: The soil, cement, and water shall be mixed in a pugmill, of either batch or continuous-flow type. The plant shall be equipped with

feeding and metering devices which will accurately proportion the soil, cement, and water in the quantities specified. Soil and cement shall be mixed sufficiently to prevent cement balls from forming when additional water is added. Mixing shall continue until a uniform and intimate mixture of soil, cement, and water is obtained.

The mixture shall be hauled to the roadway in trucks equipped with protective covers. The mixture shall be placed on the moistened subgrade in a uniform layer by suitable equipment.

Not more than sixty (60) minutes shall elapse between the placement of soil-cement in adjacent passes of the spreader at any location, except at construction joints. The layer of soil-cement shall be uniform in thickness and surface contour, and in such quantity that the completed base will conform to the required grade and cross section. **Windrow mixing will not be permitted.**

270-4.4 Construction Joints: Prior to joining any previously constructed section of base, a vertical construction joint shall be formed by cutting back into the completed work to form a true vertical face of acceptable soil-cement to the full depth of the base course. The vertical face shall be moistened prior to placing new material against it.

270-4.5 Shaping and Finishing: Prior to final compaction, the surface of the soil-cement shall be shaped to the required lines, grades, and cross section. In all cases where soil-cement mixture is added to any portion of the surface, the surface shall be lightly scarified with a spring tooth harrow, spike drag, or other approved device, such that the surface is uniformly loosened prior to addition of material and prior to initial set of the soil-cement mixture. The resulting surface shall then be compacted to the specified density. Rolling shall continue until all rutting ceases and until the base conforms to the density requirements.

The surface material shall be moist but not ponded and maintained at not less than two percentage points below its specified optimum moisture content, during finishing operations. Surface compaction and finishing shall be done in such a manner as to produce a smooth dense surface, free of compaction planes, construction cracks, ridges, and loose material. With certain soils, the Engineer may determine that minor tire marks are acceptable. If the time

limits set forth in 270-4.3.1 are exceeded, the base shall be left undisturbed for a period of seven (7) days, after which it will be examined by the Engineer to determine its suitability. If it is found suitable the base will be accepted providing the base meets all other requirements specified herein. If found unsuitable, the base shall be removed and replaced by the Contractor without additional compensation. The Contractor may, at his option, remove and replace the deficient base rather than wait.

270-4.6 Compaction: Compaction of the soil-cement mixture shall begin immediately after mixing or placing is completed. In no case shall more that thirty (30) minutes elapse between the last pass of moist-mixing or spreading and the start of compaction of the soil-cement mixture at a particular location. The optimum moisture content and maximum density shall be determined in the field by the methods prescribed in AASHTO T-134, on representative samples of the soil-cement mixture obtained immediately after the initial mixing. Such density shall be determined for each day's run or change of material. The loose material shall be uniformly compacted to meet the density requirements set out in 270-5.1. During compaction operations, reshaping may be required to obtain required grade and cross section.

270-4.7 Protection Against Drying: During the period when finishing and surface correction operations are being accomplished, the surface of the base shall be kept continuously moist by sprinkling as necessary until the emulsified asphalt curing material is applied. As soon as practicable, the base shall be protected from drying for seven (7) day's by application of emulsified asphalt, applied at the rate of 0.20 to 0.25 gallon of the diluted mixture per square yard.

The actual rate of application shall be as directed and shall provide complete coverage without excessive runoff. At the time the bituminous material is applied, the soil-cement surface shall be dense, and free of all loose and extraneous material, and shall contain sufficient moisture to prevent excessive penetration of the bituminous materials.

Should it be necessary to allow construction equipment or other traffic to use the complete base before the bituminous material has cured sufficiently to prevent pickup or displacement, the bituminous material shall be sanded, using approximately ten

pounds of clean sand per square yard. Cover material containing organic acids or other compounds detrimental to the soil-cement base will not be permitted.

The curing material shall be maintained by the Contractor during the seven-day protection period.

270-4.8 Opening to Traffic: No traffic shall be permitted on the base subsequent to completion of the finishing operations specified in 270-4.5, for a minimum period of seventy-two (72) hours. As an exception to this requirement the equipment necessary for correction of surface irregularities, application of water and application of curing materials will be allowed provided that the tire contact pressures of such equipment do not exceed forty-five (45) pounds per square inch. Under special conditions (i.e. low speed limit, low traffic volume, urban conditions) the Engineer may waive the seventy-two (72) hour period.

270-4.9 Maintenance: The Contractor shall maintain the base to a true and satisfactory surface until the wearing surface is constructed. Should any repairs or patching be necessary they shall extend to the full depth of the base and shall be made in a manner that will assure restoration of a uniform base course conforming to the requirements of these specifications. In no case shall repairs be made by adding a thin layer of soil-cement or concrete to the completed work. The Contractor may, at his option, make full depth repairs to small or minor areas, such as at manholes, inlets, or the like, with Class I concrete.

For patching of deficient areas less than 100 square feet and less than one inch in depth, the area shall be corrected using Type S-III Asphaltic concrete. For patching of deficient areas less than 100 square feet and greater than one inch in depth, the area shall be removed to full depth and replaced using Asphalt Base Course Type 3, Type S-1 Asphaltic Concrete, or soil cement.

270-5 Acceptance Requirements

270-5.1 Density: As soon as possible after completion of compaction, field density testing shall be performed. The required density shall be ninety-eight percent (98%) of the maximum density as determined by methods prescribed in AASHTO T134.

For density determination, a lot is defined as 2,500 square yards of base. A small section at the end of a day's operation will, at the Engineer's option, be included in the previous lot (no lot shall include more that 3,500 square yards) or be considered as a separate lot. Five (5) density test shall be made at locations randomly selected within each lot.

270-5.2 Surface Finish: After compacting and finishing have been completed, and not later than the beginning of the next calendar day after the construction of any section of base, the surface shall be measured with a template cut to the required cross section and with a 15-foot straight-edge (both to be provided by the Contractor) laid parallel to the centerline. All irregularities greater than 1/4 inch shall be immediately corrected with a blade adjusted to the lightest cut which will insure a surface that does not contain depressions greater than 1/4 inch under the template of the straight-edge. Other suitable methods for measurement may be approved by the Engineer. In the testing of the surface the measurements will not be taken in small holes caused by individual rocks having been pulled out by the blades. The material removed shall be wasted.

270-5.3 Thickness: After the base is completed (including hard planing if necessary), three (3) inch minimum diameter test holes shall be dug or drilled by the Contractor and the thickness shall be determined from measurements made in these test holes.

For the purpose of thickness evaluation, a lot is defined as 2500 square yards of base. A fraction lot at the end of each roadway will be included in the proceeding lot. An area such as an intersection, crossover, ramp, etc., will be considered as a separate lot. Small irregular areas may be included as part of another lot. No lot shall include more than 3500 square yards.

Five thickness measurements will be made at randomly selected locations within each lot.

Construction tolerances for thickness shall be as follows:

	Deviation From Plan Thickness
Central-Plant-Mixed Processing	- 2 inch
Mixed-in-place Processing	+/- 2 inch

When any thickness measurement is outside the construction tolerance, additional thickness measurements will be taken at ten foot intervals parallel to the centerline in each direction from the measurement which is outside the construction tolerance until a measurement in each direction is within construction tolerance.

An area of base found to have thickness outside the construction tolerance will be evaluated by the County Engineer and, if he determines that the service life of the base will be significantly reduced, it shall be removed and replaced with acceptable base of the thickness shown in the plans, at the Contractor's expense. Areas of deficient thickness but within the construction tolerance will be accepted.

270-5.4 Strength Testing of Field Specimens: The following requirements are applicable to soil-cement when proportioning of the mix is by the Strength Design Method. The adequacy of cement content and uniformity of distribution of cement within the base, shall be checked by sampling and testing of the completed mix. Samples shall be taken at the project site just prior to final compaction. A minimum of two Strength Test Values (STV) shall be determined each day, with at least two STV per each 2500 square yards mixed. A Strength Test Value shall be the average strength values of a minimum of three individual specimens except that the Engineer may discard any obvious outlier.

Representative samples of the mixed soil-cement material for determining an STV shall be taken just prior to final compaction and the sample location recorded. The samples shall be large enough to mold three or more compressive strength test specimens as prescribe in FM 5-520. These specimens are to be molded at the field moisture content. The intent is to cast the individual test specimens as close to identical as possible. During compaction of strength test specimens, the mold shall be resting on a 200 pound concrete block provided by the Contractor, or the equivalent thereto. These test specimens are to be gently extruded from the compaction mold and carefully placed in a moist curing

environment (not in direct contact with ponded or moving water) such as a tightly closed container under wet cloth or burlap. Placement of the samples at any location should be made to ensure that they will not be disturbed. This form of initial field cure shall be continued for at least twenty-four (24) hours. If, after twenty-four (24) hours the specimens have not gained sufficient strength to be moved without probable damage, the field curing shall continue until each specimen can safely be moved without probable damage occurring to the specimens. When the specimens can be safely moved, they will be transported to the laboratory where they will be cured as described in the design procedure (FM 5-520) to seven days of age. At seven days of age, the individual specimen shall be tested for determination of compressive stress. The loading procedure and rates shall be the same as described in FM 5-520.

If at seven days of age a Strength Test Value is less than sixty (60) percent of the Laboratory Design Strength, the material represented by the Strength Test Value shall be removed and replaced at no additional compensation to the Contractor.

SECTION 331 - TYPE S ASPHALTIC CONCRETE

All Asphaltic concrete used in road construction in Flagler County shall be Type S-I or Type S-III, as directed otherwise specifically approved by the County Engineer.

SECTION 575 - SODDING

575-3.2 Placing Sod
Add the following:

In areas where slopes are such that the sod may slide, the Contractor may use rolled sod in lieu of pegged sod and, if desired, rolled sod may be used throughout the project or in isolated locations determined by the Contractor to be in the best interests of the project.

FLAGLER COUNTY PUBLIC WORK MANUAL

ARTICLE XI

SPECIAL PROVISIONS TO TECHNICAL SPECIFICATIONS

FOR ROAD PROJECTS

1. ENDANGERED THREATENED OR LISTED SPECIES

The Developer, Engineer and Contractor is obliged to assure their employees and agents notify the County Engineer immediately upon encountering any endangered, threatened or listed species such as the gopher tortoise, scrub jay or indigo snake. No such protected species or its nesting area shall be disturbed without compliance with the procedures of the Florida Game and Fresh Water Fish Commission and the U.S. Fish and Wildlife Service.

2. RESURFACING AND/OR JOINING TO COUNTY ROADS

Where a side road joins an existing County road, or where turn lanes are to be constructed onto or from a County road, the County road shall be prepared as follows:

1. A clean vertical joint shall be saw cut in the surface along the edge of the existing County road at least six inches (6") from the edge and the asphaltic concrete so cut-away, shall be removed and disposed of.

2. The existing base shall be cut on a vertical face from its outside edge to a line where sound base material exists. That material shall be removed an disposed of.

3. The exposed subgrade shall be re-compacted along with the new subgrade constructed for the new road or lane, so that no discernible joint exists between the old and the new surface.

4. Prior to joining the new and old base, the old base shall be wetted in order to achieve a bond with the new base.

5. The face of the saw cut asphaltic concrete shall receive a light tack coat and the new pavement brought to match the old surface, when compacted.

6. Any manholes or other structures within the pavement shall be adjusted to the proper elevation in accordance with the Owner's specifications.

Existing County roads to be re-surfaced shall have start and end joints properly constructed to prevent slipping, raveling and uneven surfaces.

3. PAVEMENT MARKINGS

Temporary pavement markings shall be installed immediately following the placement of any surfacing or other activity that obscures existing markings on County roads. Prior to scheduling or beginning installation of permanent markings the temporary pavement markings are to be maintained by the Contractor for a minimum of thirty (30) calendar days after the completion of operations.

The Contractor shall take all necessary precautions to protect all pavement markings from damage beyond the actual limits of his work. Any markings that become damaged, physically or by loss of function, shall be replaced by the Contractor to the satisfaction of the County Engineer.

Final pavement markings on County roads, as designated by the County Engineer will consist of the following:

A. General:

Traffic markings shall consist of reflectorized stripes, extruded thermoplastic with glass spheres, per Florida Department of Transportation Specifications for Road and Bridge Construction 1991 and 1994 Supplemental Specifications.

Center stripe shall be six (6) inches wide and of color (white or yellow) and configuration (single/double, solid/skip) to comply with F.D.O.T./M.U.T.C.D. criteria. Centerline skip shall be installed at the ratio of ten (10) feet of stripe and thirty (30) feet of skip of each forty (40) feet of roadway unless otherwise approved.

Unless specified otherwise centerline markings shall be two hundred (200) feet of solid yellow striping when approaching a non-signalized intersection.

Temporary centerline stripe(s) shall be provided at the end of day's operation. Temporary stripe shall be maintained until final striping has been completed.

Edge striping shall be six (6) inches wide and of color (white or yellow) and configuration, solid except at driveways and or intersections, to comply with the criteria above.

All final striping shall be completed prior to final inspection by the County.

"Blue" bi-directional reflective pavement markers used to identify fire hydrants are to be restored/installed at all locations within the project limits. Location details are available from the County Fire Marshal.

4. SEED, MULCH AND FERTILIZER OF COUNTY ROADS

1. Seed – See Section 981. Florida Department of Transportation Specifications.
   Minimum Quantity: 100 lbs./acre

2. Mulch – See Section 981. Florida Department of Transportation Specifications.
   Minimum Quantity: 5 tons/acre

3. Fertilizer – See Section 981.1. Florida Department of Transportation Specifications.
   Minimum Quantity: 500 lbs./acre

FLAGLER COUNTY PUBLIC WORK MANUAL

PART C – CONSTRUCTION DETAILS

SECTION I - PURPOSE

The purpose of this Part C to the Public Works Manual is to illustrate certain standard construction procedures that are required on all Flagler County Roads and to detail the requirements for the Engineer of Record. The Designer should carefully review those details and, if appropriate to his design, include those details in his design plans.

Also included herein are details of the requirements placed on the Engineer of Record with respect to the day-to-day control of the project, the method of reporting activities (including testing and test reports), the method for finalizing the acceptance by the County and sample forms to assist the Engineer of Record in filing reports and requests for inspections.

It is anticipated that careful attention to the elements of construction and construction reporting contained herein will provide both the Engineer of Record and Flagler County with a reasonably good record of the project and will make the close-out of the project easier and quicker for all parties.

SECTION II – STANDARD DETAILS

Standard details in connection with construction are included herein as Exhibits. Those details are shown on separate sheets in order that the Designer may, if he wishes, utilize them by scanning or by use of transparencies.

SECTION III – STANDARD FORMS

Standard forms in connection with the construction are included in Appendix A. Those forms are illustrative in nature and the Applicant or Engineer of Record is invited to use any method desired to formalize the action indicated including, but not limited to, the forms shown. The purpose of standardizing is to provide a means whereby the data needed can be included so that the report or request is fully documented in a concise form.

SECTION IV – REPORTING PROCEDURE

The purpose of reports is two-fold. First, a good report keeps all interested parties aware of that is happening and, seconds, but perhaps of greater importance, it provides a record of the

construction so that in the unlikely event there is a problem sometime in the future the reason for the problem may be ascertained and more easily rectified.

County Staff performs routine inspections of development as construction is underway. That inspection is not, however, so detailed as to provide for a complete record of the construction. The Engineer of Record, who will be required to finally certify that the construction meets all aspects of the plans and specifications is responsible for the detailed in-progress inspections. A part of the Engineer of Record responsibility lies in obtaining test results in accordance with good Engineering practice and assuring the County is copied with those test results.

County Staff is available to review proposed field revisions to the construction plans and advise the Engineer of Record regarding acceptance of those revisions. It is not the duty of County Staff to provide supervision for the project or to order changes to the plans, but to point out any deviations from the plans or procedures to the Engineer of Record that Staff observes during those routine inspections. County Staff may suggest revisions to the Engineer of Record, but is not authorized to deal with the construction Contractor directly.

It is recommended the Engineer of Record provide the County Engineering Office with copies of such construction reports as are generated by the Engineer of Record Staff in order to keep County Engineering aware of any developments that might occur that would affect the project at the time or possibly in the future.

Prior to issuance of the Engineer of Record Certification of Completion an inspection is to be jointly held with County Staff and the Engineer of Record to assure that all elements of the plans have been addressed and are visually satisfactory. A list of deficiencies, if any, shall be prepared by the Engineer of Record, reviewed by County Staff and a finalized list of required corrections shall be given to the Developer by the Engineer of Record, with copy to County Engineering. When those corrections have been made to the satisfaction of the Engineer of Record, the County Engineer shall be notified and a Final Inspection requested. The Final Inspection shall be held as soon as possible after receipt of the notification from the Engineer of Record and, if all items on the list have been satisfactorily completed and no new items have surfaced since the list was prepared, then the County Engineer will approve the project and issue a Notice of Completion.

Appendix B hereto lists the items that must be received by County Engineering for processing to the Board of County Commissioners for final approval and acceptance. County Engineering will ***NOT*** issue a Notice of Completion until ***ALL*** of the documentation has been received and reviewed for completeness and conformance.

The required maintenance period does not start until the Board of County Commissioners has accepted the project at its public meeting.

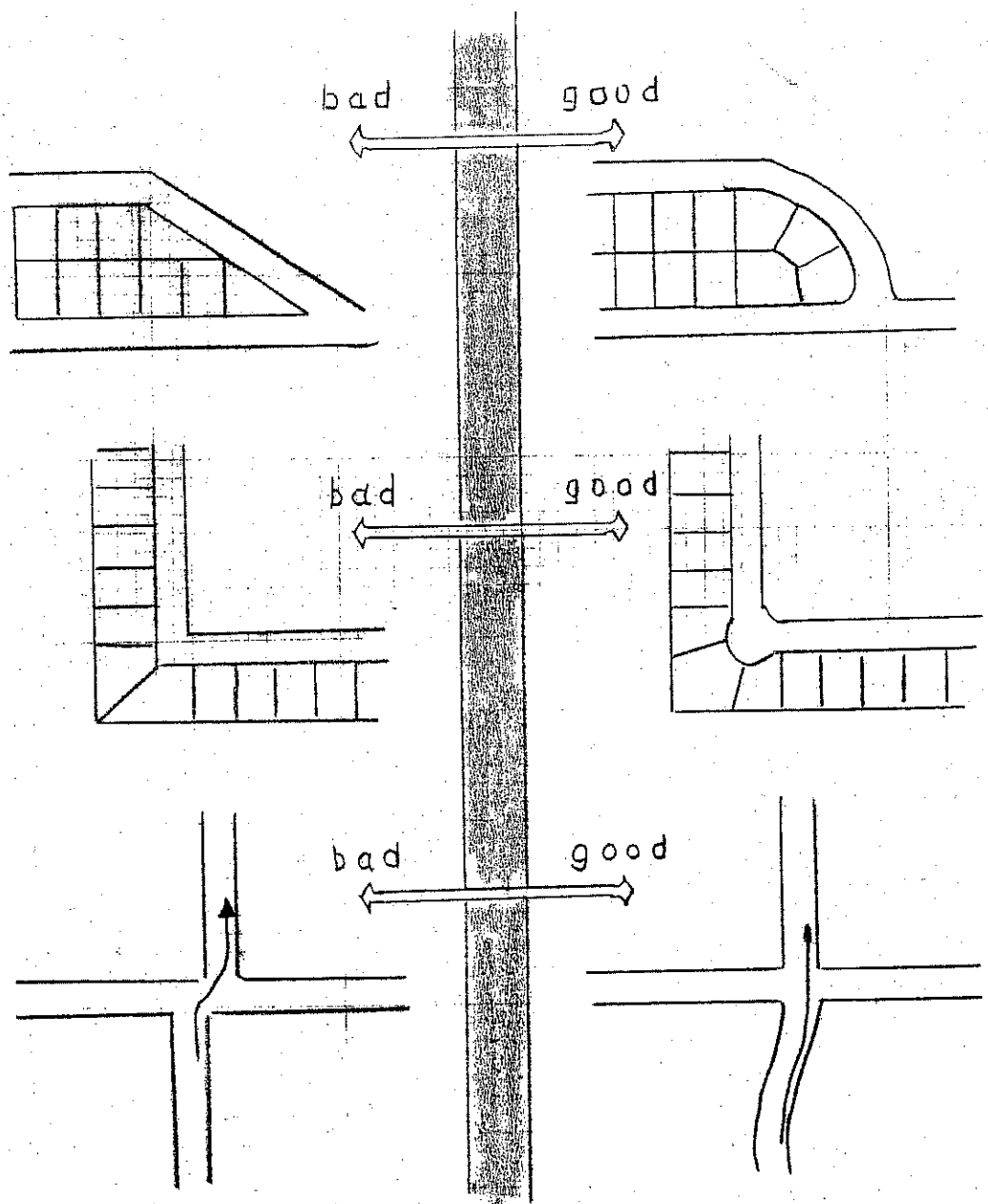
FLAGLER COUNTY PUBLIC WORK MANUAL

PART C – CONSTRUCTION DETAILS

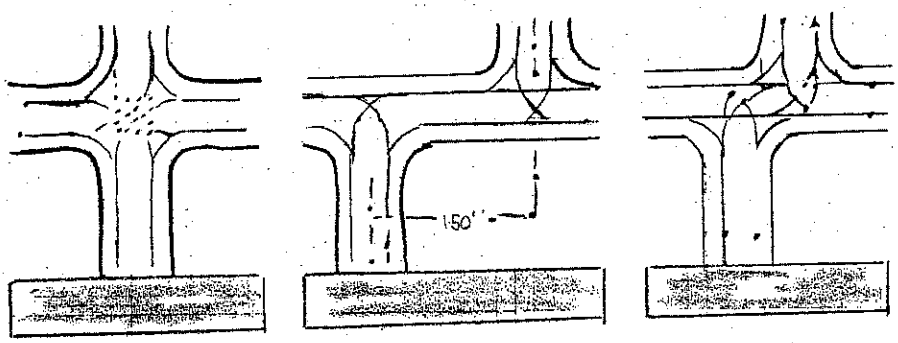
SECTION II - LIST OF EXHIBITS

EXHIBIT NUMBER	***DESCRIPTION***
C-1	Method of Joining New Asphaltic Concrete Pavement to Existing Asphaltic Concrete Pavement
C-2	New Construction: Portland Cement Concrete Pavement Method of Joining Asphaltic Concrete Pavement to Portland Cement Concrete Pavement
C-3	Backfill: Underground Utilities or Drainage Structures Under or Immediately Adjacent to Roadways
C-4	Typical Sections: Sidewalks and Bikeways
C-5	Typical Deceleration Lane Details
C-6	Typical Acceleration Lane Details
C-7	Typical Section: Under-Drains
C-8	Typical Section: Widening Strips for Roadways
C-9	Typical Treatment for Land Reductions/Additions
C-10	Typical Treatment for Lane Drops
C-11	Typical Treatment for Lane Pick-ups
C-12	Treatment at Temporary End of Construction (Adding Lanes)
C-13	Treatment at Temporary End of Construction (New 4 Lane Construction)
C-14	Typical Cul-De-Sac Details

TYPICAL ILLUSTRATION



do's and don'ts of street intersections

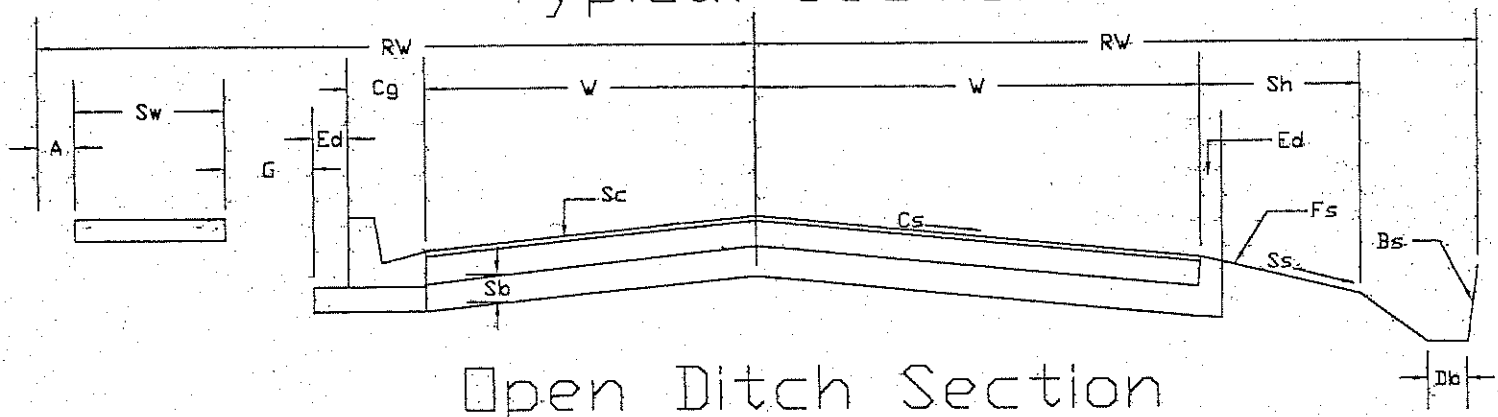


-way intersection 16 collision points

three-way intersection only 3 collision points

jog intersection dangerous traffic pattern

Typical Section 1



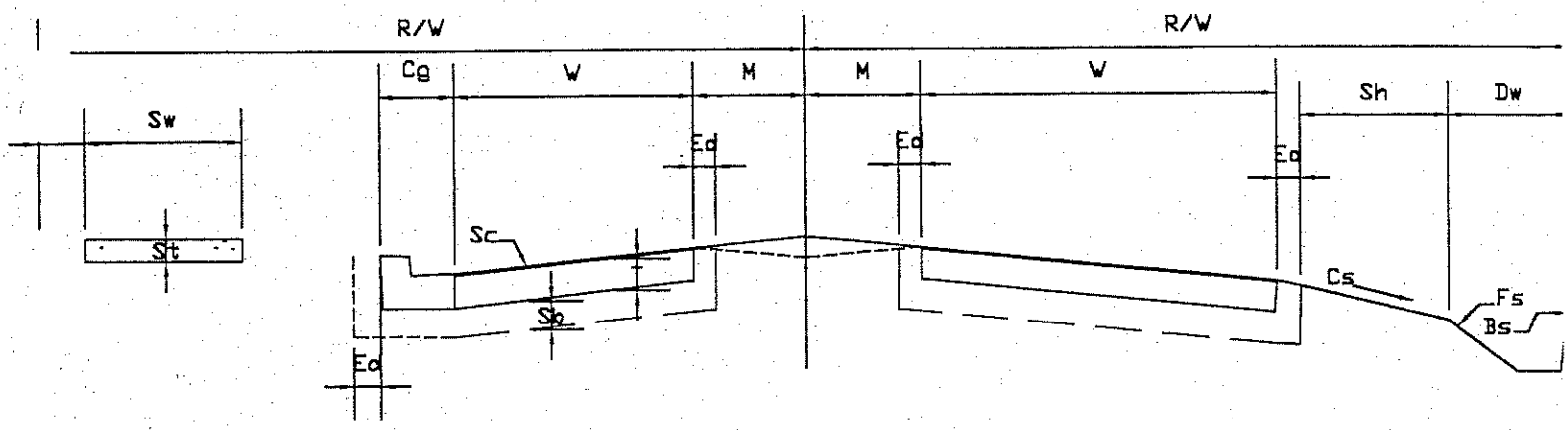
Open Ditch Section

Design Traffic Volume (ADT)		0 to 300	300 to 600	600 to 1000	1000 to 2000	2000 to 3000	3000 to 6000
A	Sidewalk clearance						
SW	Min. Sidewalk						
G	Grass						
Ed	Edge for stabilization	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'
CG	Curb and Gutter						
W	Traffic lanes	10.0	11.0	11.0	11.0	12.0	12.0
Sh	Shoulder width	4.0	6.0	6.0	6.0	6.0	6.0
Dw	Ditch width	Varies w/ depth	Varies w/ depth	Varies w/ depth	Varies w/ depth	Varies w/ depth	Varies w/ depth
Cs	Cross slope	1/4"/ft.	1/4"/ft.	1/4"/ft.	1/4"/ft.	1/4"/ft.	1/4"/ft.
Ss	Shoulder slope	3/4"/ft.	3/4"/ft.	3/4"/ft.	3/4"/ft.	3/4"/ft.	3/4"/ft.
Fs	Front slope	3:1 max	4:1	4:1	4:1	6:1	6:1
Bs	Back slope	1 1/2"max	2:1	2:1	2:1	2:1	2:1
Db	Ditch bottom	3.0'	3.0'	3.0'	3.0'	3.0'	3.0'
T	Base thickness	6"	6"	6"	8"	8"	8"
Sb	Stabilization thickness	6"	6"	6"	8"	10"	12"
Sc	Surface course	1 1/4"	1 1/4"	1 1/4"	1 1/2"	1 3/4"	2"
R/W	One half right of way	25'	30'	35'	40'	50'	50'
St	Sidewalk thickness						

Curb and Gutter Section

Design Traffic Volume (ADT)		0 to 300	300 to 600	600 to 1000	1000 to 2000	2000 to 3000	3000 to 6000
A	Sidewalk clearance	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'
SW	Min. Sidewalk	4'	4'	4'	4'	4'	4'
G	Grass	8.5'	7.0'	6.5	6.5	5.5	5.5
Ed	Edge for stabilization	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'
CG	Curb and Gutter	2.0'	2.0'	2.0'	2.0'	2.0'	2.0'
W	Traffic lanes	10.0'	11.0'	12.0'	12.0'	13.0'	13.0'
Sh	Shoulder width						
Dw	Ditch width						
Cs	Cross slope	1/4"/ft	1/4"/ft	1/4"/ft	1/4"/ft	1/4"/ft	1/4"/ft
Ss	Shoulder slope						
Fs	Front slope						
Bs	Back slope						
Db	Ditch bottom						
T	Base thickness	6"	6"	6"	8"	8"	8"
Sb	Stabilization thickness	6"	6"	6"	8"	10"	12"
Sc	Surface course	1 1/4"	1 1/4"	1 1/4"	1 1/2"	1 3/4"	2"
R/W	One half right of way	25'	25'	25'	25'	25'	25'
St	Sidewalk thickness	4"	4"	4"	4"	4"	4"

Typical Section II

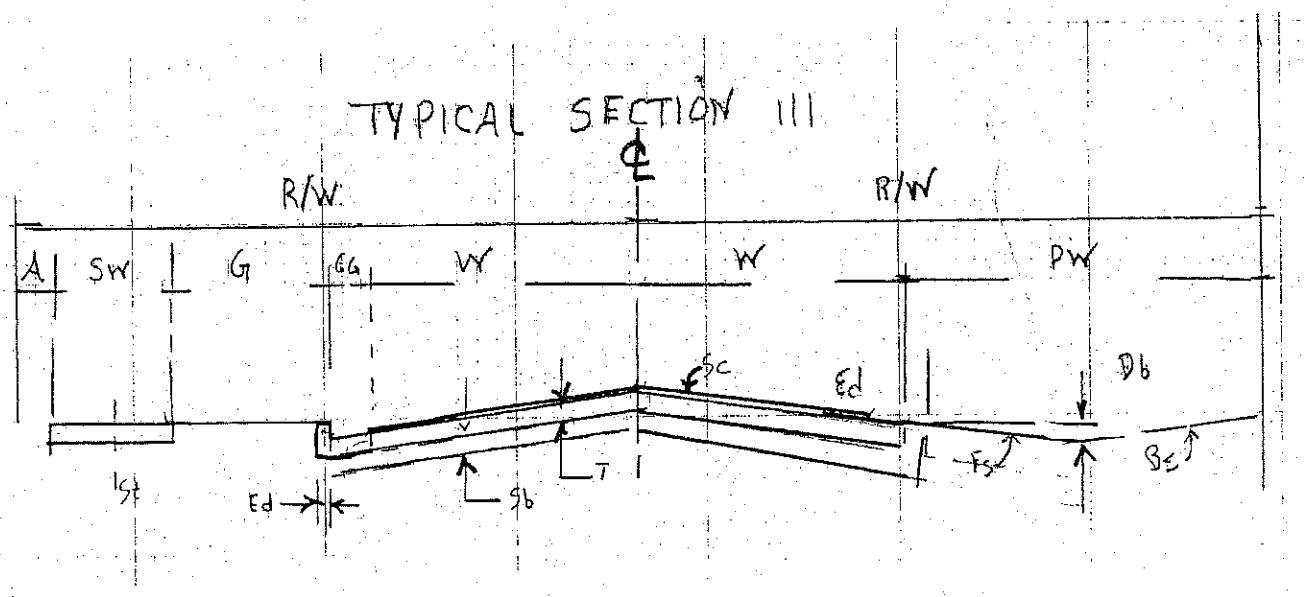


Open Ditch Section

Design Traffic Volume (ADT)		0 to 300	300 to 600	600 to 1000	1000 to 2000	2000 to 3000	3000 to 4000
A	Sidewalk clearancs						
SW	Min. Sidewalk						
G	Grass						
Ed	Edge for stabilization	0.5'	0.5	0.5	0.5	0.5	0.5
CG	Curb and Gutter						
W	Traffic lanes	16.0'	16.0'	16.0'	18.0'	22.0'	24.0'
Sh	Shoulder width	6.0'	6.0'	6.0'	8.0'	8.0'	8.0'
Dw	Ditch width	varies with depth	varies with depth	varies with depth	varies with depth	varies with depth	varies with depth
Cs	Cross slope	1/4"/ft	1/4"/ft	1/4"/ft	1/4"/ft	1/4"/ft	1/4"/ft
Ss	Shoulder slope	3/4"/ft	3/4"/ft	3/4"/ft	3/4"/ft	3/4"/ft	3/4"/ft
Fs	Front slope	3:1 max	4:1 max	4:1 max	4:1 max	4:1 max	4:1 max
Bs	Back slope	1 1/2:1max	1 1/2:1max	2:1 max	2:1 max	2:1 max	2:1 max
Db	Ditch bottom	3.0'	3.0'	3.0'	3.0'	3.0'	3.0'
T	Base thickness	6"	6"	6"	8"	8"	8"
Sb	Stabilization thickness	6"	6"	6"	8"	10"	12"
Sc	Surface course	1 1/4"	1 1/4"	1 1/4"	1 1/2"	1 3/4'	2"
R/W	One half right of way	40.0'	40.0'	40.0'	42.0'	45.0'	50.0'
St	Sidewalk thickness						
M	One Half Median	5' min	5' min	5' min	8' min	10' min	10' min

Curb & Gutter Section

Design Traffic Volume (ADT)		0 to 300	300 to 600	600 to 1000	1000 to 2000	2000 to 3000	3000 to 4000
A	Sidewalk clearancs	5'	5'	5'	5'	5'	5'
SW	Min. Sidewalk	4.0'	4.0'	4.0'	4.0'	4.0'	4.0'
G	Grass	5.0'	5.0'	5.0'	5.5'	7.5'	5.5'
Ed	Edge for stabilization	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'
CG	Curb and Gutter	2.0'	2.0'	2.0'	2.0'	2.0'	2.0'
W	Traffic lanes	16.0'	16.0'	16.0'	18.0'	22.0'	24.0'
Sh	Shoulder width						
Dw	Ditch width						
Cs	Cross slope	1/4"/ft	1/4"/ft	1/4"/ft	1/4"/ft	1/4"/ft	1/4"/ft
Ss	Shoulder slope						
Fs	Front slope						
Bs	Back slope						
Db	Ditch bottom						
T	Base thickness	6"	6"	6"	8"	8"	8"
Sb	Stabilization thickness	6"	6"	6"	8"	8"	8"
Sc	Surface course	1 1/4"	1 1/4"	1 1/4"	1 1/2"	1 3/4"	2"
R/W	One half right of way	32.5'	32.5'	32.5'	35.0'	41.0'	41.0'
St	Sidewalk thickness						
M	One Half Median	5.0'	5.0'	5.0'	5.0'	5.0'	5.0'



	Design Traffic Volume (ADT)	0 to 300	300 to 600	600 to 1000	1000 to 2000	2000 to 3000	3000 to 4000
A	Sidewalk clearance						
SW	Minimum sidewalk						
G	Grass						
Ed	Edge for stabiliza-tion	0.5'	0.5'	0.5'	0.5'	0.5'	0.5'
CG	Curb and gutter						
W	Traffic lanes	10.0'	11.0'	11.0'	12.0'	11.0'	12.0'
Sh	Shoulder width						
DW	Ditch width	15.0'	19.0'	24.0'	29.0'	38.0'	36.0'
CS	Cross slope						
Ss	Shoulder slope						
Fs	Front slope	6:1 max.	6:1 max.	6:1 max.	6:1 max.	6:1 max.	6:1 max.
Bs	Back slope	6:1 max.	6:1 max.	6:1 max.	6:1 max.	6:1 max.	6:1 max.
Db	Ditch bot-tom	min. 0.5'	min. 0.5'	min. 0.5'	min. 0.5'	min. 0.5'	min. 0.5'
T	Base thickness	6"	6"	6"	8"	8"	8"
Sb	Stabiliza-tion thick-ness	6"	6"	6"	8"	10"	12"
Sc	Surface course	1 ¼"	1 ¼"	1 ¼"	1 ½"	1 ¾"	2"

FLAGLER COUNTY PUBLIC WORKS MANUAL

PART C – CONSTRUCTION DETAILS

SECTION III - LIST OF FORMS

FORM NUMBER	***DESCRIPTION***
CF-1	Inspection Report
CF-2	Request to County Engineering for Plan Modification
CF-3	Request to County Engineering for Inspection
CF-4	List of Corrections Required
CF-5	Engineer of Record Certification of Completion
CF-6	Request to County Engineering for Final Inspection
CF-7	County Engineer's Certification of Completion to Board
CF-8	Developer Requests for Post Maintenance Inspection
CF-9	County Engineer's Post Maintenance Inspection Report
CF-10	County Engineer's Post Maintenance Certification

FLAGLER COUNTY PUBLIC WORKS MANUAL

PART C – CONSTRUCTION DETAILS

SECTION IV - CHECK LIST FOR FINAL COMPLETION

The following items are required for submittal to the Board of County Commissioners for acceptance of completed construction of platted subdivisions:

1) Copy of Reproducible Final Plat, fully executed and recorded.

2) Original Certification by the Professional Surveyor and Mapper of Record as to the status of setting all statutory monumentation ("R.P.M's", "P.C.P.'s", lot corners, points of intersection, etc.).

3) Original Maintenance Surety in form acceptable to County Attorney in amount acceptable to County Engineer. Generally the amount will be ten (10) percent of the construction cost or original Engineer's Estimate of Costs.

4) Original Certification of Payment of Property Taxes with receipt(s) from County Tax Collector.

5) Copy of Development Agreement, with attachments, fully executed and recorded.

6) Copy of recorded Covenants and Agreements.

7) Deeds (if needed) for any lands dedicated to Public and not on Plat, in form approved by County Attorney.

8) Certification of Construction Cost from Designing Engineer of Record.

9) Certification by Designing Engineering of Record that all improvements have been completed in accordance with the approved plans and specifications.

10) Drawing Sheets showing "As-Built" conditions and one (1) set of prints certified by the Engineer of Record and verified by a Professional Surveyor Mapper.

11) Two (2) Reproducible Drawings illustrating "As-Built" conditions (one (1) copy for Clerk's working plans and one (1) set to be retained by County Engineer.

12) One (1) Original sign and sealed copy of any test results not already sent to County Engineer.

NOTE: **The appropriate number of copies for each of these items, as determined by the Development Services Director at the time of submittal, must also be provided.**

Updated/current Title Documents (through the time of Commission Action), Item No. 4 above, must be provided subsequent to Final Plat approval by the Board of County Commissioners confirming that the record title to the land as described and shown on the Plat is in the name of the person, persons, corporation or entity executing the dedication. It shall also show all mortgages and encumbrances not satisfied or release of record.

Payment of all applicable recording fees to the Clerk of the Court is required to be made as specifically established by the Clerk's Office after approval of the project by the Board of County Commissioners.

FORM CF-2

REQUEST FOR APPROVED PLAN MODIFICATIONS

TO: **Flagler County Engineer**

RE:

_____

(Full Subdivision Name as Shown on Plat)

Dear _____:

I (we) am (are) the Engineer of Record for the above referenced Subdivision and represent _____ Developer on this
(Name of Developer)
project do hereby request your consideration of the following change to the approved Development Permit and its associated Construction Drawings.

(Explain the request change/modification/addition and the reason the change is required)

Enclosed please find drawing(s) dated _____, that represent the requested change/modification/addition. This (These) plan(s) replace previously approved plan(s), Sheet Number _____, dated _____. The requested change(s) will increase/decrease/not effect my previously accepted Engineer's Estimate of Construction Cost.

Sincerely,

FORM CF-3

REQUEST FOR INSPECTION

County Engineer
Flagler County
1200 E. Moody Blvd.
Bunnell, FL 32110

RE: _____
(Subdivision's Full Name)

Dear _____:
(County Engineer)

On _____ construction of (describe what work will be started)
(Date)

is scheduled to commence. It is expected this work will take ____Months ____Days to complete. Please provide inspection services as needed for this work.

Sincerely,

FORM CF-4

DEVELOPER/ENGINEER OF RECORD

RE: _____
(Subdivision's Full Name as Shown on Plat)

TO WHOM IT MAY CONCERN:

On _____ an inspection was made at the above referenced Subdivision.
(Date)
The following deficiencies were found. These (this) item(s) must be corrected with _____ days. Please notify the Engineering Department at least twenty-four (24) hours in advance when the changes/corrections/repairs are scheduled.

If we do not hear from you within ten (10) days appropriate, follow-up action will commence.

Sincerely,

c: Development Services Director

FORM CF-5

ENGINEER'S CERTIFICATE OF COMPLETION

As a registered professional engineer in the State of Florida, to the best of my knowledge, information, and belief, it is my professional opinion that the subdivision required improvements for (_____ Plat Name _____) based on field reviews under my responsible charge, have been constructed in accordance with the approved construction plans, the Subdivision and Development Regulations of Flagler County, Florida and Chapter 336.045(4) Florida Statutes, in effect on the date of plan approval. Attached, as itemized below, are copies of measurements, tests and reports made on the work and materials during the progress of construction, along with a Record Drawing copy of each of the construction plans on a high quality, time-stable, reproducible mylar, and a digital file in AutoCad. dwg format showing the original design in comparison to the actual finished work with all material deviations noted thereon. In my professional opinion, the deviations noted, if any, will not impair the intended functioning of the required improvement. Attachments to this completion statement are as follows:

(Reports, measurements, test results, reproducible mylars and sealed record drawing prints shall be listed, and submitted with the certification.)

(signature) _____ Dated: _____

Address: _____

_____

(SEAL)

FORM CF-6

REQUEST TO COUNTY ENGINEER FOR FINAL INSPECTION

County Engineer
1200 E. Moody Blvd.
Bunnell, FL 32110

RE: _____
(Subdivision's Full Name)

Dear _____:
(County Engineer)

The Subdivision improvements as shown on the approved Construction Drawings as last amended _____ date have been installed.
(Date)

Please the Engineering Department at _____ to arrange a mutually
(Phone Number)

agreeable time when the County's Final Inspection can be performed.

Sincerely,

FORM CF-7

COUNTY ENGINEER'S APPROVAL MEMO

FLAGLER COUNTY ENGINEERING
1200 E. MOODY BLVD., NO. 7
BUNNELL, FLORIDA 32110
PHONE:(386) 437-7496 FAX:(386) 437-8212

MEMO

TO: **Honorable Board of County Commissioners**

FROM: **_____, County Engineer**

SUBJECT: _____
(Subdivision's Full Name as Shown on Plat)

DATE: _____

Please accept this as confirmation that the improvements, for the subject development, in my professional opinion have been completed in accordance with the Subdivision Regulations of Flagler County based on:

1. The sealed Certification of Completion by the Developer's Engineer reflecting completion of the project in accordance with the plans and specifications.

2. The visual inspection done by my office during the period of construction activities.

_____
, Flagler County Engineer

FORM CF-8

DEVELOPER REQUEST FOR POST MAINTENANCE BOND INSPECTION

County Engineer
1200 E. Moody Blvd.
Bunnell, FL 32110

RE: _____
(Subdivision's Full Name as Shown on Plat)

Dear (County Engineer's Name):