

AMENDED AND RESTATED DEVELOPMENT AGREEMENT
SUNRISE (COMBINED-PLANNED DEVELOPMENT PROJECT)
HERNANDO COUNTY, FLORIDA

THIS DEVELOPMENT AGREEMENT is made and entered into on this 2nd day of December, 2025, by and between MAK Family Partnership, Ltd., a Florida limited partnership, TBF Partners, Ltd., a Texas limited partnership, TBF Partners II, LLC, a Florida limited liability company, Robert A. Buckner, as Trustee under that certain Trust Agreement dated March 9, 1989, Robert A. Buckner, individually, Sharon P. McKethan, individually, Haley Dowlen, as Personal Representative of the Estate of John Hale McKethan, whose address is c/o James H. Kimbrough, Jr., P.O. Box 1, Brooksville, FL 34605-0001, Robert A. Buckner, William M. Buckner and James C. Buckner, as Co-Trustees of the Robert C. Buckner Trust, James C. Buckner, individually, and Robert A. Buckner, James C. Buckner and William M. Buckner, as Co-Trustees of the Celia M. Buckner Trust u/t/a dtd 1/16/03, as amended, and J. Thomas Bronson, as Personal Representative of the Estate of T.E. Bronson, as their interests may appear of record, (hereinafter referred to individually as the "Owner" or collectively as the "Owners"), Hawk Sunrise LLC, a Florida limited liability company, whose address is 2502 N. Rocky Pointe Drive Suite 1050 Tampa, FL 33607, and their respective successors and assigns (the "Developer Owner"), and Hernando County, a political subdivision of the State of Florida, whose address is 20 North Main Street, Brooksville, Florida 34601 (the "County" or "Hernando County") (all collectively referred to herein as the "Parties" or individually as "Party"), regarding the Developer Owner's proposed development known as Sunrise (the "Development" or "Sunrise Development").

RECITALS:

WHEREAS, the Owners, as tenants-in-common, together with any respective successors and assigns, collectively own approximately 1,385 acres located in Hernando County, Florida, lying south of S.R. 50, east of Interstate 75, west of Kettering Road, and north of potential future Dashback Street (the "Property"), and which is legally described in EXHIBIT A attached hereto and made a part hereof; and

WHEREAS, on September 12, 2007, the Board of County Commissioners of Hernando County, Florida (the "BOCC") approved that certain Development Order (the "DRI DO") for the Sunrise Development of Regional Impact (the "DRI"), pursuant to Section 380.06, Florida Statutes, which governed the Property at that time, and was recorded on September 20, 2007, at O.R. Book 2491, Page 1770, of the Official Records of Hernando County, Florida; and

WHEREAS, on December 10, 2008, the BOCC approved a Rezoning (File Number H08-13) to Combined-Planned Development Project (C-PDP) for the Property (as may be amended, the "C-PDP Rezoning"), with a companion Master Plan (as may be amended, the "Master Plan"), with Deviations, as described therein; and

WHEREAS, pursuant to the DRI approval, the entitlements for the Property remain vested as set forth in the approved C-PDP Rezoning, Master Plan, and DRI DO; and

WHEREAS, pursuant to Chapter 380, Florida Statutes, the Development, as previously approved, is not required to be a Development of Regional impact anymore, and the Owners and Developer Owner have elected, concurrent with the approval of this Development Agreement and the concurrent modification of the C-PDP Rezoning and Master Plan by the BOCC, to abandon the DRI and to terminate the DRI DO, as authorized by applicable Florida law; and

WHEREAS, on September 12th, 2023, the County approved a Development Agreement recognizing the abandonment of the DRI, terminating the DRI DO, and setting forth the terms and conditions of the development of the Property (the "Development Agreement"); and

WHEREAS, on March 28th, 2024, the Developer Owner purchased a portion of the Property from the Owners; and

WHEREAS, on December 12th, 2024, the Hernando County Planning & Zoning Commission approved the Conditional Plat for Sunrise Phase 1; and

WHEREAS, the Hernando County School District ("HCS D") raised concerns about the revisions to the mitigation for Schools in the previously approved Development; and

WHEREAS, it is the intent of this Amended and Restated Development Agreement, as defined below, to re-affirm that the Property is fully vested from School Concurrency; and

WHEREAS, the Owners and Developer Owner have agreed to amend the Development Agreement to modify the School Mitigation section of the Development Agreement and otherwise simply to restate the Development Agreement (the "Amended and Restated Development Agreement");

NOW, THEREFORE, in consideration of the sum of \$10.00, and other good and valuable consideration, in hand paid by the Parties hereto, each to the other, simultaneously with the execution and delivery of these presents, and in consideration of the mutual understandings and agreements hereinafter set forth and contained, the Parties agree as follows:

SECTION 1 - FINDINGS OF FACT; INCORPORATED DOCUMENTS

1.1 The above recitals are incorporated herein by reference and made a part hereof.

1.2 The County shall monitor the Development to ensure compliance with the terms, general provisions, and conditions of this Amended and Restated Development Agreement. The County Administrator or his/her designee shall monitor the Development through the review of the site plans, building permits, certificates of occupancy, plats, if applicable, and any other relevant and factual information.

1.3 In each instance where the Developer Owner is responsible for construction, operation, and/or ongoing maintenance of privately owned facilities or infrastructure, the Developer Owner may assign any or all of its responsibilities regarding those facilities to an appropriate entity, which may include a designated Homeowner's Association ("HOA") or

Community Development District (“CDD”), authorized by law and able to fulfill such responsibilities consistent with statutory requirements.

1.4 The BOCC specifically finds that the Development is consistent with the County's adopted Comprehensive Plan and with the County's Land Development Regulations, subject to the terms of the C-PDP Rezoning and Master Plan, and this Amended and Restated Development Agreement, all as approved by the BOCC.

1.5 The approved Master Plan, pursuant to the approved C-PDP Rezoning (approved on September 12, 2023 by the BOCC), is attached as EXHIBIT B and made a part hereof; provided, however, that any subsequent revision to the C-PDP Rezoning and/or Master Plan approved by the BOCC shall be deemed automatically incorporated herein, unless an amendment to this Amended and Restated Development Agreement is required based upon the terms of the approved Amended and Restated Development Agreement.

1.6 The Sunrise Development Water and Sewer Service Agreement, upon its execution by the Owners/Developer Owner and the County (executing as the Hernando County Water and Sewer District), shall be incorporated into this Amended and Restated Development Agreement by reference and made a part hereof.

1.7 As used herein, the term “Developer Owner” shall include any HOA or CDD organized by the Developer Owner and approved by the County and/or other agencies having jurisdiction, to the extent the Developer Owner elects to delegate any design, permitting, construction, operation, and/or maintenance responsibilities of the Developer Owner under this Amended and Restated Development Agreement, and to the extent such HOA and/or CDD delegation is authorized by applicable law.

1.8 As used herein, the term “Development” or “Sunrise Development” shall mean the Property as developed pursuant to the approved C-PDP Rezoning and Master Plan, as both may be amended from time to time.

SECTION 2 - EFFECTIVE DATE AND DURATION; VESTED ENTITLEMENTS

2.1 This Amended and Restated Development Agreement shall take effect as to Section 3.15.4 and Section 3.15.5 upon the date of execution hereof by the last Party hereto but otherwise shall remain in effect as to all its other provisions from and after its original effective date of September 12, 2023 (the “Effective Date”). The term of this Amended and Restated Development Agreement shall expire on December 31, 2044 (the “Term”) unless modified in writing and executed by the Parties. The Term of this Amended and Restated Development Agreement shall also vest the C-PDP Rezoning and Master Plan for the same length of time in accordance with Section 1 of Article VIII, Appendix A (Zoning) of the Code of Ordinances, Hernando County, Florida; however, all other terms and conditions of the County's Land Development Regulations shall apply, except where inconsistent with the express terms of this Amended and Restated Development Agreement, or the C-PDP Rezoning or Master Plan.

2.2 Notwithstanding any other provision of the County's Land Development Regulations, or other laws or regulations, the Development's entitlements as set forth in the C-PDP Rezoning and Master Plan approved concurrently herewith, shall be vested for the Term of this Amended and Restated Development Agreement, including any extensions of this Amended and Restated Development Agreement approved pursuant to Paragraph 2.1 above.

2.3 Except as specifically set forth in this Amended and Restated Development Agreement, the C-PDP Rezoning (including any modifications approved by the County from time to time), or the Master Plan (including any modifications approved by the County from time to time), and the standard provisions of the County's Land Development Regulations shall apply, which are in effect at the time of the conditional plat, master plan, development permit or other applicable approval required to commence with the development for each phase of the Development; provided, however, that in the event of any conflict, the terms and conditions of this Amended and Restated Development Agreement shall control.

2.4 The requirements and deadlines for all terms of mitigation required for the Development shall be as set forth in this Amended and Restated Development Agreement, which shall prevail over any other existing or future Hernando County Land Development Regulations provisions, or other requirements for pursuit of the Development as vested and authorized in this Amended and Restated Development Agreement.

2.5 "Commence Development" for purposes of this Amended and Restated Development Agreement shall mean that the Developer Owner shall have constructed, or cause to be constructed, any site grading or clearing, infrastructure, roadways, or vertical development.

2.6 This Amended and Restated Development Agreement constitutes final approval for the Developer Owner to develop the Property, as described in EXHIBIT A, subject to all required land development and permitting regulations and in accordance with the terms of this Amended and Restated Development Agreement, and in accordance with the C-PDP Rezoning and Master Plan, as follows (collectively the "Development Entitlements"):

- 2.6.1 4,200 Single Family Units (which may be detached or attached single-family units, for-sale and build-for-rent single-family units)
- 2.6.2 600 Multi-Family Dwelling Units (which may include Senior Adult Attached Housing Units)
- 2.6.3 75 Motel Units
- 2.6.4 325,000 square feet of Retail/Commercial uses approved by the C-PDP Rezoning and Master Plan
- 2.6.5 50,000 square feet of Office uses approved by the C-PDP Rezoning and Master Plan
- 2.6.6 40,000 square feet of Mini-Warehouse Use

2.6.7 Recreational Amenities and Residential Ancillary Uses approved by the C-PDP Rezoning and Master Plan

2.6.8 Public or Semi-Public Uses approved by the C-PDP Rezoning and Master Plan

2.7 Land Use Exchange Matrix (“LUEM”) Conversions. The foregoing uses may be exchanged to their trip-equivalent uses pursuant to the LUEM set forth in EXHIBIT C, attached hereto and made a part hereof, and in accordance with Paragraph 3.19 below.

2.8 Transportation Approval. The Traffic Impact Study (“TIS”) submitted by Lincks & Associates, Inc., Tampa, Florida, Project No. 21131, for the Project Entitlements above has been approved by the County as last revised in March 2023, subject to the transportation mitigation requirements of this Amended and Restated Development Agreement.

SECTION 3 - SPECIFIC CONDITIONS AND REQUIREMENTS

3.1. General Environmental Matters. The Developer Owner shall comply with all Hernando County Land Development Regulations environmental requirements, and those of other regulatory agencies having jurisdiction over the Development, to the extent applicable to the Property.

3.2. Subsurface Features, Surface Waters and Ground Waters.

3.2.1. Geotechnical Analysis. A geotechnical report prepared by a Florida Registered Geotechnical Professional Engineer shall be used in the design and layout of the Development, and shall be submitted to the County at the time of, and in connection with, the conditional plat, or functional equivalent, of each phase in order to ascertain that the Developer Owner has used its best efforts to avoid adverse impacts to sensitive karst and subsurface features in the overall design and layout of the Development. All construction shall be in accordance with the County's Facility Design Guidelines.

3.2.2. Best Management Practices (“BMPs”). In addition to being in compliance with all applicable requirements of the regulatory agencies (such as the Florida Department of Environmental Protection (“FDEP”) and the Southwest Florida Water Management District (“SWFWMD”), without limitation, the Developer Owner shall utilize BMPs to control siltation and prevent turbidity during construction activities. These standards can be achieved by utilizing the best available construction techniques for erosion and sedimentation control, as well as meeting the minimum standards for National Pollution Discharge Elimination System (“NPDES”) permitting.

3.3. Drainage, Stormwater and Groundwater.

- 3.3.1 Stormwater Pollution Prevention ("SWPP"). The Developer Owner shall implement SWPP methods for each set of construction plans for the Development, incorporating requirements such as: (1) clearing and grading areas only as they are being prepared for construction; (2) stabilizing areas immediately after construction completion; (3) potential limiting of watering for dust control at the time of construction due to hydrologic conditions; and (4) meeting SWFWMD compliance standards.
- 3.3.2 Stormwater/Drainage Retention Areas ("DRAs"). DRAs, including either "wet" or "dry" DRAs, shall be designed and constructed according to accepted engineering practices, and all applicable regulatory standards of SWFWMD and the Hernando County Facility Design Guidelines.
- 3.3.3 Low Impact Development ("LID"). Stormwater management facilities shall adhere to SWFWMD criteria for the design, construction, operation and maintenance of such facilities in karst sensitive areas, as determined by SWFWMD. Where feasible, the Development shall utilize LID methods to reduce the impact of nutrients on natural wetlands systems. These LID methods may include low impact stormwater design consisting of vegetated swales and buffers, where reasonably feasible, prior to discharge of treated stormwater, tree cluster-rain gardens, pervious pavement, conserving natural areas and wetlands, minimizing development impacts, attempting to maintain site runoff rates, the use of integrated management practices, the implementation of pollution prevention, proper maintenance, and public education.
- 3.3.4 Karst Cover. Soil boring(s) shall be used to verify that suitable soil cover is maintained between each DRA bottom and any subsurface limestone rock strata, limestone pinnacles, or potential karst connections, consistent with applicable regulatory criteria.
- 3.3.5 Periodic Inspections. Once the on-site surface water management system is constructed in accordance with SWFWMD permit requirements, the Developer Owner's engineer shall certify that the on-site surface water management system is in substantial conformity with the local and state regulations. Thereafter, periodic inspections shall be conducted to ensure that the system is being properly maintained in keeping with its permitted design and is capable of accomplishing the permitted level of stormwater storage/treatment for which it was designed and intended.

3.4 Wetlands and Invasive Species.

- 3.4.1 The Developer Owner shall protect wetland areas through a combination of (1) BMPs; (2) SWFWMD and FDEP Environmental

Resource Program (“ERP”) permitting criteria; (3) compliance with the rules and regulations of the U.S. Environmental Protection Agency (“EPA”); (4) NPDES compliance; (5) compliance with applicable mitigation requirements for any wetland impacts approved by the County and applicable permitting agencies; (6) conservation easements in favor of the HOA or CDD, as applicable, which shall include a third-party right of enforcement in favor of the County pursuant to Section 704.06(8), Florida Statutes, where required by the C-PDP Rezoning, the Master Plan, or this Amended and Restated Development Agreement; and (7) wetland/upland buffers as specified in this Development Agreement.

3.4.2 The Developer Owner shall protect on-site surface waters from construction impacts through various measures, including the use of staked hay bales and silt screen fences, to protect wetlands from erosion and sediment transport.

3.4.3 Invasive exotic species shall be removed from all wetlands, designated open spaces, and other areas as required by the County's Land Development Regulations or the approved C-PDP Rezoning or Master Plan during horizontal site development construction. These areas shall also be maintained as needed by the HOA or CDD, as applicable, with invasive plant management techniques approved by any applicable agency development permit(s).

3.5 Flood Plains. The Developer Owner shall comply with the County's Flood Damage Prevention and Protection Ordinance, the County's Buildings and Building Regulations Ordinance, Federal Emergency Management Agency (“FEMA”) regulations and SWFWMD regulations, and shall use the best available data regarding flood plains/flood-prone areas, as authorized by law and accepted by SWFWMD and the County at the time of construction plans approval.

3.6 Common Area Maintenance and Resident Education.

3.6.1 The Developer Owner agrees to include in its HOA Covenants, Conditions and Restrictions (“CC&Rs”) a requirement that where the use of pesticides and/or chemicals are necessary for grounds maintenance within the Development (specifically including open spaces and common areas), such pesticides and chemicals shall be used sparingly and only in accordance with BMPs and provisions of the Florida Yards and Neighborhoods Program. The CC&Rs shall be recorded at the time of approval of each final subdivision plat against those portions of the Development subject to such plat. Furthermore, the Developer Owner agrees that during the period of ownership or control of all portions of the Development where the use of pesticides and/or chemicals are necessary for grounds maintenance, within those portions of the Development it continues to own or control, such

pesticides and chemicals shall be used sparingly and only in accordance with BMPs and the provisions in this Paragraph.

- 3.6.2 The Developer Owner (or its designated builders) shall provide new residential property owners with materials and information regarding the Florida-Friendly Landscaping Program, a University of Florida/IFAS Extension program in cooperation with the Hernando County Utilities Department (“Florida-Friendly Landscaping Program”), and the County’s Fertilizer Ordinance, and encourage use of the principles, techniques, and landscaping recommendations within such materials and information. Such guidelines shall be included in the HOA CC&Rs for the Property as well.

3.7 Soils and Erosion.

- 3.7.1 Grading Plan. The Developer Owner shall develop a grading plan that utilizes the pre-development topography to the maximum extent reasonably feasible. The grading plan shall be provided to the County at the time of, and in connection with, each conditional plat, or functional equivalent, application.

3.7.2 Site Disturbance/Erosion.

- a) The Development shall be designed to complement the topography and minimize site disturbance and erosion by construction phasing, limiting site clearance while maximizing retention of existing vegetation, timely revegetation of cleared areas, and preservation of existing grades and slopes in Development design and construction.
- b) The Developer Owner shall use BMPs (i.e., those BMPs generated by FDEP and SWFWMD) to control soil erosion.
- c) The Developer Owner shall protect on-site surface waters from construction impacts through various measures, including the use of staked hay bales and silt screen fences to reduce both erosion and sediment transport into wetland areas.
- d) The Developer Owner shall minimize wind erosion from clearing and grubbing operations by performing such operations only on individual parcels of land where construction is scheduled to proceed.
- e) The Developer Owner shall minimize fugitive dust through sodding, water sprinkling, seeding, mulching or planting of landscaped material in cleared and disturbed areas.

- f) The Developer Owner shall conduct geotechnical testing for development areas consistent with County and/or SWFWMD adopted regulations to identify and address any areas of soil raveling/slumping. Should any noticeable soil slumping or sinkhole formation become evident before or during construction activities, the Developer Owner shall comply with the permit conditions of SWFWMD to develop a plan of action and corrective measures to correct the problem. Once a plan of action and corrective measures are determined, the Developer Owner shall complete the required actions/measures in accordance with any permit requirements.
- g) A geotechnical report prepared by a Florida Registered Geotechnical Professional Engineer shall be provided for review by the County Engineer at the time of construction plans review to identify and recommend BMPs and professionally recognized engineering practices that address the identification of unsuitable soils, if present, to include the following:
 - (i) The stripping of existing topsoil and vegetation/roots and undercutting pockets of organic soils and/or deleterious material, if encountered.
 - (ii) The backfilling and compaction with structural fill in required lifts.
 - (iii) The compaction and densification of the ground surface to recommended standards and depths.

3.8 Buffers and Open Space.

- 3.8.1. Open space shall meet the minimum requirements of the Code of Ordinances, Hernando County, Florida, and shall generally include the Oak Hammock Preservation Area and the I-75 Buffer Area as identified in the approved C-PDP Rezoning and Master Plan, other jurisdictional wetland buffers, neighborhood park sites, vegetated (both natural and any enhanced) buffers, pedestrian trails that provide for connectivity, and areas of open space preservation, as ultimately approved in conjunction with the C-PDP Rezoning, Master Plan, conditional plat, construction plans review and/or site development review.
- 3.8.2. As part of the above open space, the Developer Owner shall provide the following preservation and/or buffer areas:

- a) A 40-foot-wide open space corridor/perimeter buffer along the Development's western common boundary with the I-75 right-of-way (the "I-75 Buffer Area"). This buffer shall preserve existing natural, native vegetation as set forth below but may contain passive trails, picnic areas and/or educational viewing areas for passive use. This open space shall be maintained by the HOA or CDD. In areas where the development parcels directly abut the existing I-75 drainage retention areas, the required natural buffer area shall be reduced from 40 feet to 20 feet in width. In locations where the natural vegetation in the I-75 Buffer Area does not have 80% opacity, the natural buffer shall be enhanced such that 80% opacity can be achieved within three (3) years after planting. If disturbance of a natural area within the I-75 buffer is required for adjacent development purposes, then replanting shall be required such that 80% opacity can be achieved within three (3) years. The Developer Owner shall have the option, at its election, to install a perimeter wall on the development side of the I-75 Buffer Area, in whole or in part, for any portion thereof. In the event the Developer Owner elects to construct such wall, the natural buffer shall remain on the I-75 side of the wall, but the obligation to enhance the natural buffer to achieve 80% opacity shall not apply to such segment of the I-75 Buffer Area where a perimeter wall is constructed by the Developer Owner.
- b) The approximate 17-acre existing oak hammock area identified on the Master Plan (the "Oak Hammock Preservation Area"), the uses for which shall be limited as set forth in the C-PDP Rezoning. A neighborhood park may be co-located adjacent to the Oak Hammock Preservation Area, to facilitate parking and/or pedestrian access for passive use of the Oak Hammock Preservation Area as set forth in the CPDP Rezoning and Master Plan. This open space corridor shall be maintained by the HOA or CDD. No listed plant species shall be removed from the Oak Hammock Preservation Area or other natural vegetative buffers or natural preservation areas identified on the Master Plan.
- c) A 15-foot buffer along the north side of the future right-of-way for Dashback Road adjacent to the Development; provided, however, that the buffer shall not be required where such future right-of-way is adjacent to wetlands, drainage retention areas, or flood plain mitigation areas.

- d) All other neighborhood park and perimeter buffer requirements shall be as set forth in the Land Development Regulations at the time of conditional plat for such portions of the Development. The I-75 Buffer Area and the Oak Hammock Preservation Area shall be counted toward the open space requirements for the Development, and if such areas contain trails or other access, or other passive use facilities for Development residents, also shall count toward the neighborhood park requirements for the Development.

- 3.8.3. The Developer Owner shall provide the County an accounting upon each application for conditional plat for each phase of development, of the allocation of open space (as to both park space and other open spaces) for that conditional plat and an accounting of the total cumulative park space and other open space at that point in the development process. Conservation easement areas in favor of the HOA or CDD, which shall include a third-party right of enforcement in favor of the County pursuant to Section 704.06(8), Florida Statutes, as applicable, shall be identified at each conditional plat, where applicable under this Amended and Restated Development Agreement, to protect wetland preservation areas and designated conservation areas (including any which contain designated wildlife habitat).
- 3.8.4. Pedestrian trails, including but not limited to boardwalks, previous and impervious trails, and pedestrian access, may be permitted in passive open space areas as designated at the time of conditional plat review. Active recreational activities shall not be permitted in areas designated for buffers and passive open space; however, passive uses such as trails, picnic areas, and educational viewing shall be allowed. The Development's internal multipurpose trail system shall connect (as development phases are constructed) to the paths currently being constructed by FDOT in the SR 50 right-of-way adjacent to the Development, which then will facilitate the ultimate connection via SR 50 (by FDOT or others) to the Withlacoochee River State Trail.
- 3.8.5. The Developer Owner shall prepare, or cause to be prepared, a comprehensive wildlife survey, prepared by a qualified professional, prior to any development occurring on the Property. Furthermore, copies of any permits shall be provided prior to site alteration or the commencement of construction and the issuance of building permits by the County.
- 3.8.6. The Developer Owner shall incorporate into its HOA and/or CDD documents, at a minimum: management provisions for all conservation areas, wetland buffers, perimeter natural buffers, open

spaces and pedestrian trails; identification and protection of any listed animal and plant species in the designated open space/buffer/preservation areas; provisions for the distribution of educational materials to the Development's residents; a habitat management plan for the designated preservation areas; and a pet management plan.

- 3.8.7. The use of pesticides within conservation areas shall be consistent with Florida Fish and Wildlife Conservation Commission ("FWC") requirements. Pesticides with a high toxicity to wildlife, wetlands or surface waters shall not be permitted. In the event the Developer Owner elects to construct a golf course amenity for the Development, the Developer Owner shall provide a Pest Management/Chemical Management Plan including implementation, management and operational control procedures, including the responsible party for such management.

3.9 Native Habitat Within Designated Buffer Areas and Open Spaces. To the extent there is existing, native vegetation identified for preservation by this Amended and Restated Development Agreement in the designated wetland buffers, conservation easement areas, and perimeter buffers maintained by the HOA and/or CDD which attract pollinators or provide food, shelter or habitat for wildlife, such native vegetation shall be preserved, to the extent reasonably feasible.

3.10 Water Supply and Conservation.

- 3.10.1 Water Supply. The Hernando County Utilities Department ("HCUD") shall provide water supply for the Development, as required in Section 4 below, subject to the following terms and conditions:
- a) No individual resident wells shall be allowed; however, non-potable wells or reclaim water service shall be allowed for multi-family or commercial parcel sites under a single ownership, and common area irrigation managed by the HOA or CDD, as applicable.
 - b) The Developer Owner shall provide HCUD with a phasing schedule for the projected delivery of occupied residential units and non-residential square footage anticipated on an annual basis for a 5-year forecast period, which projections shall be updated annually by the Developer Owner to enable HCUD to plan and to construct capital improvements to its water treatment facilities, as required to meet the service commitment to the Development set forth in Section 4 below.

- c) In consideration for the County's commitment to reserve utility service capacity for the Development pursuant to Section 4 below, the Developer Owner has agreed to reserve an approximate five (5) acre site in the northwest portion of the Development as conceptually identified on the Master Plan (the "Water Plant Site") for potential acquisition by HCUD as part of its regional potable water supply system, subject to the following terms and conditions:
- (i) The County shall commence immediately and then complete its feasibility analysis for the Water Plant Site prior to the Developer Owner's request for approval of its conditional plat for the first phase of development within the Development, including, without limitation, any soils composition, water quantity, or water quality analysis (as the Water Plant Site location impacts the development locations within the Master Plan).
 - (ii) In the event the initial proposed site does not satisfy the County's soils composition or water quality requirements, the Parties shall cooperate in good faith to locate an alternative location for the Water Plant Site, which in any event shall be determined prior to the Developer Owner's requested conditional plat approval for the first phase of development of the Development, such that the development plan schedule is not adversely impacted by such County feasibility process. Any mutually agreed relocation of the Water Plant Site shall not require any Master Plan amendment, C-PDP Rezoning amendment, or Development Agreement amendment for the Development.
 - (iii) The County shall not delay, impede, or condition the Developer Owner's conditional plat approval for the first phase of development within the Development by reason of any County delay in completing its feasibility analysis for the Water Plant Site.
 - (iv) Once the location is approved by the County, the Water Plant Site reservation shall be automatically released ten (10) years after the Effective Date of this Amended and Restated Development Agreement as an administrative minor modification of the approved C-PDP Rezoning or Master Plan if HCUD has not elected to acquire and has closed upon same.

- (v) In exchange for the conveyance, the Developer Owner shall be compensated as required by Florida law for the fair market value of the site, in cash, at the time of such conveyance.
 - (vi) Effective immediately upon execution and approval of this Amended and Restated Development Agreement, the Owners and Developer Owner shall grant HCUD access to the site to perform soil, water quantity and water quality testing to verify adequacy for public water use.
 - (vii) The Developer Owner shall disclose the Water Plant Site location in the HOA Documents for the residential portions of the Development, so that residents are aware of such future plant location.
 - (viii) In the event HCUD elects to acquire, close upon and construct the Water Plant Site facilities, and in the event there is not public roadway access to the Water Plant Site, the Developer Owner shall provide the County with permanent, non-exclusive access easements over applicable private roadways within the adjacent portion(s) of the Development, for ingress-egress for operation and maintenance of the Water Plant Site facilities.
- d) As further consideration for the County's commitment to reserve utility service capacity for the Development pursuant to Section 4 below, and to connect the Development to the County's water service, the Developer Owner at the Developer Owner's expense, shall design and construct the Development's water distribution piping to include a 12-inch diameter transmission system with three (3) points of connection to the County's water distribution system: (i) at the 12-inch diameter water main at the eastern end of Old Trilby Road west of Interstate 75; (ii) at the 12-inch diameter water main in the road right of way, north of the Development; and (iii) at the 12 or 16-inch diameter water main in Kettering Road, as depicted on EXHIBIT D. These improvements shall be installed during the first phase of development.
- e) The Developer Owner and HCUD shall enter into a Water and Sewer Service Agreement (the "W&S Agreement") pursuant to standard terms and conditions applicable within

Hernando County; provided, however, that the service commitment shall be consistent with the foregoing terms herein and Section 4 below.

- f) The Developer Owner (or its designated builders) shall be liable for all water connection fees and other standard fees and costs in accordance with the terms of the W&S Agreement.

3.10.2 Water Conservation. The Development shall utilize the following water conservation techniques:

- a) Minimum flush volume toilets shall be standard in residential and non-residential construction.
- b) "WaterSense" fixtures shall be used on interior plumbing for residential construction and used where applicable in non-residential construction.
- c) Automatic shut-off faucets shall be used where applicable in nonresidential construction.
- d) "WaterSense" irrigation controllers shall be installed on all residential and non-residential irrigation systems.
- e) Low-volume irrigation spray heads, as well as drip systems, shall be used where appropriate for both residential and non-residential landscaping. Residents shall be encouraged to use water-conserving devices for additions they might make to their irrigation systems.
- f) Drought tolerant landscaping shall be utilized for common areas. The Developer Owner shall ensure that all landscape design and maintenance throughout the Development on Developer Owner maintained property conforms to the Florida-Friendly Landscaping Program.
- g) Residential lot landscaping requirements shall comply with LDC Section 10-29. The Developer Owner will ensure that no HOA rules, covenants, or other mechanisms of directives for the residential portions of the Development require homeowners to utilize high-water-use turfgrass on individual lots.
- h) The Developer Owner shall ensure that irrigation systems operated for Developer Owner common or controlled areas

utilize and maintain computerized irrigation based on weather station information, moisture sensing systems to determine existing soil moisture, evapotranspiration rates, and zone control, to ensure water conservation.

- i) The Developer Owner shall encourage that irrigation systems installed for single-family residences in the Development, and fertilizer and pesticides practices, conform to the Florida-Friendly Landscaping Program standards at the time of initial installation of the irrigation system.
- j) The Developer Owner shall establish restrictions on the percentage of high maintenance landscape areas.
- k) The Developer Owner shall ensure that the Development's grounds maintenance staff and/or landscape installation/maintenance firms are trained and educated in the practices mandated by the Florida-Friendly Landscaping Program. The staff and/or firms shall ensure that ongoing landscape maintenance activities shall continue to adhere to such Program.
- l) The Developer Owner (or its designated builders) shall provide water use education materials to Development residents and highlight the role of residents in the protection of the ground and surface water resources. The program shall be coordinated with the Florida-Friendly Landscaping Program.
- m) The Developer Owner shall require/install low volume laundry machines and dishwashers where hook-ups are provided in individual units, and in all common laundry rooms.

3.11 Wastewater. HCUD shall provide wastewater service to the Development as required in Section 4 below, subject to the following terms and conditions:

- 3.11.1. The Developer Owner's obligations regarding wastewater will be contained in the standard W&S Agreement referenced above, which shall be consistent with the terms of this Amended and Restated Development Agreement.
- 3.11.2. HCUD's commitment for wastewater service capacity for the Development pursuant to Section 4 below is based upon the County's prior, vested commitments to the Development in the DRI DO and the adopted I-75/SR 50 PDD Area Plan. However, to meet its commitments,

the County is required to undertake a capacity expansion for the Water Reclamation Facility ("Ridge Manor WRF") adjacent to the Development. Based on the prior vested commitments to the Development, the County shall program and implement such Ridge Manor WRF capacity expansion and/or other system improvements when and as required to meet the Development demands for such utilities service. To facilitate such planning and expansion process, the Developer Owner shall annually provide to HCUD the 5-year utilities demand projections for wastewater, as also required for projected potable water demand pursuant to Section 3.10.1.b, above.

- 3.11.3. The Developer Owner shall be liable for all sewer connection fees and other fees and costs in accordance with the standard terms of the W&S Agreement.
- 3.11.4. The Developer Owner shall disclose the Ridge Manor WRF location in the HOA Documents for the residential portions of the Development, so that future residents are aware of the Ridge Manor WRF location.
- 3.11.5. The Developer Owner shall provide a twenty (20) foot natural/enhanced buffer with 80% opacity achieved within three (3) years along the north and west boundary line of the Ridge Manor WRF where adjacent to the boundary, when and as each adjacent phase of the Development is developed. At the Developer Owner's option, the Developer Owner may elect to install a buffer wall on the development side of the buffer area, for any segment of the required buffer, in which event any natural vegetation shall remain within the buffer, but the enhancement requirement to 80% opacity shall not apply for such segment where such buffer wall is constructed.

3.12 Fire Suppression and EMS Services.

- 3.12.1. The Developer Owner shall pay all applicable Fire Protection and Emergency Medical Services Capital Facilities Impact Fees for the Development.
- 3.12.2. The Developer Owner also shall pay the Public Capital Facilities Impact Fee Surcharge(s) for the Development within the I-75/SR 50 PDD.

3.13 Emergency Management.

- 3.13.1 Hurricane Preparedness. The Developer Owner shall mitigate potential hurricane preparedness impacts by either (i) providing an on-site or adjacent facility (which may be a portion of a community recreation facility, a public services building, or a public, private or charter school), or (ii) payment to the County public shelter fund in the amount of

\$106,638.00. This required hurricane preparedness mitigation payment shall occur prior to the issuance of a building permit for the 601st residential building and shall relieve the Developer Owner of the obligation to construct an on-site facility. In the event the County at any time has a countywide hurricane preparedness impact fee ordinance, the Developer Owner shall receive impact fee credits for the amount of any cash mitigation payment that has been, or is made, pursuant to this Paragraph.

- 3.13.2 Pursuant to the Florida Building Code, builders in the Development shall equip new homes with impact resistant windows and doors, or hurricane storm shutters that comply with the requirements of the Florida Building Code.
- 3.13.3 The Development's HOA or CDD shall provide and maintain a public information program for the purpose of educating the Development's residents regarding the potential hurricane threat.
- 3.13.4 The Development's HOA or CDD shall work with the Hernando County Emergency Management Department to develop and maintain training for a Community Emergency Response Team ("CERT Training") for the Development.

3.14 Affordable Housing.

- 3.14.1 In the event Hernando County adopts a countywide ordinance providing for contributions to a housing trust fund by residential development projects, the Development shall comply with such countywide ordinance subsequent to the effective date and applicability of such ordinance.
- 3.14.2 In the event the Developer Owner (or its designated builders) construct multifamily rental units, which include affordable or workforce housing within the Development, the applicable builder shall designate a minimum of 30 multi-family rental units within such multifamily portion for those residents making less than 80% of the area median income for the Tampa-St. Petersburg-Clearwater Metropolitan Statistical Area, as identified by the Florida Housing Finance Corporation. Based upon available funding, program requirements and subject to the approvals by associated agencies, the County shall provide up to \$150,000.00 in State Housing Initiatives Partnership ("SHIP") financing for construction of these units. Financing shall be provided as a 0% interest loan, forgivable after the 30-year affordability period expires.

3.15 Parks and Recreation.

- 3.15.1 The Developer Owner shall provide the minimum neighborhood park acreage as required by the County's Land Development Regulations subject to credit for the qualified areas designated in this Amended and Restated Development Agreement.
- 3.15.2 The above on-site park site requirements are in addition to, and not in lieu of, the payment of Parks Impact Fees. Such Fees shall be paid at the prevailing rate.
- 3.15.3 The Developer Owner also shall pay the Parks Impact Fee Surcharge(s) required for the Development within the I-75/SR 50 PDD.

3.16 Schools.

3.16.1 School Site Reservation. For the "School Site Reservation Period" set forth below, the Owners have agreed to reserve a school site located on Kettering Road adjacent to the Development, containing approximately 49 gross acres of land, as more particularly described in EXHIBIT D attached hereto (the "School Site").

- a) Accept School Site. Should HCSD elect to proceed with the conveyance of the School Site, the School Site will be conveyed at fair market value as mutually agreed by HCSD and the Owners (the "School Site Value"). Pursuant to the Owners and HCSD successfully negotiating and agreeing upon a Purchase and Sale Agreement, except as otherwise provided in Paragraph 3.15.5 below, at Closing the Owners shall accept dollar-for-dollar school impact/surcharge fee credits in the full amount of the School Site Value, which credits shall be fully assignable to any developer/builder for use in any school concurrency service area, in any Hernando County project, pursuant to the Florida Impact Fee Act. Credits issued will be non-refundable. The Purchase and Sale Agreement shall also provide for an expedited third-party dispute process to resolve any disagreement about the School Site Value, based upon independent MAI appraisals. Notwithstanding any other terms or conditions of the Purchase and Sale Agreement, HCSD must close on the School Site on or before December 31, 2026 (the "School Site Reservation Period").
- b) Decline School Site. Should HCSD decline to proceed with the conveyance of the School Site, the Developer Owner will make a cash payment, or credit from escrow to the extent credits are available, to HCSD in an amount equal to ten percent (10%) of the total amount of the Educational Impact

Fee Surcharges for the Phase One Conditional Plat, not later than prior to the issuance of the first building permit in the Phase One Conditional Plat in the amount of \$102,945.30 (the "Mitigation Payment"). The Mitigation Payment obligation may be satisfied by utilizing Escrowed Impact Fees. The entirety of the Development shall be vested for purposes of school concurrency, subject to the Developer Owner or its respective successors interest paying an amount equal to ten percent (10%) of the total amount of the Educational Impact Fee Surcharges for each subsequent phase of the Development, prior to the issuance of the first (1st) building permit for each approved subsequent conditional plat for the Development. The Developer Owner shall be awarded and will accept dollar-for-dollar school impact/surcharge fee credits in exchange for the cash payment, which credits shall be fully assignable to any developer/builder for use in any school concurrency service area, in any Hernando County project, pursuant to the Florida Impact Fee Act. Credits issued will be non-refundable.

- 3.16.2 Impact Fee Credit Escrow Account. HCSD will establish an impact fee credit escrow account for all Educational Facilities Impact Fees and Educational Facilities Impact Fee Surcharges paid by the Developer Owner for any of its affiliated or related developments located in Hernando County from December 1, 2024, (the "Escrowed Impact Fees") until such time that HCSD decides whether to accept or reject the School Site. The Developer Owner shall provide written notice to the County and HCSD of any "affiliated or related developments" impact fees which are to be attributed towards the Escrowed Impact Fees. The Escrowed Impact Fees will be held for the benefit of this Development. If HCSD accepts the School Site, at closing HCSD shall utilize the Escrowed Impact Fees to pay the Owners for such portion of the School Site Value in cash, with the remainder to be paid in school impact and surcharge fee credits as set forth above, and subject to the terms and conditions of the Purchase and Sale Agreement between HCSD and the Owners. If HCSD elects to reject the School Site, the Escrowed Impact Fees will be released to HCSD for their use, provided that they have established an Impact Fee Credit account for the benefit of each development in an amount equal to the Escrowed Impact Fees as of the date of the rejection received associated with each development. Any such school fee credits awarded for the School Site Value shall be immediately assignable by the Owners to Developer Owner, pursuant to separate agreement, at the time of closing on the School Site.
- 3.16.3 Credits. Impact Fee credits issued, regardless of whether HCSD elects to accept or decline the School Site donation, shall be issued by HCSD to the Developer Owner/Owners at a rate of dollar-for-dollar. Impact Fee Credits

will be assignable and transferable pursuant to Section 163.31801(10), Florida Statutes. All credits issued will be non-refundable.

- 3.16.4 PDD Multiplier. Pursuant to Section 23-157(a)(1)(e) of the Hernando County Code, the Amended and Restated Development Agreement is intended to provide for the full mitigation of impacts as to Schools by the enforcement of this Amended and Restated Development Agreement and the multiplier set forth in Section 23-157 (b) shall not apply.
- 3.16.5 Capacity Reservation; School Concurrency. The entire Sunrise Development will remain vested as to school concurrency, subject to the payment of school impact fees and school impact fee surcharges and the terms and conditions of this Amended and Restated Development Agreement. The School Board agrees to reserve school students' stations for the Development, subject to the Developer Owner complying with the terms and conditions of this Amended and Restated Development Agreement. Subject to the payment of Impact Fees and the Mitigation Payment, the Developer Owner shall be entitled to rely on the School Concurrency Determination and the capacity reservation for the Development, as set forth in this Amended and Restated Development Agreement, and such right of reliance shall survive the expiration of this Amended and Restated Development Agreement.
- 3.16.6 Impact Fees and Impact Surcharges. Notwithstanding anything contained herein, the Development shall pay all applicable countywide educational facilities impact fees and educational facilities impact fee surcharges at the then current rate, without offset or exemption, except as provided for in this Amended and Restated Development Agreement.

3.17 Public Services Government Center Site. The Development shall reserve for a period of five (5) years within the mixed-use portion of the Development up to five (5) acres of land for the County potentially to establish an East Side Government Center, or in such acreage and at such location as otherwise mutually agreed by the parties. Once the location is approved by the County, the East Side Government Center site shall be automatically released five (5) years after the Effective Date of this Amended and Restated Development Agreement as an administrative minor modification of the approved C-PDP Rezoning or Master Plan if the County has not elected to acquire and close upon same. If the County elects to acquire such site, the land valuation shall be at fair market value (pursuant to appraisal performed in accordance with Uniform Standards of Professional Appraisal Practice); provided, however, that the parties may negotiate such compensation in the form of cash consideration or impact fee/PDD Area Plan surcharge fee credits applicable against the "buildings" portion of the County's public capital facilities impact fees and public capital facilities impact fee surcharges, or a combination thereof. If the County accepts the land, the County acknowledges that the East Side Government Center shall be deemed a "public facility" and, therefore, not part of the retail, commercial, or office development entitlements authorized for the Development (in other words, the square footage in the public facility shall not be counted against the Development's approved entitlements).

3.18 Trails and Bicycle/Pedestrian Connectivity. The Development shall provide the following:

- 3.18.1 A 10-foot-wide paved multi-purpose pathway along one side of Sunrise Parkway from the primary entrance to the residential portion of the Development on Sunrise Parkway at Cracker Crossing Boulevard, southward along such primary collector roadway through the residential portion of the Development to its southernmost residential community entrance on Sunrise Parkway. This multi-purpose pathway shall include a sidewalk in accordance with the Hernando County Facility Design Guidelines on the opposite side of the primary collector roadway and shall be constructed in phases as the primary collector roadway (Sunrise Parkway) is extended through the Development to meet the Development's access requirements.
- 3.18.2 All other streets within the Development shall meet the current Hernando County Facility Design guidelines for sidewalks.
- 3.18.3 The Developer Owner shall provide a network of trails, sidewalks, and bicycle/pedestrian facilities to interconnect the Oak Hammock Preservation Area, neighborhood parks, commercial areas, the school site (as applicable), buffers, and conservation areas throughout the Development. A conceptual connectivity plan shall be provided with each conditional plat or phase of development, and further defined during the construction plans process. Connectivity may use open/recreation space, upland buffers, and perimeter buffer areas, as permitted by this Amended and Restated Development Agreement, in the Developer Owner's discretion. Trails may be designed to be pervious or impervious, as determined appropriate by the Development's characteristics, and as determined by the Developer Owner.

3.19 Transportation Mitigation Requirements.

- 3.19.1 Required Right-of-Way Dedications. The Owners or Developer Owner (as applicable) shall convey to the County for public use, by plat or warranty deed (in such form and with such legal description and sketch as approved by the County) those lands within the Development related to the rights-of-way specified below as required by the I-75/SR 50 PDD Road Network and as conceptually depicted on the Master Plan:
 - a) Sunrise Parkway. The right-of-way (to the extent not previously conveyed to the County) for Sunrise Parkway, at a width of 120 feet, from S.R. 50 south to the southernmost boundary of the Development. The affected portion or portions of this right-of-way shall be donated prior to each

final subdivision plat which covers, abuts or joins the affected portion or portions of Sunrise Parkway.

- b) Parallel Collector Road (to SR 50) a/k/a Cracker Crossing Blvd. Extension. The right-of-way for the extension of the Parallel Collector Road (to SR 50) identified in the 1-75/SR 50 PDD, n/k/a Cracker Crossing Blvd., from its existing terminus at Sunrise Parkway, eastward to its intersection with Kettering Road, at a right-of-way width of 80 feet (the "Cracker Crossing Blvd. Extension"). Depending on the proposed uses and access plan for the mixed-use parcel, the foregoing Cracker Crossing Extension may be deemed to satisfy the County's Frontage Road Ordinance and Facility Design Guidelines, as applicable to the portion of the Development's mixed-use area which is bordered by SR 50, Sunrise Parkway, Cracker Crossing Blvd. Extension, and Kettering Road; however, the County reserves the right to require an additional frontage road (in whole or in part) in the discretion of the County Engineer, based upon the functional requirements for the final site plan within said mixed-use area. The Cracker Crossing Blvd. Extension right-of-way shall be donated prior to final subdivision plat (if platted) which covers, abuts, or adjoins the Parallel Collector Road, or prior to issuance of the first non-residential building permit for vertical construction in this mixed-use area, whichever occurs first.
- c) Kettering Road. The right-of-way for any portion of Kettering Road contiguous with and adjacent to the Development's eastern boundary, to the extent necessary to provide a right of way width of 80 feet from the existing centerline of Kettering Road adjacent to the Development. This right-of-way shall be donated prior to final subdivision plat (if platted) which covers, abuts, or adjoins the affected portion of Kettering Road, or prior to issuance of the first building permit for vertical construction in this area, whichever occurs first.
- d) Dashback Street. A right-of-way for potential future construction (by others) of Dashback Street, along the southern boundary of the Development, as follows: (i) from the southeastern project boundary to a point 500 feet east of the I-75 right-of-way boundary (the "Transition Point"), a width of 80 feet, and from the Transition Point to the 1-75 right-of-way boundary, a width of 160 feet. The affected portion or portions of this right-of-way shall be donated prior to each final subdivision plat which covers, abuts, or adjoins

the affected portion or portions of Dashback Street, or when such right-of-way is required for construction of Dashback Street by others, whichever occurs first.

- 3.19.2 Terms for Right-of-Way Conveyances. The foregoing rights-of-way conveyances are collectively referred to in this Amended and Restated Development Agreement as the "Right-of-Way Dedications," as identified in Section 3.19.1.a-d above. Where required, the Right-of-Way Dedications also shall include retention/detention areas for any adjacent roadway segment; provided, however, that such roadway drainage may be commingled with Development drainage. Any required roadway drainage for adjacent roadway segments shall be determined not later than the conditional plat, or functional equivalent, approval for the adjacent Development phase. Unless required sooner by the County for roadway improvements to be made by the County or others (for Kettering Road or Dashback Street), the Right-of-Way Dedications shall be made as each adjacent land phase is platted for the Development, or as such roadway segment otherwise is required for access to the Development. Based upon the original terms of the Sunrise DRI/DO and the requirements of the adopted I-75/SR 50 PDD Area Plan, none of the foregoing right-of-way land dedications shall be impact fee creditable; however, the donation of this substantial right-of-way without cash or impact fee/surcharge fee credit compensation constitutes a material part of the transportation mitigation provided by this Development.
- 3.19.3 I-75/SR 50 PDD Pipeline Improvements; Site-Related Access Improvements; Fee Credits. To the extent not first constructed by others, the Developer Owner shall design, permit and construct the improvements for (i) Sunrise Parkway and (ii) Cracker Crossing Blvd. Extension, in development phases when and as required to provide access to the Development (collectively Sunrise Parkway and Cracker Crossing Blvd. Extension are referred to herein as the "Road Segment Pipeline Improvements"), and (iii) the intersection improvements (Dual NBL, NBT, NBR, and Dual WBL) for Cortez Blvd. and Sherman Hills Blvd. Realignment/Sunrise Blvd. when the Development connects to such intersection (the foregoing intersection improvements are referred to herein as the "Sunrise Parkway/SR 50 Intersection Improvements"). In addition, the Developer Owner shall signalize the Sunrise Blvd./Sherman Hills Blvd Realignment/Cortez Blvd. intersection when the signal warrant requirements are triggered by the Sunrise Development traffic impacts and FDOT approves installation of such signalization, provided such signalization has not previously been provided by others (referred to herein as the "Sunrise Parkway/SR 50 Intersection Signalization"). In the event more than one development project has site impacts which trigger such signalization warrants, then the County shall require a fair, proportionate share contribution from each such contributing project. The Sunrise

Parkway/SR 50 Intersection Improvements and the Sunrise Parkway/SR 50 Intersection Signalization both are deemed to be "site-related" transportation mitigation requirements and therefore shall not be eligible for any impact fee credits. However, as provided in the adopted I-75/SR 50 PDD Area Plan, the Developer Owner's design, permitting and construction costs for the Road Segment Pipeline Improvements (Sunrise Parkway and Cracker Crossing Blvd. Extension) are designated as part of the regional roadway network and therefore shall be credited against the applicable roads impact fees and roads impact fee surcharges payable by the Development pursuant to the Impact Fee Surcharge and Planning Overlay Ordinance for the Greater I-75/SR 50 Planned Development District Area, as adopted on September 12, 2007. To summarize the Development's transportation mitigation requirements: (i) the Development shall pay the roads impact fees and roads impact fee surcharges pursuant to the PDD Area Plan; (ii) the Development shall donate the required rights-of-way as specified in this Amended and Restated Development Agreement, without cash compensation or impact fee credits; (iii) the Development shall provide the Sunrise Parkway/SR 50 Intersection Improvements and Sunrise Parkway/SR 50 Intersection Signalization as "site-related" mitigation which shall not be eligible for impact fee credits; and (iv) the Development shall receive roads impact fee and roads impact fee surcharge credits for the Road Segment Pipeline Improvements (Sunrise Parkway and Cracker Crossing Blvd. Extension),

- 3.19.4 Transportation Mitigation Fund Account; Use of Impound Funds; Constructing Entity. The Development shall pay all customary Roads Impact Fees pursuant to the countywide impact fee ordinances and the Roads Impact Fee Surcharges pursuant to the I-75/SR 50 PDD Area Plan as each fee schedule may be amended from time to time, including any future countywide mobility fee replacement for roads impact fees and/or roads impact fee surcharges, subject to the fee credits which shall be provided by the County for the Road Segment Pipeline Improvements. The Development's Roads Impact Fees and Roads Impact Fee Surcharges paid from inception of the Development shall be segregated by Hernando County and accrued in a separate sub-account designated as the "Sunrise Roadway Impound Account." Hernando County and the Developer Owner shall be deemed joint beneficiaries of the Sunrise Roadway Impound Account, to the extent permitted by law. The accrued funds in the Sunrise Roadway Impound Account shall be used exclusively to fund the design, permitting, construction, testing and inspection costs for Road Segment Pipeline Improvements, and once they have been fully funded, for any of the "Additional Pipeline Road Improvements" as defined below. At the discretion of the County, the Developer Owner may be designated as the "Constructing Entity" for one or more of the Additional Pipeline Road Improvements. In such event, the Developer Owner shall not receive any management fee, overhead or profit for acting as the Constructing Entity;

however, all third-party contractor/consultant expenses incurred for the design, permitting, construction, testing and inspection costs for the Additional Pipeline Road Improvements shall be paid from the Sunrise Roadway Impound Account. In the event the Developer Owner is not designated as the Constructing Entity, Hernando County shall contract for and manage the Additional Pipeline Road Improvements and shall use the Sunrise Roadway Impound Account to fund the costs for same. Nothing in this Section shall waive any procurement laws, rules and regulations.

3.19.5 Transportation Impact Study & Proportionate Cost Share Approval; Designated Pipeline Road Improvements. The Developer Owner has completed the required Transportation Impact Study ("TIS") which is referenced on EXHIBIT E, and made a part hereof, pursuant to the methodology required by Hernando County, and has provided the proportionate cost share calculations for the Development based upon the County's required proportionate share formula, which TIS and proportionate cost share amount have been approved by the County. The approved proportionate cost share amount for the Development is \$1,380,790.00, which is less than the projected Roads Impact Fees for the Development, based upon current rates. Based upon the approved TIS, the County has identified the proportionate share transportation mitigation improvements necessary to vest the Development entitlements, which proportionate share transportation mitigation improvements are set forth on EXHIBIT F, attached hereto and made a part hereof ("Additional Pipeline Road Improvements"). Hernando County reserves the right to (1) budget and allocate additional County funds to expedite the completion of any of the Additional Pipeline Road Improvements set forth on EXHIBIT F; or (2) to add additional projects to be funded by the County from the Sunrise Roadway Impound Account; provided, however, that the Developer Owner's total obligation for all transportation mitigation improvements related to the Development entitlements shall not exceed the Developer Owner's aggregate amount of all Roads Impact Fees and Roads Impact Fee Surcharges to be paid in the normal course of development for the Development, less the fee credits earned by the Developer Owner for the Road Segment Pipeline Improvements (Sunrise Parkway and Cracker Crossing Blvd. Extension) under this Development Agreement. Hernando County reserves the right to alter, modify or otherwise revise the Additional Pipeline Road Improvements from time to time, in its discretion, subject to the following requirements:

- a) No designated Additional Pipeline Road Improvement shall be modified or deleted by Hernando County after a contract has been awarded for construction thereof, and any previously incurred design or permitting expenses incurred with respect to such modified or deleted Additional Pipeline

Road Improvement shall be paid or reimbursed, as applicable, from the Sunrise Roadway Impound Account.

- b) The designated Additional Pipeline Road Improvements are scheduled to commence as sufficient Development Roads Impact Fees and Roads Impact Fee Surcharges are paid into and accrued in the Sunrise Roadway Impound Account, on a sequential basis for each designated Additional Pipeline Road Improvement set forth on EXHIBIT F, and based upon the estimated project costs for each designated project.
- c) EXHIBIT F may be revised by Hernando County administratively to account for any new or replacement Pipeline Road Improvement subsequently identified by Hernando County without formal amendment of this Amended and Restated Development Agreement; provided, however, that such adjustments must conform to the scheduled accrual of paid Roads Impact Fees and Roads Impact Fee Surcharges into the Sunrise Roadway Impound Account to cover the estimated costs for such project (unless the County elects to supplement such Sunrise Roadway Impound Account funds as set forth above). In such event the updated and revised EXHIBIT F shall be deemed incorporated by reference into this Amended and Restated Development Agreement.
- d) Notwithstanding EXHIBIT F (including any subsequent amendment of EXHIBIT F by Hernando County), the Development's financial obligation for all transportation mitigation improvements required for the Development shall not exceed the aggregate amount of all Roads Impact Fees (as may be subsequently amended by countywide impact fee ordinance) and Roads Impact Fee Surcharges when and as paid by the Development through buildout of the Development, less the amount of the fee credits awarded to the Developer Owner under this Amended and Restated Development Agreement for the Road Segment Pipeline Improvements constructed by the Developer Owner pursuant to Section 3.19.3 above.
- e) The Additional Pipeline Road Improvements shall be commenced not later than the date that sufficient funds have been accrued in the Sunrise Roadway Impound Account for each respective proportionate share transportation mitigation project (subject to discretionary earlier funding by the County) set forth on EXHIBIT F, and thereafter pursued

diligently to conclusion by either Hernando County or the Developer Owner (as Constructing Entity) subject to force majeure, agency permitting delays, availability of contractors, materials and supplies, or other events beyond the reasonable control of the Constructing Entity. The order of the Additional Pipeline Road Improvements shall be subject to revision by Hernando County, in its discretion, or at the request of the Developer Owner, subject to an updated traffic analysis related to the specific Pipeline Road Improvement. However, any modified list and/or timing for Additional Pipeline Road Improvement projects shall follow the pace of accrual of paid Roads Impact Fees into the Sunrise Roadway Impound Account, as the sole source to fund the design, permitting, and construction of said Additional Pipeline Road Improvements, unless the County elects to provide supplemental funding, in its sole discretion.

- f) All design and construction plans for the Road Segment Pipeline Improvements (by the Developer Owner) and the Additional Pipeline Road Improvements (by the County or the Developer Owner as Constructing Entity) shall be in accordance with Hernando County standards and requirements and, if/where applicable, FDOT requirements.

3.19.6 The Developer Owner shall provide updated trip generation rates commencing five (5) years from the initial Effective Date of this Amended and Restated Development Agreement, and at subsequent intervals at each additional 600 dwelling units, when requested by the County. The Developer Owner's interim Development traffic generation reports shall include (i) traffic monitoring on Kettering Road and (ii) traffic monitoring for potential signalization at Cortez Blvd./Sherman Hills Blvd. Realignment, based upon monitoring criteria to be provided by the County to the Developer Owner's traffic consultant. The County will use the interim traffic reports to monitor the status of Kettering Road and Cortez Blvd./Sherman Hills Blvd. Realignment signalization as potential Additional Pipeline Road Improvements hereunder.

3.20 Land Use Exchange Matrix ("LUEM").

- 3.20.1 LUEM Conversions. The Parties agree that this Amended and Restated Development Agreement constitutes final approval for the Developer Owner to develop the Property as described in the approved C-PDP Rezoning and Master Plan. The Parties further agree that the Developer Owner may increase certain land uses, with corresponding reductions in other land uses, pursuant to the LUEM under the C-PDP Rezoning and Master Plan, and subject to the limitations set forth therein, without requiring any amendment to this Amended and Restated Development Agreement.

- 3.20.2 Allowed Land Use Exchanges. The LUEM attached hereto as EXHIBIT C, and made a part hereof, contains the only land use exchanges recognized under this Amended and Restated Development Agreement.
- 3.20.3 No Waiver of Zoning or Master Plan Review or Approval. The Parties agree that the land use exchanges identified above do not grant the Developer Owner any Zoning or Master Plan entitlement as a matter of right, but are merely to avoid the amendment of this Amended and Restated Development Agreement where there are no resulting increases in external vehicle trips per the LUEM.

3.21 Historic and Archeological Resources. In the event any archaeological artifacts are discovered during construction, the Developer Owner shall stop construction in that area and immediately notify the County and the Division of Historical Resources of the Florida Department of State. Proper protection measures, under the supervision of a qualified professional, shall be undertaken to the satisfaction of the County and the Division of Historical Resources of the Florida Department of State, and shall be provided by the Developer Owner.

3.22 Street Lighting Alternative and Requirements.

- 3.22.1 Lighting throughout the Development shall be designed to shield the night sky. Shielding means that fixtures, either directly from the lamp or indirectly from a fixture, are projected below a horizontal plane running through the lowest point on the fixture where light is emitted. All street lighting within the Development shall be owned and maintained by the Developer Owner, or its CDD, HOA, or other designated entity.
- 3.22.2 Solar street lighting shall be allowed within public or private road rights-of-way areas and shall be privately owned and/or operated by the HOA, CDD, or the Developer Owner, at the Developer Owner's discretion.
- 3.22.3 Street and parking lot lighting shall be oriented downward with cut-off fixtures. Fifty percent (50%) of all lighting fixtures within parking lots shall be turned off within one hour after closing or between 10:00 p.m. and sunrise, whichever occurs first.
- 3.22.4 Neighborhood/Retail, Office, Recreation/Clubhouse and public or private recreational facility lighting within any residential development parcel shall not exceed twenty-five (25) feet in height, shall be full cut-off fixtures, and shall only be illuminated while they are in use. The illumination must be extinguished by an automatic shutoff device between the hours of 11:00 p.m. and sunrise, or one hour after the termination of the event and/or use, whichever occurs first. This provision shall not apply to any mixed-use or non-residential use areas within the Development.
- 3.22.5 Searchlights used for advertising purposes are prohibited.

3.23 Solid Waste Collection. The Development shall be deemed a Universal Collection Service Area, pursuant to Section 14-46(d) of the Code of Ordinances, Hernando County, Florida (as the same may be amended or renumbered from time to time), for purposes of the pick-up and disposal of solid waste and recyclables.

3.24 Transit. The Developer Owner agrees to provide an appropriate transit stop location on Sunrise Parkway or Cracker Crossing Boulevard Extension, adjacent to a mixed-use, amenity, or other non-residential use area within the Development. The transit location shall be mutually agreed by the County and the Developer Owner and shall include a pull-out lane, protective shelter, and such other appurtenances as mutually agreed by the County and the Developer Owner.

SECTION 4 – CONCURRENCY

Based upon the vesting provided in the prior DRI DO, and subject to the terms and conditions of this Amended and Restated Development Agreement, the Development shall remain vested for concurrency as to the following matters:

4.1 Potable Water. Pursuant to the County's Adequate Public Facilities Ordinance, the County hereby deems that concurrency for potable water to serve the Development Entitlements, with an estimated demand of:

- a) 1,680,000 GPD for Residential
- b) 88,200 GPD for Non-Residential
(i.e., Retail Commercial & Office)

has been satisfied, subject to full compliance with the W&S Agreement and the terms of this Amended and Restated Development Agreement (including the provisions regarding the Water Plant Site), and assuming that no substantial deviation occurs which would require concurrency under this Paragraph to be reevaluated, or would require additional mitigation.

4.2 Sewage Treatment (Wastewater). Pursuant to the County's Adequate Public Facilities Ordinance, the County hereby deems that concurrency for sewage treatment (wastewater) for the Development Entitlements, with an estimated demand of:

- a) 816,000 GPD for Residential
- b) 58,800 GPD for Non-Residential
(i.e., Retail Commercial & Office)

has been satisfied, subject to full compliance with the W&S Agreement and the terms of this Amended and Restated Development Agreement, and assuming that no substantial deviation occurs which would require concurrency under this Paragraph to be reevaluated, or would require additional mitigation.

4.3 Drainage/Stormwater Management Facilities. Pursuant to the County's Adequate Public Facilities Ordinance, the County hereby deems that concurrency for stormwater management to serve the Development Entitlements, together with the proposed construction of the necessary drainage/stormwater management facilities and DRAs, has been satisfied, conditioned upon the Developer Owner obtaining all applicable state and local permits and further subject to full compliance with the terms of this Amended and Restated Development Agreement, and assuming that no substantial deviation occurs which would require concurrency under this Paragraph to be reevaluated, or would require additional mitigation. Notwithstanding the foregoing, no building permit shall be issued for development unless and until the Developer Owner provides evidence to the satisfaction of the County that adequate drainage/stormwater management facilities shall be available concurrent with the impacts of the Development at the levels of service adopted in the Hernando County Comprehensive Plan and all applicable County codes and regulations.

4.4 Solid Waste. Pursuant to the County's Adequate Public Facilities Ordinance, the County hereby deems that concurrency for solid waste for the Development Entitlements, with an estimated demand of:

- a) 54,050 Pounds Per Day – Residential
- b) 7,015 Pounds Per Day – Non-Residential
(*i.e.*, Retail Commercial & Office)

has been satisfied, subject to full compliance with the terms of this Amended and Restated Development Agreement, and assuming that no substantial deviation occurs which would require concurrency under this Paragraph to be reevaluated, or would require additional mitigation.

4.5 Parks and Open Space. Pursuant to the County's Adequate Public Facilities Ordinance, the County hereby deems that concurrency for parks and open space for the Development and/or their aggregate equivalent on the Property, with an estimated demand of:

- a) 22.76 acres User-Oriented Parks
(2.0 acres/1,000 persons x 2.37 persons/dwelling unit x 4,800 dwelling units)
- b) 22.76 acres Open Space
(2.0 acres/1,000 persons x 2.37 persons/dwelling unit x 4,800 dwelling units)

has been satisfied, subject to full compliance with the terms of this Amended and Restated Development Agreement, and assuming that no substantial deviation occurs which would require concurrency under this Paragraph to be reevaluated, or would require additional mitigation.

4.6 Transportation. Pursuant to the County's Adequate Public Facilities Ordinance, the County hereby deems that concurrency for transportation (roads) for the Development is satisfied by the Developer Owner's compliance with this Amended and Restated Development Agreement.

4.7 Substantial Modification. In the event a substantial modification (in accordance with the County's Land Development Regulations) occurs in the course of developing the Development necessitating an amendment to this Amended and Restated Development Agreement (see Section 5 below), then the County reserves the right to reevaluate its concurrency approvals under this Section, and to require additional data, analysis, studies, and mitigation, without limitation, from the Developer Owner, pursuant to applicable laws, ordinances and regulations.

SECTION 5 - FURTHER PROVISIONS

BE IT FURTHER RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF HERNANDO COUNTY, FLORIDA, AS FOLLOWS:

5.1 This Amended and Restated Development Agreement shall run with the land and shall be binding upon all affected persons, including the successors and assigns of the Owners and/or Developer Owner. The prior DRI DO simultaneously has been abandoned, rescinded, terminated, and cancelled by the BOCC, and this Amended and Restated Development Agreement shall supersede in its entirety and replace the prior DRI DO in all respects, and shall govern the future Development.

5.2 The Developer Owner shall record (1) the BOCC Resolution abandoning the DRI and its associated DRI DO; and (2) this Amended and Restated Development Agreement, in the Official Records of Hernando County, Florida, within thirty (30) days after the adoption date hereof by the BOCC, and shall provide a copy of the recorded documents to the County.

5.3 In the event any portion or section of this Amended and Restated Development Agreement is determined to be invalid, illegal or unconstitutional by a court of competent jurisdiction, such decision shall in no manner affect the remaining portions or sections of this Amended and Restated Development Agreement, which shall remain in full force and effect.

5.4 Absent the County demonstrating that substantial changes in the conditions underlying the approval of this Amended and Restated Development Agreement have occurred, or that this Amended and Restated Development Agreement was based on substantially inaccurate information provided by the Developer Owner, or that the change is clearly established by the County to be essential to the public health, safety, or welfare, the Development (as approved under this Amended and Restated Development Agreement) shall not be subject to down-zoning, unit density reduction, or intensity reduction from the Effective Date of this Amended and Restated Development Agreement until the development approvals granted hereunder terminate pursuant to this Amended and Restated Development Agreement, or applicable law.

5.5 This Amended and Restated Development Agreement shall expire as provided in Section 2 above.

5.6 The approval of this Amended and Restated Development Agreement shall not exempt any portion or unit of the Development from the payment of all required impact fees or impact fee surcharges at the prevailing rate. Impact fees and impact fee surcharges shall be due in

full without credit or offset, except as expressly provided for in this Amended and Restated Development Agreement.

5.7 The Chairman of the BOCC is authorized to execute this Amended and Restated Development Agreement on behalf of Hernando County, Florida.

5.8 Nothing herein shall be construed as prohibiting the Developer Owner from requesting that the BOCC review the interpretation, implementation or enforcement of this Amended and Restated Development Agreement.

5.9 The Parties may execute this Amended and Restated Development Agreement in duplicate originals, with separate signature pages, all of which shall constitute and comprise the same original Amended and Restated Development Agreement. The fully executed original Amended and Restated Development Agreement shall be recorded in the Official Records of Hernando County, Florida, as provided herein.

[SIGNATURES ON FOLLOWING PAGES]

ADOPTED IN REGULAR SESSION THIS 2nd DAY OF December, 2025.

ACCEPTED AND AGREED TO BY
HERNANDO COUNTY, FLORIDA:

BOARD OF COUNTY COMMISSIONERS
HERNANDO COUNTY, FLORIDA

Attest: Heidi Prusse, Deputy Clerk By: Jerry Campbell, Chairman
Douglas A. Chovrat, Jr.
Clerk of Circuit Court & Comptroller

(SEAL)

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

By: [Signature]
County Attorney's Office

**ACCEPTED AND AGREED
TO BY THE OWNER/DEVELOPER OWNER:**

The Owner/Developer Owner (by and through its Agent and/or Trustee named below) hereby accepts and agrees to all terms, conditions and restrictions contained in the Development Agreement set forth above and further agrees to be bound by the same for itself, and its heirs, successors and/or assigns as long as this Development Agreement remains effective. Notwithstanding anything herein, the terms, conditions and restrictions above shall terminate when this Development Agreement expires, unless the Development Agreement expressly provides for the term, condition or restriction to remain in effect following the expiration of the Development Agreement.

"DEVELOPER OWNER"

HAWK SUNRISE LLC, a Florida limited liability company

By: [Signature]

Print Name: John Ryan

Title: Manager

Date: 11/21/25

STATE OF Florida
COUNTY OF Hillsborough

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this 21st day of November, 2025, by John Ryan, as Manager of Hawk Sunrise LLC, a Florida limited liability company, on behalf of the company.

Personally Known OR Produced Identification

Type of Identification Produced:

NOTARY PUBLIC:

Signature: [Signature]

Print Name: Lori Price

Serial/Commission Number: HH670842

My Commission Expires: 4/29/2029



“OWNER”

MAK FAMILY PARTNERSHIP, LTD., a Florida limited partnership

By: [Signature]

Print Name: James H. Kimbrough, Jr.

Title: Partner

Date: 11/17/2025

STATE OF FLORIDA
COUNTY OF HERNANDO

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this 17 day of NOVEMBER, 2025, by James H. Kimbrough, Jr., as Partner of MAK Family Partnership, LTD., a Florida limited partnership, on behalf of the partnership.

NOTARY PUBLIC:

Personally Known OR Produced Identification

Signature: [Signature]

Type of Identification Produced:
A Valid Florida DL

Print Name: RICHARD P. CARUANA

Serial/Commission Number: HH 624786

My Commission Expires: 02-17-2029



RICHARD P. CARUANA
Commission # HH 624786
Expires February 17, 2029

TBF PARTNERS, LTD., a Texas limited partnership

By: TBF MANAGEMENT, LLC, its General Partner

By: [Signature]
Print Name: J. THOMAS BRANSON
Title: MANAGING PARTNER
Date: 11-13-25

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this ____ day of _____, 2025, by _____, as _____ of TBF Management, LLC, a Florida limited liability company, General Partner of TBF Partners, LTD., a Texas limited partnership, on behalf of the partnership.

NOTARY PUBLIC: [Signature]

Personally Known OR Produced Identification

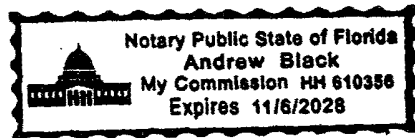
Signature: _____

Type of Identification Produced:

Print Name: Andrew Black

Serial/Commission Number: 44610356

My Commission Expires: 11-6-2028



TBF PARTNERS II, LLC, a Florida limited liability company

By: J. Thomas Bronson

Print Name: J. Thomas Bronson

Title: Manager

Date: 11-13-25

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this ____ day of _____, 2025, by J. Thomas Bronson, as Manager of TBF Partners II, LLC, a Florida limited liability company, on behalf of the company.

NOTARY PUBLIC:

Personally Known OR Produced Identification

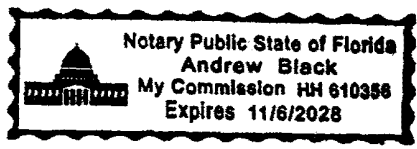
Signature: [Signature]

Type of Identification Produced:

Print Name: Andrew Black

Serial/Commission Number: HH 610356

My Commission Expires: 11-6-2028



Robert A. Buckner, as Trustee under that certain Trust Agreement dated March 9, 1989

By: 

Print Name: Robert A. Buckner

Title: Trustee

Date: 11/12/2025

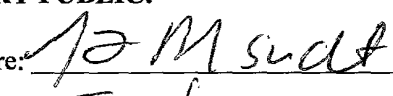
STATE OF Florida
COUNTY OF Hernando

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this 12th day of November, 2025, by Robert A. Buckner, as Trustee under that certain Trust Agreement dated March 9, 1989.

Personally Known OR Produced Identification

Type of Identification Produced:

NOTARY PUBLIC:

Signature: 

Print Name: Jennifer Marie Schmidt

Serial/Commission Number: _____

My Commission Expires: 6-26-26



[Signature]
Robert A. Buckner, individually

Date: 11/12/2025

STATE OF Florida
COUNTY OF Hernando

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this 12th day of November, 2025, by Robert A. Buckner.

Personally Known OR Produced Identification

Type of Identification Produced:

NOTARY PUBLIC:

Signature: [Signature]

Print Name: Jennifer Marie Schmidt

Serial/Commission Number: _____

My Commission Expires: 6-26-26



Sharon P. McKethan
Sharon P. McKethan, individually

Date: 11/17/25

STATE OF Hernando
COUNTY OF Florida

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this 17 day of November, 2025, by Sharon P. McKethan.

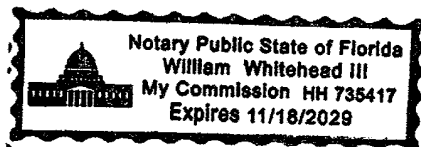
Personally Known OR Produced Identification

Type of Identification Produced:

NOTARY PUBLIC:
Signature: William Whitehead III
Print Name: William Whitehead III

Serial/Commission Number: _____

My Commission Expires: _____



Haley Dowlen, as Personal Representative of the Estate of John Hale McKethan

By: H Dowlen

Print Name: Haley Dowlen

Title: Personal Representative

Date: 11/17/25

STATE OF Florida
COUNTY OF Herndon

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this 17 day of November, 2025, by Haley Dowlen, as Personal Representative of the Estate of John Hale McKethan.

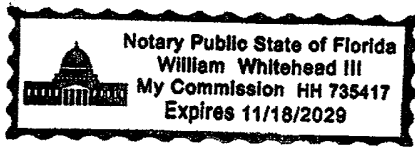
Personally Known OR Produced Identification

Type of Identification Produced:

NOTARY PUBLIC:
Signature: W Whitehead III
Print Name: William Whitehead III

Serial/Commission Number: _____

My Commission Expires: _____



Robert A. Buckner, as Co-Trustee of the
Robert C. Buckner Trust

By: 

Print Name: Robert A. Buckner

Title: Co-Trustee

Date: 11/12/2025

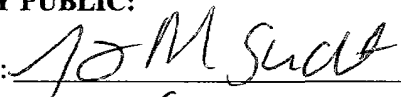
STATE OF Florida
COUNTY OF Hernando

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this 12th day of November, 2025, by Robert A. Buckner, as Co-Trustee of the Robert C. Buckner Trust.

Personally Known OR Produced Identification

Type of Identification Produced:

NOTARY PUBLIC:

Signature: 

Print Name: Jennifer Marie Schmidt

Serial/Commission Number: _____

My Commission Expires: 6-26-26



William M. Buckner, as Co-Trustee of the Robert C. Buckner Trust

By: W.M. Buckner

Print Name: William M. Buckner

Title: Co-Trustee

Date: 24 Nov 25

STATE OF TEXAS
COUNTY OF HARRIS

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this 24 day of NOVEMBER, 2025, by William M. Buckner, as Co-Trustee of the Robert C. Buckner Trust.

Personally Known OR Produced Identification

Type of Identification Produced:
TEXAS DRIVER LICENSE

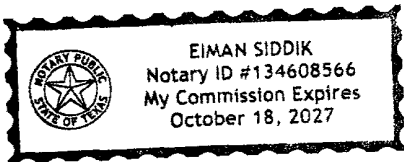
NOTARY PUBLIC:

Signature: Eiman Siddik

Print Name: EIMAN JIDDIK

Serial/Commission Number: 134608566

My Commission Expires: OCTOBER 18, 2027



James C. Buckner, as Co-Trustee of the Robert C. Buckner Trust

By: [Signature]

Print Name: James C. Buckner

Title: Co-Trustee

Date: 10/31/25

STATE OF Tenn
COUNTY OF Knox

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this 31 day of October, 2025, by James C. Buckner, as Co-Trustee of the Robert C. Buckner Trust.

Personally Known OR Produced Identification

Type of Identification Produced:

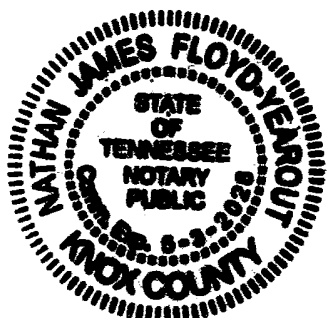
NOTARY PUBLIC:

Signature: [Signature]

Print Name: Nathan Floyd Yearout

Serial/Commission Number: _____

My Commission Expires: 5-3-28



JCB

James C. Buckner, individually

Date: 10/31/25

STATE OF Tenn
COUNTY OF Knox

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this 31 day of October, 2025, by James C. Buckner.

Personally Known OR Produced Identification

Type of Identification Produced:

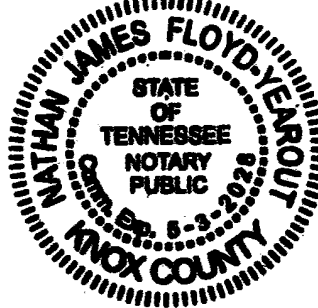
NOTARY PUBLIC

Signature: *Nathan James Floyd Yearout*

Print Name: Nathan James Floyd Yearout

Serial/Commission Number: _____

My Commission Expires: 5-3-28



Robert A. Buckner, as Co-Trustee of the Celia M. Buckner Trust u/t/a dtd 1/16/03, as amended

By: 

Print Name: Robert A. Buckner

Title: Co-Trustee

Date: 11/12/2025

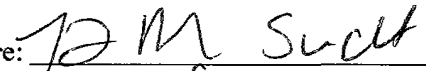
STATE OF Florida
COUNTY OF Hernando

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this 12th day of November, 2025, by Robert A. Buckner, as Co-Trustee of the Celia M. Buckner Trust u/t/a dtd 1/16/03, as amended.

Personally Known OR Produced Identification

Type of Identification Produced:

NOTARY PUBLIC:

Signature: 

Print Name: Jennifer Marie Schmidt

Serial/Commission Number: _____

My Commission Expires: 6-26-26



James C. Buckner, as Co-Trustee of the Celia M. Buckner Trust u/t/a dtd 1/16/03, as amended

By: [Signature]

Print Name: James C. Buckner

Title: Co-Trustee

Date: 10/31/25

STATE OF Tenn
COUNTY OF Knox

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this 31 day of October, 2025, by James C. Buckner, as Co-Trustee of the Celia M. Buckner Trust u/t/a dtd 1/16/03, as amended.

Personally Known OR Produced Identification

Type of Identification Produced:

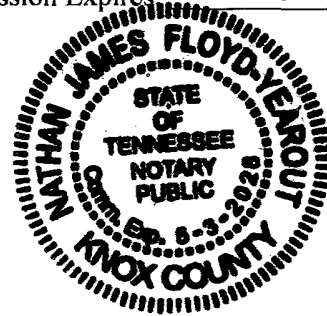
NOTARY PUBLIC

Signature: [Signature]

Print Name: Nathan James Floyd

Serial/Commission Number: _____

My Commission Expires: 5-3-28



William M. Buckner, as Co-Trustee of the Celia M. Buckner Trust u/t/a dtd 1/16/03, as amended

By: *William M. Buckner*

Print Name: William M. Buckner

Title: Co-Trustee

Date: 24 NOV 25

STATE OF TEXAS
COUNTY OF HARRIS

The foregoing instrument was acknowledged before me by means of physical presence or online notarization, this 24 day of NOVEMBER, 2025, by William M. Buckner, as Co-Trustee of the Celia M. Buckner Trust u/t/a dtd 1/16/03, as amended.

Personally Known OR Produced Identification

Type of Identification Produced:
TEXAS DRIVER LICENSE

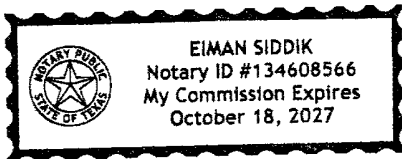
NOTARY PUBLIC:

Signature: *Eiman Siddik*

Print Name: EIMAN SIDDIK

Serial/Commission Number: 134608566

My Commission Expires: OCTOBER 18, 2027



J. Thomas Bronson, as Personal Representative
of the Estate of T.E. Bronson

By: J. Thomas Bronson

Print Name: J. Thomas Bronson

Title: Personal Representative

Date: 11-13-25

STATE OF _____
COUNTY OF _____

The foregoing instrument was acknowledged before me by means of physical presence or online
notarization, this ___ day of _____, 2025, by J. Thomas Bronson, as Personal Representative of
the Estate of T.E. Bronson.

Personally Known OR Produced Identification

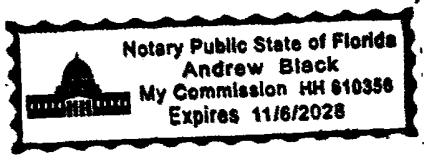
Type of Identification Produced:

NOTARY PUBLIC
Signature: [Signature]

Print Name: Andrew Black

Serial/Commission Number: HH 610356

My Commission Expires: 11-6-2028



SCHEDULE OF EXHIBITS

- EXHIBIT A** Legal Description of the Property/Development
- EXHIBIT B** Approved Master Plan per Approved C-PDP Rezoning
(BOCC Approved on June 13, 2023)
- EXHIBIT C** Land Use Exchange Matrix (“LUEM”)
- EXHIBIT D** Graphic Depiction for Reserved School Site Location & Points of
Connection for Water Service
- EXHIBIT E** Approved Transportation Impact Study (“TIS”)
- EXHIBIT F** Additional Roadway Pipeline Projects/Proportionate Share
Improvements

EXHIBIT A

Legal Description

A parcel of land lying within Sections 5, 6, 7 and 8, Township 23 South, Range 21 East, Hernando County, Florida, being more particularly described as follows:

For a POINT OF BEGINNING commence at the Southwest corner of the Southeast 1/4 of said Section 8; thence N89°05'38"W, along the South boundary of the Southwest 1/4 of said Section 8, 2670.54 feet to the Southwest corner of said section 8; thence N89°16'50"W, along the South boundary of the Southeast 1/4 of said Section 7, 2655.16 feet to the Southwest corner of the Southeast 1/4 of said Section 7; thence N89°16'33"W, along the South boundary of the Southwest 1/4 of said Section 7, a distance of 949.57 feet to the Easterly right-of-way of Interstate No. 75; thence along said Easterly right-of-way of Interstate No. 75 the following twenty six (26) courses and distances: (1) N00°04'124"E, 100.01 feet; thence (2) S89°16'33"E, 500.84 feet; thence (3) N00°21'45"E, 833.29 feet; thence (4) N36°30'15"W, 278.06 feet; thence (5) N04°37'19"W, 266.47 feet; thence (6) N79°47'40"W, 310.01 feet to a non-tangent point of curvature; thence (7) Northerly 1892.11 feet along the arc of a curve to the right, said curve having a radius of 5579.58 feet, a central angle of 19°25'47", and a chord bearing and distance of N17°55'51"E, 1883.06 feet; thence (8) N27°38'44"E, 666.59 feet; thence (9) S62°17'56"E, 39.91 feet; thence (10) N27°42'04"E, 158.00 feet; thence (11) N27°43'58"E, 805.72 feet; thence (12) N74°21'19"E, 490.92 feet; thence (13) N35°47'35"E, 764.07 feet; thence (14) N16°21'19"E, 204.80 feet; thence (15) N57°44'06"W, 343.20 feet; thence (16) N32°15'54"E, 814.49 feet to a point of curvature; thence (17) Northeasterly 794.94 feet along the arc of a curve to the left, said curve having a radius of 9277.00 feet, a central angle of 4°54'35", and a chord bearing and distance of N29°48'37"E, 794.70 feet; thence (18) S65°34'45"E, 219.30 feet; thence (19) N39°04'36"E, 329.47 feet; thence (20) N24°25'15"E, 768.24 feet; thence (21) N19°45'08"E, 546.02 feet; thence (22) N00°24'128"E, 358.35 feet; thence (23) N77°16'08"W, 217.28 feet to a non-tangent point of curvature; thence (24) Northeasterly 156.72 feet along the arc of a curve to the left, said curve having a radius of 9277.00 feet, a central angle of 00°58'05", and a chord bearing and distance of N15°00'36"E, 156.72 feet to a point of compound curvature; thence (25) Northeasterly 460.30 feet along the arc of a curve to the left, said curve having a radius of 4693.00 feet, a central angle of 5°37'11", and a chord bearing and distance of N11°42'58"E, 460.12 feet to a point of compound curvature; thence (26) Northeasterly 241.78 feet along the arc of a curve to the left, said curve having a radius of 2401.00 feet, a central angle of 5°46'11", and a chord bearing and distance of N06°11'37"E, 241.68 feet to the South boundary line of the map or plat of SUNRISE COMMERCIAL PLAZA, per Plat Book 31, Page 11, of the Public Records of Hernando County, Florida; thence along the South boundary of said map or plat of SUNRISE COMMERCIAL PLAZA the following eleven (11) courses and distances: (1) S74°23'51"E, 171.91 feet; thence (2) N15°36'121"E, 127.32 feet; thence (3) S89°43'43"E, 490.94 feet to a point of curvature; thence (4) Southeasterly 39.27 feet along the arc of a curve to the right, said curve having a radius of 25.00 feet, a central angle of 89°59'34", and a chord bearing and distance of S44°43'41"E, 35.36 feet; thence (5) S89°43'41"E, 140.45 feet; thence (6) N00°16'143"E, 25.00 feet; thence (7) S89°43'46"E, 108.45 feet to a point of curvature; thence (8) Easterly 147.45 feet along the arc of a curve to the left, said curve having a radius of 499.77 feet, a central angle of 16°54'14", and a chord bearing and distance of N81°49'27"E., 146.91 feet; thence (9) N73°22'34"E, 138.62 feet to a point of curvature; thence (10) Easterly 123.85 feet along the arc of a curve to the right, said curve having a radius of 420.11 feet, a central angle of 16°53'30", and a chord bearing and distance of N81°49'27"E, 123.41 feet; thence (11) S89°43'41 "E, 170.00 feet; thence leaving the South line of said plat, run S00°17'12"W, 23.50 feet to the Southwest corner of "Parcel 3.25" as described in Official Records Book 3742, Page 848, of the Public Records of Hernando County, Florida; thence S89°43'41"E, along the South boundary of said "Parcel 3.25", 1739.73 feet; thence N00°16'119"E, 103.50 feet to a point of curvature: thence Northerly 365.53 feet along the arc of a

curve to the left, said curve having a radius of 2655.77 feet, a central angle of $7^{\circ}53'10''$, and a chord bearing and distance of $N04^{\circ}17'15.2''E$, 365.24 feet to a point of reverse curvature; thence Northerly 270.75 feet along the arc of a curve to the right, said curve having a radius of 1883.73 feet, a central angle of $8^{\circ}14'07''$, and a chord bearing and distance of $N04^{\circ}07'24''W$, 270.52 feet; thence $NO0^{\circ}00'120''W$, 35.95 feet to the South right-of-way of State Road No. 50; thence along said South right-of-way of State Road No. 50 the following four (4) courses and distances: (1) $S89^{\circ}45'44''E$, 634.36 feet; thence (2) $S89^{\circ}49'37''E$, 508.97 feet to a point of curvature; thence (3) Easterly 743.51 feet along the arc of a curve to the right, said curve having a radius of 5597.65 feet, a central angle of $07^{\circ}36'37''$, and a chord bearing and distance of $S86^{\circ}01'19''E$, 742.97 feet; thence (4) $S44^{\circ}.55'59''E$, a distance of 33.03 feet to the Westerly right-of-way of Kettering Road; thence along said Westerly right-of-way of Kettering Road $SO0^{\circ}26'27''W$, 1425.34 feet to the Northeast corner of lands described in Official Records Book 868, Page 602, of the Public Records of Hernando County, Florida; thence along the North, West and South boundaries, respectively, of said lands described in Official Records Book 868, Page 602 the following three (3) courses and distances: (1) $N8994'01''W$, 285.22 feet; thence (2) $S00^{\circ}25'.59''W$, 655.00 feet; thence (3) $S89^{\circ}34'01''E$, 285.13 feet to the aforementioned Westerly right-of-way of Kettering Road; thence along said Westerly right-of-way of Kettering Road, $SO0^{\circ}26'27''W$, 3231.94 feet to a point on the North boundary of the Northeast 1/4 of said Section 8; thence $S89^{\circ}56'22''W$, along said the North boundary of the Northeast 1/4 of said Section 8, a distance of 2588.19 feet to the West boundary of the Northeast 1/4 of said Section 8; thence $SO0^{\circ}00'119''W$, along said the West boundary of the Northeast 1/4 of Section 8, 2710.84 feet to the Southwest corner of the Northeast 1/4 of said Section 8; thence $S00^{\circ}00'118''W$, along the West boundary of the Southeast 1/4 of said Section 8, 2702.26 feet to the POINT OF BEGINNING.

Containing 1,312.63 acres more or less.

EXHIBIT B

**Approved Master Plan per Approved C-PDP Rezoning
(BOCC Approved on June 13, 2023)**

EXHIBIT C

Land Use Exchange Matrix (“LUEM”)

EXHIBIT C
SUNRISE
LAND USE EQUIVALENCY MATRIX
4/19/2023

Conversion From	Conversion To								
	Single Family (DU)	Townhomes (DU)	Multi-Family (DU)	Senior Adult Detached (DU)	Senior Adult Attached (DU)	Motel (RMS)	Retail (KSF)	Office (KSF)	Mini-Warehouse (KSF)
Single Family (DU)	-	1.6491	2.4103	3.1333	3.7600	-	-	-	-
Multi-Family (DU)	0.4149	0.6842	-	1.3000	1.5600	-	-	-	-
Motel (RMS)	-	-	-	-	-	-	0.0953	0.2079	2.5780
Retail (KSF)	-	-	-	-	-	10.4952	-	2.1820	27.0567
Office (KSF)	-	-	-	-	-	4.8099	0.4583	-	12.4000
Mini-Warehouse (KSF)	-	-	-	-	-	0.3879	0.0370	0.0806	-

(1) Source - ITE Trip Generation Manual, 11th Edition.

(2) Trip Rates

Single Family	0.9400 TE/DU
Multi-Family	0.3900 TE/DU
Motel	0.3867 TE/RM
Retail	4.0585 TE/KSF
Office	1.8600 TE/KSF
Mini-Warehouse	0.1500 TE/KSF
Townhomes	0.5700 TE/DU
Senior Adult Detached	0.3000 TE/DU
Senior Adult Attached	0.2500 TE/DU

(3) Example: Convert Single-Family to Townhomes

$$100 \text{ DUs} = 100 \times 1.6491 = 164.91 \text{ Townhomes}$$

(4) For land uses not specifically identified a trip equivalency analysis will be required.

EXHIBIT D

**Graphic Depiction for Reserved School Site Location & Points
of Connection for Water Service**

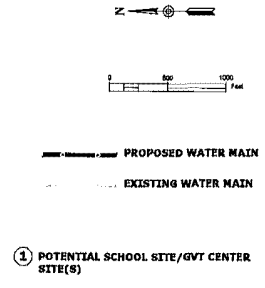
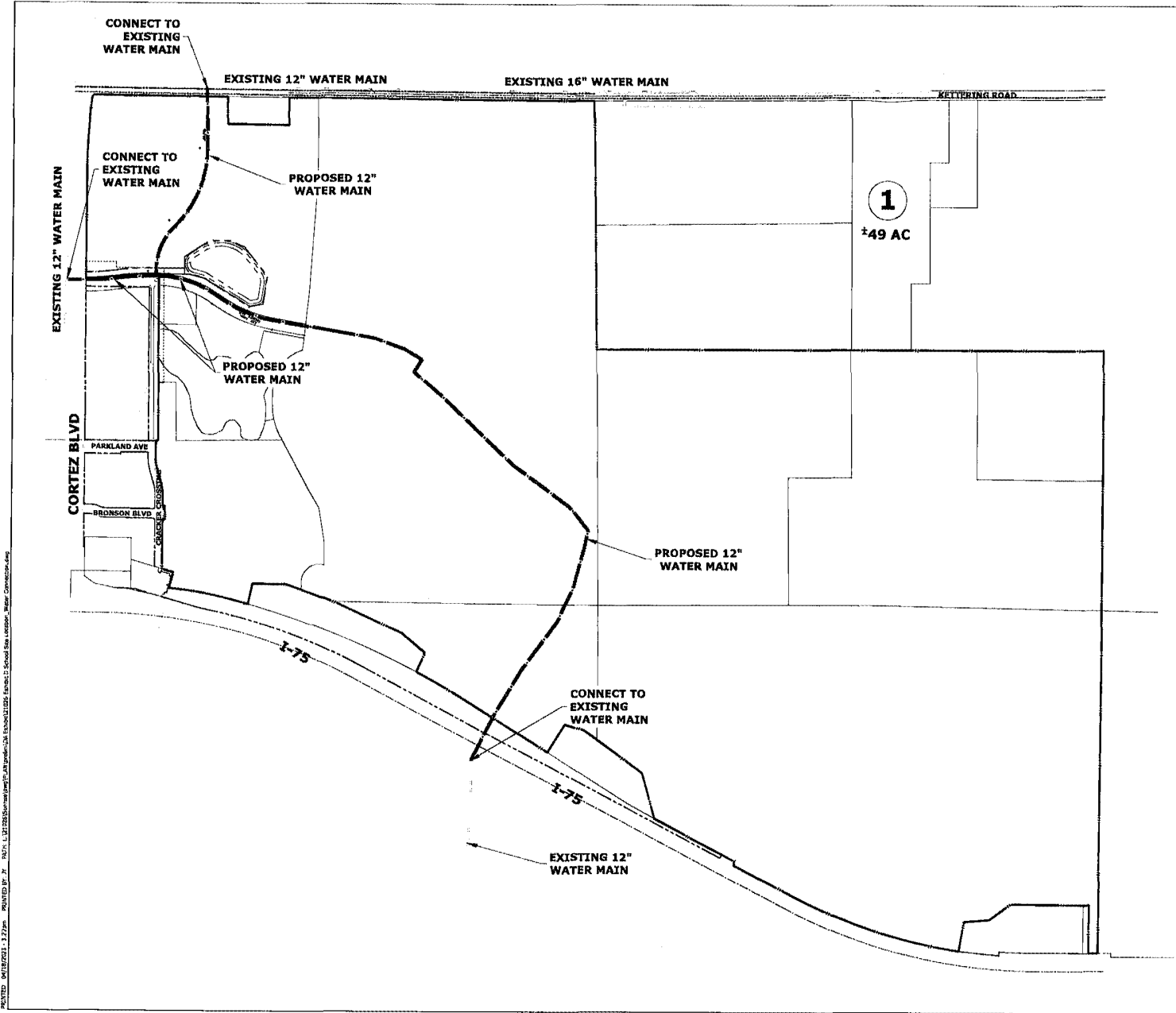


EXHIBIT D
 GRAPHIC DEFINITION FOR THREE (3) POOLS FOR
 POTABLE WATER SERVICE AND RESERVED
 POTENTIAL SCHOOL/GOVERNMENT CENTER
 SITES

Coastal
 ENGINEERS ARCHITECTS
 990 Corporate Blvd., Suite 200
 Raleigh, NC 27603
 (919) 799-3400 • Fax (919) 799-4000
 EIR-0000142

RELEASE OF DOCUMENT
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EXHIBIT E

Approved Transportation Impact Study (“TIS”)

TRANSPORTATION ANALYSIS

SUNRISE

Prepared For

D.R. HORTON, INC.

Prepared By



LINCKS & ASSOCIATES, INC.

Engineers - Planners

Tampa, Florida

TRANSPORTATION ANALYSIS

SUNRISE

Prepared For

D.R. HORTON, INC.

Prepared By

LINCKS & ASSOCIATES, INC.

5023 West Laurel Street

Tampa, Florida 33607

813-289-0039

State of Florida Authorization No. EB0004638

Revised March, 2023

Revised January, 2023

December, 2022

Project No. 21132

ali

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Ali Atefi, P.E.

Florida Registration Number 43854

5023 West Laurel Street

Tampa, Florida 33607

This item has been electronically signed and sealed by Ali Atefi, P.E. on the time and date stamp using the digital signature. Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.



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INTRODUCTION

The purpose of this report is to provide a Transportation Analysis in conjunction with the development of the property located south of Cortez Boulevard (SR 50) and east of I-75 in Hernando County, as shown in Figure 1. The subject property is proposed to be developed for the following land uses:

- Single Family Homes – 4, 200 Dwelling Units
- Townhomes – 600 Dwelling Units
- Motel – 75 Rooms
- Retail – 325,000 Square Feet
- Office – 50,000 Square Feet
- Self Storage – 40,000 Square Feet

This analysis was conducted in conformance with the approved Traffic Methodology Statement dated June 9, 2022. A copy of the Methodology Statement is included in the Appendix of this report.

Tables 1 and 2 provide the AM peak hour and PM peak hour trip generation for the proposed project. The analysis was based on ITE land use code 150 instead of 151. Since the net difference in the new external trip ends is 14 less trip ends than utilized in the analysis for the AM peak hour and 13 less for the PM peak hour the analysis was not updated. The trip generation utilized in the analysis is contained in Tables A-1 and A-2 in the Appendix of this report.



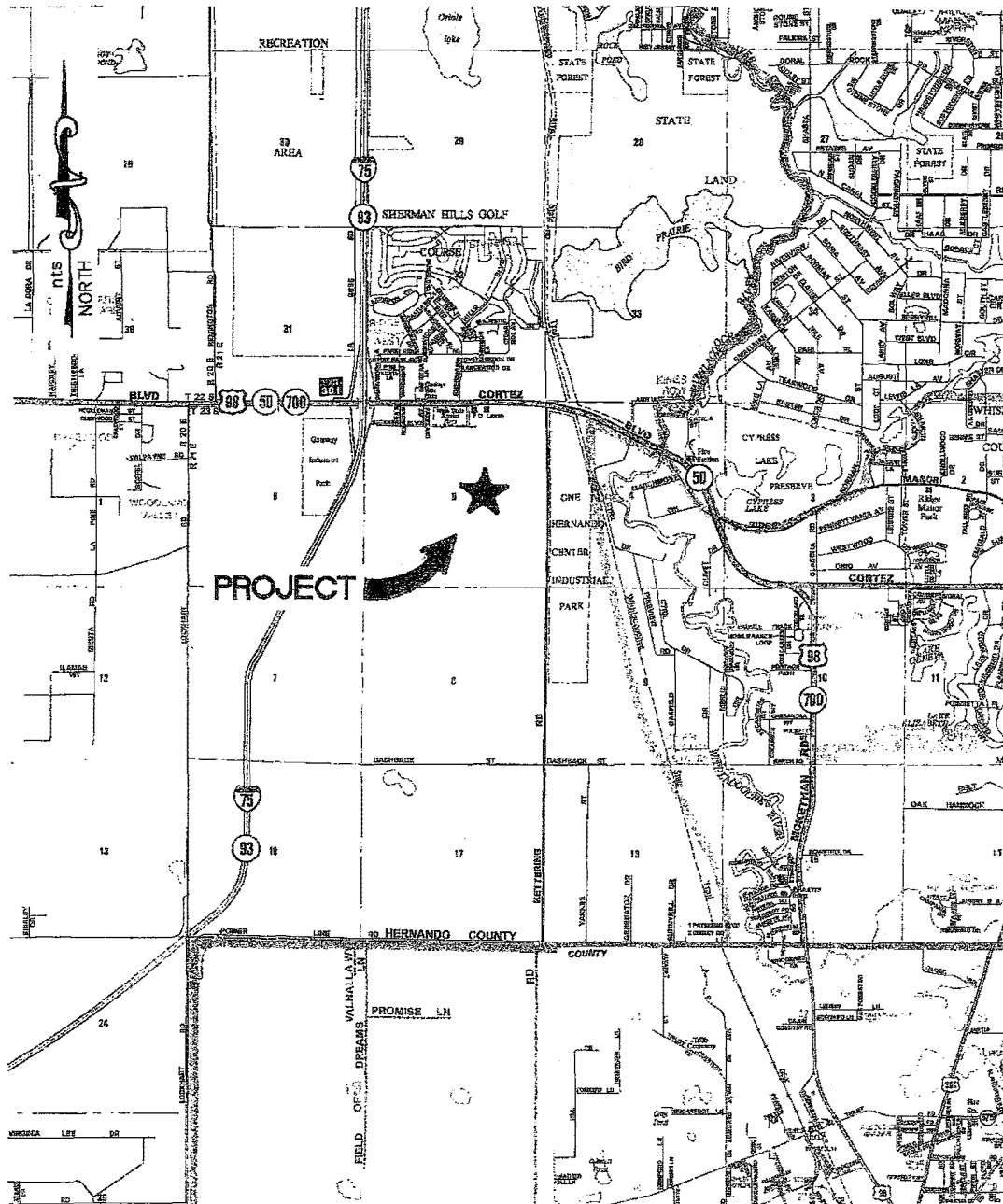


FIGURE 1
PROJECT LOCATION



TABLE 1
AM PEAK HOUR TRIP GENERATION

Land Use	ITE LUC	Size	AM Peak Hour Trip Ends (1)			Internal Trip Ends (2)			Passerby Trip Ends (3)			New External AM Peak Hour Trip Ends		
			In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Single Family	210	4,200 DU's	764	2,176	2,940	15	23	38	0	0	0	749	2,153	2,902
Multi-Family	221	600 DU's	51	171	222	1	2	3	0	0	0	50	169	219
Motel	320	75 Rooms	10	16	26	0	4	4	0	0	0	10	12	22
Retail	820	325,000 SF	202	123	325	28	19	47	33	20	53	141	84	225
Office	710	50,000 SF	81	11	92	7	3	10	0	0	0	74	8	82
Mini-Warehouse	151	40,000 SF	2	2	4	0	0	0	0	0	0	2	2	4
Total			1,110	2,499	3,609	51	51	102	33	20	53	1,026	2,428	3,454

(1) Source - ITE Trip Generation Manual, 11th Edition.
 (2) Source - ITE Trip Generation Handbook, 3rd Edition. (NCHRP 684)
 (3) Source - ITE Trip Generation Manual, 11th Edition.
 • Passerby Trips
 Retail - 19%
 In - (202-28) x 0.19 = 33
 Out - (123-19) x 0.19 = 20



TABLE 2
PM PEAK HOUR TRIP GENERATION

Land Use	ITE LUC	Size	PM Peak Hour Trip Ends (1)			Internal Trip Ends (2)			Passerby Trip Ends (3)			New External PM Peak Hour Trip Ends		
			In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Single Family	210	4,200 DU's	2,487	1,461	3,948	170	59	229	0	0	0	2,317	1,402	3,719
Multi-Family	221	600 DU's	143	91	234	10	4	14	0	0	0	133	87	220
Motel	320	75 Rooms	16	13	29	5	2	7	0	0	0	11	11	22
Retail	820	325,000 SF	633	686	1,319	80	186	266	105	95	200	448	405	853
Office	710	50,000 SF	16	77	93	3	17	20	0	0	0	13	60	73
Mini-Warehouse	151	40,000 SF	3	3	6	0	0	0	0	0	0	3	3	6
		Total	3,298	2,331	5,629	268	268	536	105	95	200	2,925	1,968	4,893

(1) Source - ITE Trip Generation Manual, 11th Edition.

(2) Source - ITE Trip Generation Handbook, 3rd Edition. (NCHRP 684)

(3) Source - ITE Trip Generation Manual, 11th Edition.

• Passerby Trips

Retail - 19%

In - $(633-80) \times 0.19 = 105$

Out - $(686-186) \times 0.19 = 95$

• Passerby traffic should not exceed 10% of the adjacent street background traffic

$2,625 \times 0.10 = 262 > 200$

(a) PM peak hour background traffic at the intersection of Cortez Blvd and Parkland Ave

ESTIMATED AM PEAK HOUR PROJECT TRAFFIC

Based on data contained in the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 11th Edition, 2021, the land uses are estimated to generate/attract 3,633 trip ends during the AM peak hour with 1,130 inbound and 2,503 outbound, as shown in Table A-1.

Given the development is to consist of residential, office and retail land uses, there is a potential for trips to originate at one land use within the project and have a destination at another use within the project – internal capture. The internal capture was based on the data contained in the ITE Trip Generation Handbook, 3rd Edition (NCHRP 684).

In addition, studies contained in the ITE Trip Generation Manual, 11th Edition, indicate that a percentage of the retail trips already exist on the adjacent roadways – passerby capture. Therefore, the proposed land uses are estimated to generate/attract approximately 3,468 new external AM peak hour trip ends, with 1,041 inbound and 2,427 outbound, as shown in Table A-1.

ESTIMATED PM PEAK HOUR PROJECT TRAFFIC

Based on data contained in the ITE Trip Generation Manual, 11th Edition, 2021, the land uses are estimated to generate/attract 5,654 trip ends during the PM peak hour with 3,304 inbound and 2,350 outbound, as shown in Table A-2.

Given the development is to consist of residential, office and retail land uses, there is a potential for trips to originate at one land use within the project and have a destination at



another use within the project – internal capture. The internal capture was based on the data contained in the ITE Trip Generation Handbook, 3rd Edition (NCHRP 684).

In addition, studies contained in the ITE Trip Generation Handbook, 11th Edition, indicate that a percentage of the retail trips already exist on the adjacent roadways – passerby capture. Therefore, the proposed land uses are estimated to generate/attract approximately 4,906 new external PM peak hour trip ends, with 2,925 inbound and 1,981 outbound, as shown in Table A-2.

PROJECT TRIP DISTRIBUTION

The distribution of the project traffic was estimated based on existing traffic and development in the vicinity of the project and the 2045 Tampa Bay Regional Transportation Model (TBRPM) provided in the Appendix of this report.

Figures 2 and 2A illustrates the assignment of the PM peak hour project trip ends on the adjacent transportation network.

ADJACENT ROADWAYS

As stated previously, the project is located south of Cortez Boulevard (SR 50) Road and east of I-75, in Hernando County, Florida. Cortez Boulevard (SR 50) is currently under construction as a six (6)/four (4) lane divided roadway in the vicinity of the project.

In addition, as part of SR 50 widening, Sherman Hills Boulevard will be realigned with a full median opening at SR 50 and aligned with the project access to be located south of





MATCHLINE (SEE FIGURE 2A)

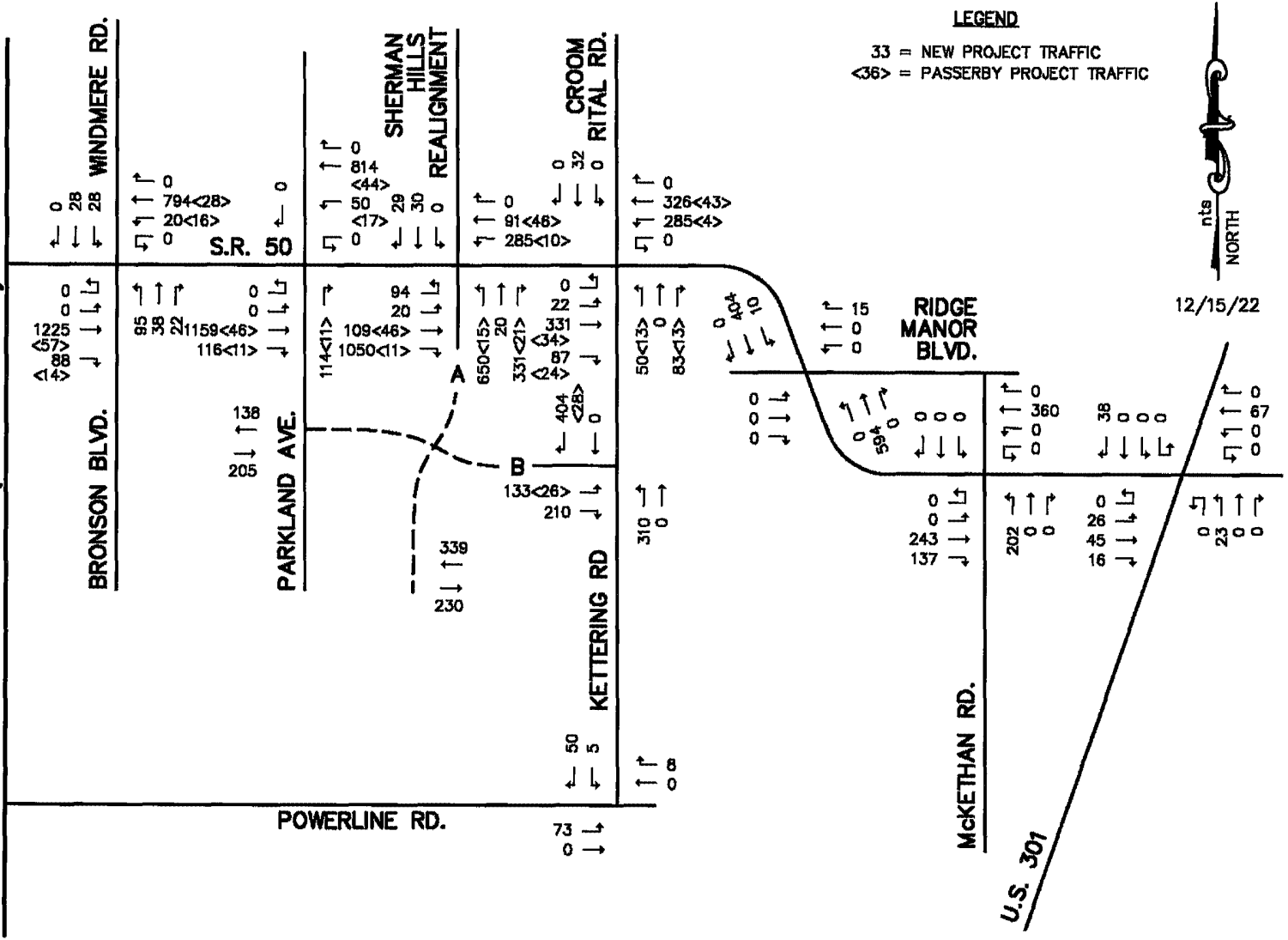


FIGURE 2
 PM PEAK HOUR
 PROJECT TRAFFIC

SR 50. The existing Sherman Hills Boulevard full access to SR 50 will be modified to right-in/right-out.

According to the Hernando County CIP or FDOT work Program, there are no other capacity adding improvements budgeted within the study network.

STUDY AREA

The study network includes those roadways in which the PM peak hour project traffic consumes 5% of the peak hour adopted Level of Service capacity for the roadways within the vicinity of the project.

Based on the results shown in Table 3, the study network will include the following roadways:

- SR 50/US 98 (Cortez Blvd)
 Jasmine Drive to Treiman Boulevard (US 301)
- SR 50/US 98 (Cortez Blvd)
 Main Street to Jefferson Street
- Kettering Road
 Cortez Boulevard to Powerline Road
- Lockhart Road
 I-75 to Cortez Boulevard
- McKethan Road
 Cortez Boulevard to Pasco County Line



TABLE 3
STUDY NETWORK

<u>Roadway Link</u>	<u>Geometry</u>	<u>LOS Standard / Area Type</u>	<u>LOS Capacity(1)</u>	<u>% Project Traffic</u>	<u>PM Peak Hour Project Traffic</u>	<u>% LOS Consumed</u>	<u>Study Network</u>
<u>SR 50 / US 98 (Cortez Blvd)</u>							
Jasmine Dr to Spring Lake Hwy	4LD	C/U	3,420	5.8%	284	8.3%	YES
Spring Lake Hwy to Lockhart Rd	4LD	C/U	3,420	13.9%	682	19.9%	YES
Lockhart Rd to I-75 (SR93) Frontage (W)	6LD	C/U	5,250	17.2%	844	16.1%	YES
I-75 (SR93) Frontage (W) to I-75 SB Ramps	6LD	C/U	5,250	20.8%	1,020	19.4%	YES
I-75 NB Ramps to Windmere Rd	6LD	C/U	5,250	44.9%	2,203	42.0%	YES
Windmere Rd to Parkland Ave	6LD	C/U	5,250	55.8%	2,738	52.2%	YES
Parkland Ave to Kettering Rd	6LD	C/U	5,250	14.3%	702	13.4%	YES
Kettering Rd to Ridge Manor Blvd	6LD	C/U	5,250	20.9%	1,025	19.5%	YES
Ridge Manor Blvd to Mckethan Rd (US98/SR700)	4LD	C/U	3,420	20.3%	996	29.1%	YES
Mckethan Rd (US98/SR700) to Treiman Blvd (US301/SR35)	4LD	C/U	3,420	12.3%	603	17.6%	YES
Treiman Blvd (US301/SR35) to Burwell Rd	4LD	C/U	3,420	2.3%	113	3.3%	NO
<u>SR 50 / US 98 (Cortez Blvd)</u>							
West Jefferson St to Broad St (US41/SR45)	4LD	C/U	3,420	0.8%	39	1.1%	NO
Broad St (US41/SR45) to Main St	4LD	C/U	3,420	3.2%	157	4.6%	NO
Main St to East Jefferson St (SR50)	4LD	C/U	3,420	3.5%	172	5.0%	YES
<u>KETTERING RD</u>							
Cortez Blvd (SR50) to Cracker Crossing	2LU	D/U	1,197	11.2%	549	45.9%	YES
Cracker Crossing to Powerline Rd	2LU	D/U	1,197	12.4%	608	50.8%	YES
<u>Lockhart Rd</u>							
I-75 (SR93) to Cortez Blvd (SR50)	2LU	D/U	2,180	2.6%	128	5.9%	YES
<u>McKethan Rd (US98/SR700)</u>							
Pasco County Line to Cortez Blvd (SR50)	2LU	C/U	1,620	6.9%	338	20.9%	YES
<u>Treiman Blvd (US301/SR35)</u>							
Pasco County Line to Cortez Blvd(SR 50)	2 LU	C/U	1,620	0.8%	39	2.4%	NO
Cortez Blvd(SR 50) to Ridge Manor Blvd	2 LU	C/U	1,620	1.3%	64	4.0%	NO
Ridge Manor Blvd to Sumter County Line	2 LU	C/U	1,620	1.3%	64	4.0%	NO
<u>Jefferson St (SR 50A)</u>							
Cortez Blvd to MLK	2 LU	C/U	1,510	2.0%	98	6.5%	YES
MLK to N. Broad St	2 LU	C/U	1,510	1.5%	74	4.9%	NO
N. Broad St to Main St	2 O	C/U	786	0.6%	29	3.7%	NO
<u>Powerline Rd</u>							
Kettering Rd to Lockhart Rd	2LU	C/U	1,620	2.5%	123	7.6%	YES
<u>MLK</u>							
Jefferson St to Main St	2LU	C/U	594	0.4%	20	3.4%	NO
<u>Main St</u>							
Cortez Blvd to MLK	2LU	D/U	1,197	0.0%	0	0.0%	NO
MLK to Broad St	2LU	D/U	1,197	0.3%	15	1.2%	NO

(1) Based on FDOT 202 Generalized Capacity Tables.

- Jefferson Street (SR 50A)
Cortez Boulevard to Martin Luther King Jr.

- Powerline Road
Kettering Road to Lockhart Road

BUILDOUT

Buildout of the project is anticipated to be 2035.

BACKGROUND TRAFFIC

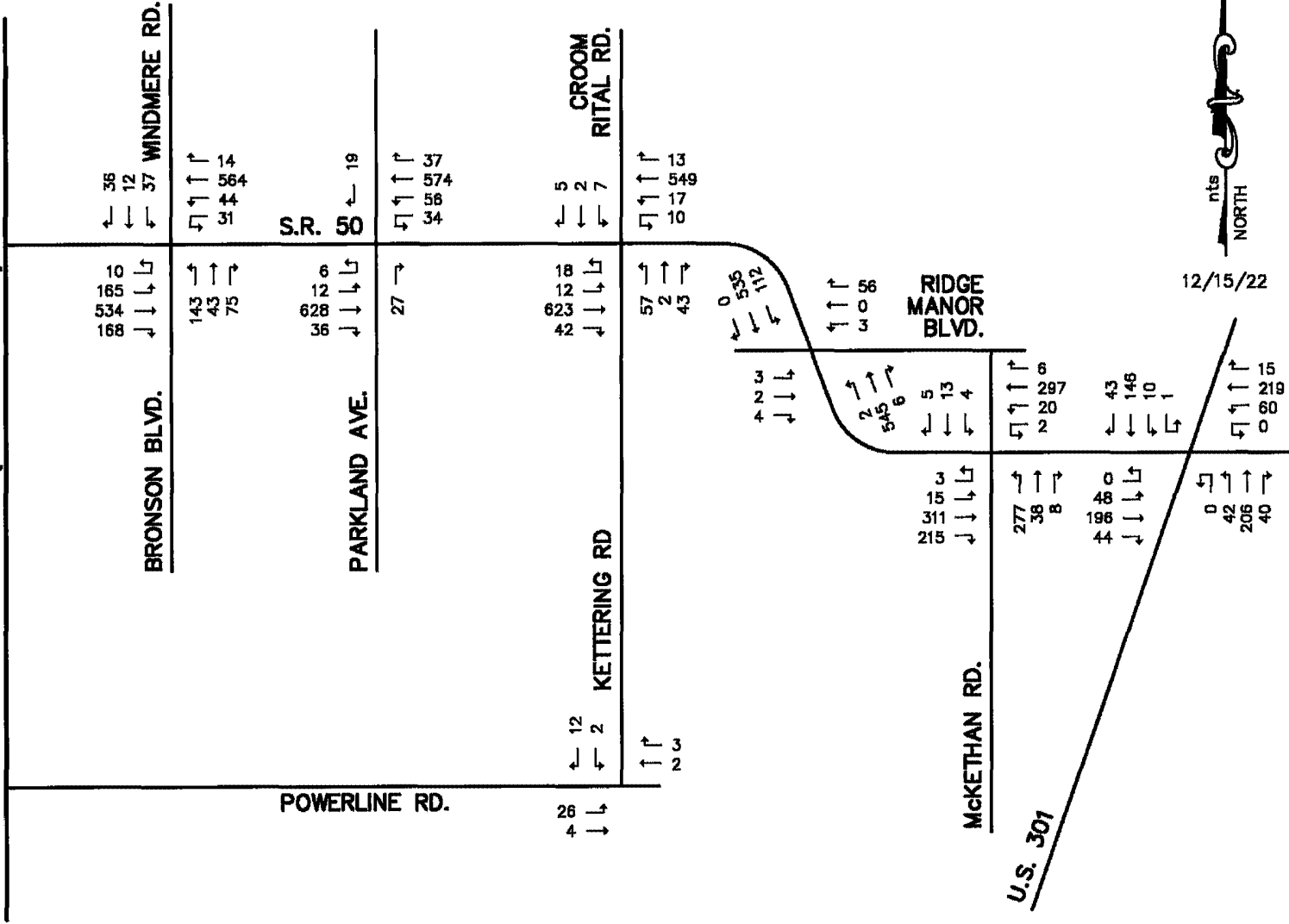
The 2035 background traffic utilized in this analysis were calculated as follows:

- 1) PM (4:00 to 6:00) peak hour turning movement counts were conducted at the intersections within the study network which are as follows:
 - SR 50 (Cortez Boulevard) and East Jefferson Street
 - SR 50 (Cortez Boulevard) and Lockhart Road
 - SR 50 (Cortez Boulevard) and I-75 Ramps
 - SR 50 (Cortez Boulevard) and Windmere Road
 - SR 50 (Cortez Boulevard) and Parkland Avenue
 - SR 50 (Cortez Boulevard) and Kettering Road
 - SR 50 (Cortez Boulevard) and Ridge Manor Boulevard
 - SR 50 (Cortez Boulevard) and McKethan Road
 - SR 50 (Cortez Boulevard) and US 301
 - SR 50 (Cortez Boulevard) and Main Street
 - Kettering Road and Powerline Road
 - Powerline Road and Lockhart Road





MATCHLINE (SEE FIGURE 3A)



12/15/22



FIGURE 3
PM PEAK HOUR
EXISTING TRAFFIC

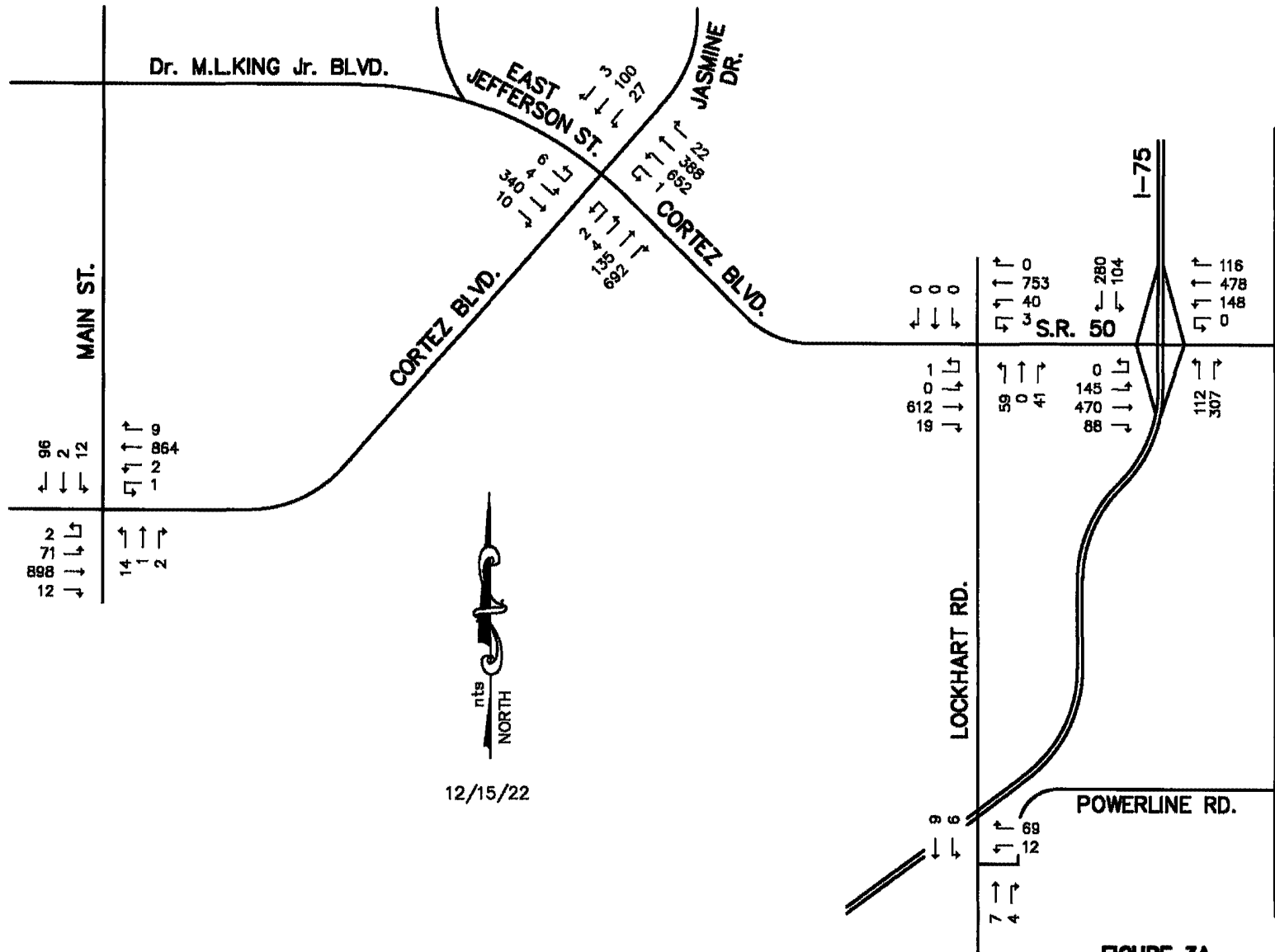


FIGURE 3A
PM PEAK HOUR
EXISTING TRAFFIC

Figures 3 and 3A illustrates the existing traffic.

- 1) The existing counts were adjusted to the peak season based on the 2021 FDOT Peak Season Adjustment Factors for Hernando County.

Figures 4 and 4A illustrates the peak season traffic.

- 2) The peak season traffic was increased by the annual growth rate for each segment contained in the Hernando County Tier I spreadsheet.
- 3) The traffic generated by the following proposed developments along Kettering Road was added to #3:
 - a. Statewide Logistics Center
 - b. Benton Hill Estates
 - c. Kettering Industrial
- 4) The traffic volume at the intersection of realigned Sherman Hills Boulevard and SR 50 were estimated based on existing and future development in the vicinity of the project and added to #3.

Figure 5 and 5A illustrates the 2035 background traffic and Figures 6 and 6A illustrates the 2035 background plus project traffic.

ARTERIAL ANALYSIS

An arterial analysis was conducted for the roadways within the study network for the following scenarios:





MATCHLINE (SEE FIGURE 4A)

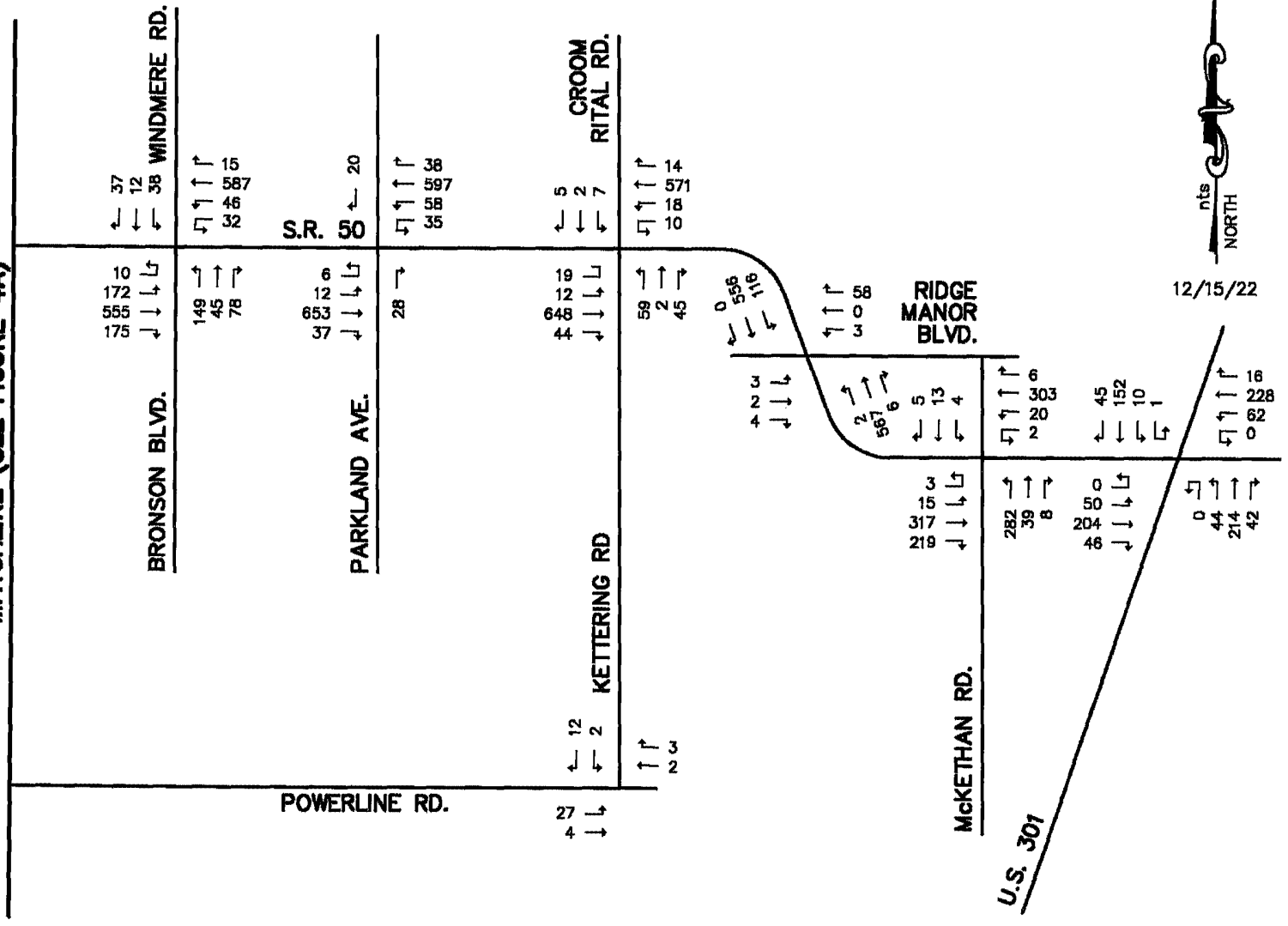
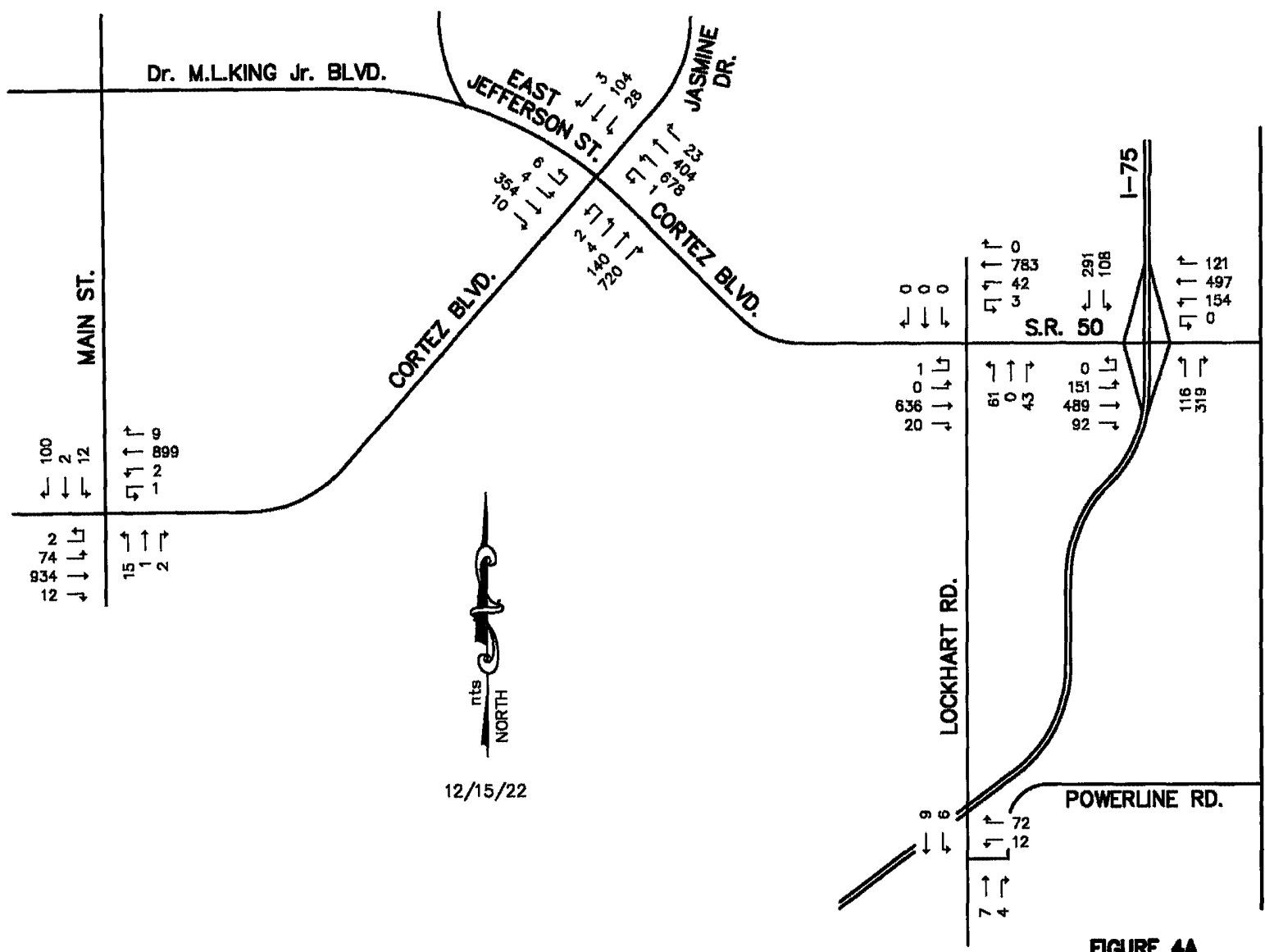


FIGURE 4
PM PEAK HOUR
PEAK SEASON TRAFFIC



12/15/22

FIGURE 4A
PM PEAK HOUR
PEAK SEASON TRAFFIC

MATCHLINE (SEE FIGURE 4)



MATCHLINE (SEE FIGURE 5A)

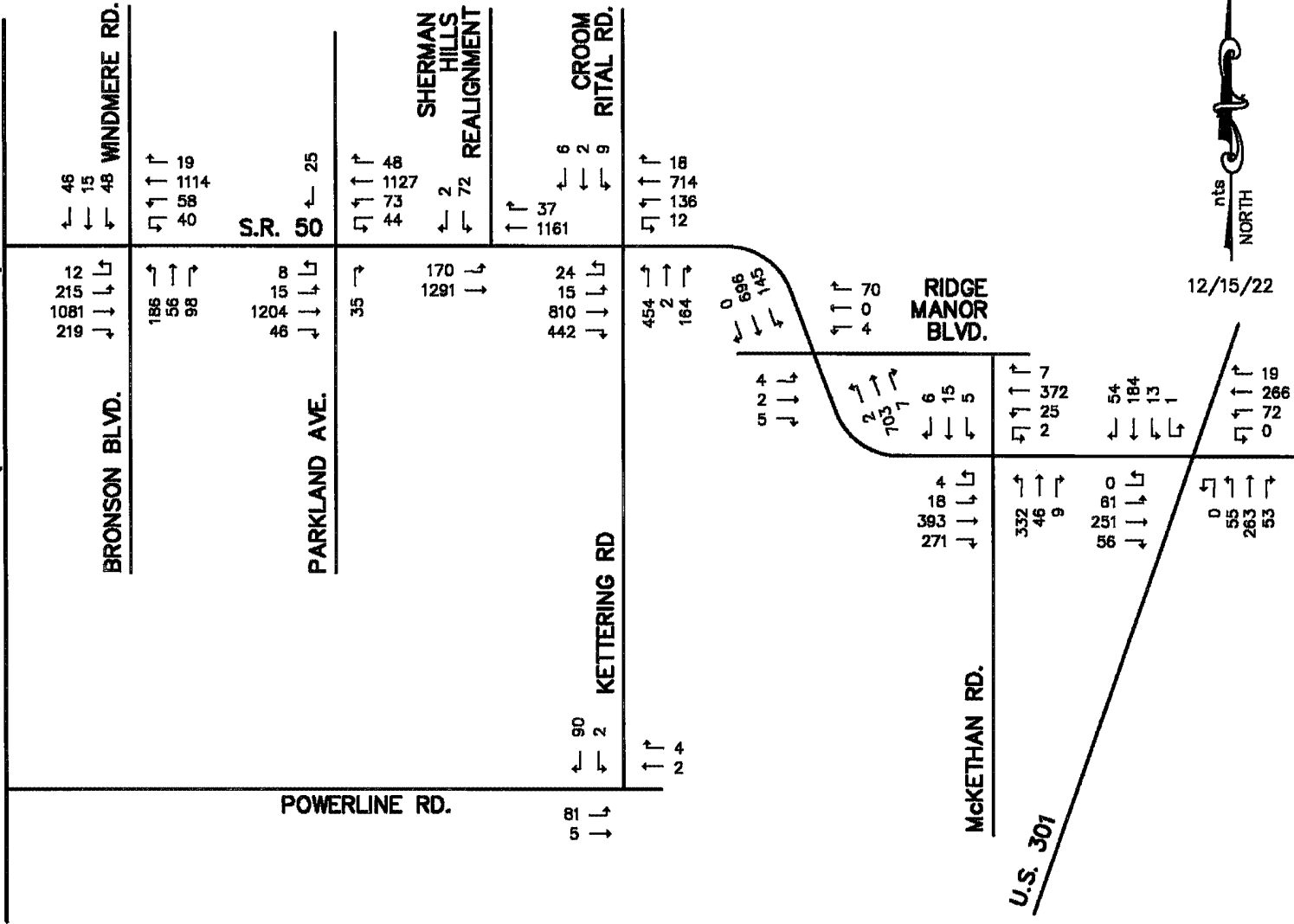
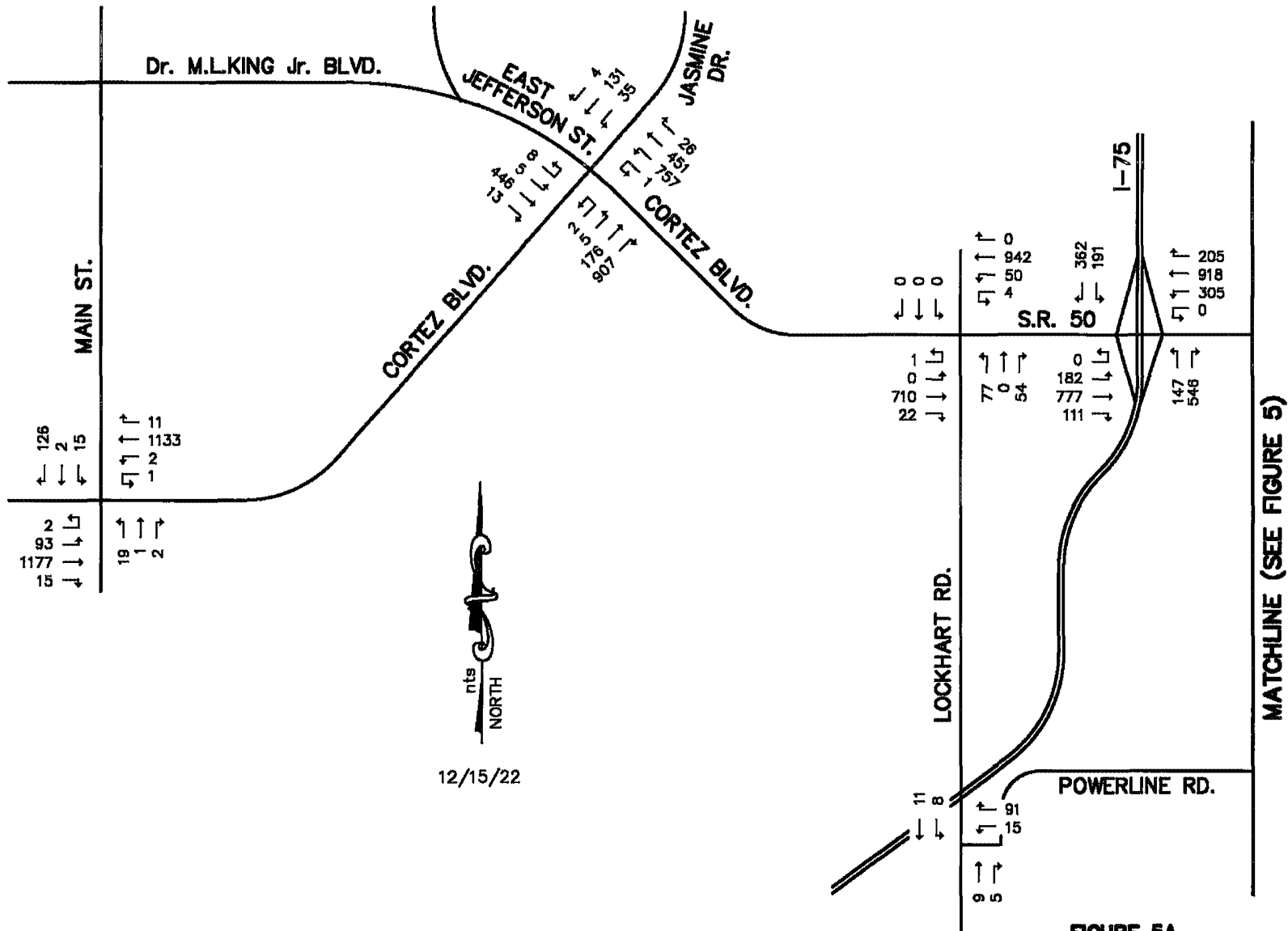


FIGURE 5
PM PEAK HOUR
2035 BACKGROUND TRAFFIC





MATCHLINE (SEE FIGURE 6A)

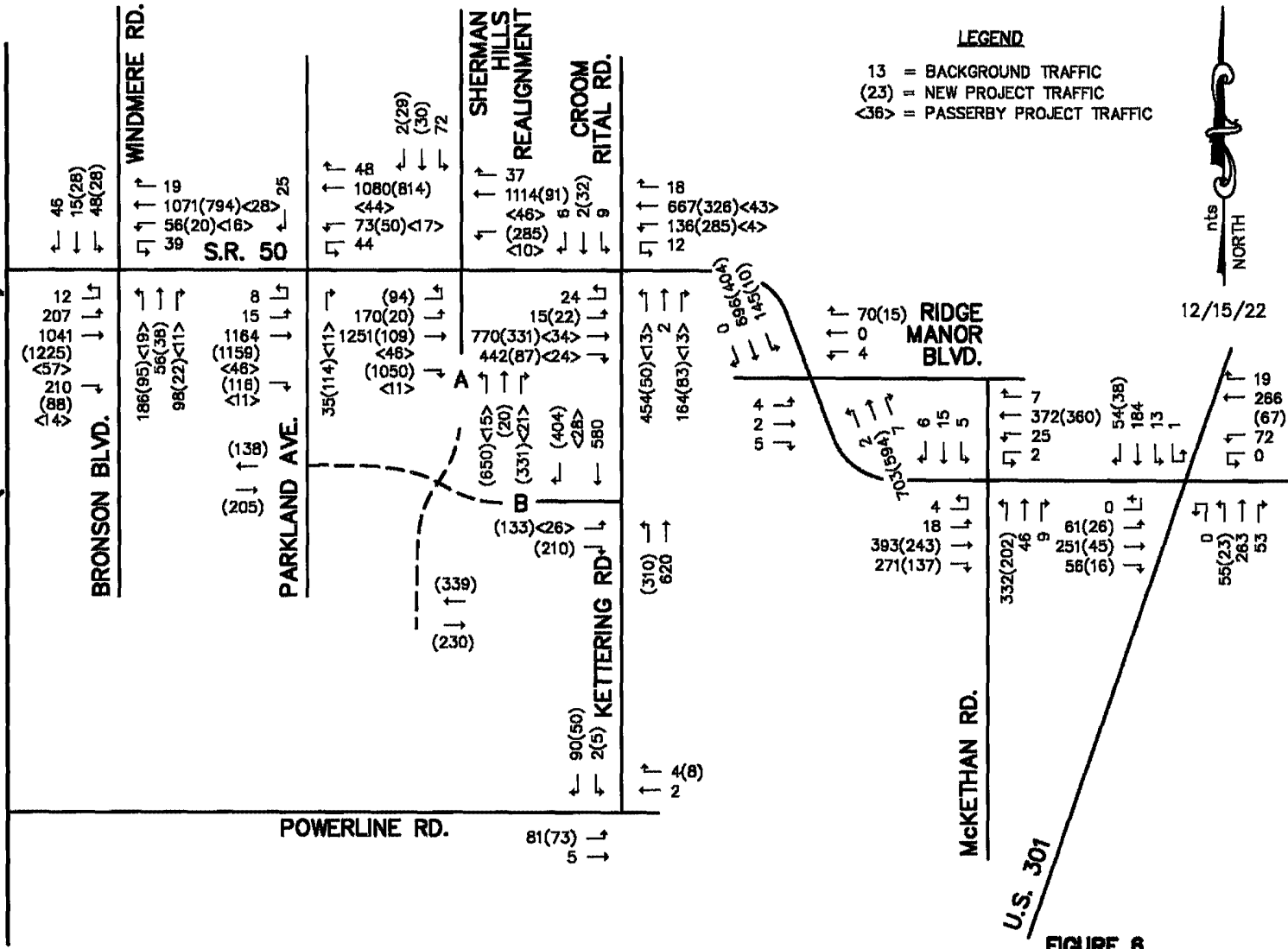
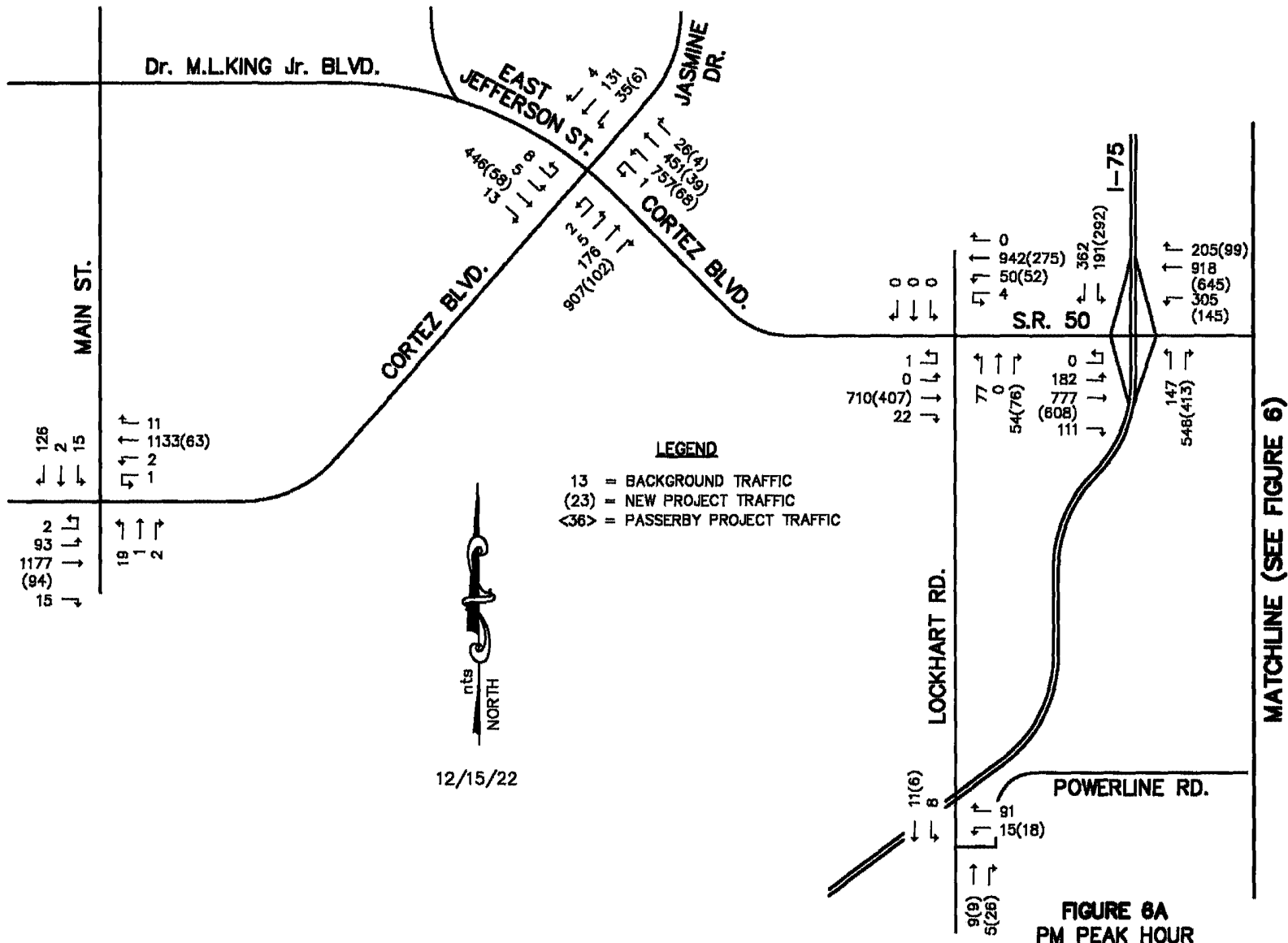


FIGURE 8
PM PEAK HOUR
2035 BACKGROUND PLUS
PROJECT TRAFFIC



LINGKS & ASSOCIATES, INC.



12/15/22



MATCHLINE (SEE FIGURE 6)

- Peak season traffic
- 2035 Background traffic with existing/budgeted improvements
- 2035 Background traffic with the required improvements
- 2035 Background plus project traffic with background improvements
- 2035 Background plus project traffic with additional improvements required beyond the background improvements

Peak Season Traffic Condition

Table 4 provides the arterial analysis with the peak season traffic and with the existing/budgeted improvements. Based on the results, all roadway segments within the study area should operate within the acceptable level of service with peak season traffic, as shown in Table 4.

Background Traffic Condition

Table 4 provides the results of the arterial analysis with the 2035 background traffic and with existing/budgeted improvements. Based on the results, all roadway segments within the study area should operate within the acceptable level of service with the 2035 background traffic, except for the segment of Kettering Road from project access to SR 50, as shown in Table 4.

Background Traffic with Required Improvements

Table 4 provides arterial analysis with the background traffic and with improvements required for background traffic. Based on the results, all roadway segments within the study area should operate within the acceptable level of service with background traffic, as shown in Table 4.





TABLE 4
 ARTERIAL ANALYSIS (PM PEAK HOUR)
 EXISTING AND BUDGETED GEOMETRY

Segment	From	To	No of Lanes	LOS STD	Capacity(1)	Peak Season Traffic (2)	Remaining Capacity	2035 Background Traffic (2)	Remaining Capacity	Required Improvements	Capacity(1)	Remaining Capacity	2035 Background Plus Project Traffic (2)	Remaining Capacity
SR 50	Main St	Jasmine Dr	4LD	C	3,420	1,777	1,643	2,237	1,183	None	3,420	1,183	2,402	1,018
	Jasmine Dr	Lockhart Rd	4LD	C	3,420	1,763	1,657	1,968	1,452	None	3,420	1,452	2,486	934
	Lockhart Rd	I-75	6LD	C	5,250	1,560	3,690	2,066	3,184	None	5,250	3,184	3,001	2,249
	I-75	Windmere Rd	6LD	C	5,250	1,684	3,566	2,955	2,295	None	5,250	2,295	5,091	159
	Windmere Rd	Parkland Ave	6LD	C	5,250	1,388	3,862	2,504	2,746	None	5,250	2,746	4,469	781
	Parkland Ave	Sherman Hills Realignment/Access	6LD	C	5,250	1,451	3,799	2,753	2,497	None	5,250	2,497	4,921	329
	Sherman Hills Realignment/Access	Kettering Rd	6LD	C	5,250	1,451	3,799	2,489	2,761	None	5,250	2,761	3,332	1,918
	Kettering Rd	Ridge Manor Blvd	6LD	C	5,250	1,285	3,965	1,721	3,529	None	5,250	3,529	2,746	2,504
	Ridge Manor Blvd	McKeaton Rd	4LD	C	3,420	1,129	2,291	1,398	2,022	None	3,420	2,022	2,372	1,048
	McKeaton Rd	US 301	4LD	C	3,420	631	2,789	774	2,646	None	3,420	2,646	1,221	2,199
Kettering Rd	Powerline Rd	Project Access	2LU	D	1,197	120	1,077	712	485	None	1,197	485	1,077	120
	Project Access	SR 50	2LU	D	1,197	120	1,077	1,200	-3	4LD	3,222	2,022	1,791	1,431
Lockhart Rd	Powerline Rd	SR 50	2LU	D	2,180	119	2,061	150	2,030	None	2,180	2,030	232	1,948
McKeaton Rd	Pasco Co Line	SR 50	2LU	C	1,620	583	1,037	700	920	None	1,620	920	1,039	581
E. Jefferson St	SR 50	MLK Blvd	2LU	C	1,510	785	725	832	578	None	1,510	578	1,029	481
Powerline Rd	Kettering Rd	Lockhart Rd	2LU	C	1,620	115	1,505	192	1,428	None	1,620	1,428	283	1,337

1) Based on FDOT Capacity Tables and Tier Spreadsheet
 2) Based on Figures 2, 2A, 5, 5A, 6, 6A, of this Report

Background Plus Project Traffic Condition

Table 4 provides the results of the arterial analysis with the 2035 background plus project traffic and required improvements for background traffic. Based on the results of the analysis, all roadway segments should operate within acceptable level of service with the 2035 background plus project traffic, as shown in Table 4.

INTERSECTION ANALYSIS

A capacity analysis was conducted for the PM peak hours at the following intersections:

- SR 50 (Cortez Boulevard) and East Jefferson Street
- SR 50 (Cortez Boulevard) and Lockhart Road
- SR 50 (Cortez Boulevard) and I-75 Ramps
- SR 50 (Cortez Boulevard) and Windmere Road
- SR 50 (Cortez Boulevard) and Parkland Avenue
- SR 50 (Cortez Boulevard) and Sherman Hills Boulevard Realignment/Project Access
- SR 50 (Cortez Boulevard) and Kettering Road
- SR 50 (Cortez Boulevard) and Ridge Manor Boulevard
- SR 50 (Cortez Boulevard) and McKethan Road
- SR 50 (Cortez Boulevard) and US 301
- SR 50 (Cortez Boulevard) and Main Street
- Kettering Road and Powerline Road
- Powerline Road and Lockhart Road

These calculations were performed utilizing the methodology described in Chapter 18 and 19, Signalized and Unsignalized Intersections of Transportation Research Board



(TRB) Special Report, the 2010 Highway Capacity Manual, for unsignalized intersections and SYNCHRO for signalized intersections.

This section describes the intersection analysis with the three analysis scenarios; existing peak season, background, and background plus project traffic.

Existing Peak Season Traffic Condition

Table 5 provides the results of the intersection analysis with peak season traffic. As shown in Table 5, all intersections are expected to meet the level of service and V/C criteria during the PM peak hour with the existing peak season traffic and the budgeted improvements.

Background Traffic

Table 6 provides the results of the intersection analysis with 2035 background traffic and with budgeted improvements. In addition, Table 6 provides the required improvements for each intersection that exceeds level of service or V/C ratio of 1.0.

Table 7 provides a summary of the analysis with the required improvements due to the background traffic.

Background Plus Project Traffic

Table 8 provides a summary of the intersection analysis with the 2035 background plus project traffic with the improvements required for the background traffic. In addition, the Table 8 provides the additional improvements required due to the project traffic.



TABLE 5
ESTIMATED INTERSECTION LEVEL OF SERVICE
EXISTING AND BUDGETED IMPROVEMENTS

Intersection	Intersection Control	Overall LOS (1)	Direction	PM Peak Hour Peak Season Traffic (V/C)		
				Left	Through	Right
Cortez Blvd and Jefferson St	Signalized	B	EB	0.08	0.23	0.01
			WB	0.77	0.16	0.02
			NB	0.04	0.57	0.47
			SB	0.22	0.43	0.43
Cortez Blvd and Lockhart Rd	Unsignalized	-	EB	0.0	*	*
			WB	0.05	*	*
			NB	0.24	0.07	0.07
Cortez Blvd and I-75 Ramps	Signalized	C	EB	0.43	0.55	0.18
			WB	0.43	0.55	0.23
			NB	0.21	-	0.54
			SB	0.20	-	0.51
Cortez Blvd and Windermere Rd	Signalized	B	EB	0.40	0.33	0.27
			WB	0.19	0.33	0.33
			NB	0.55	0.31	0.31
			SB	0.15	0.14	0.14
Cortez Blvd and Parkland Avenue	Unsignalized	-	EB	0.03	*	*
			WB	0.17	*	*
			NB	-	-	0.05
			SB	-	-	0.04
Cortez Blvd and Sherman Hills Blvd Realignment	Unsignalized	-	EB			
			WB			
			NB			
			SB			
Cortez Blvd and Kettering Rd	Signalized	B	EB	0.16	0.22	0.05
			WB	0.15	0.20	0.02
			NB	0.31	0.31	0.13
			SB	0.06	0.06	0.06
Cortez Blvd and Ridge Manor Blvd	Unsignalized	-	EB	0.03	0.03	0.03
			WB	0.11	0.11	0.11
			NB	0.0	*	*
			SB	0.20	*	*
Cortez Blvd and McKethan Rd	Signalized	C	EB	0.04	0.18	0.32
			WB	0.07	0.25	0.01
			NB	0.28	0.27	0.01
			SB	0.01	0.06	0.06
Cortez Blvd and US 301	Signalized	C	EB	0.10	0.17	0.08
			WB	0.12	0.20	0.20
			NB	0.14	0.52	0.06
			SB	0.04	0.51	0.08
Cortez Blvd and Main St	Signalized	A	EB	0.16	0.37	0.01
			WB	0.01	0.40	0.01
			NB	0.11	0.02	0.02
			SB	0.08	0.39	0.39
Kettingen Rd and Powerline Rd	Unsignalized	-	EB	0.03	0.03	-
			SB	0.03	-	0.03
Powerline Rd and Lockhart Rd	Unsignalized	-	WB	0.17	-	0.17
			SB	0.01	0.01	-

(1) Not calculated for unsignalized intersections.

(2) *Free flow, V/C not calculated.



TABLE 6
ESTIMATED INTERSECTION LEVEL OF SERVICE
EXISTING AND BUDGETED IMPROVEMENTS

Intersection	Intersection Control	Overall LOS (1)	Direction	PM Peak Hour 2035 Background Traffic (V/C)			Required Improvements
				Left	Through	Right	
Cortez Blvd and Jefferson St	Signalized	B	EB	0.11	0.31	0.02	-
			WB	0.79	0.18	0.02	
			NB	0.04	0.63	0.60	
			SB	0.29	0.48	0.48	
Cortez Blvd and Lockhart Rd	Unsignalized	-	EB	0.0	*	*	-
			WB	0.07	*	*	
			NB	0.36	0.09	0.09	
Cortez Blvd and I-75 Ramps	Signalized	C	EB	0.58	0.72	0.20	-
			WB	0.68	0.72	0.33	
			NB	0.30	-	0.76	
			SB	0.39	-	0.57	
Cortez Blvd and Windermere Rd	Signalized	C	EB	0.59	0.54	0.29	-
			WB	0.32	0.54	0.54	
			NB	0.64	0.36	0.36	
			SB	0.18	0.15	0.15	
Cortez Blvd and Parkland Avenue	Unsignalized	-	EB	0.07	*	*	-
			WB	0.40	*	*	
			NB	-	-	0.10	
			SB	-	-	0.07	
Cortez Blvd and Sherman Hills Blvd Realignment	Unsignalized	-	EB	0.62	*	*	Signalize
			WB	0.00	*	*	
			SB	1.16	-	0.01	
Cortez Blvd and Kettering Rd	Signalized	C	EB	0.35	0.52	0.56	Dual NBL and Dual WBL
			WB	0.92	0.36	0.02	
			NB	1.05	1.05	0.26	
			SB	0.04	0.04	0.04	
Cortez Blvd and Ridge Manor Blvd	Unsignalized	-	EB	0.06	0.06	0.06	-
			WB	0.16	0.16	0.16	
			NB	0.00	*	*	
			SB	0.29	*	*	
Cortez Blvd and McKethan Rd	Signalized	C	EB	0.05	0.22	0.37	-
			WB	0.08	0.29	0.01	
			NB	0.35	0.33	0.01	
			SB	0.02	0.07	0.07	
Cortez Blvd and US 301	Signalized	C	EB	0.14	0.23	0.10	-
			WB	0.16	0.26	0.26	
			NB	0.16	0.57	0.08	
			SB	0.05	0.54	0.09	
Cortez Blvd and Main St	Signalized	A	EB	0.26	0.47	0.01	-
			WB	0.01	0.53	0.01	
			NB	0.14	0.02	0.02	
			SB	0.10	0.45	0.45	
Kettering Rd and Powerline Rd	Unsignalized	-	EB	0.10	0.10	-	-
			SB	0.17	-	0.17	
Powerline Rd and Lockhart Rd	Unsignalized	-	WB	0.21	-	0.21	-
			SB	0.01	0.01	-	

(1) Not calculated for unsignalized intersections.
(2) *Free flow, V/C not calculated.



TABLE 7
ESTIMATED INTERSECTION LEVEL OF SERVICE
REQUIRED IMPROVEMENTS FOR BACKGROUND TRAFFIC

<u>Intersection</u>	<u>Intersection Control</u>	<u>Overall LOS</u>	<u>Direction</u>	PM Peak Hour 2035 Background Traffic (V/C)		
				<u>Left</u>	<u>Through</u>	<u>Right</u>
Cortez Blvd and Sherman Hills Blvd Realignment	Signalized	B	EB	0.53	0.40	-
			WB	-	0.64	0.06
			SB	0.34	-	0.01
Cortez Blvd and Kettering Rd	Signalized	C	EB	0.30	0.45	0.53
			WB	0.50	0.32	0.02
			NB	0.74	0.0	0.32
			SB	0.09	-	0.09

TABLE 8

ESTIMATED INTERSECTION LEVEL OF SERVICE
REQUIRED IMPROVEMENTS FOR BACKGROUND TRAFFIC PLUS PROJECT TRAFFIC

Intersection	Intersection Control	Overall LOS (1)	Direction	PM Peak Hour 2035 Background Plus Project Traffic (V/C)			Required Improvements
				Left	Through	Right	
Cortez Blvd and Jefferson St	Signalized	B	EB	0.11	0.37	0.02	
			WB	0.80	0.20	0.03	
			NB	0.04	0.63	0.66	
			SB	0.34	0.48	0.48	
Cortez Blvd and Lockhart Rd	Unsignalized	-	EB	0.00	*	*	
			WB	0.21	*	*	
			NB	0.70	0.30	0.30	
Cortez Blvd and I-75 Ramps	Signalized	F	EB	0.85	1.13	0.18	Additional EB shared through/right, WB through/right and NBR
			WB	1.46	1.14	0.48	
			NB	0.33	-	1.33	
			SB	1.08	-	0.47	
Cortez Blvd and Windermere Rd	Signalized	D	EB	0.78	0.98	0.36	
			WB	0.77	0.63	0.63	
			NB	0.97	0.50	0.50	
			SB	0.34	0.20	0.20	
Cortez Blvd and Parkland Avenue	Unsignalized	-	EB	0.19	*	*	
			WB	(1)	*	*	
			NB	-	-	1.24	
			SB	-	-	0.14	
Cortez Blvd and Sherman Hills Blvd Realignment/ Project Access A	Signalized	-	EB	-	-	-	Dual NBL, NBT, NBR and Dual WBL
			WB	-	-	-	
			NB	-	-	-	
			SB	-	-	-	
Cortez Blvd and Kettering Rd	Signalized	C	EB	0.45	0.76	0.65	
			WB	0.80	0.50	0.02	
			NB	0.84	0.0	0.40	
			SB	0.36	0.36	0.36	
Cortez Blvd and Ridge Manor Blvd	Unsignalized	-	EB	0.20	0.20	0.20	
			WB	0.32	0.32	0.32	
			NB	0.01	*	*	
			SB	0.61	*	*	
Cortez Blvd and McKethan Rd	Signalized	C	EB	0.08	0.35	0.50	
			WB	0.10	0.53	0.01	
			NB	0.53	0.52	0.01	
			SB	0.02	0.07	0.07	
Cortez Blvd and US 301	Signalized	C	EB	0.19	0.23	0.11	
			WB	0.15	0.28	0.28	
			NB	0.27	0.63	0.09	
			SB	0.06	0.62	0.17	
Cortez Blvd and Main St	Signalized	A	EB	0.27	0.51	0.01	
			WB	0.01	0.56	0.01	
			NB	0.14	0.02	0.02	
			SB	0.10	0.45	0.45	
Kettering Rd and Powerline Rd	Unsignalized	-	EB	0.20	0.20	-	
			SB	0.30	-	0.30	
Powerline Rd and Lockhart Rd	Unsignalized	-	WB	0.27	-	0.27	
			SB	0.01	0.01	-	

(1) Not calculated for unsignalized intersections.

(2) *Free flow, V/C not calculated.





TABLE 9
 ESTIMATED INTERSECTION LEVEL OF SERVICE
 REQUIRED IMPROVEMENTS FOR PROJECT TRAFFIC

<u>Intersection</u>	<u>Intersection Control</u>	<u>Overall LOS</u>	<u>Direction</u>	PM Peak Hour 2035 Background Plus Project Traffic (V/C)		
				<u>Left</u>	<u>Through</u>	<u>Right</u>
Cortez Blvd and I-75 Ramps	Signalized	D	EB	0.70	0.94	0.94
			WB	0.81	0.88	0.88
			NB	0.33	-	0.92
			SB	0.35	-	0.63
Cortez Blvd and Sherman Hills Blvd Realignment/Project Access A	Signalized	D	EB	0.95	0.87	0.71
			WB	0.82	0.97	0.07
			NB	0.92	0.03	0.47
			SB	0.56	0.33	0.33

Table 9 provides the summary of the intersection analysis with the additional improvements required due to the project traffic.

CONCLUSION

Based on the results of the analysis, all roadway segments within the study area should operate within acceptable level of service with 2035 background traffic plus the addition of project traffic and required improvements for the background traffic, as shown in Table 4.

Based on the results of the intersection analysis the improvements required due to background traffic were identified in Table 6. Table 7 illustrates that all intersections should operate within acceptable level of service and V/C criteria with the background traffic and with the improvements identified due to background traffic. Consistent with Chapter 2011 – 139, Laws of Florida and Chapter 163.3180 of the Florida Statue as amend by HB 319 improvements required to mitigate backlogged facilities is the responsibility of the local government.

Based on the results of the intersection analysis the improvements required due to project traffic and beyond the improvements required for background traffic were identified in Table 8. Table 9 illustrates the level of service and V/C criteria with the addition of project traffic and with the improvements identified due to project traffic.



PROPORTIONATE SHARE

The following methodology was utilized to determine the project's proportionate share cost of the required improvements for the intersection of Cortez Boulevard and I-75 Ramps. Access improvements were not included in the proportionate share calculations.

1. The following formula was utilized to determine the proportionate share of the required improvements:

$$\text{Proportionate share} = (\text{New Project Traffic/LOS D capacity}) \times (\text{Improvement Cost})$$

Table 10 summarizes the proportionate share cost of the project which totals \$1,380,790.





TABLE 10
 INTERSECTION PROPORTIONATE SHARE DETERMINATION

<u>Intersection</u>	<u>Improvement</u>	<u>Improvement Cost (1)</u>	<u>Percentage of LOS D Capacity Consumed by Project Traffic (2)</u>	<u>Proportionate Share</u>
Cortez Blvd and I-75 Ramps	Add EBT/R, WBT/R, NBR	\$4,256,443	32.44%	\$1,380,790

(1) Source: FDOT Roadway Cost Per Centerline Mile, Revised June, 2022 - See Table A-2 in the Appendix.

(2) % Capacity Consumed -See Table A-1 In the Appendix

APPENDIX



APPROVED METHODOLOGY STATEMENT





DEPARTMENT OF PUBLIC WORKS

AQUATIC SERVICES • ENGINEERING • FACILITIES • ROAD BRIDGES • STORMWATER • TRAFFIC • WATERWAYS

1525 EAST JEFFERSON STREET • BROOKSVILLE, FLORIDA 34601
P 352.754.4060 F 352.754.4423 W www.HernandoCounty.us

October 21, 2022

Mr. Steven J. Henry, PE
LINCKS & Associates, Inc.
5023 West Laurel Street
Tampa, Florida 33607

**SUBJECT: Sunrise Development
Transportation Analysis Methodology Statement**

Dear Mr. Henry:

Staff has reviewed your revised Methodology Statement (dated October 19, 2022) for the Sunrise Development project. The methodology statement is in the format shown in the Hernando County guidelines. Staff can accept the methodology with a couple of items that can be done with Analysis.

Distribution – Provide a legible copy of the 2021 FDOT Regional Model.

Analysis Scenario – Add AM Peak Hour to study timeframe.

These comments are not intended to be inclusive of any or all errors or omissions within the subject analysis. It remains the responsibility of the consulting engineer to thoroughly check the analysis and make necessary corrections.

Please provide the Synchro files with the Analysis submittal.

Please contact me with any questions or comments.

Sincerely,

A handwritten signature in black ink, appearing to read "D. Todd Crosby".

D. Todd Crosby, P.E.
Assistant County Engineer

EL:DTC



Letter to Steven J. Henry, P.E.
October 21, 2022
Subject: Sunrise Development TA Methodology
Page #2

Attachments: Hernando County Facility Design Guideline's sheet IV-18.

cc: Laura A. Borgesi P.E., Traffic Engineer
Kandi McCorkel, Engineering Development Coordinator
File



LINCKS & ASSOCIATES, INC.

October 19, 2022

Todd Crosby, P.E.
 Hernando County Department of Public Works
 1525 E. Jefferson Street
 Brooksville, FL 34601

Re: Project Name: Sunrise Development
 Lincks Project No: 21132

Dear Mr. Crosby,

The purpose of this letter is to provide a response to your comments for the above referenced project. The comments and our responses are as follows:

1. Distribution -Add "current" in front of "FDOT Regional Model".
Response:
 Comment noted. Methodology is revised to add "current" in front of FDOT Regional Model.

2. Table 2 PM Peak Hour Trip Generation -Why was the "Fitted Curve Equation" not used?
Response:
 The Fitted Curve Equation was not used because the proposed number of dwelling units are not within the range of the sample data size used for developing the Fitted Curve Equations. In addition, utilization of the Fitted Curve Equation will yield lower or equal number of trip ends compared to trip ends generated utilizing average rates. The trip ends generated utilizing Fitted Curve Equation are attached to this letter.

3. Background Traffic - Provide the proposed growth rate that will be used.
Response:
 The Methodology is revised to include Table 4 illustrating proposed growth rates for each segment with the study area.

5023 West Laurel Street
 Tampa, FL 33607
 813 289 0039 Telephone
 8133 287 0674 Telefax
www.Lincks.com Website

Mr. Todd Crosby, P.E.
10/19/2022
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4. **Site Access-** Include the possible signalization for the intersection of Sunrise Boulevard at Cortez Boulevard.

Response:

Comment noted. Intersection analysis at Sunrise Boulevard and Cortez Boulevard, will be provided.

5. **Project Distribution -** This page can not be read, provide a cleaner sheet. Verify the next page and show it's relevance for this document.

Response:

An electronic copy of the model distribution is included with the Methodology.

6. These comments are not intended to be inclusive of any or all errors or omissions within the subject analysis. It remains the responsibility of the consulting engineer to thoroughly check the analysis and make necessary corrections.

Response:

Comment noted.

7. **Please provide the Synchro files with the Analysis submittal.**

Response:

Comment noted.

If you have any questions regarding the responses to these comments, please do not hesitate to contact me at shenry@lincks.com or 813-559-9589.

LINCKS & ASSOCIATES, INC.

Steven Henry, PE
President

PM PEAK HOUR TRIPS – FITTED CURVE EQUATION



PERIOD SETTING

Analysis Name : New Analysis
Project Name : Sunrise-Test **No :**
Date: 10/17/2022 **City:**
State/Province: **Zip/Postal Code:**
Country: **Client Name:**
Analyst's Name: **Edition:** Trip Generation Manual, 11th Ed

Land Use	Independent Variable	Size	Time Period	Method	Entry	Exit	Total
210 - Single-Family Detached Housing (General Urban/Suburban)	Dwelling Units	4200 ⁽⁰⁾	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LOG) $\ln(T) = 0.94\ln(X) + 0.27$	2101 63%	1234 37%	3335
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit (General Urban/Suburban)	Dwelling Units	600 ⁽⁰⁾	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LIN) $T = 0.39(X) + 0.34$	143 61%	91 39%	234

(0) indicates size out of range.

TRAFFIC REDUCTIONS

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
210 - Single-Family Detached Housing	0 %	2101	0 %	1234
221 - Multifamily Housing (Mid-Rise)	0 %	143	0 %	91

INTERNAL TRIPS

210 - Single-Family Detached Housing			221 - Multifamily Housing (Mid-Rise)		
Exit	1234	Demand Exit: 0 % (0)	Balanced: 0	Demand Entry: 0 % (0)	Entry 143
Entry	2101	Demand Entry: 0 % (0)	Balanced: 0	Demand Exit: 0 % (0)	Exit 91

210 - Single-Family Detached Housing		Internal Trips		External Trips	
Total Trips		221 - Multifamily Housing (Mid-Rise)		Total	
Entry	2101 (100%)	0 (0%)	0 (0%)	2101 (100%)	



LINCKS & ASSOCIATES, INC.

Revised October 19, 2022
June 9, 2022

Mr. Ernie Lane
Hernando County
1400 North Boulevard
Tampa, FL 33607

Re: Sunrise
Lincks Project No. 21132

Dear Mr. Lane,

The purpose of this letter is to establish the methodology to be utilized for the Transportation Analysis for the proposed development located south of SR 50 and east of I-75 in Hernando County, as shown in Figure 1.

The subject property is proposed to be developed for the following land uses:

- Single Family Homes – 4,200 Dwelling Units
- Townhomes – 600 Dwelling Units
- Motel – 75 Rooms
- Retail – 325,000 Square Feet
- Office – 50,000 Square Feet
- Self Storage – 40,000 Square Feet

The access to serve the project is proposed to be via the following roadways:

- Branson Boulevard
- Parkland Ave
- Sunrise Boulevard
- Kettering Road

The site plan for the project is included in the appendix of this letter.

5023 West Laurel Street
Tampa, FL 33607
813 289 0039 Telephone
8133 287 0674 Telefax
www.Lincks.com Website

Mr. Ernie Lane
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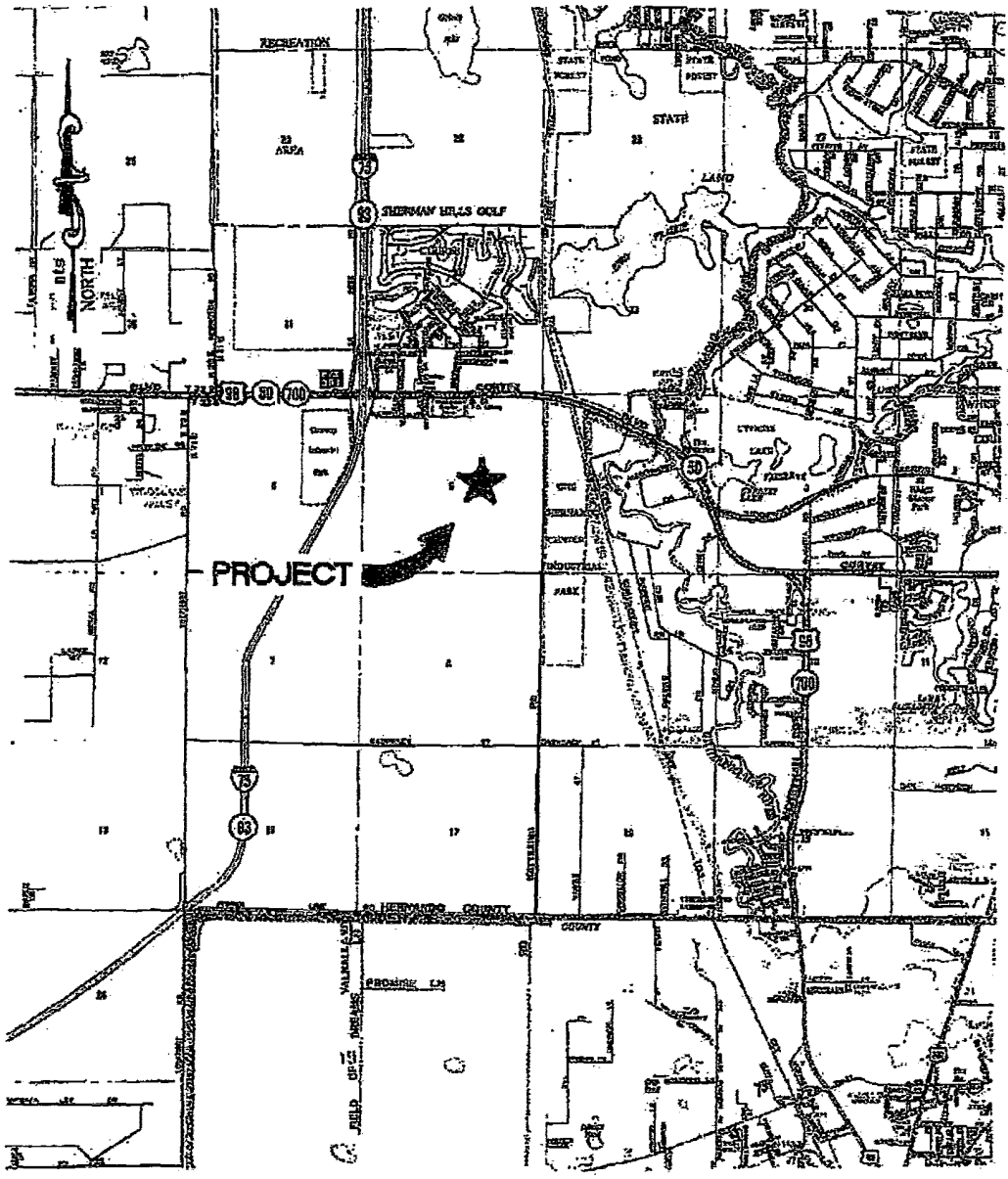


FIGURE 1
PROJECT LOCATION

Mr. Ernie Lane
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Trip Generation

The trip rates to be utilized in the analysis will be based on the data contained in the Institute of Transportation Engineers' (ITE) Trip Generation Manual, 11th Edition, 2021.

Internal Capture

The internal capture between the land uses within the project will be calculated based on the methodology outlined in ITE Trip Generation Handbook, 3rd Edition (NCHRP 694).

Passerby Capture

The passerby capture will be calculated based on the methodology outlined in ITE Trip Generation Manual, 11th Edition, 2021.

Tables 1 and 2 provide the AM and PM peak hour trip generation for the project.

Distribution

The distribution will be based on the current FDOT Regional Model. A copy of the model plot is included in the appendix of the letter.

Study Network

The study network will include those roadways in which the PM peak hour project traffic consumes 5.0% of the peak hour adopted Level of Service capacity for the roadways within the vicinity of the project. The roadway capacities were based on 2020 FDOT generalized capacity tables.

Based on the results shown in Table 3, the study network will include the following roadways:

- SR 50/US 98 (Cortez Blvd)
 Jasmine Drive to Treiman Boulevard (US 301)

 - SR 50/US 98 (Cortez Blvd)
 Main Street to Jefferson Street

 - Kettering Road
 Cortez Boulevard to Powerline Road

 - Lockhart Road
 Cortez Boulevard to Powerline Road
-

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TABLE 1
 AM PEAK HOUR TRIP GENERATION

Land Use	ITE LUC	Size	AM Peak Hour Trip Ends (1)			Internal Trip Ends (2)			Passerby Trip Ends (3)			New External AM Peak Hour Trip Ends		
			In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Single Family	210	4,200 DU's	764	2,176	2,940	15	24	39	0	0	0	749	2,152	2,901
Multi-Family	221	600 DU's	51	171	222	1	2	3	0	0	0	50	169	219
Motel	320	75 Rooms	10	16	26	0	5	5	0	0	0	10	11	21
Retail	820	325,000 SF	202	123	325	30	20	50	33	20	53	139	83	222
Office	710	50,000 SF	81	11	92	8	3	11	0	0	0	73	8	81
Warehouse	150	40,000 SF	22	6	28	2	2	4	0	0	0	20	4	24
Total			1,130	2,503	3,633	56	56	112	33	20	53	1,041	2,427	3,468

(1) Source - ITE Trip Generation Manual, 11th Edition.
 (2) Source - ITE Trip Generation Handbook, 3rd Edition. (NCHRP 684)
 (3) Source - ITE Trip Generation Manual, 11th Edition.
 • Passerby Trips
 Retail - 19%
 In - (202-30) x 0.19 = 33
 Out - (123-20) x 0.19 = 20

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TABLE 2
 PM PEAK HOUR TRIP GENERATION

Land Use	ITE LUC	Size	PM Peak Hour Trip Ends (1)			Internal Trip Ends (2)			Passerby Trip Ends (3)			New External PM Peak Hour Trip Ends		
			In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Single Family	210	4,200 DU's	2,487	1,461	3,948	170	88	228	0	0	0	2,317	1,403	3,720
Multi-Family	221	600 DU's	143	91	234	10	4	14	0	0	0	133	87	220
Motel	320	75 Rooms	16	13	29	5	2	7	0	0	0	11	11	22
Retail	820	325,000 SF	633	686	1,319	85	189	274	104	94	198	444	403	847
Office	710	50,000 SF	16	77	93	3	17	20	0	0	0	13	60	73
Warehouse	150	40,000 SF	9	22	31	2	5	7	0	0	0	7	17	24
		Total	3,304	2,350	5,654	275	275	550	104	94	198	2,925	1,981	4,906

(1) Source - ITE Trip Generation Manual, 11th Edition.
 (2) Source - ITE Trip Generation Handbook, 3rd Edition. (NCHRP 684)
 (3) Source - ITE Trip Generation Manual, 11th Edition.
 • Passerby Trips
 Retail - 19%
 In - (633-85) x 0.19 = 104
 Out - (686-189) x 0.19 = 94

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TABLE 3
 STUDY NETWORK

Roadway Link	Geometry	LOS Standard / Area Type	LOS Capacity(1)	% Project Traffic	PM Peak Hour Project Traffic	% LOS Consumed	Study Network
<u>SR 50 / US 98 (Cortez Blvd)</u>							
Jasmine Dr to Spring Lake Hwy	4LD	C/U	3,420	5.8%	284	8.3%	YES
Spring Lake Hwy to Lockhart Rd	4LD	C/U	3,420	13.8%	682	19.9%	YES
Lockhart Rd to I-75 (SR93) Frontage (W)	6LD	C/U	5,250	17.2%	844	16.1%	YES
I-75 (SR93) Frontage (W) to I-75 SB Ramps	6LD	C/U	5,250	20.8%	1020	19.4%	YES
I-75 NB Ramps to Windmere Rd	6LD	C/U	5,250	44.6%	2203	42.0%	YES
Windmere Rd to Parkland Ave	6LD	C/U	5,250	56.8%	2738	52.2%	YES
Parkland Ave to Kettering Rd	6LD	C/U	5,250	14.3%	702	13.4%	YES
Kettering Rd to Ridge Manor Blvd	6LD	C/U	5,250	20.6%	1,025	19.5%	YES
Ridge Manor Blvd to McKethan Rd (US98/SR700)	4LD	C/U	3,420	20.3%	996	29.1%	YES
McKethan Rd (US98/SR700) to Treiman Blvd (US301/SR35)	4LD	C/U	3,420	12.3%	603	17.8%	YES
Treiman Blvd (US301/SR35) to Burwell Rd	4LD	C/U	3,420	2.3%	113	3.3%	NO
<u>SR 50 / US 98 (Cortez Blvd)</u>							
West Jefferson St to Broad St (US41/SR16)	4LD	C/U	3,420	0.8%	39	1.1%	NO
Broad St (US41/SR45) to Main St	4LD	C/U	3,420	3.2%	157	4.6%	NO
Main St to East Jefferson St (SR50)	4LD	C/U	3,420	3.5%	172	5.0%	YES
<u>KETTERING RD</u>							
Cortez Blvd (SR50) to Cracker Crossing	2LU	D/U	1,197	11.2%	549	45.8%	YES
Cracker Crossing to Powerline Rd	2LU	D/U	1,197	12.4%	808	50.8%	YES
<u>Lockhart Rd</u>							
I-75 (SR93) to Cortez Blvd (SR50)	2LU	D/U	2,180	2.8%	128	5.9%	YES
<u>McKethan Rd (US98/SR700)</u>							
Pasco County Line to Cortez Blvd (SR50)	2LU	C/U	1,620	6.9%	338	20.1%	YES
<u>Treiman Blvd (US301/SR35)</u>							
Pasco County Line to Cortez Blvd (SR 50)	2 LU	C/U	1,620	0.8%	39	2.4%	NO
Cortez Blvd (SR 50) to Ridge Manor Blvd	2 LU	C/U	1,620	1.3%	64	4.0%	NO
Ridge Manor Blvd to Sumter County Line	2 LU	C/U	1,620	1.3%	64	4.0%	NO
<u>Jefferson St (SR 50A)</u>							
Cortez Blvd to MLK	2 LU	C/U	1,510	2.0%	98	6.5%	YES
MLK to N. Broad St	2 LU	C/U	1,510	1.5%	74	4.9%	NO
N. Broad St to Main St	2 O	C/U	788	0.6%	29	3.7%	NO
<u>Powerline Rd</u>							
Kettering Rd to Lockhart Rd	2LU	C/U	1,620	2.5%	123	7.6%	YES
<u>MLK</u>							
Jefferson St to Main St	2LU	C/U	584	0.4%	20	3.4%	NO
<u>Main St</u>							
Cortez Blvd to MLK	2LU	D/U	1,197	0.0%	0	0.0%	NO
MLK to Broad St	2LU	D/U	1,197	0.8%	16	1.2%	NO

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- McKethan Road
 Cortez Boulevard to Pasco County Line

- Jefferson Street (SR 50A)
 Cortez Boulevard to Martin Luther King Jr.

- Powerline Road
 Kettering Road to Lockhart Road

Figure 2 illustrates the study network.

Background Traffic

The buildout of the project is anticipated to be 2035. Therefore the 2035 background traffic utilized in this analysis will be calculated as follows:

1. PM peak hour turning movements counts will be obtained at the following intersections:
 - SR 50 (Cortez Boulevard) and East Jefferson Street
 - SR 50 (Cortez Boulevard) and Lockhart Road
 - SR 50 (Cortez Boulevard) and I-75 Ramps
 - SR 50 (Cortez Boulevard) and Windmere Road
 - SR 50 (Cortez Boulevard) and Parkland Avenue
 - SR 50 (Cortez Boulevard) and Kettering Road
 - SR 50 (Cortez Boulevard) and Ridge Manor Boulevard
 - SR 50 (Cortez Boulevard) and McKethan Road
 - SR 50 (Cortez Boulevard) and US 301
 - SR 50 (Cortez Boulevard) and Main Street
 - Jefferson Street (SR 50A) and Main Street
 - Kettering Road and Powerline Road
 - Powerline Road and Lockhart Road

2. The existing counts will be factored to peak season based on the FDOT Peak Season Adjustment Factors for Hernando County.

3. An annual growth rate for each segment contained in the Hernando County Tier 1 spreadsheet will be utilized to factor the peak season traffic to 2035. The annual growth rates are provided in Table 4.

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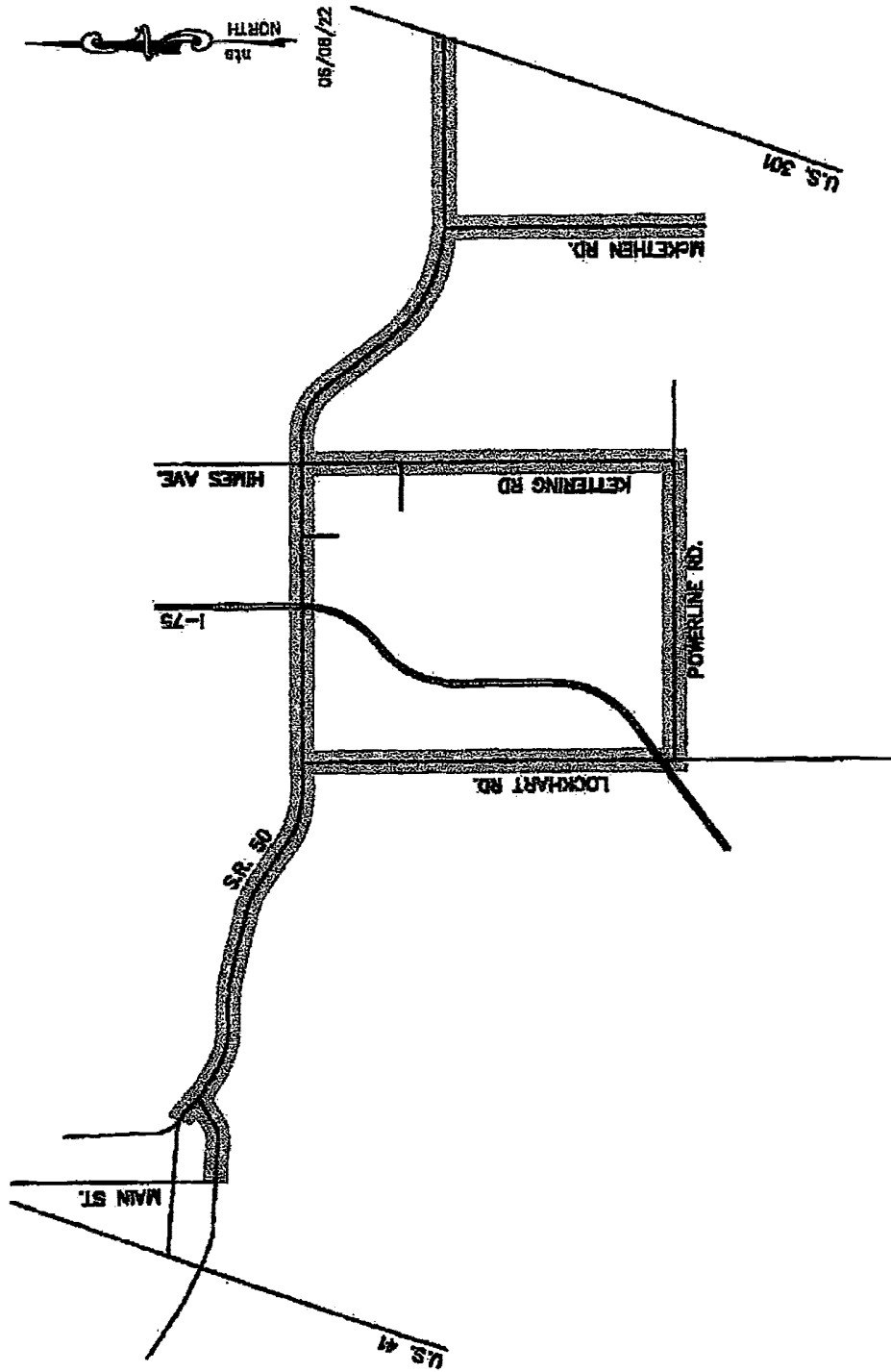


FIGURE 2
STUDY NETWORK

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Table 4.

Proposed Annual Growth Rates

<u>Segment</u>	<u>From</u>	<u>To</u>	<u>Growth Rate</u>
SR 50	West of Mains St	Main St	2.00%
	Main St	Jasmine Dr	2.00%
	Jasmine Dr	Lockhart Rd	0.90%
	Lockhart Rd	I 75	1.56%
	I 75	Windmere Rd	1.93%
	Windmere Rd	Parkland Ave	1.93%
	Parkland Ave	Sherman Hills Realignment/Access	1.93%
	Sherman Hills Realignment/Access	Kettering Rd	1.93%
	Kettering Rd	Ridge Manor Blvd	1.93%
	Ridge Manor Blvd	McKeaton Rd	1.84%
	McKeaton Rd	US 301	1.76%
Kettering Rd	Powerline Rd	Project Access	2.00%
	Project Access	SR 50	2.00%
Lockhart Rd	Powerline Rd	SR 50	2.00%
McKeaton Rd	Pasco Co Line	SR 50	1.36%
E. Jefferson St	SR 50	MLK Blvd	2.00%
Powerline Rd	Kettering Rd	Lockhart Rd	2.00%

1) Based on Tier One Spreadsheet

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Analysis Scenario

A roadway segment analysis for the PM peak hour shall be performed for roadway segments within the study network. The analysis shall be based on the capacities contained in the 2020 FDOT generalized capacity tables.

In addition, intersection analysis shall be conducted for the following intersections:

- SR 50 (Cortez Boulevard) and Jefferson Street
- SR 50 (Cortez Boulevard) and Lockhart Road
- SR 50 (Cortez Boulevard) and I-75 Ramps
- SR 50 (Cortez Boulevard) and Windmere Road
- SR 50 (Cortez Boulevard) and Parkland Avenue
- SR 50 (Cortez Boulevard) and Kettering Road
- SR 50 (Cortez Boulevard) and Ridge Manor Boulevard
- SR 50 (Cortez Boulevard) and McKethan Road
- SR 50 (Cortez Boulevard) and US 301
- SR 50 (Cortez Boulevard) and Main Street
- Jefferson Street (SR 50A) and Main Street
- Kettering Road and Cracker Crossing
- Kettering Road and Powerline Road
- Powerline Road and Lockhart Road

The following scenarios shall be considered in the analysis:

- 1) Existing peak season traffic with budgeted improvements
- 2) Year 2035 background traffic with budgeted improvements
- 3) Year 2035 background traffic with improvements required to maintain the adopted Level of Service
- 4) Year 2035 background plus project traffic with background improvements
- 5) Year 2035 background plus project traffic with background improvements and any additional improvements required due to project traffic

Intersection Level of Service Criteria

The Level of Service for the intersections shall be as follows:

- The overall intersection should operate at the adopted Level of Service
 - All movements within the intersection should operate with a V/C ratio of 1.0 or less.
-

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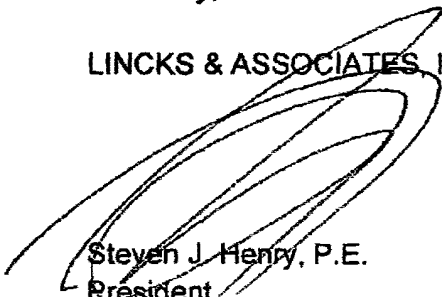
Site Access

The access for the project will be evaluated to determine if right and left turn lanes are warranted based on AM and PM peak hour volumes.

Please indicate your acceptance of the proposed methodology for the project by signing on the line provided below.

Sincerely,

LINCKS & ASSOCIATES, INC.



Steven J. Henry, P.E.
President

I concur:

Mr. Ernie Lane

Date

SJH/TSF/EJG

Enclosures

APPENDIX



ITE - TRIP GENERATION



PERIOD SETTING

Analysis Name : New Analysis
Project Name : Sunrise - DRH
Date: 12/9/2021
State/Province:
Country:
Analyst's Name:
No :
City:
Zip/Postal Code:
Client Name:
Edition: Trip Generation Manual, 11th Ed

Land Use	Independent Variable	Size	Time Period	Method	Entry	Exit	Total
210 - Single-Family Detached Housing (General Urban/Suburban)	Dwelling Units	4200 ⁽⁰⁾	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Average 0.7	764 26%	2176 74%	2940
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit (General Urban/Suburban)	Dwelling Units	600 ⁽⁰⁾	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Average 0.37	51 23%	171 77%	222
320 - Motel (General Urban/Suburban)	Rooms	75	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Average 0.35	10 38%	16 62%	26
820 - Shopping Center (>150k) (General Urban/Suburban)	1000 Sq. Ft. GLA	325	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Best Fit (LIN) T = 0.59 (X)+133.55	202 62%	123 38%	325
710 - General Office Building (General Urban/Suburban)	1000 Sq. Ft. GFA	50	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Best Fit (LOG) Ln(T) = 0.86Ln(X) +1.16	81 88%	11 12%	92
150 - Warehousing (General Urban/Suburban)	1000 Sq. Ft. GFA	40	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Best Fit (LIN) T = 0.12 (X)+23.62	22 79%	6 21%	28

(0) indicates size out of range.

TRAFFIC REDUCTIONS

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
210 - Single-Family Detached Housing	0 %	764	0 %	2176
221 - Multifamily Housing (Mid-Rise)	0 %	51	0 %	171

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
320 - Motel	0 %	10	0 %	16
820 - Shopping Center (>150k)	0 %	202	0 %	123
710 - General Office Building	0 %	81	0 %	11
150 - Warehousing	0 %	22	0 %	6

INTERNAL TRIPS

210 - Single-Family Detached Housing

Exit 2176 Demand Exit: 0 % (0)

Entry 764 Demand Entry: 0 % (0)

210 - Single-Family Detached Housing

Exit 2176 Demand Exit: 0 % (0)

Entry 764 Demand Entry: 0 % (0)

210 - Single-Family Detached Housing

Exit 2176 Demand Exit: 0 % (0)

Entry 764 Demand Entry: 0 % (0)

210 - Single-Family Detached Housing

Exit 2176 Demand Exit: 0 % (0)

Entry 764 Demand Entry: 0 % (0)

210 - Single-Family Detached Housing

Exit 2176 Demand Exit: 0 % (0)

Entry 764 Demand Entry: 0 % (0)

221 - Multifamily Housing (Mid-Rise)

Exit 171 Demand Exit: 0 % (0)

Entry 51 Demand Entry: 0 % (0)

221 - Multifamily Housing (Mid-Rise)

Exit 171 Demand Exit: 0 % (0)

Entry 51 Demand Entry: 0 % (0)

221 - Multifamily Housing (Mid-Rise)

Exit 171 Demand Exit: 0 % (0)

Entry 51 Demand Entry: 0 % (0)

221 - Multifamily Housing (Mid-Rise)

Balanced:
0

Demand Entry: 0 % (0)

Entry 51

Balanced:
0

Demand Exit: 0 % (0)

Exit 171

320 - Motel

Balanced:
0

Demand Entry: 0 % (0)

Entry 10

Balanced:
0

Demand Exit: 0 % (0)

Exit 16

820 - Shopping Center (>150k)

Balanced:
0

Demand Entry: 0 % (0)

Entry 202

Balanced:
0

Demand Exit: 0 % (0)

Exit 123

710 - General Office Building

Balanced:
0

Demand Entry: 0 % (0)

Entry 81

Balanced:
0

Demand Exit: 0 % (0)

Exit 11

150 - Warehousing

Balanced:
0

Demand Entry: 0 % (0)

Entry 22

Balanced:
0

Demand Exit: 0 % (0)

Exit 6

320 - Motel

Balanced:
0

Demand Entry: 0 % (0)

Entry 10

Balanced:
0

Demand Exit: 0 % (0)

Exit 16

820 - Shopping Center (>150k)

Balanced:
0

Demand Entry: 0 % (0)

Entry 202

Balanced:
0

Demand Exit: 0 % (0)

Exit 123

710 - General Office Building

Balanced:
0

Demand Entry: 0 % (0)

Entry 81

Balanced:
0

Demand Exit: 0 % (0)

Exit 11

Exit	171 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	171 (100%)
Total	222 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	222 (100%)

320 - Motel

	Total Trips	Internal Trips					Total	External Trips
		210 - Single-Family Detached Housing	221 - Multifamily Housing (Mid-Rise)	820 - Shopping Center (>150k)	710 - General Office Building	150 - Warehousing		
Entry	10 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	10 (100%)
Exit	16 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	16 (100%)
Total	26 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	26 (100%)

820 - Shopping Center (>150k)

	Total Trips	Internal Trips					Total	External Trips
		210 - Single-Family Detached Housing	221 - Multifamily Housing (Mid-Rise)	320 - Motel	710 - General Office Building	150 - Warehousing		
Entry	202 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	202 (100%)
Exit	123 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	123 (100%)
Total	325 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	325 (100%)

710 - General Office Building

	Total Trips	Internal Trips					Total	External Trips
		210 - Single-Family Detached Housing	221 - Multifamily Housing (Mid-Rise)	320 - Motel	820 - Shopping Center (>150k)	150 - Warehousing		
Entry	81 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	81 (100%)
Exit	11 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	11 (100%)
Total	92 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	92 (100%)

150 - Warehousing

	Total Trips	Internal Trips					Total	External Trips
		210 - Single-Family Detached Housing	221 - Multifamily Housing (Mid-Rise)	320 - Motel	820 - Shopping Center (>150k)	710 - General Office Building		
Entry	22 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	22 (100%)
Exit	6 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	6 (100%)
Total	28 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	28 (100%)

EXTERNAL TRIPS

Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
----------	----------------	----------	---------------	-------------------

Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
210 - Single-Family Detached Housing	2940	0	0	2940
221 - Multifamily Housing (Mid-Rise)	222	0	0	222
320 - Motel	26	0	0	26
820 - Shopping Center (>150k)	325	0	0	325
710 - General Office Building	92	0	0	92
150 - Warehousing	26	0	0	26

ITE DEVIATION DETAILS

Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 210 - Single-Family Detached Housing (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

320 - Motel (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

820 - Shopping Center (>150k) (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

710 - General Office Building (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

150 - Warehousing (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

SUMMARY

Total Entering	1130
Total Exiting	2593
Total Entering Reduction	0
Total Exiting Reduction	0
Total Entering Internal Capture Reduction	0
Total Exiting Internal Capture Reduction	0
Total Entering Pass-by Reduction	0
Total Exiting Pass-by Reduction	0
Total Entering Non-Pass-by Trips	1130
Total Exiting Non-Pass-by Trips	2593

PERIOD SETTING

Analysis Name : New Analysis
Project Name : Sunrise - DRH
Date: 12/9/2021
State/Province:
Country:
Analyst's Name:
No :
City:
Zip/Postal Code:
Client Name:
Edition: Trip Generation Manual, 11th Ed

Land Use	Independent Variable	Size	Time Period	Method	Entry	Exit	Total
210 - Single-Family Detached Housing (General Urban/Suburban)	Dwelling Units	4200 ⁽⁰⁾	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Average 0.94	2487 63%	1461 37%	3948
221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit (General Urban/Suburban)	Dwelling Units	300 ⁽⁰⁾	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Average 0.39	143 61%	91 39%	234
320 - Motel (General Urban/Suburban)	Rooms	75	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LIN) $T = 0.24 (X) + 11.16$	16 55%	13 45%	29
820 - Shopping Center (>150k) (General Urban/Suburban)	1000 Sq. Ft. GLA	325	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LOG) $\ln(T) = 0.72\ln(X) + 3.02$	633 48%	686 52%	1319
710 - General Office Building (General Urban/Suburban)	1000 Sq. Ft. GFA	50	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LOG) $\ln(T) = 0.83\ln(X) + 1.29$	16 17%	77 83%	93
150 - Warehousing (General Urban/Suburban)	1000 Sq. Ft. GFA	40	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Best Fit (LIN) $T = 0.12 (X) + 26.48$	9 29%	22 71%	31

(0) indicates size out of range.

TRAFFIC REDUCTIONS

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
210 - Single-Family Detached Housing	0 %	2487	0 %	1461
221 - Multifamily Housing (Mid-Rise)	0 %	143	0 %	91

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
320 - Motel	0 %	16	0 %	13
820 - Shopping Center (>150k)	0 %	633	0 %	686
710 - General Office Building	0 %	16	0 %	77
150 - Warehousing	0 %	9	0 %	22

INTERNAL TRIPS

210 - Single-Family Detached Housing

Exit	1461	Demand Exit:	0 % (0)
Entry	2487	Demand Entry:	0 % (0)

210 - Single-Family Detached Housing

Exit	1461	Demand Exit:	0 % (0)
Entry	2487	Demand Entry:	0 % (0)

210 - Single-Family Detached Housing

Exit	1461	Demand Exit:	0 % (0)
Entry	2487	Demand Entry:	0 % (0)

210 - Single-Family Detached Housing

Exit	1461	Demand Exit:	0 % (0)
Entry	2487	Demand Entry:	0 % (0)

210 - Single-Family Detached Housing

Exit	1461	Demand Exit:	0 % (0)
Entry	2487	Demand Entry:	0 % (0)

221 - Multifamily Housing (Mid-Rise)

Exit	91	Demand Exit:	0 % (0)
Entry	143	Demand Entry:	0 % (0)

221 - Multifamily Housing (Mid-Rise)

Exit	91	Demand Exit:	0 % (0)
Entry	143	Demand Entry:	0 % (0)

221 - Multifamily Housing (Mid-Rise)

Exit	91	Demand Exit:	0 % (0)
Entry	143	Demand Entry:	0 % (0)

221 - Multifamily Housing (Mid-Rise)

Balanced:	0	Demand Entry:	0 % (0)	Entry	143
Balanced:	0	Demand Exit:	0 % (0)	Exit	91

320 - Motel

Balanced:	0	Demand Entry:	0 % (0)	Entry	16
Balanced:	0	Demand Exit:	0 % (0)	Exit	13

820 - Shopping Center (>150k)

Balanced:	0	Demand Entry:	0 % (0)	Entry	633
Balanced:	0	Demand Exit:	0 % (0)	Exit	686

710 - General Office Building

Balanced:	0	Demand Entry:	0 % (0)	Entry	16
Balanced:	0	Demand Exit:	0 % (0)	Exit	77

150 - Warehousing

Balanced:	0	Demand Entry:	0 % (0)	Entry	9
Balanced:	0	Demand Exit:	0 % (0)	Exit	22

320 - Motel

Balanced:	0	Demand Entry:	0 % (0)	Entry	16
Balanced:	0	Demand Exit:	0 % (0)	Exit	13

820 - Shopping Center (>150k)

Balanced:	0	Demand Entry:	0 % (0)	Entry	633
Balanced:	0	Demand Exit:	0 % (0)	Exit	686

710 - General Office Building

Balanced:	0	Demand Entry:	0 % (0)	Entry	16
Balanced:	0	Demand Exit:	0 % (0)	Exit	77

Exit	91 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	91 (100%)
Total	234 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	234 (100%)

320 - Motel

	Total Trips	Internal Trips					Total	External Trips
		210 - Single-Family Detached Housing	221 - Multifamily Housing (Mid-Rise)	820 - Shopping Center (>150k)	710 - General Office Building	150 - Warehousing		
Entry	16 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	16 (100%)
Exit	13 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	13 (100%)
Total	29 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	29 (100%)

820 - Shopping Center (>150k)

	Total Trips	Internal Trips					Total	External Trips
		210 - Single-Family Detached Housing	221 - Multifamily Housing (Mid-Rise)	320 - Motel	710 - General Office Building	150 - Warehousing		
Entry	633 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	633 (100%)
Exit	686 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	686 (100%)
Total	1319 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1319 (100%)

710 - General Office Building

	Total Trips	Internal Trips					Total	External Trips
		210 - Single-Family Detached Housing	221 - Multifamily Housing (Mid-Rise)	320 - Motel	820 - Shopping Center (>150k)	150 - Warehousing		
Entry	16 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	16 (100%)
Exit	77 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	77 (100%)
Total	93 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	93 (100%)

150 - Warehousing

	Total Trips	Internal Trips					Total	External Trips
		210 - Single-Family Detached Housing	221 - Multifamily Housing (Mid-Rise)	320 - Motel	820 - Shopping Center (>150k)	710 - General Office Building		
Entry	9 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	9 (100%)
Exit	22 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	22 (100%)
Total	31 (100%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	31 (100%)

EXTERNAL TRIPS

Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
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Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
210 - Single-Family Detached Housing	3948	0	0	3948
221 - Multifamily Housing (Mid-Rise)	234	0	0	234
320 - Motel	29	0	0	29
820 - Shopping Center (>150k)	1319	0	0	1319
710 - General Office Building	93	0	0	93
150 - Warehousing	31	0	0	31

ITE DEVIATION DETAILS

Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 210 - Single-Family Detached Housing (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

221 - Multifamily Housing (Mid-Rise) - Not Close to Rail Transit (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

320 - Motel (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

820 - Shopping Center (>150k) (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

710 - General Office Building (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

150 - Warehousing (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

SUMMARY

Total Entering	3304
Total Exiting	2350
Total Entering Reduction	0
Total Exiting Reduction	0
Total Entering Internal Capture Reduction	0
Total Exiting Internal Capture Reduction	0
Total Entering Pass-by Reduction	0
Total Exiting Pass-by Reduction	0
Total Entering Non-Pass-by Trips	3304
Total Exiting Non-Pass-by Trips	2350

INTERNAL CAPTURE



NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	Sunrise		Organization:
Project Location:			Performed By:
Scenario Description:			Date:
Analysis Year:			Checked By:
Analysis Period:	AM Street Peak Hour		Date:

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ^a		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office	710, 150	90,000	SF	120	103	17
Retail	820	325,000	SF	325	202	123
Restaurant				0		
Cinema/Entertainment				0		
Residential	210, 221	4,800	DU's	3,162	815	2,347
Hotel	320	75	RM	26	10	16
All Other Land Uses ²				0		
				3,633	1,130	2,503

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ^a	% Transit	% Non-Motorized	Veh. Occ. ^a	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-A: Average Land Use Interchange Distances (Foot Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix ^a						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		5	0	0	0	0
Retail	4		0	0	16	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	3	23	0	0		0
Hotel	3	2	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	3,633	1,130	2,503
Internal Capture Percentage	3%	5%	2%
External Vehicle-Trips ^b	3,521	1,074	2,447
External Transit-Trips ^c	0	0	0
External Non-Motorized Trips ^d	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	10%	29%
Retail	15%	18%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	2%	1%
Hotel	0%	31%

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 6-A (C and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

⁶Person-Trips

⁷Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	Sunrise
Analysis Period:	AM Street Peak Hour

Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	103	103	1.00	17	17
Retail	1.00	202	202	1.00	123	123
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	815	815	1.00	2347	2347
Hotel	1.00	10	10	1.00	16	16

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office	2	5	11	0	0	0
Retail	36	0	16	0	17	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	47	23	468	0	0	0
Hotel	12	2	1	0	0	0

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office	0	65	0	0	0	0
Retail	4	0	0	0	15	0
Restaurant	14	18	0	0	41	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	3	34	0	0	0	0
Hotel	3	8	0	0	0	0

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ³
Office	10	93	103	93	0	0
Retail	30	172	202	172	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	16	799	815	799	0	0
Hotel	0	10	10	10	0	0
All Other Land Uses ³	0	0	0	0	0	0

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ³
Office	5	12	17	12	0	0
Retail	20	103	123	103	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	26	2321	2347	2321	0	0
Hotel	5	11	16	11	0	0
All Other Land Uses ³	0	0	0	0	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.
²Person-Trips
³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
^{*}Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	Sunrise			Organization:	
Project Location:				Performed By:	
Scenario Description:				Date:	
Analysis Year:				Checked By:	
Analysis Period:	PM Street Peak Hour			Date:	

Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ²		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office	710, 150	90,000	SF	124	25	99
Retail	820	325,000	SF	1,318	633	686
Restaurant				0		
Cinema/Entertainment				0		
Residential	210, 221	4,800	DU	4,182	2,630	1,552
Hotel	320	75	RM	29	16	13
All Other Land Uses ²				0		
				5,654	3,304	2,350

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		20	0	0	2	0
Retail	8		0	0	178	3
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	14	83	0	0		2
Hotel	0	2	0	0	0	

	Total	Entering	Exiting
All Person-Trips	5,654	3,304	2,350
Internal Capture Percentage	10%	9%	12%
External Vehicle-Trips ⁵	5,070	3,012	2,058
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Land Use	Entering Trips	Exiting Trips
Office	88%	22%
Retail	13%	28%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	7%	5%
Hotel	31%	15%

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.
²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
³Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).
⁴Enter vehicle occupancy, assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made.
⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.
⁶Person-Trips
⁷Indicates computation that has been rounded to the nearest whole number.
 Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2018.1

Project Name:	Sunrise
Analysis Period:	PM Street Peak Hour

Land Use	Table 7-P (D): Entering Trips			Table 7-P (E): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	25	25	1.00	99	99
Retail	1.00	633	633	1.00	686	686
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	2630	2630	1.00	1552	1552
Hotel	1.00	16	16	1.00	13	13

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office	0	20	4	0	2	0
Retail	14	0	199	27	176	34
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	62	652	328	0	0	47
Hotel	0	2	9	0	0	0

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office	0	51	0	0	105	0
Retail	8	0	0	0	1210	3
Restaurant	8	317	0	0	421	11
Cinema/Entertainment	2	26	0	0	105	0
Residential	14	63	0	0	0	2
Hotel	0	13	0	0	0	0

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ³
Office	22	3	25	3	0	0
Retail	85	548	633	548	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	180	2450	2630	2450	0	0
Hotel	5	11	16	11	0	0
All Other Land Uses ³	0	0	0	0	0	0

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ³
Office	22	77	99	77	0	0
Retail	189	497	686	497	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	29	1473	1502	1473	0	0
Hotel	2	11	13	11	0	0
All Other Land Uses ³	0	0	0	0	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P
²Person-Trips
³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
⁴Indicates computation that has been rounded to the nearest whole number.

Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
From OFFICE	To Office	0.0%	0.0%
	To Retail	28.0%	20.0%
	To Restaurant	63.0%	4.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	1.0%	2.0%
	To Hotel	0.0%	0.0%
From RETAIL	To Office	29.0%	2.0%
	To Retail	0.0%	0.0%
	To Restaurant	13.0%	29.0%
	To Cinema/Entertainment	0.0%	4.0%
	To Residential	14.0%	26.0%
	To Hotel	0.0%	5.0%
From RESTAURANT	To Office	31.0%	3.0%
	To Retail	14.0%	41.0%
	To Restaurant	0.0%	0.0%
	To Cinema/Entertainment	0.0%	8.0%
	To Residential	4.0%	18.0%
	To Hotel	3.0%	7.0%
From CINEMA/ENTERTAINMENT	To Office	0.0%	2.0%
	To Retail	0.0%	21.0%
	To Restaurant	0.0%	31.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	8.0%
	To Hotel	0.0%	2.0%
From RESIDENTIAL	To Office	2.0%	4.0%
	To Retail	1.0%	42.0%
	To Restaurant	20.0%	21.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	0.0%
	To Hotel	0.0%	3.0%
From HOTEL	To Office	75.0%	0.0%
	To Retail	14.0%	16.0%
	To Restaurant	9.0%	68.0%
	To Cinema/Entertainment	0.0%	0.0%
	To Residential	0.0%	2.0%
	To Hotel	0.0%	0.0%

Land Use Pairs		Weekday	
		AM Peak Hour	PM Peak Hour
To OFFICE	From Office	0.0%	0.0%
	From Retail	4.0%	31.0%
	From Restaurant	14.0%	30.0%
	From Cinema/Entertainment	0.0%	6.0%
	From Residential	3.0%	57.0%
	From Hotel	3.0%	0.0%
To RETAIL	From Office	32.0%	8.0%
	From Retail	0.0%	0.0%
	From Restaurant	8.0%	50.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	17.0%	10.0%
	From Hotel	4.0%	2.0%
To RESTAURANT	From Office	23.0%	2.0%
	From Retail	50.0%	29.0%
	From Restaurant	0.0%	0.0%
	From Cinema/Entertainment	0.0%	3.0%
	From Residential	20.0%	14.0%
	From Hotel	6.0%	5.0%
To CINEMA/ENTERTAINMENT	From Office	0.0%	1.0%
	From Retail	0.0%	26.0%
	From Restaurant	0.0%	32.0%
	From Cinema/Entertainment	0.0%	0.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To RESIDENTIAL	From Office	0.0%	4.0%
	From Retail	2.0%	46.0%
	From Restaurant	5.0%	16.0%
	From Cinema/Entertainment	0.0%	4.0%
	From Residential	0.0%	0.0%
	From Hotel	0.0%	0.0%
To HOTEL	From Office	0.0%	0.0%
	From Retail	0.0%	17.0%
	From Restaurant	4.0%	71.0%
	From Cinema/Entertainment	0.0%	1.0%
	From Residential	0.0%	12.0%
	From Hotel	0.0%	0.0%

PASSERBY PERCENT



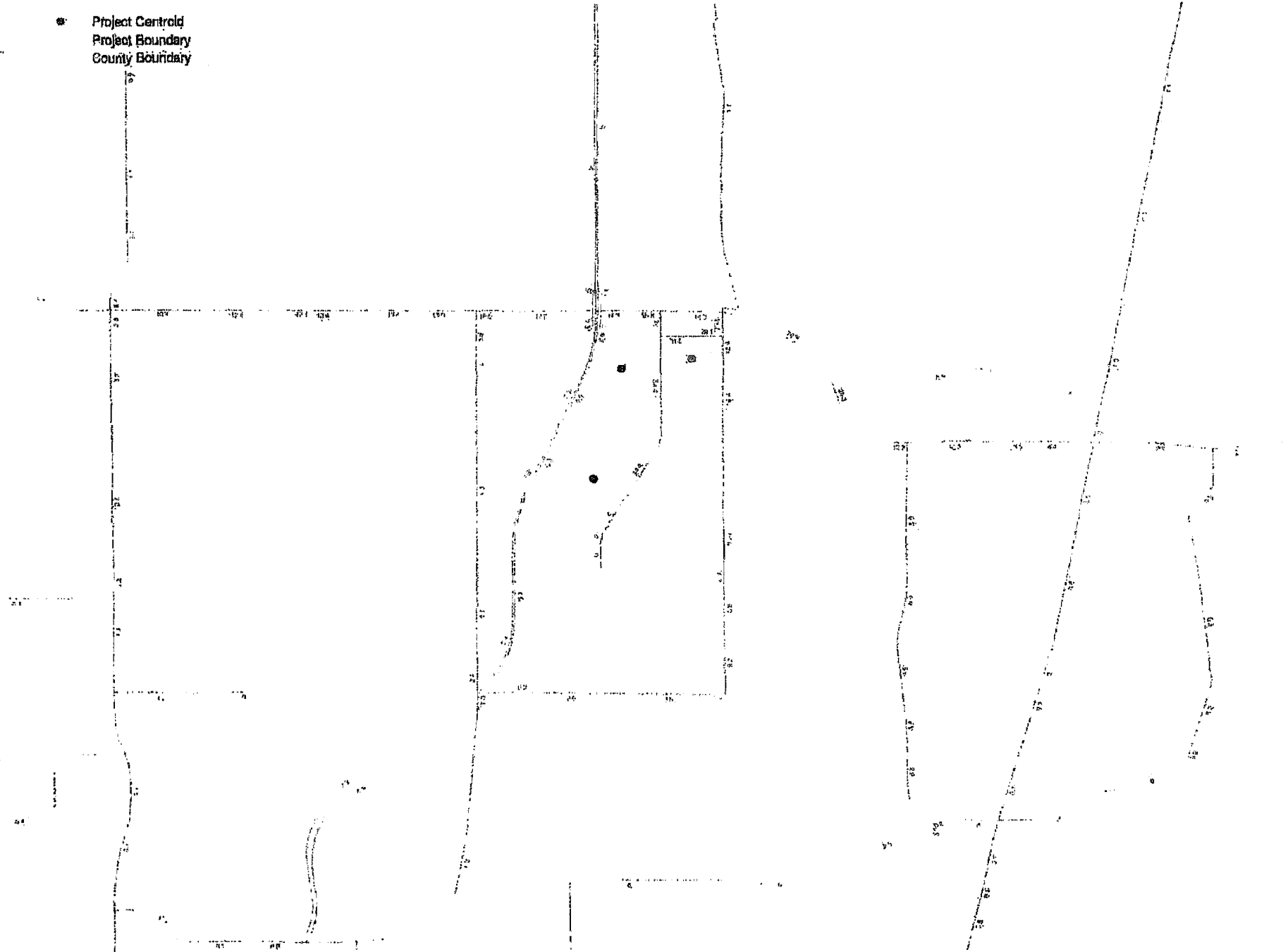
Vehicle Pass-By Rates by Land Use									
Source: ITE Trip Generation Manual, 11th Edition									
Land Use Code	820								
Land Use	Shopping Center (> 150k)								
Setting	General Urban/Suburban								
Time Period	Weekday PM Peak Period								
# Data Sites	8 Sites with GLA between 150 and 300k				16 Sites with GLA between 300 and 900k				
Average Pass-By Rate	29% for Sites with GLA between 150 and 300k				19% for Sites with GLA between 300 and 900k				
Pass-By Characteristics for Individual Sites									
GLA (000)	State or Province	Survey Year	# Interviews	Pass-By Trip (%)	Non-Pass-By Trips			Adj Street Peak Hour Volume	Source
					Primary (%)	Diverted (%)	Total (%)		
213	Florida	1990	312	28	31	41	72	—	33
225	Illinois	1994	264	35	32	33	65	1970	24
227.9	Kentucky	1993	—	34	35	31	66	—	34
235	Kentucky	1993	211	35	29	36	65	2593	2
255	Iowa	1994	222	23	38	39	77	3706	24
256	Connecticut	1994	208	27	51	22	73	3422	24
293	Illinois	1994	282	24	70	6	76	4606	13
294	Pennsylvania	1994	213	24	48	18	76	4055	24
350	Massachusetts	1994	224	18	45	37	82	2112	24
361	Virginia	1994	315	17	54	29	83	2034	24
375	North Carolina	1994	214	29	48	23	71	2053	24
413	Texas	1994	228	28	61	21	72	589	24
418	Maryland	1994	281	20	50	30	80	5610	24
450	California	1994	321	23	49	28	77	2787	24
476	Washington	1994	234	25	53	22	75	3427	24
488	Texas	1994	257	12	75	13	88	1094	13
560	Virginia	1994	437	19	49	32	81	3051	24
581	Colorado	1994	296	18	53	29	82	2939	24
598	Colorado	1994	205	17	55	28	83	3840	24
633	Texas	1994	257	10	64	26	90	—	24
667	Illinois	1994	200	16	53	31	84	2770	24
738	New Jersey	1994	283	13	75	12	87	8059	24
800	California	1994	205	21	51	28	79	7474	24
808	California	1994	240	13	73	14	87	4035	24

PROJECT TRAFFIC DISTRIBUTION



TBRPMv9.2 - 2024 E+C Network with 2045 SE Data - External Project Traffic Percent Distribution

- Project Control
- Project Boundary
- County Boundary



00000

(Licensed to TRAI O DATA CORP)

HERNANDO CO.
CONCURRENCY MANAGEMENT SYSTEM
TIER 1 TEST SPREADSHEETS



09/01
 U.S. Bank of Georgia, N.A. and its subsidiaries are not licensed to do business in the State of Florida.
 FDIC Equal Housing Lender

1. Identify each of the assets listed on the schedule and provide a brief description of the asset. This information is required for all assets.
 New York State Thruway Authority
 Clearing - 4.5000000000000000

2. Identify each of the liabilities listed on the schedule and provide a brief description of the liability. This information is required for all liabilities.
 Total Projected Net Worth
 4,500,000.00

3. Identify the date of the schedule and provide the name of the preparer. This information is required for all schedules.
 09/01/2011
 U.S. Bank of Georgia, N.A. and its subsidiaries are not licensed to do business in the State of Florida.
 FDIC Equal Housing Lender

4. Identify the date of the schedule and provide the name of the preparer. This information is required for all schedules.
 09/01/2011
 U.S. Bank of Georgia, N.A. and its subsidiaries are not licensed to do business in the State of Florida.
 FDIC Equal Housing Lender

Assets				Liabilities		Equity		Total				
Asset ID	Asset Name	Asset Type	Asset Value	Liability ID	Liability Name	Liability Type	Liability Value	Equity ID	Equity Name	Equity Type	Equity Value	Total
1	Cash	Asset	1000000	1	Accounts Payable	Liability	500000	1	Retained Earnings	Equity	500000	1000000
2	Accounts Receivable	Asset	2000000	2	Notes Payable	Liability	1000000	2	Common Stock	Equity	1000000	2000000
3	Inventory	Asset	500000	3	Long-Term Debt	Liability	2000000	3	Accumulated Depreciation	Equity	500000	500000
4	Property, Plant, and Equipment	Asset	1500000	4	Other Liabilities	Liability	1000000	4	Other Equity	Equity	1000000	1500000
5	Intangible Assets	Asset	500000	5	Deferred Tax Liabilities	Liability	500000	5	Other Equity	Equity	500000	500000
6	Goodwill	Asset	1000000	6	Other Liabilities	Liability	500000	6	Other Equity	Equity	500000	1000000
7	Other Assets	Asset	500000	7	Other Liabilities	Liability	500000	7	Other Equity	Equity	500000	500000
8	Total Assets		6000000	8	Total Liabilities		4000000	8	Total Equity		2000000	6000000

U.S. Bank of Georgia, N.A. and its subsidiaries are not licensed to do business in the State of Florida.
 FDIC Equal Housing Lender

1. Identify the federal project (Agency or project) and the fiscal year. This information is required for all projects.

2. Identify the federal project (Agency or project) and the fiscal year. This information is required for all projects.

3. Identify the federal project (Agency or project) and the fiscal year. This information is required for all projects.

4. Identify the federal project (Agency or project) and the fiscal year. This information is required for all projects.

Notes:
 1. Identify the federal project (Agency or project) and the fiscal year.
 2. Identify the federal project (Agency or project) and the fiscal year.

Agency ID	Fiscal Year	Project ID	Project Name	Agency	Funding Source	Project Type	Priority	Status	Start Date	End Date	Total Amount	FY01 (Early Network)			FY02 (Early Network)			Total Network	Type of Network	Priority	FY01 (Early Network)			FY02 (Early Network)			Total Network	Priority	Status	Total Amount			
												Q1	Q2	Q3	Q1	Q2	Q3				Q1	Q2	Q3	Q1	Q2	Q3							
...

FDOT GENERALIZED CAPACITY TABLES



TABLE 4 Generalized Peak Hour Two-Way Volumes for Florida's Urbanized Areas¹

January 2020

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES					
STATE SIGNALIZED ARTERIALS						FREEWAYS					
Class I (40 mph or higher posted speed limit)						Core Urbanized					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
2	Undivided	*	1,510	1,600	**	4	4,050	5,640	6,800	7,420	
4	Divided	*	3,420	3,580	**	6	5,960	8,310	10,220	11,150	
6	Divided	*	5,250	5,390	**	8	7,840	10,960	13,620	14,850	
8	Divided	*	7,090	7,210	**	10	9,800	13,510	17,040	18,580	
						12	11,600	16,350	20,930	23,200	
Class II (35 mph or slower posted speed limit)						Urbanized					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
2	Undivided	*	660	1,330	1,410	4	4,130	5,640	7,070	7,690	
4	Divided	*	1,310	2,920	3,040	6	6,200	8,450	10,510	11,530	
6	Divided	*	2,090	4,500	4,590	8	8,270	11,270	13,960	15,380	
8	Divided	*	2,880	6,060	6,130	10	10,350	14,110	17,310	19,220	
Non-State Signalized Roadway Adjustments (Alter corresponding state volumes by the indicated percent.)						Freeway Adjustments					
Non-State Signalized Roadways -10%						Auxiliary Lanes Present in Both Directions +1,800					
						Ramp Metering +5%					
Median & Turn Lane Adjustments						UNINTERRUPTED FLOW HIGHWAYS					
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		Lanes	Median	B	C	D	E
2	Divided	Yes	No	+5%		2	Undivided	1,050	1,620	2,180	2,930
2	Undivided	No	No	-20%		4	Divided	3,270	4,730	5,960	6,780
Multi	Undivided	Yes	No	-5%		6	Divided	4,910	7,090	8,950	10,180
Multi	Undivided	No	No	-25%		Uninterrupted Flow Highway Adjustments					
-	-	-	Yes	+5%		Lanes	Median	Exclusive left lanes	Adjustment factors		
One-Way Facility Adjustment Multiply the corresponding two-directional volumes in this table by 0.6						2	Divided	Yes	+5%		
						Multi	Undivided	Yes	-5%		
						Multi	Undivided	No	-25%		
BICYCLE MODE² (Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						¹ Volumes shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes, unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.					
Paved Shoulder/Bicycle Lane Coverage						² Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.					
		B	C	D	E	³ Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.					
0-49%	*	260	680	1,770		* Cannot be achieved using table input value defaults.					
50-84%	190	600	1,770	>1,770		** Not applicable for that level of service (later grade). For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service later grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.					
85-100%	330	1,700	>1,770	**		Source: Florida Department of Transportation, Systems Implementation Office https://www.fltda.gov/planning/systems/					
PEDESTRIAN MODE² (Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
Sidewalk Coverage											
	B	C	D	E							
0-49%	*	*	250	850							
50-84%	*	150	780	1,420							
85-100%	340	960	1,560	>1,770							
BUS MODE (Scheduled Fixed Route)³ (Buses in peak hour in peak direction)											
Sidewalk Coverage											
	B	C	D	E							
0-84%	> 5	≥ 4	≥ 3	≥ 2							
85-100%	> 4	≥ 3	≥ 2	≥ 1							

TABLE 4
(continued)

Generalized Peak Hour Two-Way Volumes for Florida's
Urbanized Areas

January 2020

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities				Interrupted Flow Facilities					
	Freeways	Core Freeways	Highways		State Arterials				Class I	
					Class I	Class II	Bicycle	Pedestrian		
ROADWAY CHARACTERISTICS										
Area type (urban, rural)	urban	urban								
Number of through lanes (both dir.)	4-10	4-12	2	4-6	2	4-8	2	4-8	4	4
Posted speed (mph)	70	65	50	50	45	50	30	30	45	45
Free flow speed (mph)	75	70	55	55	50	55	35	35	50	50
Auxiliary Lanes (n,y)	n	n								
Median (d, twlt, n, nr, r)				d	n	r	n	r	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l	l
% no passing zone			80							
Exclusive left turn lane impact (n, y)			[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)					n	n	n	n	n	n
Facility length (mi)	3	3	5	5	2	2	1.9	1.8	2	2
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.090	0.085	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.55	0.55	0.55	0.55	0.550	0.560	0.565	0.560	0.565	0.565
Peak hour factor (PHF)	0.95	0.95	0.95	0.95	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)	2,400	2,400	1,700	2,200	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	4.0	4.0	2.0	2.0	1.0	1.0	1.0	1.0	2.5	2.0
Speed Adjustment Factor (SAF)	0.975	0.975		0.975						
Capacity Adjustment Factor (CAF)	0.968	0.968		0.968						
% left turns					12	12	12	12	12	12
% right turns					12	12	12	12	12	12
CONTROL CHARACTERISTICS										
Number of signals					4	4	10	10	4	6
Arrival type (1-6)					3	3	4	4	4	4
Signal type (a, c, p)					c	c	c	c	c	c
Cycle length (C)					120	150	120	120	120	120
Effective green ratio (g/C)					0.44	0.45	0.44	0.44	0.44	0.44
MULTIMODAL CHARACTERISTICS										
Paved shoulder/bicycle lanes (n, y)									n, 50%, y	n
Outside lane width (n, t, w)									t	t
Pavement condition (d, t, u)									t	
On-street parking (n, y)										
Sidewalk (n, y)										n, 50%, y
Sidewalk/roadway separation (a, t, w)										t
Sidewalk protective barrier (n, y)										n
LEVEL OF SERVICE THRESHOLDS										
Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus		
	Density	Two-Lane %ffs	Multilane Density	Class I ats	Class II ats	Score	Score	Buses/hr		
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6		
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 mph	≤ 3.50	≤ 3.50	≤ 4		
D	≤ 31	> 66.7	≤ 31	> 18 mph	> 13 mph	≤ 4.25	≤ 4.25	< 3		
E	≤ 39	> 58.3	≤ 35	> 15 mph	> 10 mph	≤ 5.00	≤ 5.00	< 2		

% ffs = Percent free flow speed ats = Average travel speed

TABLE 5 Generalized **Peak Hour Two-Way** Volumes for Florida's
Transitioning Areas and
Areas Over 5,000 Not in Urbanized Areas¹

January 2020

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES						
STATE SIGNALIZED ARTERIALS						FREEWAYS						
Class I (40 mph or higher posted speed limit)						Lanes						
Lanes	Median	B	C	D	E	B	C	D	E			
2	Undivided	*	1,300	1,460	**	4	4,420	5,780	6,890	7,110		
4	Divided	*	3,060	3,200	**	6	6,400	8,490	10,200	10,670		
6	Divided	*	4,690	4,820	**	8	8,420	11,220	13,530	14,240		
						10	9,960	13,290	15,870	17,820		
Class II (35 mph or slower posted speed limit)						Freeway Adjustments						
Lanes	Median	B	C	D	E	Auxiliary Lanes Present in Both Directions + 1.800			Ramp Metering + 5%			
2	Undivided	*	580	1,200	1,280							
4	Divided	*	890	2,590	2,850							
6	Divided	*	1,440	4,040	4,280							
Non-State Signalized Roadway Adjustments (Alter corresponding state volumes by the indicated percent)												
Non-State Signalized Roadways - 10%												
Median & Turn Lane Adjustments												
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors								
2	Divided	Yes	No	+5%								
2	Undivided	No	No	-20%								
Multi	Undivided	Yes	No	-5%								
Multi	Undivided	No	No	-25%								
-	-	-	Yes	+ 5%								
One-Way Facility Adjustment Multiply the corresponding two-directional volumes in this table by 0.6												
BICYCLE MODE² (Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes)						UNINTERRUPTED FLOW HIGHWAYS						
Paved						Lanes	Median	B	C	D	E	
Shoulder/Bicycle Lane Coverage						2	Undivided	1,020	1,560	2,110	2,840	
0-49%						4	Divided	3,110	4,490	5,670	6,450	
50-84%						6	Divided	4,650	6,730	8,510	9,670	
85-100%												
						Uninterrupted Flow Highway Adjustments						
						Lanes	Median	Exclusive left lanes		Adjustment factors		
						2	Divided	Yes		-5%		
						Multi	Undivided	Yes		-5%		
						Multi	Undivided	No		-25%		
PEDESTRIAN MODE² (Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes)												
Sidewalk Coverage						B	C	D	E			
0-49%						*	*	250	850			
50-84%						*	150	780	1,410			
85-100%						340	950	1,540	>1,760			
BUS MODE (Scheduled Fixed Route)³ (Buses in peak hour in peak direction)												
Sidewalk Coverage						B	C	D	E			
0-84%						> 5	≥ 4	≥ 3	≥ 2			
85-100%						> 4	≥ 3	≥ 2	≥ 1			

¹ Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically noted. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used in corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.

² Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.

³ Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.

* Cannot be achieved using table input value defaults.

** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D because of because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.

Source:
Florida Department of Transportation
Systems Implementation Office
<http://www.dot.state.fl.us/planning/systems>

TABLE 5
(continued)
Generalized Peak Hour Two-Way Volumes for Florida's
Transitioning Areas and
Areas Over 5,000 Not In Urbanized Areas

January 2020

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities		Interrupted Flow Facilities						
	Freeways	Highways	State Arterials		Class I		Bicycle	Pedestrian	
			Class I	Class II	Class I	Class II			
ROADWAY CHARACTERISTICS									
Area type (urban, rural)	urban								
Number of through lanes (both dir.)	4-10	2	4-6	2	4-6	2	4-6	4	4
Posted speed (mph)	70	50	50	45	50	30	30	45	45
Free flow speed (miph)	75	55	55	50	55	35	35	50	50
Auxiliary lanes (n,y)	n								
Median (d, n, nr, r)			d	n	y	n	y	r	r
Terrain (l,r)	l	l	l	l	l	l	l	l	l
% no passing zone		60							
Exclusive left turn lane impact (n, y)		[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)				n	n	n	n	n	n
Facility length (mi)	6	5	5	1.8	2	2	2	2	2
TRAFFIC CHARACTERISTICS									
Planning analysis hour factor (K)	0.095	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.55	0.55	0.55	0.550	0.570	0.570	0.565	0.570	0.570
Peak hour factor (PHF)	0.92	0.92	0.92	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)	2,400	1,700	2,200	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	9.0	4.0	4.0	2.0	3.0	2.0	3.0	3.0	3.0
Speed Adjustment Factor (SAF)	0.975		0.975						
Capacity Adjustment Factor (CAF)	0.968		0.968						
% left turns				12	12	12	12	12	12
% right turns				12	12	12	12	12	12
CONTROL CHARACTERISTICS									
Number of signals				5	4	10	10	4	6
Arrival type (1-6)				4	3	4	4	4	4
Signal type (a, c, p)				c	c	c	c	c	c
Cycle length (C)				120	150	120	150	120	120
Effective green ratio (g/C)				0.44	0.45	0.44	0.45	0.44	0.44
MULTIMODAL CHARACTERISTICS									
Paved shoulder/bicycle lane (n, y)								n, 50%, y	n
Outside lane width (n, l, w)								l	l
Pavement condition (d, l, u)								l	
On-street parking (n, y)								n	n
Sidewalk (n, y)									n, 50%, y
Sidewalk/roadway separation (a, l, w)									l
Sidewalk protective barrier (n, y)									n
LEVEL OF SERVICE THRESHOLDS									
Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus	
	Density	Two-Lane %ffs	Multilane Density	Class I atf	Class II atf	Score	Score	Buses/hr	
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6	
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 mph	≤ 3.50	≤ 3.50	≤ 4	
D	≤ 31	> 66.7	≤ 31	> 18 mph	> 13 mph	≤ 4.25	≤ 4.25	< 3	
E	≤ 39	> 58.3	≤ 35	> 15 mph	> 10 mph	≤ 5.00	≤ 5.00	< 2	

% ffs = Percent free flow speed atf = Average travel speed

TABLE 6 Generalized **Peak Hour Two-Way Volumes** for Florida's Rural Undeveloped Areas and Developed Areas Less Than 5,000 Population¹

January 2020

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES					
STATE SIGNALIZED ARTERIALS						FREEWAYS					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
2	Undivided	*	1,220	1,350	**	4	3,650	5,040	5,950	6,640	
4	Divided	*	2,790	2,890	**	6	5,130	7,250	8,670	9,950	
6	Divided	*	4,300	4,350	**	8	6,600	9,490	11,380	13,270	
Non-State Signalized Roadway Adjustments (After corresponding state volumes by the indicated percent) Non-State Signalized Roadways - 10%						Freeway Adjustments Auxiliary Lanes Present in Both Directions + 1.800					
Median & Turn Lane Adjustments						UNINTERRUPTED FLOW HIGHWAYS					
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		Rural Undeveloped					
2	Divided	Yes	No	+5%		Lanes	Median	B	C	D	E
2	Undivided	No	No	-20%		2	Undivided	440	820	1,330	2,710
Multi	Undivided	Yes	No	-5%		4	Divided	2,960	4,270	5,290	5,960
Multi	Undivided	No	No	-25%		6	Divided	4,450	6,420	7,930	8,950
-	-	-	Yes	+5%		Developed Areas					
One-Way Facility Adjustment Multiply the corresponding two-directional volumes in this table by 0.6						Lanes	Median	B	C	D	E
						2	Undivided	980	1,490	2,020	2,710
						4	Divided	2,780	4,020	5,130	5,850
						6	Divided	4,180	6,040	7,710	8,780
						Passing Lane Adjustments Alter LOS B-D volumes in proportion to the passing lane length at the highway segment length					
BICYCLE MODE² (Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes)						Uninterrupted Flow Highway Adjustments					
Rural Undeveloped						Lanes	Median	Exclusive left lanes	Adjustment factors		
Paved Shoulder/Bicycle Lane Coverage						2	Divided	Yes	+5%		
0-49%						Multi	Undivided	Yes	-5%		
50-84%						Multi	Undivided	No	-25%		
85-100%											
Developed Areas						* Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically noted. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Traffic Capacity and Quality of Service Manual.					
Paved Shoulder/Bicycle Lane Coverage						² Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicycles or pedestrians using the facility.					
0-49%						* Cannot be achieved using table input value defaults.					
50-84%						** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.					
85-100%						Source: Florida Department of Transportation Systems Implementation Office https://www.fdot.gov/planning/strat/					
PEDESTRIAN MODE² (Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes)											
Sidewalk Coverage											
0-49%											
50-84%											
85-100%											

TABLE 6
(continued)

Generalized Peak Hour Two-Way Volumes for Florida's
Rural Undeveloped Areas and
Developed Areas Less Than 5,000 Population

January 2020

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities					Interrupted Flow Facilities				
	Freeways	Highways				Arterials	Bicycle	Pedestrian		
		Undeveloped	Developed							
ROADWAY CHARACTERISTICS										
Area type (urban, rural)	rural									
Number of through lanes (both dir.)	4-8	2	4-6	2	4-6	2	4-6	4	4	2
Posted speed (mph)	70	55	55	50	50	45	45	55	45	45
Free flow speed (mph)	75	60	60	55	55	50	50	60	50	50
Auxiliary lanes (n,y)	n									
Median (d, n, nr, r)			d		d	n	r	r	r	n
Terrain (Lr)	l	l	l	l	l	l	l	l	l	l
% no passing zone		20		60						
Exclusive left turn lanes (n, y)		[n]	y	[n]	y	y	y	y	y	y
Exclusive right turn lanes (n, y)						n	n	n	n	n
Facility length (mi)	18	10	10	5	5	1.9	2.2	4	2	2
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.105	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095
Directional distribution factor (D)	0.55	0.55	0.55	0.55	0.55	0.550	0.550	0.570	0.570	0.550
Peak hour factor (PHF)	0.88	0.88	0.88	0.88	0.88	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)	2,400	1,700	2,200	1,700	2,200	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	12.0	5.0	12.0	5.0	8.0	3.0	3.0	6.0	3.5	3.0
Speed Adjustment Factor (SAF)	0.975		0.975		0.975					
Capacity Adjustment Factor (CAF)	0.968		0.968		0.968					
% left turns						12	12		12	12
% right turns						12	12		12	12
CONTROL CHARACTERISTICS										
Number of signals						5	6	2	4	4
Arrival type (1-6)						3	3	3	5	3
Signal type (a, c, p)						c	c	a	a	a
Cycle length (C)						90	90	60	90	90
Effective green ratio (g/C)						0.44	0.44	0.37	0.44	0.44
MULTIMODAL CHARACTERISTICS										
Paved shoulder/bicycle lane (n, y)								n,50%a,y	n,50%a,y	n
Outside lane width (n, l, w)								l	l	l
Pavement condition (d, t, u)								l	l	
Sidewalk (n, y)										n,50%a,y
Sidewalk/roadway separation (a, t, w)										l
Sidewalk protective barrier (n, y)										n
LEVEL OF SERVICE THRESHOLDS										
Level of Service	Freeways	Highways								
		Two-Lane ru		Two-Lane rd	Multilane ru		Multilane rd			
		Density	%fsf	ats	%fts	Density	Density			
B	≤ 14	≤ 50	≤ 55	> 83.3	≤ 14	≤ 14				
C	≤ 22	≤ 65	≤ 50	> 75.0	≤ 22	≤ 22				
D	≤ 29	≤ 80	≤ 45	> 66.7	≤ 29	≤ 29				
E	≤ 36	> 80	≤ 40	> 58.3	≤ 34	≤ 34				
Level of Service	Arterials		Bicycle		Pedestrian					
	Major City/Co.(ats)		Score		Score					
	B	> 31 mph	≤ 2.75	≤ 2.75						
C	> 23 mph	≤ 3.50	≤ 3.50							
D	> 18 mph	≤ 4.25	≤ 4.25							
E	> 15 mph	≤ 5.00	≤ 5.00							

%fsf = Percent time spent following %fs = Percent of free flow speed ats = Average travel speed ru = Rural undeveloped rd = Rural developed

TABLE 7

Generalized Peak Hour Directional Volumes for Florida's Urbanized Areas

January 2020

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES					
STATE SIGNALIZED ARTERIALS						FREEWAYS					
Class I (40 mph or higher posted speed limit)						Core Urbanized					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
1	Undivided	*	830	880	**	2	2,230	3,100	3,740	4,080	
2	Divided	*	1,910	2,000	**	3	3,280	4,570	5,620	6,130	
3	Divided	*	2,940	3,020	**	4	4,310	6,030	7,490	8,170	
4	Divided	*	3,970	4,040	**	5	5,390	7,430	9,370	10,220	
						6	6,380	8,990	11,510	12,760	
Class II (35 mph or slower posted speed limit)						Urbanized					
Lanes	Median	B	C	D	E	Lanes	B	C	D	E	
1	Undivided	*	370	750	800	2	2,270	3,100	3,890	4,230	
2	Divided	*	730	1,630	1,700	3	3,410	4,650	5,780	6,340	
3	Divided	*	1,170	2,520	2,560	4	4,550	6,200	7,680	8,460	
4	Divided	*	1,610	3,390	3,420	5	5,690	7,760	9,520	10,570	
Non-State Signalized Roadway Adjustments (After corresponding state volumes by the indicated percent.)						Freeway Adjustments					
Non-State Signalized Roadways - 10%						Auxiliary Lane + 1,000					
						Ramp Metering + 5%					
Median & Turn Lane Adjustments						UNINTERRUPTED FLOW HIGHWAYS					
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors		Lanes	Median	B	C	D	E
1	Divided	Yes	No	+5%		1	Undivided	580	890	1,200	1,610
1	Undivided	No	No	-20%		2	Divided	1,800	2,600	3,280	3,730
Multi	Undivided	Yes	No	-5%		3	Divided	2,700	3,900	4,920	5,600
Multi	Undivided	No	No	-25%							
-	-	-	Yes	+5%		Uninterrupted Flow Highway Adjustments					
One-Way Facility Adjustment Multiply the corresponding directional volumes in this table by 1.2						Lanes	Median	Exclusive left lanes	Adjustment factors		
						1	Divided	Yes	+5%		
						Multi	Undivided	Yes	-5%		
						Multi	Undivided	No	-25%		
BICYCLE MODE² (Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)						¹ Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.					
Paved Shoulder/Bicycle Lane Coverage						² Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility.					
	B	C	D	E		³ Buses per hour shown are only for the peak hour in the single direction of the higher traffic flow.					
0-49%	*	150	390	1,000		* Cannot be achieved using table input value defaults.					
50-84%	110	340	1,000	>1,000		** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not believable because there is no maximum vehicle volume threshold using table input value defaults.					
85-100%	470	1,000	>1,000	**		Source: Florida Department of Transportation Systems Implementation Office http://www.fdot.gov/planning/qs-manual					
PEDESTRIAN MODE³ (Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes.)											
Sidewalk Coverage	B	C	D	E							
0-49%	*	*	140	480							
50-84%	*	80	440	800							
85-100%	200	540	880	>1,000							
BUS MODE (Scheduled Fixed Route)³ (Buses in peak hour in peak direction)											
Sidewalk Coverage	B	C	D	E							
0-84%	> 5	≥ 4	≥ 3	≥ 2							
85-100%	> 4	≥ 3	≥ 2	≥ 1							



TABLE 7 Generalized **Peak Hour Directional** Volumes for Florida's Urbanized Areas

January 2020

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities				Interrupted Flow Facilities					
	Freeways	Core Freeways	Highways		State Arterials				Class I	
					Class I		Class II		Bicycle	Pedestrian
ROADWAY CHARACTERISTICS										
Area type (urban, rural)	urban	urban								
Number of through lanes (both dir.)	4-10	4-12	2	4-6	2	4-8	2	4-8	4	4
Posted speed (mph)	70	65	50	50	45	50	30	30	45	45
Free flow speed (mph)	75	70	55	55	50	55	35	35	50	50
Auxiliary Lanes (n, y)	n	n								
Median (d, wlt, n, nt, r)				d	n	r	n	r	r	r
Terrain (l, r)	l	l	l	l	l	l	l	l	l	l
% no passing zone			80							
Exclusive left turn lane impact (n, y)			[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)					n	n	n	n	n	n
Facility length (mi)	3	3	5	5	2	2	1.9	1.8	2	2
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.090	0.085	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.55	0.55	0.55	0.55	0.550	0.560	0.565	0.560	0.565	0.565
Peak hour factor (PHF)	0.95	0.95	0.95	0.95	1.000	1.000	1.000	1.000	1.000	1.000
Basic saturation flow rate (pcphpl)	2,400	2,400	1,700	2,200	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	4.0	4.0	2.0	2.0	1.0	1.0	1.0	1.0	2.5	2.0
Speed Adjustment Factor (SAF)	0.975	0.975		0.975						
Capacity Adjustment Factor (CAP)	0.968	0.968		0.968						
% left turns					12	12	12	12	12	12
% right turns					12	12	12	12	12	12
CONTROL CHARACTERISTICS										
Number of signals					4	4	10	10	4	6
Arrival type (1-6)					3	3	4	4	4	4
Signal type (a, c, p)					c	c	c	c	c	c
Cycle length (C)					120	150	120	120	120	120
Effective green ratio (g/C)					0.44	0.45	0.44	0.44	0.44	0.44
MULTIMODAL CHARACTERISTICS										
Paved shoulder/bicycle lane (n, y)									n, 50%, y	n
Outside lane width (n, l, w)									t	t
Pavement condition (d, t, v)									t	
On-street parking (n, y)										
Sidewalk (n, y)										n, 50%, y
Sidewalk/roadway separation (a, t, w)										t
Sidewalk protective barrier (n, y)										n
LEVEL OF SERVICE THRESHOLDS										
Level of Service	Freeways		Highways		Arterials		Bicycle	Ped	Bus	
	Density	%ffs	Two-Lane	Multilane	Class I	Class II	Score	Score	Buses/hr.	
			Density	Density						ats	ats
B	≤ 17	> 83.3	≤ 17		> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6	
C	≤ 24	> 75.0	≤ 24		> 23 mph	> 17 mph	≤ 3.50	≤ 3.50	≤ 4	
D	≤ 31	> 66.7	≤ 31		> 18 mph	> 13 mph	≤ 4.25	≤ 4.25	≤ 3	
E	≤ 39	> 58.3	≤ 35		> 15 mph	> 10 mph	≤ 5.00	≤ 5.00	< 2	

% ffs = Percent free flow speed ats = Average travel speed

TABLE 8 Generalized Peak Hour Directional Volumes for Florida's Transitioning Areas and Areas Over 5,000 Not In Urbanized Areas¹

January 2020

INTERRUPTED FLOW FACILITIES					UNINTERRUPTED FLOW FACILITIES					
STATE SIGNALIZED ARTERIALS					FREEWAYS					
Class I (40 mph or higher posted speed limit)					Lanes	B	C	D	E	
Lanes	Median	B	C	D	E	2.	2,430	3,180	3,790	3,910
1	Undivided	*	710	800	**	3	3,520	4,670	5,610	5,870
2	Divided	*	1,740	1,820	**	4	4,630	6,170	7,440	7,830
3	Divided	*	2,670	2,740	**	5	5,480	7,310	8,730	9,800
Class II (35 mph or slower posted speed limit)					Freeway Adjustments					
Lanes	Median	B	C	D	E	Auxiliary Lane	Ramp Metering			
1	Undivided	*	330	680	720	+ 1,000	+ 5%			
2	Divided	*	500	1,460	1,600					
3	Divided	*	810	2,280	2,420					
Non-State Signalized Roadway Adjustments (Alter corresponding state volumes by the indicated percent)										
Non-State Signalized Roadways					- 10%					
Median & Turn Lane Adjustments										
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors						
1	Divided	Yes	No	+5%						
1	Undivided	No	No	-20% ^a						
Multi	Undivided	Yes	No	-5%						
Multi	Undivided	No	No	-25%						
-	-	-	Yes	+ 5%						
One-Way Facility Adjustment Multiply the corresponding directional volumes in this table by 1.2										
BICYCLE MODE² (Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes)										
Paved Shoulder/Bicycle Lane Coverage	B	C	D	E						
0-49%	*	140	320	1,000						
50-84%	100	280	940	>1,000						
85-100%	380	1,000	>1,000	**						
PEDESTRIAN MODE² (Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes)										
Sidewalk Coverage	B	C	D	E						
0-49%	*	*	140	480						
50-84%	*	80	440	800						
85-100%	200	540	880	>1,000						
BUS MODE (Scheduled Fixed Route)³ (Buses in peak hour in peak direction)										
Sidewalk Coverage	B	C	D	E						
0-84%	≥ 5	≥ 4	≥ 3	≥ 2						
85-100%	≥ 4	≥ 3	≥ 2	≥ 1						
					UNINTERRUPTED FLOW HIGHWAYS					
					Lanes	Median	B	C	D	E
					1	Undivided	560	860	1,160	1,560
					2	Divided	1,710	2,470	3,120	3,550
					3	Divided	2,560	3,700	4,680	5,320
					Uninterrupted Flow Highway Adjustments					
					Lanes	Median	Exclusive left lanes	Adjustment factors		
					1	Divided	Yes	+5%		
					Multi	Undivided	Yes	-5%		
					Multi	Undivided	No	-25%		
					¹ Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The table and deriving computer models should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual. ² Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles, not number of bicyclists or pedestrians using the facility. ³ Buses per hour shown are only for the peak hour in the single direction of the highest traffic flow. ⁴ Cannot be achieved using table input values defaulting. ⁵ Not applicable for that level of service lower grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities may be reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults. Source: Florida Department of Transportation Systems Implementation Office https://www.fltdot.gov/planning-systems					

TABLE 8 Generalized **Peak Hour Directional** Volumes for Florida's
(continued) Transitioning Areas and
Areas Over 5,000 Not In Urbanized Areas

January 2020

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities			Interrupted Flow Facilities					
	Freeways	Highways		State Arterials		Class I		Bicycle	Pedestrian
				Class I	Class II	Class I	Class II		
ROADWAY CHARACTERISTICS									
Area type (urban, rural)	urban								
Number of through lanes (both dir.)	4-10	2	4-6	2	4-6	2	4-6	4	4
Posted speed (mph)	70	50	50	45	50	50	30	45	45
Free flow speed (mph)	75	55	55	50	55	35	35	50	50
Auxiliary lanes (n, y)	n								
Median (d, n, at, r)			d	n	y	n	y	r	r
Terrain (l, r)	l	l	l	l	l	l	l	l	l
% no passing zone		60							
Exclusive left turn lane impact (n, y)		[n]	y	y	y	y	y	y	y
Exclusive right turn lanes (n, y)				n	n	n	n	n	n
Facility length (mi)	6	5	5	1.8	2	2	2	2	2
TRAFFIC CHARACTERISTICS									
Planning analysis hour factor (K)	0.098	0.090	0.090	0.090	0.090	0.090	0.090	0.090	0.090
Directional distribution factor (D)	0.55	0.55	0.55	0.550	0.570	0.570	0.565	0.570	0.570
Peak hour factor (PHF)	0.92	0.92	0.92	1.000	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pc/hpl)	2,400	1,700	2,200	1,950	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	9.0	4.0	4.0	2.0	3.0	2.0	3.0	3.0	3.0
Speed Adjustment Factor (SAF)	0.975		0.975						
Capacity Adjustment Factor (CAF)	0.968		0.968						
% left turns				12	12	12	12	12	12
% right turns				12	12	12	12	12	12
CONTROL CHARACTERISTICS									
Number of signals				5	4	10	10	4	6
Arrival type (1-6)				4	3	4	4	4	4
Signal type (a, c, p)				c	c	c	c	c	c
Cycle length (C)				120	150	120	150	120	120
Effective green ratio (g/C)				0.44	0.45	0.44	0.45	0.44	0.44
MULTIMODAL CHARACTERISTICS									
Paved shoulder/bicycle lane (n, y)								n, 50%, y	n
Outside lane width (n, t, w)								t	t
Pavement condition (d, t, u)								t	
On-street parking (n, y)								n	n
Sidewalk (n, y)									n, 50%, y
Sidewalk/roadway separation (a, t, w)									t
Sidewalk protective barrier (n, y)									n
LEVEL OF SERVICE THRESHOLDS:									
Level of Service	Freeways	Highways		Arterials		Bicycle	Ped	Bus	
	Density	Two-Lane %ffs	Multilane Density	Class I at/s	Class II at/s	Score	Score	Buses/hr	
B	≤ 17	> 83.3	≤ 17	> 31 mph	> 22 mph	≤ 2.75	≤ 2.75	≤ 6	
C	≤ 24	> 75.0	≤ 24	> 23 mph	> 17 mph	≤ 3.50	≤ 3.50	≤ 4	
D	≤ 31	> 66.7	≤ 31	> 18 mph	> 13 mph	≤ 4.25	≤ 4.25	< 3	
E	≤ 39	> 58.3	≤ 35	> 15 mph	> 10 mph	≤ 5.00	≤ 5.00	< 2	

% ffs = Percent free flow speed at/s = Average travel speed

TABLE 9

Generalized Peak Hour Directional Volumes for Florida's Rural Undeveloped Areas and Developed Areas Less Than 5,000 Population¹

January 2020

INTERRUPTED FLOW FACILITIES						UNINTERRUPTED FLOW FACILITIES																																																																																															
STATE SIGNALIZED ARTERIALS						FREEWAYS																																																																																															
Lanes	Median	B	C	D	E	Lanes	B	C	D	E																																																																																											
1	Undivided	*	670	740	**	2	2,010	2,770	3,270	3,650																																																																																											
2	Divided	*	1,530	1,580	**	3	2,820	3,990	4,770	5,470																																																																																											
3	Divided	*	2,360	2,400	**	4	3,630	5,220	6,260	7,300																																																																																											
<p>Non-State Signalized Roadway Adjustments (Alter corresponding state volumes by the indicated percent)</p> <p>Non-State Signalized Roadways - 10%</p>						<p>Freeway Adjustments Auxiliary Lane + 1,000</p>																																																																																															
<p>Median & Turn Lane Adjustments</p> <table border="1"> <thead> <tr> <th>Lanes</th> <th>Median</th> <th>Exclusive Left Lanes</th> <th>Exclusive Right Lanes</th> <th>Adjustment Factors</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Divided</td> <td>Yes</td> <td>No</td> <td>+5%</td> </tr> <tr> <td>1</td> <td>Undivided</td> <td>No</td> <td>No</td> <td>-20%</td> </tr> <tr> <td>Multi</td> <td>Undivided</td> <td>Yes</td> <td>No</td> <td>-5%^a</td> </tr> <tr> <td>Multi</td> <td>Undivided</td> <td>No</td> <td>No</td> <td>-25%</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>Yes</td> <td>+5%</td> </tr> </tbody> </table>						Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors	1	Divided	Yes	No	+5%	1	Undivided	No	No	-20%	Multi	Undivided	Yes	No	-5% ^a	Multi	Undivided	No	No	-25%	-	-	-	Yes	+5%	<p>UNINTERRUPTED FLOW HIGHWAYS</p> <table border="1"> <thead> <tr> <th colspan="6">Rural Undeveloped</th> </tr> <tr> <th>Lanes</th> <th>Median</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Undivided</td> <td>240</td> <td>450</td> <td>730</td> <td>1,490</td> </tr> <tr> <td>2</td> <td>Divided</td> <td>1,630</td> <td>2,350</td> <td>2,910</td> <td>3,280</td> </tr> <tr> <td>3</td> <td>Divided</td> <td>2,450</td> <td>3,530</td> <td>4,360</td> <td>4,920</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="6">Developed Areas</th> </tr> <tr> <th>Lanes</th> <th>Median</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Undivided</td> <td>540</td> <td>820</td> <td>1,110</td> <td>1,490</td> </tr> <tr> <td>2</td> <td>Divided</td> <td>1,530</td> <td>2,210</td> <td>2,820</td> <td>3,220</td> </tr> <tr> <td>3</td> <td>Divided</td> <td>2,300</td> <td>3,320</td> <td>4,240</td> <td>4,830</td> </tr> </tbody> </table>						Rural Undeveloped						Lanes	Median	B	C	D	E	1	Undivided	240	450	730	1,490	2	Divided	1,630	2,350	2,910	3,280	3	Divided	2,450	3,530	4,360	4,920	Developed Areas						Lanes	Median	B	C	D	E	1	Undivided	540	820	1,110	1,490	2	Divided	1,530	2,210	2,820	3,220	3	Divided	2,300	3,320	4,240	4,830
Lanes	Median	Exclusive Left Lanes	Exclusive Right Lanes	Adjustment Factors																																																																																																	
1	Divided	Yes	No	+5%																																																																																																	
1	Undivided	No	No	-20%																																																																																																	
Multi	Undivided	Yes	No	-5% ^a																																																																																																	
Multi	Undivided	No	No	-25%																																																																																																	
-	-	-	Yes	+5%																																																																																																	
Rural Undeveloped																																																																																																					
Lanes	Median	B	C	D	E																																																																																																
1	Undivided	240	450	730	1,490																																																																																																
2	Divided	1,630	2,350	2,910	3,280																																																																																																
3	Divided	2,450	3,530	4,360	4,920																																																																																																
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1	Undivided	540	820	1,110	1,490																																																																																																
2	Divided	1,530	2,210	2,820	3,220																																																																																																
3	Divided	2,300	3,320	4,240	4,830																																																																																																
<p>One-Way Facility Adjustment Multiply the corresponding directional volumes in this table by 1.2</p>						<p>Passing Lane Adjustments Alter LOS B-D volumes in proportion to the passing lane length to the highway segment length</p>																																																																																															
<p>BICYCLE MODE² (Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes)</p> <table border="1"> <thead> <tr> <th colspan="6">Rural Undeveloped</th> </tr> <tr> <th>Paved Shoulder/Bicycle Lane Coverage</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> </tr> </thead> <tbody> <tr> <td>0-49%</td> <td>*</td> <td>70</td> <td>110</td> <td>170</td> </tr> <tr> <td>50-84%</td> <td>60</td> <td>120</td> <td>180</td> <td>580</td> </tr> <tr> <td>85-100%</td> <td>140</td> <td>210</td> <td>1,000</td> <td>>1,000</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="6">Developed Areas</th> </tr> <tr> <th>Paved Shoulder/Bicycle Lane Coverage</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> </tr> </thead> <tbody> <tr> <td>0-49%</td> <td>*</td> <td>120</td> <td>260</td> <td>840</td> </tr> <tr> <td>50-84%</td> <td>100</td> <td>240</td> <td>720</td> <td>1,000</td> </tr> <tr> <td>85-100%</td> <td>320</td> <td>1,000</td> <td>>1,000</td> <td>**</td> </tr> </tbody> </table>						Rural Undeveloped						Paved Shoulder/Bicycle Lane Coverage	B	C	D	E	0-49%	*	70	110	170	50-84%	60	120	180	580	85-100%	140	210	1,000	>1,000	Developed Areas						Paved Shoulder/Bicycle Lane Coverage	B	C	D	E	0-49%	*	120	260	840	50-84%	100	240	720	1,000	85-100%	320	1,000	>1,000	**	<p>Uninterrupted Flow Highway Adjustments</p> <table border="1"> <thead> <tr> <th>Lanes</th> <th>Median</th> <th>Exclusive left lanes</th> <th>Adjustment factors</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Divided</td> <td>Yes</td> <td>+5%</td> </tr> <tr> <td>Multi</td> <td>Undivided</td> <td>Yes</td> <td>-5%</td> </tr> <tr> <td>Multi</td> <td>Undivided</td> <td>No</td> <td>-25%</td> </tr> </tbody> </table>						Lanes	Median	Exclusive left lanes	Adjustment factors	1	Divided	Yes	+5%	Multi	Undivided	Yes	-5%	Multi	Undivided	No	-25%																						
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<p>PEDESTRIAN MODE² (Multiply vehicle volumes shown below by number of directional roadway lanes to determine two-way maximum service volumes)</p> <table border="1"> <thead> <tr> <th>Sidewalk Coverage</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> </tr> </thead> <tbody> <tr> <td>0-49%</td> <td>*</td> <td>*</td> <td>120</td> <td>460</td> </tr> <tr> <td>50-84%</td> <td>*</td> <td>80</td> <td>430</td> <td>770</td> </tr> <tr> <td>85-100%</td> <td>180</td> <td>520</td> <td>860</td> <td>>1,000</td> </tr> </tbody> </table>						Sidewalk Coverage	B	C	D	E	0-49%	*	*	120	460	50-84%	*	80	430	770	85-100%	180	520	860	>1,000	<p>¹Values shown are presented as peak hour directional volumes for levels of service and are for the automobile/truck modes unless specifically stated. This table does not constitute a standard and should be used only for general planning applications. The computer models from which this table is derived should be used for more specific planning applications. The site and driving engineer model should not be used for corridor or intersection design, where more refined techniques exist. Calculations are based on planning applications of the HCM and the Transit Capacity and Quality of Service Manual.</p> <p>²Level of service for the bicycle and pedestrian modes in this table is based on number of vehicles and number of bicyclists or pedestrians using the facility.</p> <p>* Cannot be achieved using table input value defaults.</p> <p>** Not applicable for that level of service letter grade. For the automobile mode, volumes greater than level of service D become F because intersection capacities have been reached. For the bicycle mode, the level of service letter grade (including F) is not achievable because there is no maximum vehicle volume threshold using table input value defaults.</p> <p>Source: Florida Department of Transportation Systems Implementation Office http://www.fdot.com/planning/systems</p>																																																																											
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TABLE 9
(continued)

Generalized **Peak Hour Directional** Volumes for Florida's
Rural Undeveloped Areas and
Developed Areas Less Than 5,000 Population

January 2020

INPUT VALUE ASSUMPTIONS	Uninterrupted Flow Facilities					Interrupted Flow Facilities				
	Freeways	Highways				Arterials	Bicycle	Pedestrian		
		Undeveloped	Developed							
ROADWAY CHARACTERISTICS										
Area type (urban, rural)	rural									
Number of through lanes (both dir.)	4-8	2	4-6	2	4-6	2	4-6	4	4	2
Posted speed (mph)	70	55	55	50	50	45	45	55	45	45
Free flow speed (mph)	75	60	60	55	55	50	50	60	50	50
Auxiliary lanes (n,y)	n:									
Median (d, n, nr, r)			d		d	n	r	r	r	n
Terrain (l,r)	l	l	l	l	l	l	l	l	l	l
% no passing zone		20		60						
Exclusive left turn lanes (n, y)		[n]	y	[n]	y	y	y	y	y	y
Exclusive right turn lanes (n, y)						n	n	n	n	n
Facility length (mi)	18	10	10	5	5	1.9	2.2	4	2	2
TRAFFIC CHARACTERISTICS										
Planning analysis hour factor (K)	0.105	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095	0.095
Directional distribution factor (D)	0.55	0.55	0.55	0.55	0.55	0.550	0.550	0.570	0.570	0.550
Peak hour factor (PHF)	0.88	0.88	0.88	0.88	0.88	1.000	1.000	1.000	1.000	1.000
Base saturation flow rate (pcphpl)	2,400	1,700	2,200	1,700	2,200	1,950	1,950	1,950	1,950	1,950
Heavy vehicle percent	12.0	5.0	12.0	5.0	8.0	3.0	3.0	6.0	3.5	3.0
Speed Adjustment Factor (SAF)	0.975		0.975		0.975					
Capacity Adjustment Factor (CAF)	0.968		0.968		0.968					
% left turns						12	12		12	12
% right turns						12	12		12	12
CONTROL CHARACTERISTICS										
Number of signals						5	6	2	4	4
Arrival type (1-6)						3	3	3	3	3
Signal type (a, c, p)						c	c	a	a	a
Cycle length (C)						90	90	60	90	90
Effective green ratio (g/C)						0.44	0.44	0.37	0.44	0.44
MULTIMODAL CHARACTERISTICS										
Paved shoulder/bicycle lane (n, y)								n,50%,y	n,50%,y	n
Outside lane width (n, L, W)								l	l	l
Pavement condition (d, l, u)								l	l	
Sidewalk (n, y)										n,50%,y
Sidewalk/roadway separation (a, l, w)										l
Sidewalk protective barrier (n, y)										n
LEVEL OF SERVICE THRESHOLDS										
Level of Service	Freeways	Highways								
		Two-Lane ru		Two-Lane rd		Multilane ru	Multilane rd			
		Density	%ff	ais	%ffs	Density	Density			
B	≤ 14	≤ 50	≤ 55	> 88.3	≤ 14	≤ 14				
C	≤ 22	≤ 65	≤ 50	> 75.0	≤ 22	≤ 22				
D	≤ 29	≤ 80	≤ 45	> 66.7	≤ 29	≤ 29				
E	≤ 36	> 80	≤ 40	> 58.3	≤ 34	≤ 34				
Level of Service	Arterials		Bicycle		Pedestrian					
	Major City/Co. (ats)		Score		Score					
	B	> 31 mph		≤ 2.75		≤ 2.75				
	C	> 23 mph		≤ 3.50		≤ 3.50				
	D	> 18 mph		≤ 4.25		≤ 4.25				
E	> 15 mph		≤ 5.00		≤ 5.00					

%ff = Percent time spent following %ffs = Percent of free flow speed ais = Average travel speed ru = Rural undeveloped rd = Rural developed

ITE TRIP GENERATION WITH THE MINI-WAREHOUSE



PERIOD SETTING

Analysis Name : New Analysis
Project Name : Sunrise Alt **No :**
Date: 1/18/2023 **City:**
State/Province: **Zip/Postal Code:**
Country: **Client Name:**
Analyst's Name: **Edition:** Trip Generation Manual 11.1 Ed

Land Use	Independent Variable	Size	Time Period	Method	Entry	Exit	Total
151 - Mini-Warehouse (General Urban/Suburban)	1000 Sq. Ft. GFA	40	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.	Average 0.09	2 50%	2 50%	4

TRAFFIC REDUCTIONS

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
151 - Mini-Warehouse	0 %	2	0 %	2

EXTERNAL TRIPS

Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
151 - Mini-Warehouse	4	0	0	4

ITE DEVIATION DETAILS

Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m.

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 151 - Mini-Warehouse (General Urban/Suburban)
 ITE does not recommend a particular pass-by% for this case.

SUMMARY

Total Entering	2
Total Exiting	2
Total Entering Reduction	0
Total Exiting Reduction	0
Total Entering Internal Capture Reduction	0
Total Exiting Internal Capture Reduction	0
Total Entering Pass-by Reduction	0
Total Exiting Pass-by Reduction	0
Total Entering Non-Pass-by Trips	2
Total Exiting Non-Pass-by Trips	2

PERIOD SETTING

Analysis Name : New Analysis
Project Name : Sunrise Alt **No :**
Date: 1/18/2023 **City:**
State/Province: **Zip/Postal Code:**
Country: **Client Name:**
Analyst's Name: **Edition:** Trip Generation Manual 11.1 Ed

Land Use	Independent Variable	Size	Time Period	Method	Entry	Exit	Total
151 - Mini-Warehouse (General Urban/Suburban)	1000 Sq. Ft. GFA	40	Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.	Average 0.15	3 50%	3 50%	6

TRAFFIC REDUCTIONS

Land Use	Entry Reduction	Adjusted Entry	Exit Reduction	Adjusted Exit
151 - Mini-Warehouse	0 %	3	0 %	3

EXTERNAL TRIPS

Land Use	External Trips	Pass-by%	Pass-by Trips	Non-pass-by Trips
151 - Mini-Warehouse	6	0	0	6

ITE DEVIATION DETAILS

Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.

Landuse No deviations from ITE.

Methods No deviations from ITE.

External Trips 151 - Mini-Warehouse (General Urban/Suburban)
ITE does not recommend a particular pass-by% for this case.

SUMMARY

Total Entering	3
Total Exiting	3
Total Entering Reduction	0
Total Exiting Reduction	0
Total Entering Internal Capture Reduction	0
Total Exiting Internal Capture Reduction	0
Total Entering Pass-by Reduction	0
Total Exiting Pass-by Reduction	0
Total Entering Non-Pass-by Trips	3
Total Exiting Non-Pass-by Trips	3

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:		Organization:	
Project Location:		Performed By:	
Scenario Description:		Date:	
Analysis Year:		Checked By:	
Analysis Period:	AM Street Peak Hour	Date:	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office	710	50,000		92	81	11
Retail	820	325,000		325	202	123
Restaurant						
Cinema/Entertainment						
Residential	210,221	4,800		3,162	815	2,347
Hotel	320	75		26	10	16
All Other Land Uses ²				0		
				3,605	1,108	2,497

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		3	0	0	0	0
Retail	3		0	0	16	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	2	28	0	0		0
Hotel	2	2	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	3,605	1,108	2,497
Internal Capture Percentage	3%	5%	2%
External Vehicle-Trips ⁵	3,503	1,057	2,446
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	9%	27%
Retail	14%	15%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	2%	1%
Hotel	0%	25%

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	0
Analysis Period:	AM Street Peak Hour

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	81	81	1.00	11	11
Retail	1.00	202	202	1.00	123	123
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	815	815	1.00	2347	2347
Hotel	1.00	10	10	1.00	16	16

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		3	7	0	0	0
Retail	36		16	0	17	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	47	23	469	0		0
Hotel	12	2	1	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		65	0	0	0	0
Retail	3		0	0	16	0
Restaurant	11	16		0	41	0
Cinema/Entertainment	0	0	0		0	0
Residential	2	34	0	0		0
Hotel	2	8	0	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	7	74	81	74	0	0
Retail	28	174	202	174	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	18	799	815	799	0	0
Hotel	0	10	10	10	0	0
All Other Land Uses ³	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	3	8	11	8	0	0
Retail	19	104	123	104	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	25	2322	2347	2322	0	0
Hotel	4	12	16	12	0	0
All Other Land Uses ³	0	0	0	0	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A
²Person-Trips
³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator
*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:		Organization:	
Project Location:		Performed By:	
Scenario Description:		Date:	
Analysis Year:		Checked By:	
Analysis Period:	PM Street Peak Hour	Date:	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office	710	50,000		93	16	77
Retail	820	325,000		1,319	633	686
Restaurant						
Cinema/Entertainment				0		
Residential	210,221	4,800		4,182	2,630	1,552
Hotel	320	75		29	16	13
All Other Land Uses ²				0		
				5,623	3,295	2,328

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						
All Other Land Uses ²						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		15	0	0	2	0
Retail	5		0	0	178	3
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	9	63	0	0		2
Hotel	0	2	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	5,623	3,295	2,328
Internal Capture Percentage	10%	8%	12%
External Vehicle-Trips ⁵	5,065	3,016	2,049
External Transit-Trips ⁵	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	88%	22%
Retail	13%	27%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	7%	5%
Hotel	31%	15%

¹ Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

² Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³ Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

⁴ Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made.

⁵ Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

⁶ Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	0
Analysis Period:	PM Street Peak Hour

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	16	16	1.00	77	77
Retail	1.00	633	633	1.00	686	686
Restaurant	1.00	0	0	1.00	0	0
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	2630	2630	1.00	1552	1552
Hotel	1.00	16	16	1.00	13	13

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		15	3	0	2	0
Retail	14		199	27	178	34
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	62	652	326	0		47
Hotel	0	2	9	0	0	

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		51	0	0	105	0
Retail	5		0	0	1210	3
Restaurant	5	317		0	421	11
Cinema/Entertainment	1	25	0		105	0
Residential	9	63	0	0		2
Hotel	0	13	0	0	0	

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	3 14	2	16	2	0	0
Retail	80	553	633	553	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	180	2450	2630	2450	0	0
Hotel	5	11	16	11	0	0
All Other Land Uses ³	0	0	0	0	0	0

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	17	60	77	60	0	0
Retail	186	500	686	500	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	107 14	1478	1552	1478	0	0
Hotel	2	11	13	11	0	0
All Other Land Uses ³	0	0	0	0	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P
²Person-Trips
³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator
^{*}Indicates computation that has been rounded to the nearest whole number.

ITE TRIP GENERATION TABLE
WITH WAREHOUSE
(TABLES A-1 AND A-2)





TABLE A-1
AM PEAK HOUR TRIP GENERATION

Land Use	ITE LUC	Size	AM Peak Hour Trip Ends (1)			Internal Trip Ends (2)			Passerby Trip Ends (3)			New External AM Peak Hour Trip Ends		
			In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Single Family	210	4,200 DU's	764	2,176	2,940	15	24	39	0	0	0	749	2,152	2,901
Multi-Family	221	600 DU's	51	171	222	1	2	3	0	0	0	50	169	219
Motel	320	75 Rooms	10	16	26	0	5	5	0	0	0	10	11	21
Retail	820	325,000 SF	202	123	325	30	20	50	33	20	53	139	83	222
Office	710	50,000 SF	81	11	92	8	3	11	0	0	0	73	8	81
Warehouse	150	40,000 SF	<u>22</u>	<u>6</u>	<u>28</u>	<u>2</u>	<u>2</u>	<u>4</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>20</u>	<u>4</u>	<u>24</u>
Total			1,130	2,503	3,633	56	56	112	33	20	53	1,041	2,427	3,468

(1) Source - ITE Trip Generation Manual, 11th Edition.
 (2) Source - ITE Trip Generation Handbook, 3rd Edition. (NCHRP 684)
 (3) Source - ITE Trip Generation Manual, 11th Edition.
 • Passerby Trips
 Retail - 19%
 In - (202-30) x 0.19 = 33
 Out - (123-20) x 0.19 = 20



TABLE A-2
PM PEAK HOUR TRIP GENERATION

Land Use	ITE LUC	Size	PM Peak Hour Trip Ends (1)			Internal Trip Ends (2)			Passerby Trip Ends (3)			New External PM Peak Hour Trip Ends		
			In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
Single Family	210	4,200 DU's	2,487	1,461	3,948	170	58	228	0	0	0	2,317	1,403	3,720
Multi-Family	221	600 DU's	143	91	234	10	4	14	0	0	0	133	87	220
Motel	320	75 Rooms	16	13	29	5	2	7	0	0	0	11	11	22
Retail	820	325,000 SF	633	686	1,319	85	189	274	104	94	198	444	403	847
Office	710	50,000 SF	16	77	93	3	17	20	0	0	0	13	60	73
Warehouse	150	40,000 SF	9	22	31	2	5	7	0	0	0	7	17	24
		Total	3,304	2,350	5,654	275	275	550	104	94	198	2,925	1,981	4,906

(1) Source - ITE Trip Generation Manual, 11th Edition.

(2) Source - ITE Trip Generation Handbook, 3rd Edition. (NCHRP 684)

(3) Source - ITE Trip Generation Manual, 11th Edition.

• Passerby Trips

Retail - 19%

$$\text{In} - (633-85) \times 0.19 = 104$$

$$\text{Out} - (686-189) \times 0.19 = 94$$

• Passerby traffic should not exceed 10% of the adjacent street background traffic

$$2,625 \times 0.10 = 262 > 198$$

(a) PM peak hour background traffic at the intersection of Cortez Blvd and Parkland Ave

TRAFFIC COUNTS





National Data & Surveying Services

Site Code: 22-120304-001

Date: 6/21/2022

Weather: Sunny

City: Brooksville

County: Hernando

Count Times: 16:00 – 18:00

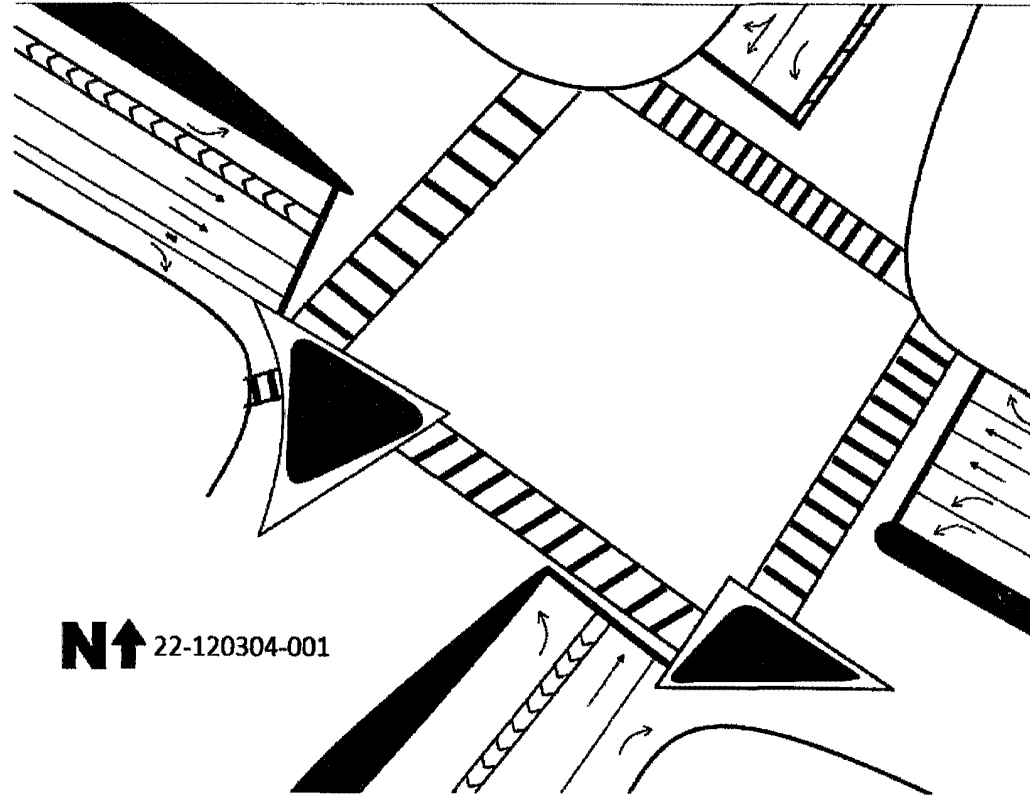
Control: Signalized

Phase	1	2	3
NT/ST	00:28	00:27	00:25
WL	00:17	-	-
WT/WL	00:25	00:44	00:36
WT/ET	00:23	00:20	00:23



N/S Street: SR 50/Cortez Blvd/Jasmine Dr

Speed: 35 MPH



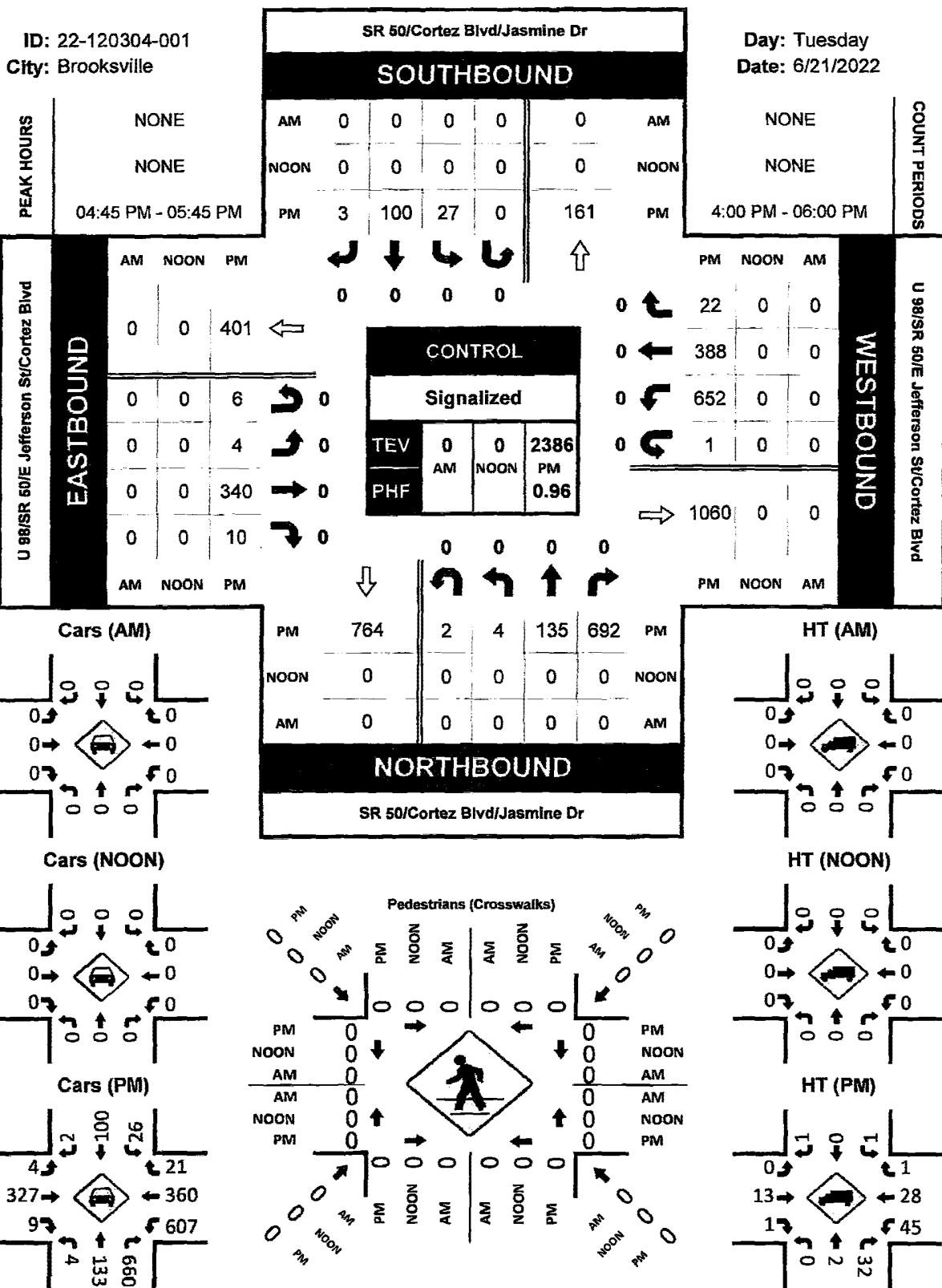
E/W Street: U 98/SR 50/E Jefferson St/Cortez Blvd

Speed: 45 MPH

Prepared by National Data & Surveying Services

SR 50/Cortez Blvd/Jasmine Dr & U 98/SR 50/E Jefferson St/Cortez Blvd

Peak Hour Turning Movement Count





National Data & Surveying Services

Site Code: 22-120304-002

Date: 6/21/2022

Weather: Sunny

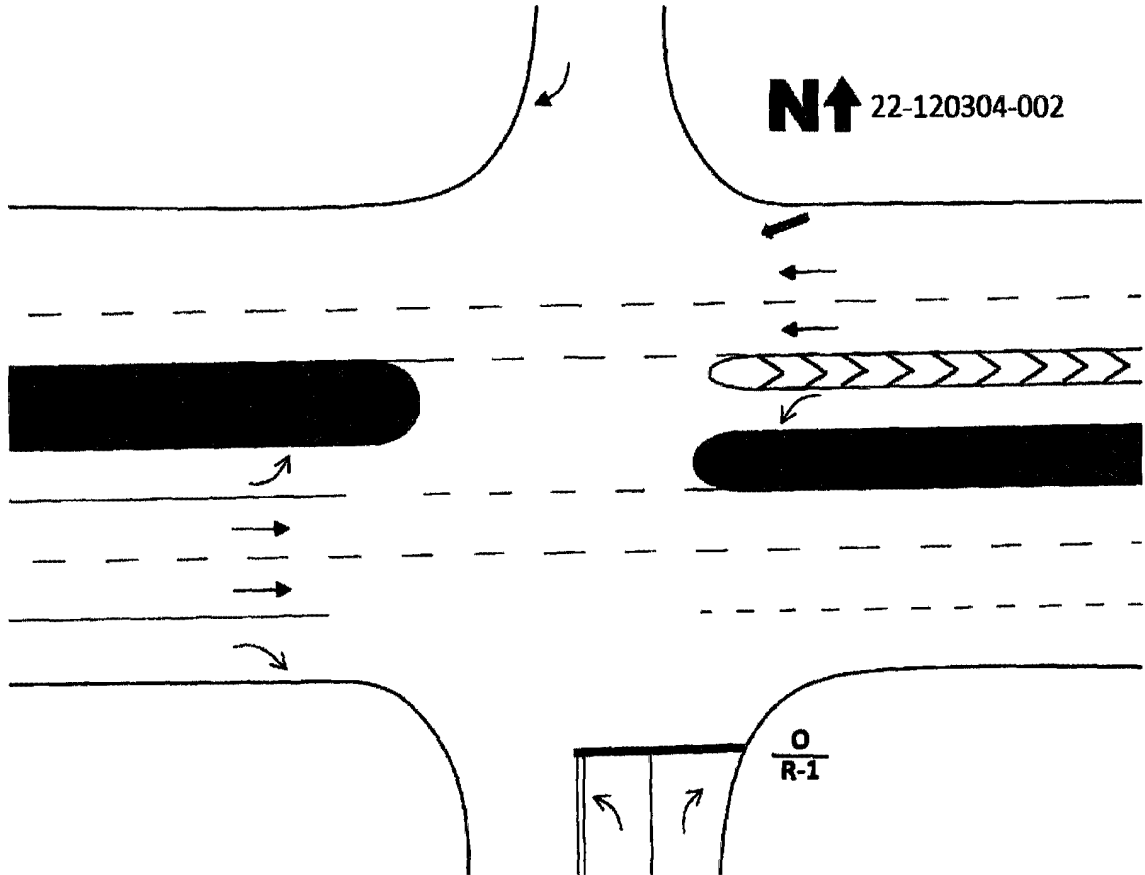
City: Brooksville

County: Hernando

Count Times: 16:00 - 18:00

Control: 1-Way Stop(NB)

N↑	N/S Street: Lockhart Rd	Speed: 55 MPH
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E/W Street: US 98/SR 50/Cortez Blvd	Speed: 60 MPH
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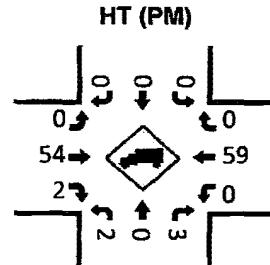
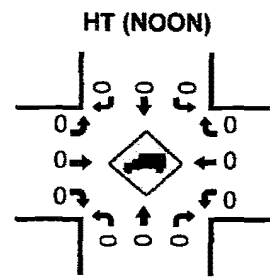
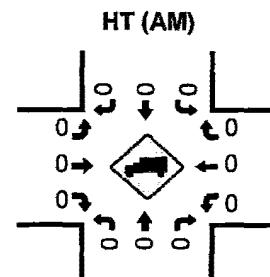
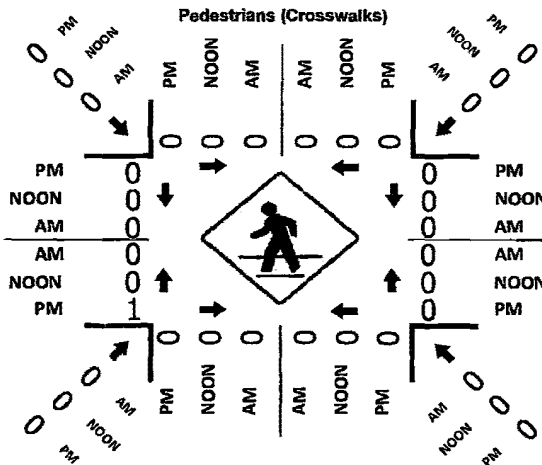
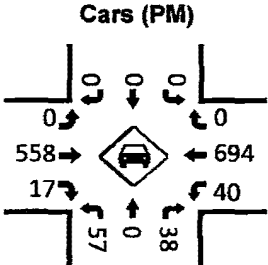
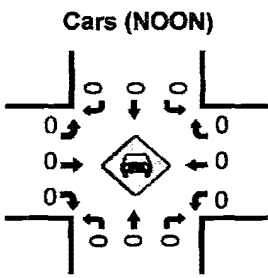
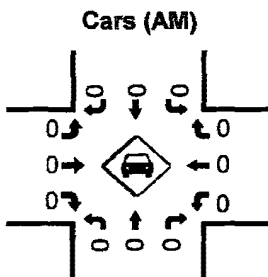
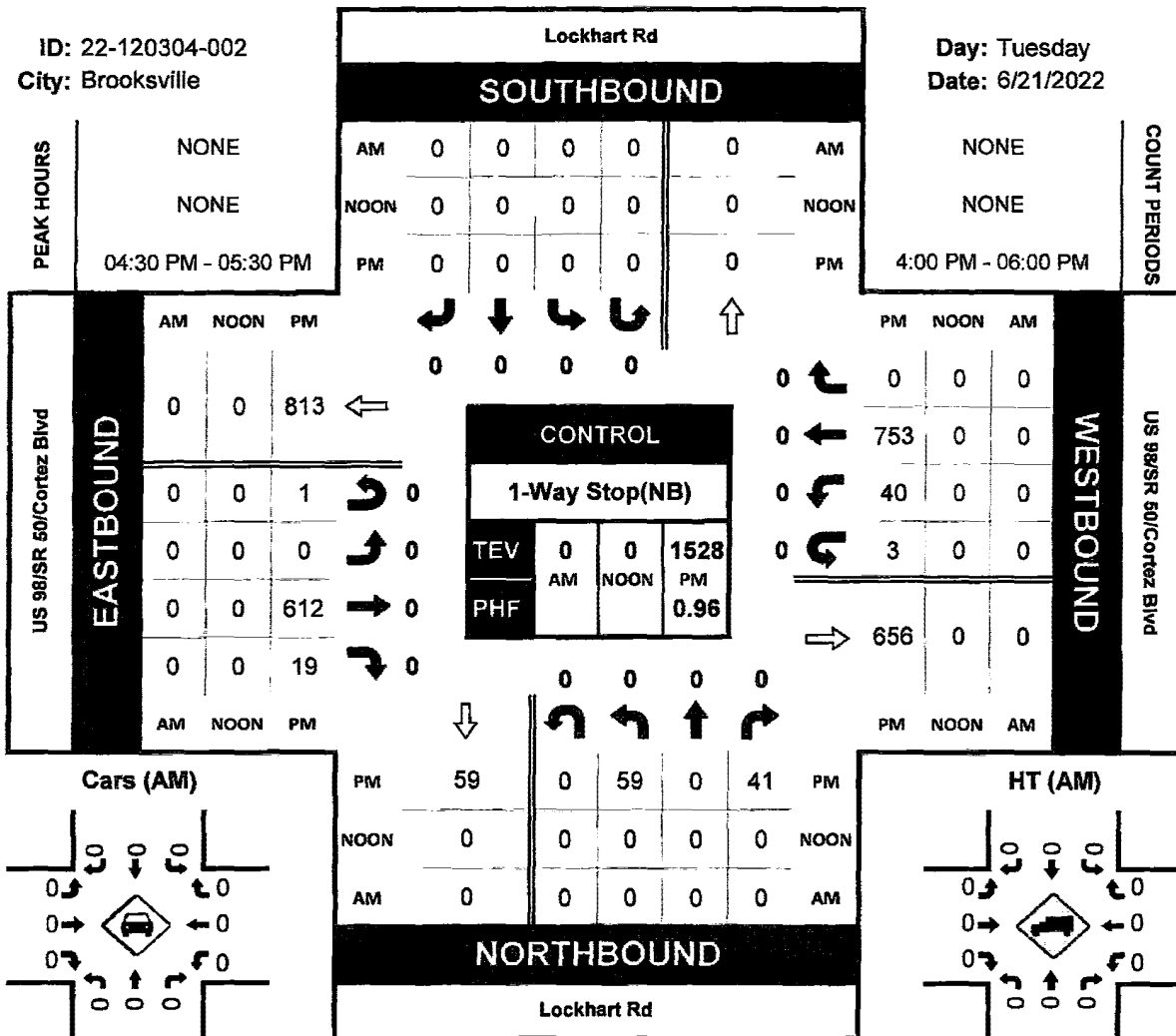
Prepared by National Data & Surveying Services

Lockhart Rd & US 98/SR 50/Cortez Blvd

Peak Hour Turning Movement Count

ID: 22-120304-002
City: Brooksville

Day: Tuesday
Date: 6/21/2022





National Data & Surveying Services

Site Code: 22-120304-003

Date: 6/21/2022

Weather: Sunny

City: Brooksville

County: Hernando

Count Times: 16:00 – 18:00

Control: Signalized

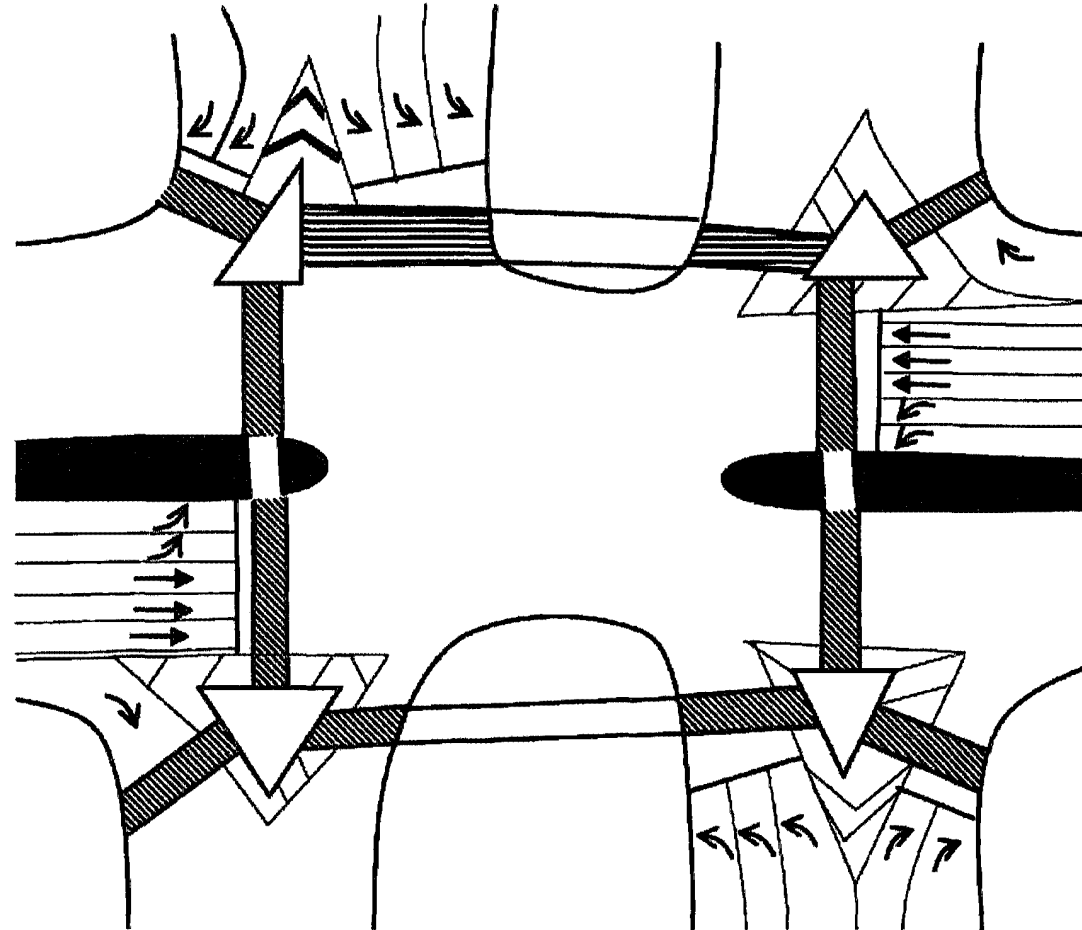
Phase	1	2	3
NL/NR	00:21	00:25	00:28
SL/SR	00:28	00:30	00:38
EL/WL	00:24	00:34	00:24
ET/WT	00:50	00:40	00:47



N/S Street: I-75/SR 93 NB & SB Ramps

Speed: 45 MPH

N↑ 22-120304-003



E/W Street: US 98/SR 50/Cortez Blvd

Speed: 60 MPH

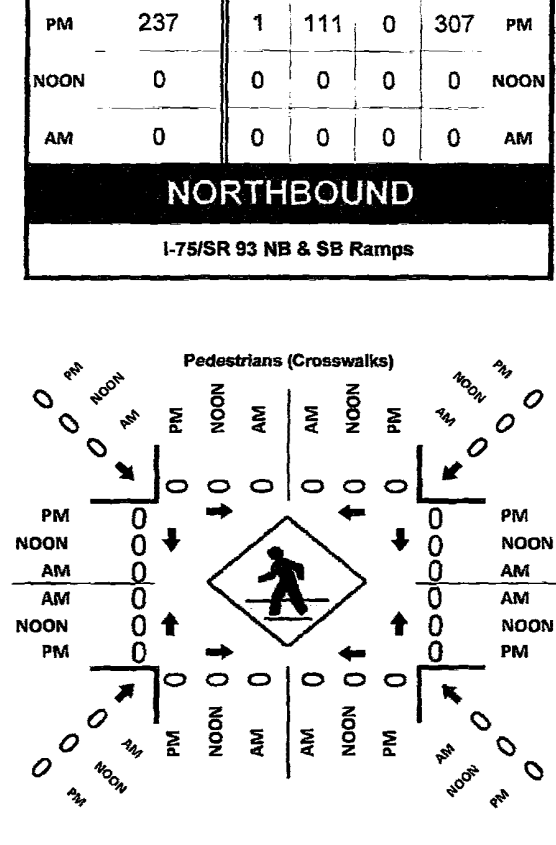
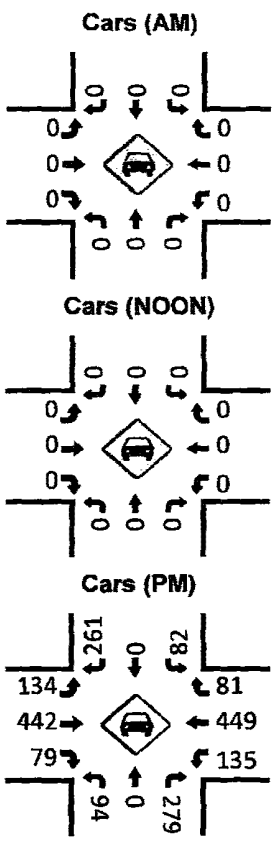
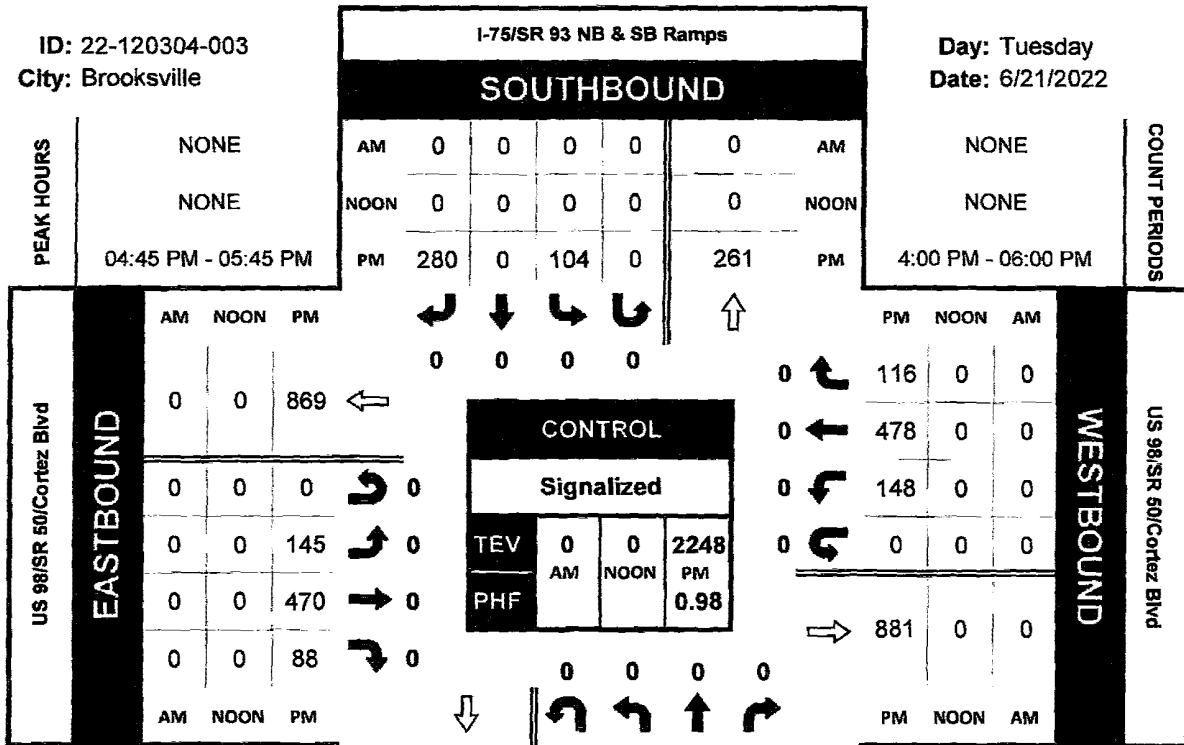
Prepared by National Data & Surveying Services

I-75/SR 93 NB & SB Ramps & US 98/SR 50/Cortez Blvd

Peak Hour Turning Movement Count

ID: 22-120304-003
City: Brooksville

Day: Tuesday
Date: 6/21/2022





National Data & Surveying Services

Site Code: 22-120304-004

Date: 6/21/2022

Weather: Sunny

City: Brooksville

County: Hernando

Count Times: 16:00 – 18:00

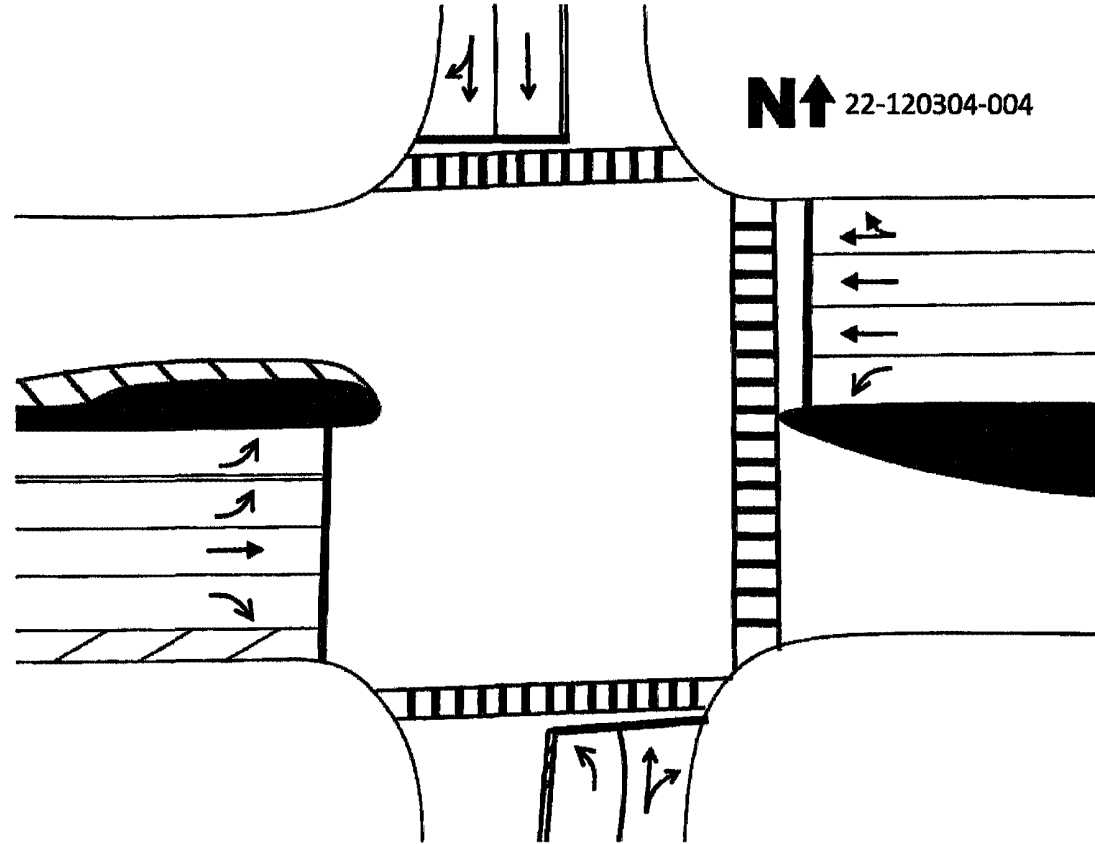
Control: Signalized

Phase	1	2	3
NT/NL	00:38	-	-
NL/SL	-	00:25	00:24
ET/EL	00:22	-	-
ET/WT	00:53	00:40	00:41



N/S Street: Bronson Blvd/Windmere Rd

Speed: N/A



N↑ 22-120304-004

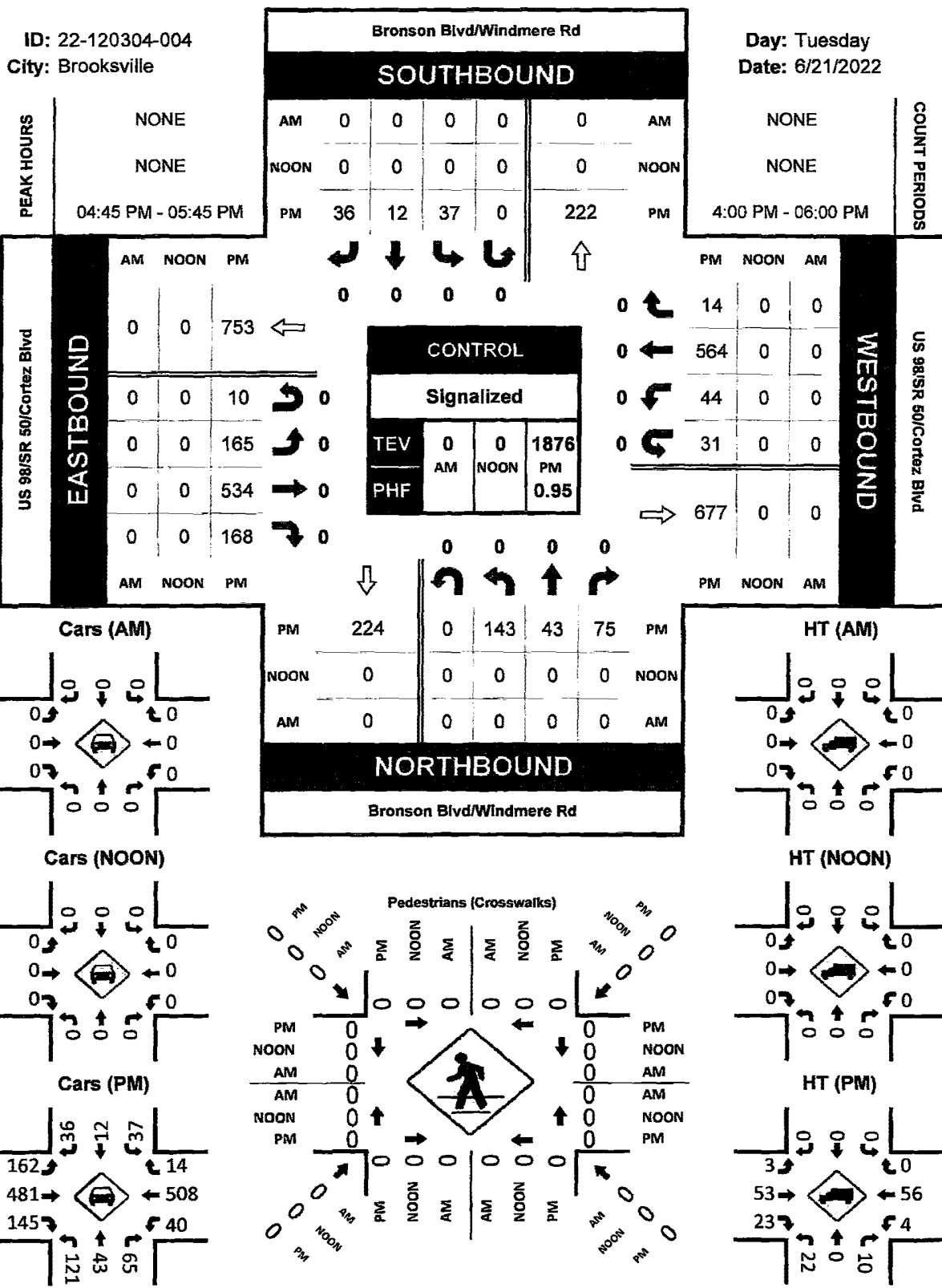
E/W Street: US 98/SR 50/Cortez Blvd

Speed: 45 MPH

Prepared by National Data & Surveying Services

Bronson Blvd/Windmere Rd & US 98/SR 50/Cortez Blvd

Peak Hour Turning Movement Count





National Data & Surveying Services

Site Code: 22-120304-005

Date: 6/21/2022

Weather: Sunny

City: Brooksville

County: Hernando

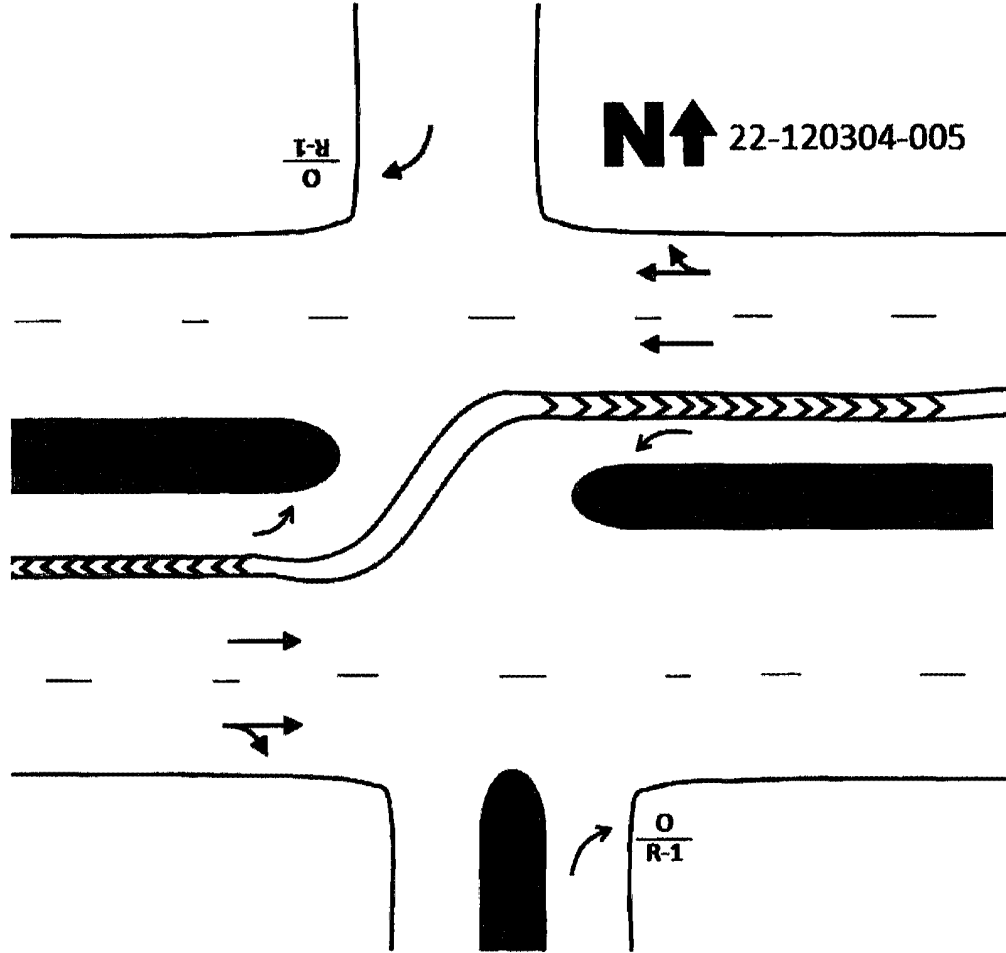
Count Times: 16:00 – 18:00

Control: 2-Way Stop(NB/SB)



N/S Street: Parkland Ave

Speed: 30 MPH



E/W Street: US 98/SR 50/Cortez Blvd/Parkland Ave

Speed: 45 MPH

Prepared by National Data & Surveying Services

Parkland Ave & US 98/SR 50/Cortez Blvd

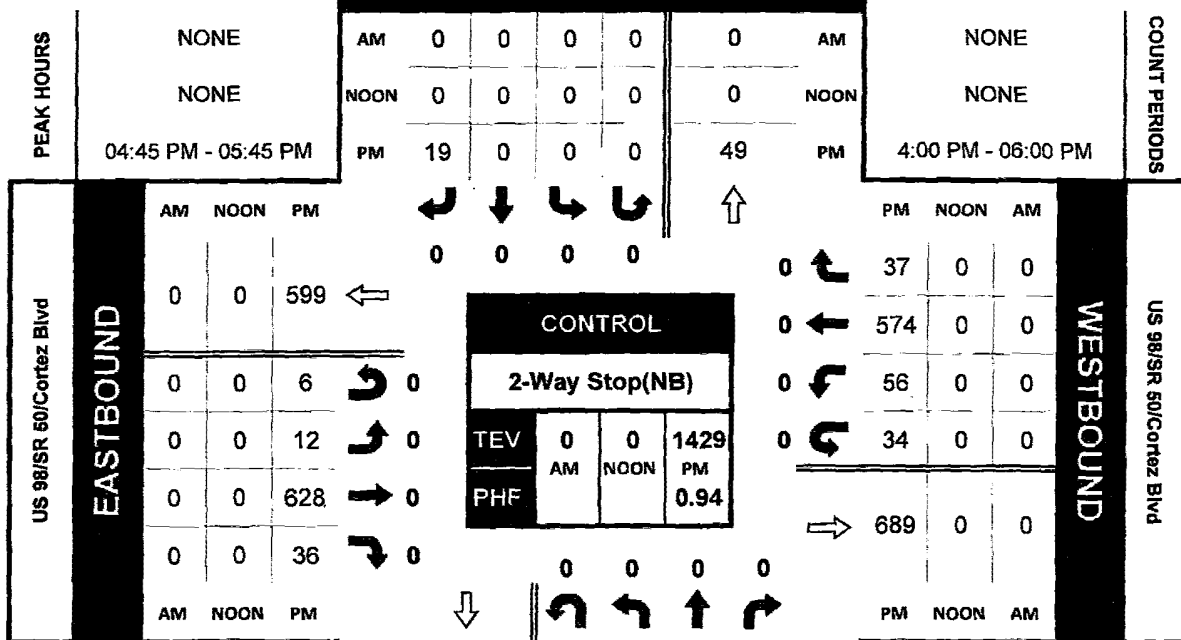
Peak Hour Turning Movement Count

ID: 22-120304-005

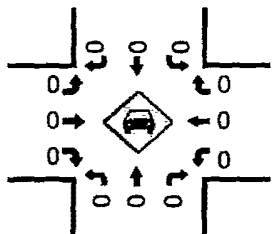
City: Brooksville

Day: Tuesday

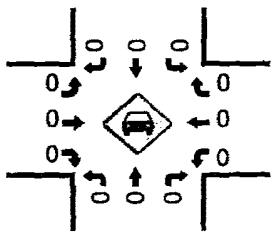
Date: 6/21/2022



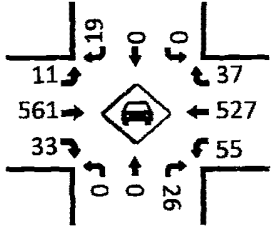
Cars (AM)



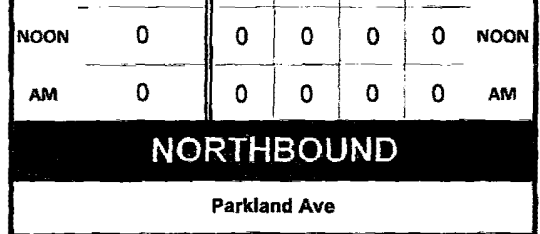
Cars (NOON)



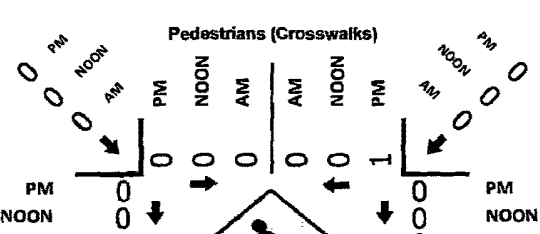
Cars (PM)



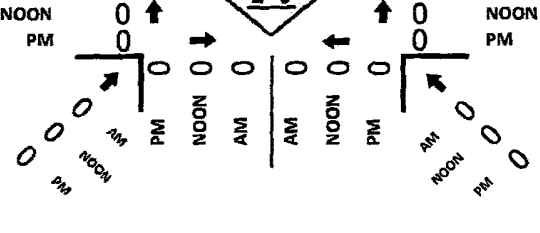
HT (AM)



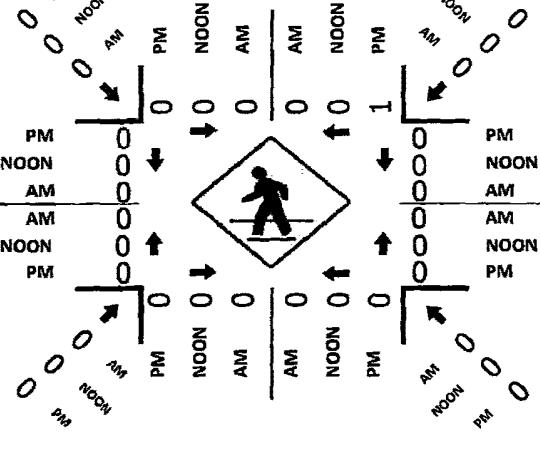
HT (NOON)



HT (PM)



Pedestrians (Crosswalks)





National Data & Surveying Services

Site Code: 22-120304-006

Date: 6/21/2022

Weather: Sunny

City: Brooksville

County: Hernando

Count Times: 16:00 – 18:00

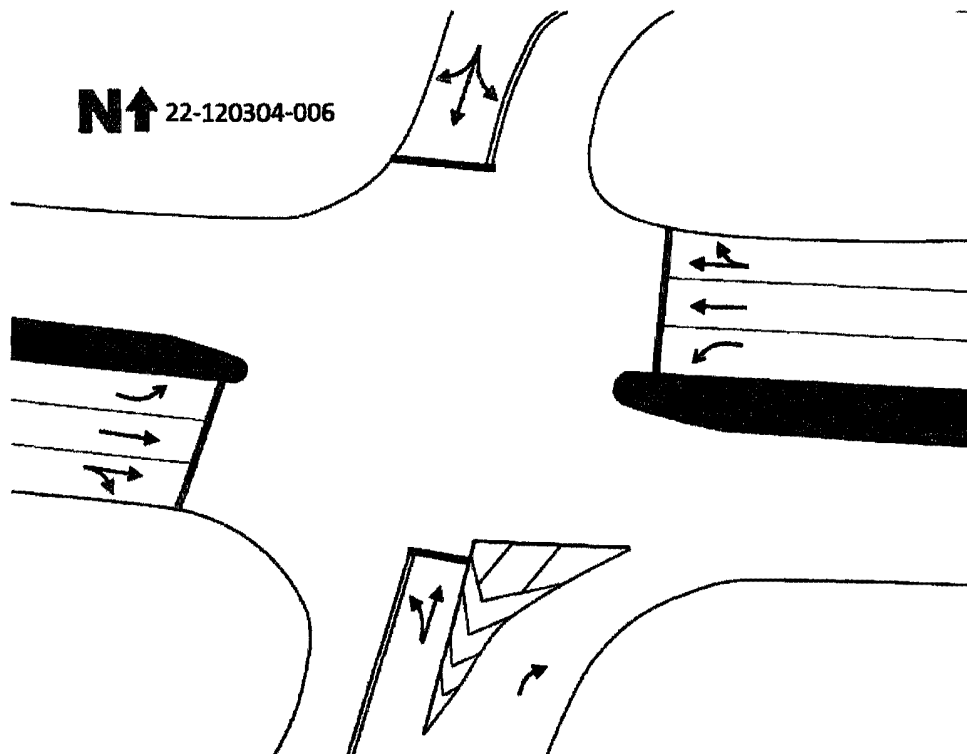
Control: Signalized

Phase	1	2	3
NL	00:33	00:19	00:45
ET/WT	01:13	01:17	00:56



N/S Street: Kettering Rd/Croom Rital Rd

Speed: 55 MPH



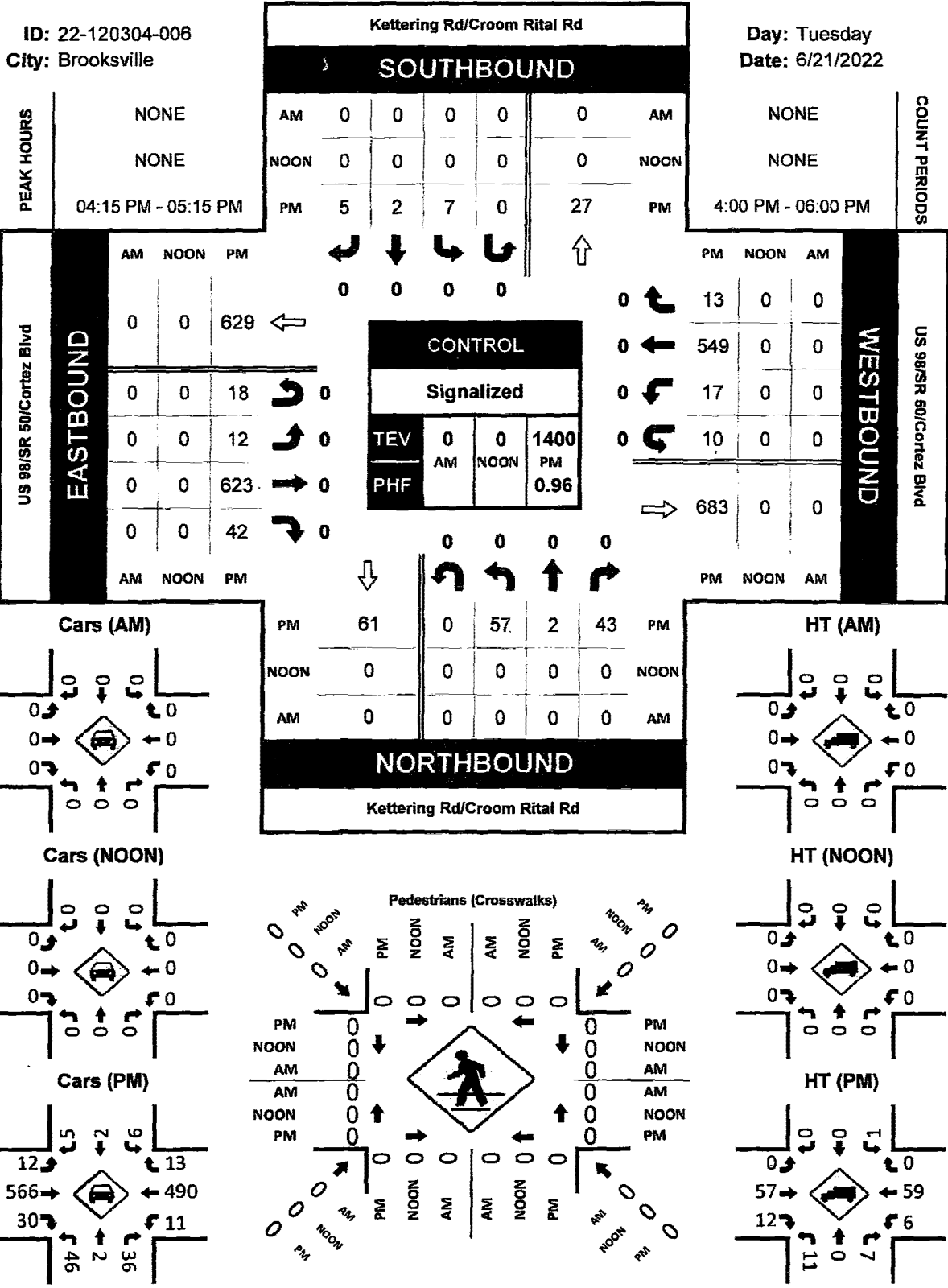
E/W Street: US 98/SR 50/Cortez Blvd

Speed: 50 MPH

Prepared by National Data & Surveying Services

Kettering Rd/Croom Rital Rd & US 98/SR 50/Cortez Blvd

Peak Hour Turning Movement Count





National Data & Surveying Services

Site Code: 22-120304-007

Date: 6/21/2022

Weather: Sunny

City: Brooksville

County: Hernando

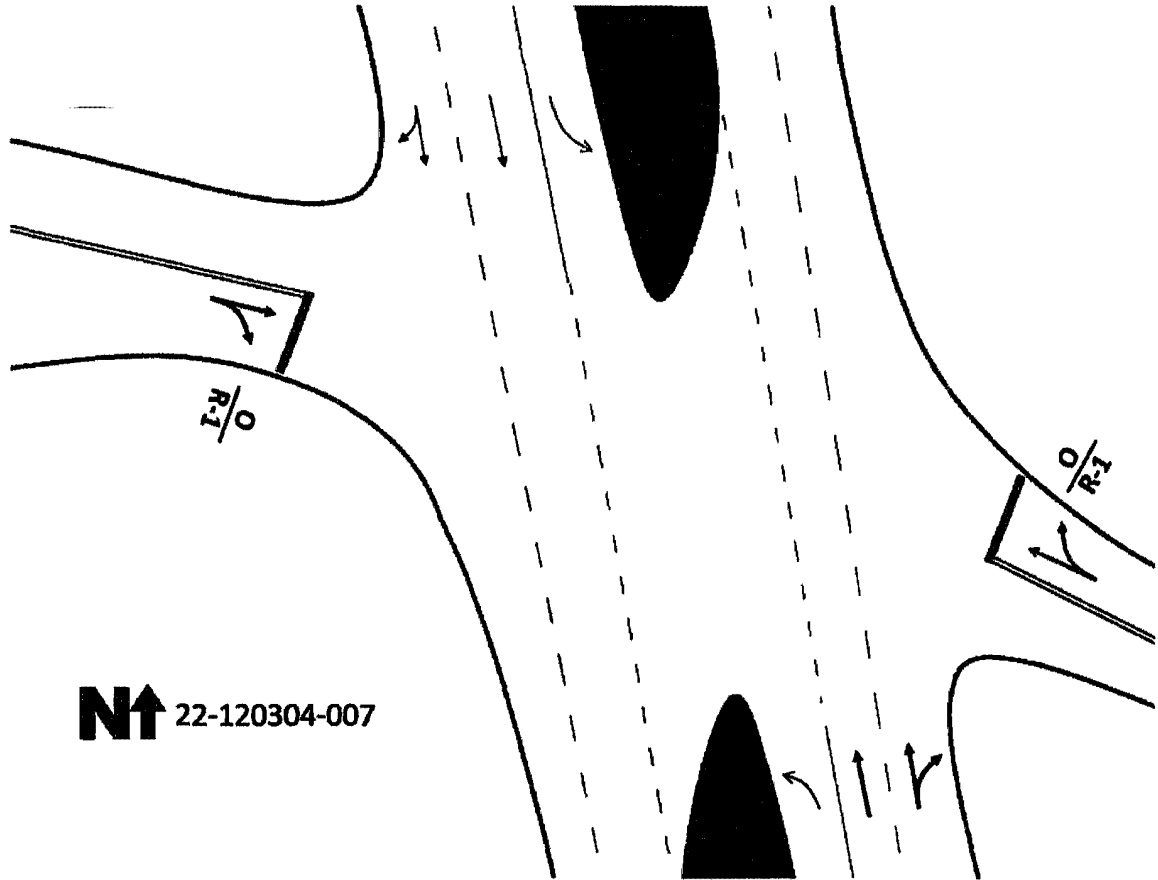
Count Times: 16:00 – 18:00

Control: 2-Way Stop(EB/WB)



N/S Street: US 98/SR 50/Cortez Blvd

Speed: 50 MPH



N↑ 22-120304-007

E/W Street: Ridge Manor Blvd

Speed: 45 MPH

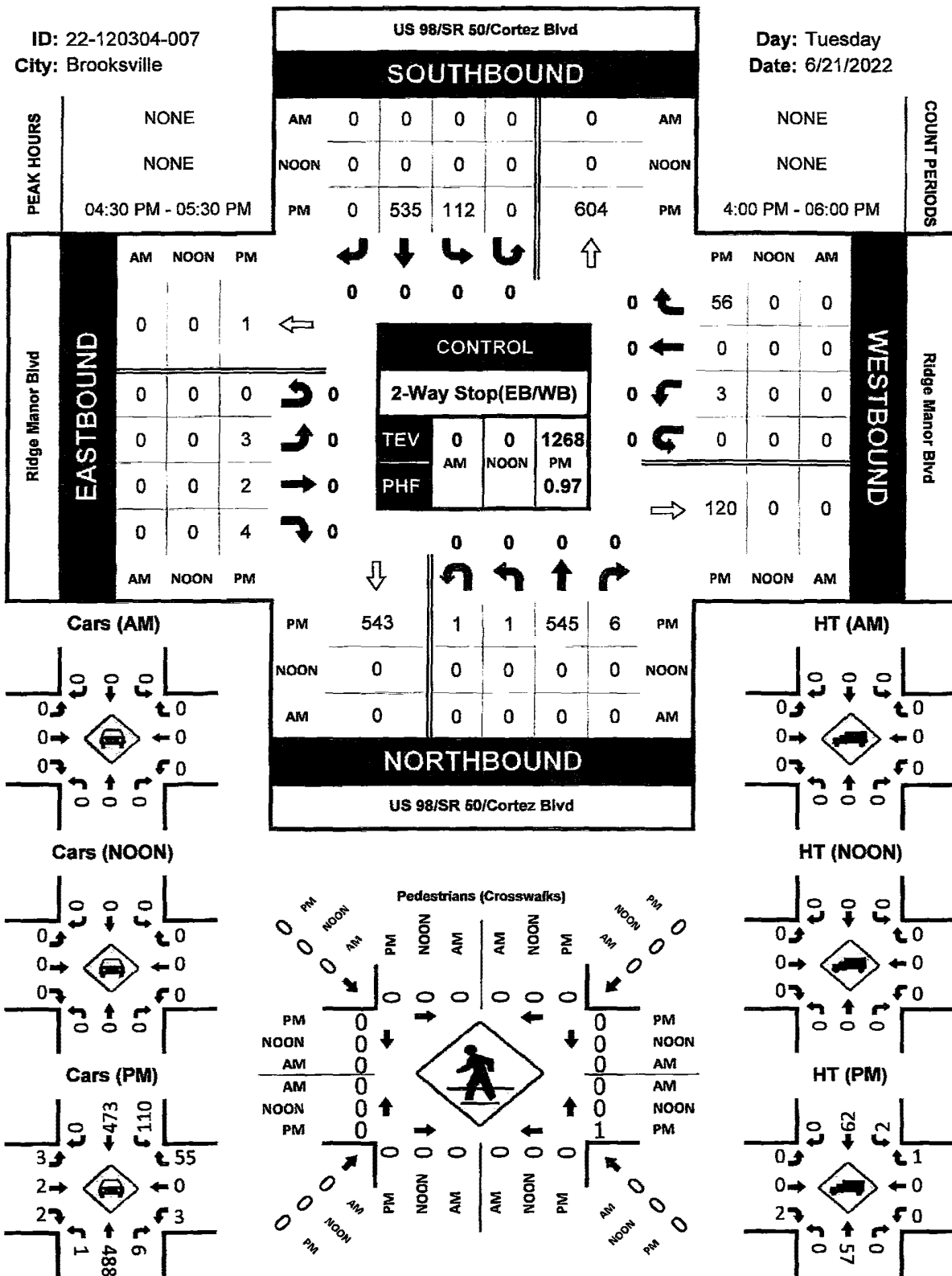
Prepared by National Data & Surveying Services

US 98/SR 50/Cortez Blvd & Ridge Manor Blvd

Peak Hour Turning Movement Count

ID: 22-120304-007
City: Brooksville

Day: Tuesday
Date: 6/21/2022

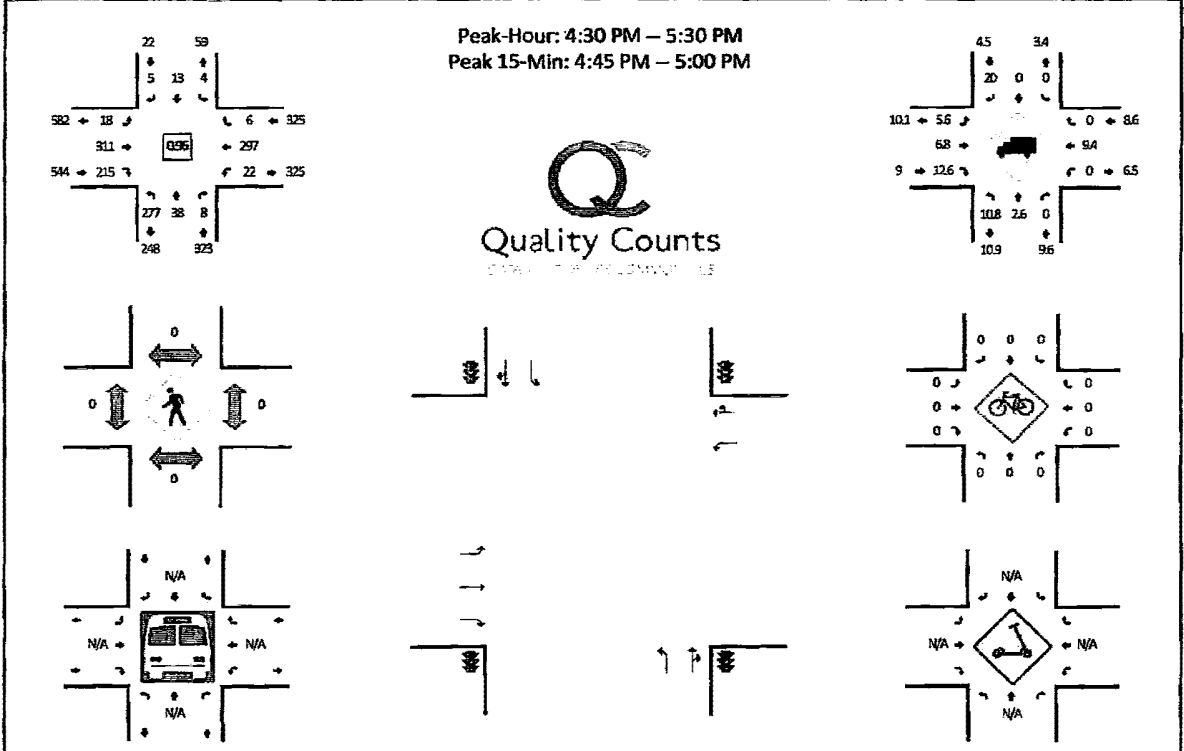


Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: McKethan Road/Olancha Road -- Cortez Boulevard
 CITY/STATE: Ridge Manor, FL

QC JOB #: 15729306
 DATE: Tue, Mar 8 2022



15-Min Count Period Beginning At	McKethan Road/Olancha Road (Northbound)				McKethan Road/Olancha Road (Southbound)				Cortez Boulevard (Eastbound)				Cortez Boulevard (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
4:00 PM	62	6	1	0	0	4	1	0	5	77	57	1	2	68	2	0	286	
4:15 PM	55	14	3	0	1	9	0	0	5	88	64	1	0	63	1	0	304	
4:30 PM	69	12	4	0	1	6	1	0	4	58	56	1	6	64	1	0	283	
4:45 PM	72	12	1	0	0	3	1	0	6	81	52	0	3	84	2	0	317	3190
5:00 PM	60	6	2	0	1	1	2	0	2	83	54	1	5	77	3	1	298	1202
5:15 PM	76	8	1	0	2	3	1	0	3	89	53	1	6	72	0	1	316	1214
5:30 PM	53	9	0	0	0	4	0	0	3	80	58	0	4	69	1	0	281	1212
5:45 PM	54	5	8	0	0	6	1	0	1	77	40	0	3	56	2	0	253	1148
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total	
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
All Vehicles	288	48	4	0	0	12	4	0	24	324	208	0	12	336	8	0	1268	
Heavy Trucks	56	4	0	0	0	0	0	0	4	20	24	0	0	48	0	0	156	
Buses																		
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Bicycles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Scoters																		

Comments:
 Report generated on 3/14/2022 1:51 PM SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212



National Data & Surveying Services

Site Code: 22-120304-009

Date: 6/21/2022

Weather: Sunny

City: Brooksville

County: Hernando

Count Times: 16:00 – 18:00

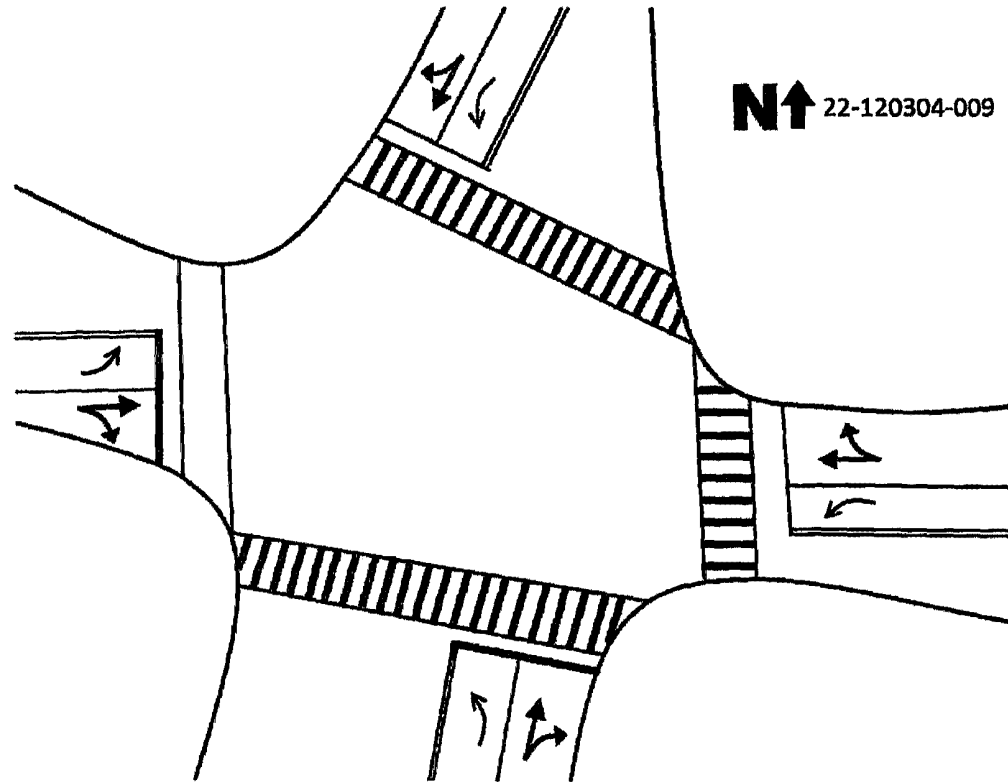
Control: Signalized

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ST/NT	00:34	01:03	00:41
NT/NL	00:16	-	00:23
ET/WT	01:03	00:28	00:33
ET/EL	-	00:13	00:27
WL/WT	-	00:40	00:18



N/S Street: US 301/SR 35/Treiman Blvd

Speed: N/A



NT 22-120304-009

E/W Street: SR 50/Cortez Blvd

Speed: 60 MPH

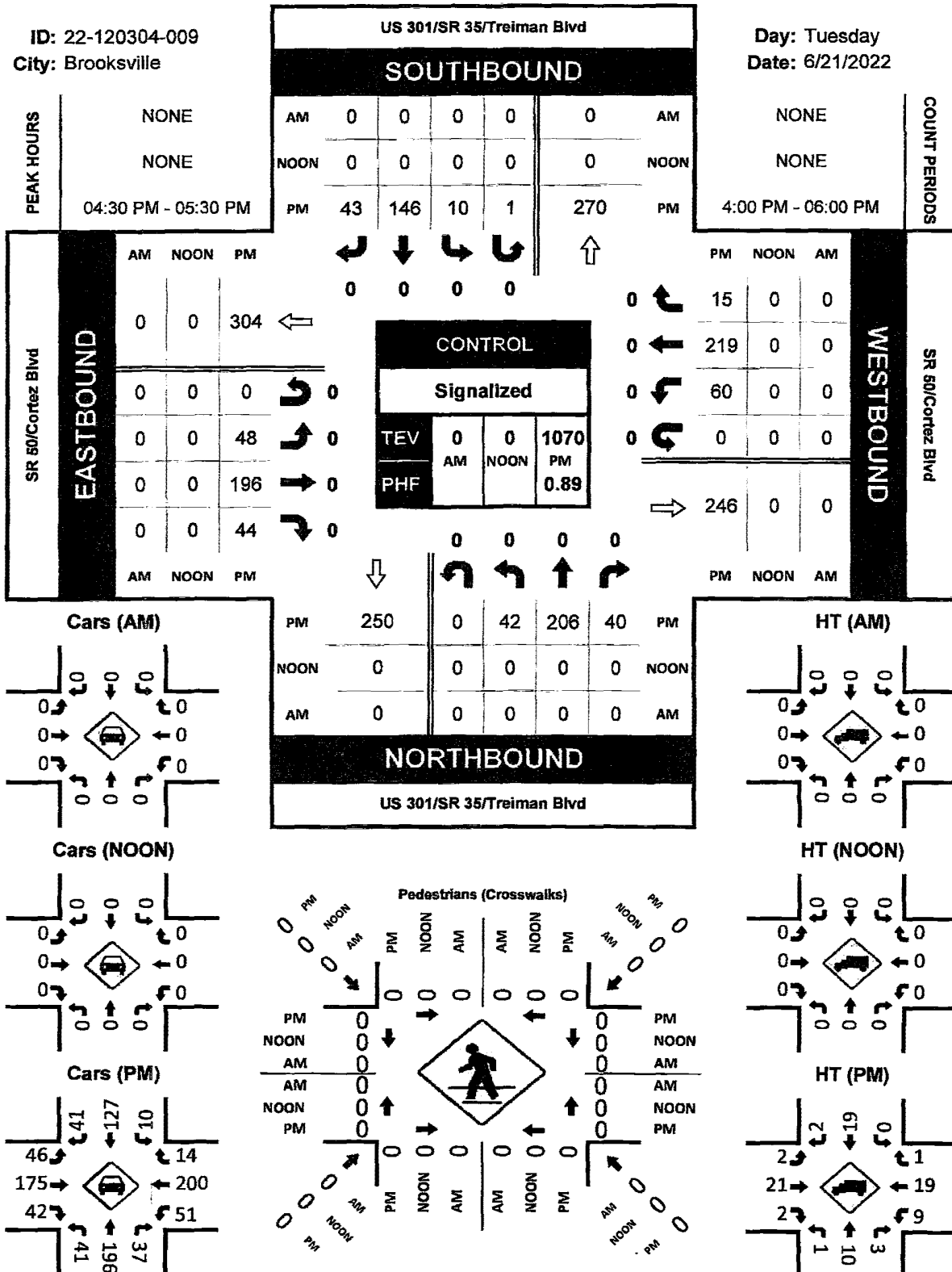
Prepared by National Data & Surveying Services

US 301/SR 35/Treiman Blvd & SR 50/Cortez Blvd

Peak Hour Turning Movement Count

ID: 22-120304-009
City: Brooksville

Day: Tuesday
Date: 6/21/2022





National Data & Surveying Services

Site Code: 22-120304-010

Date: 6/21/2022

Weather: Sunny

City: Brooksville

County: Hernando

Count Times: 16:00 – 18:00

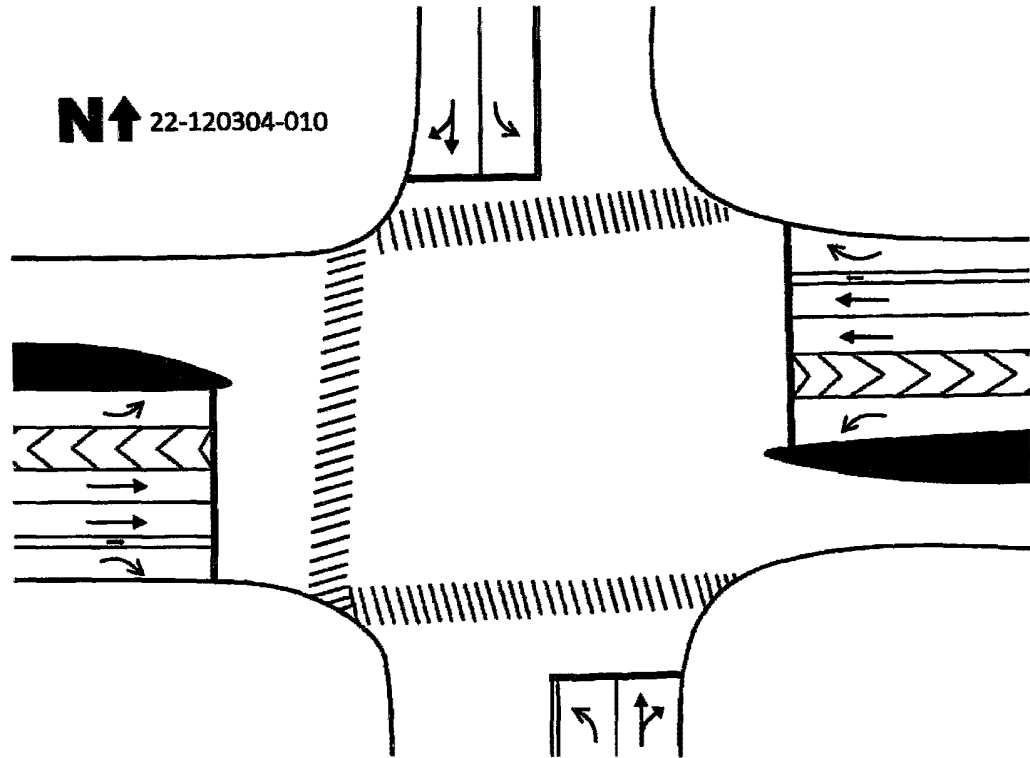
Control: Signalized

Phase	1	2	3
ST	00:15	-	-
ET/WT	02:47	01:46	00:47
NL	-	00:11	00:14

N↑

N/S Street: SR 581/S Main St/Mitchell Rd

Speed: 35 MPH



E/W Street: SR 50/Cortez Blvd/Melendez Rd

Speed: 50 MPH

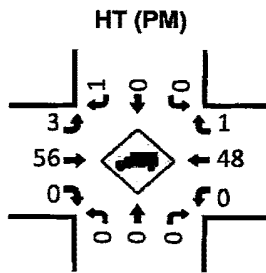
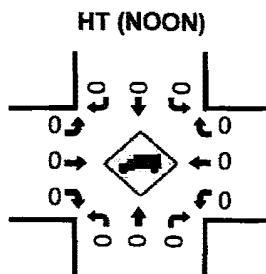
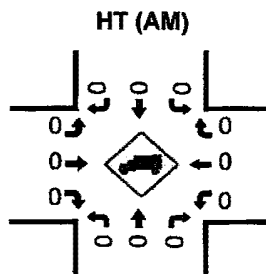
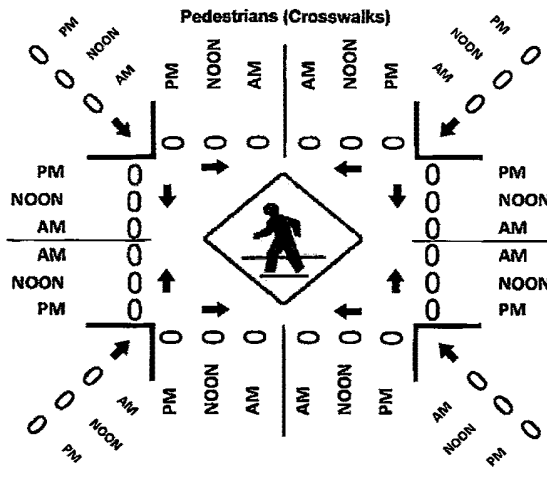
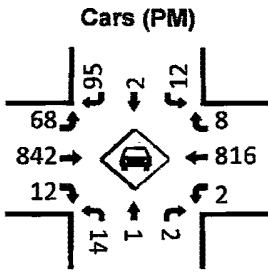
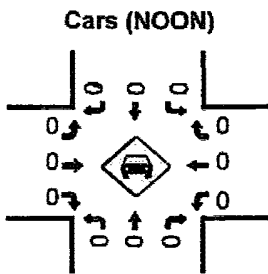
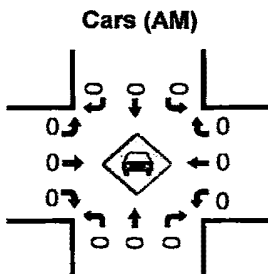
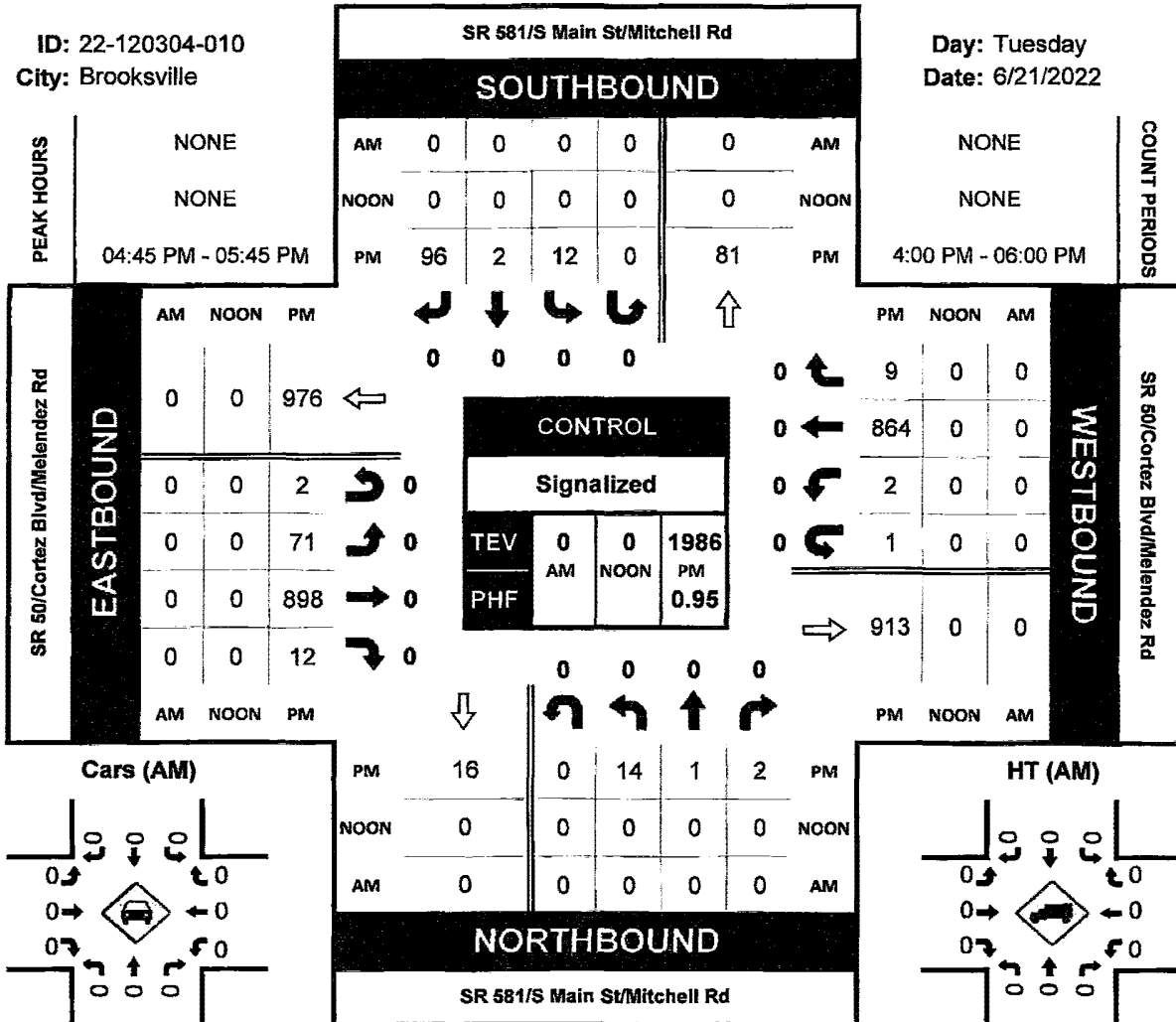
Prepared by National Data & Surveying Services

SR 581/S Main St/Mitchell Rd & SR 50/Cortez Blvd/Melendez Rd

Peak Hour Turning Movement Count

ID: 22-120304-010
City: Brooksville

Day: Tuesday
Date: 6/21/2022





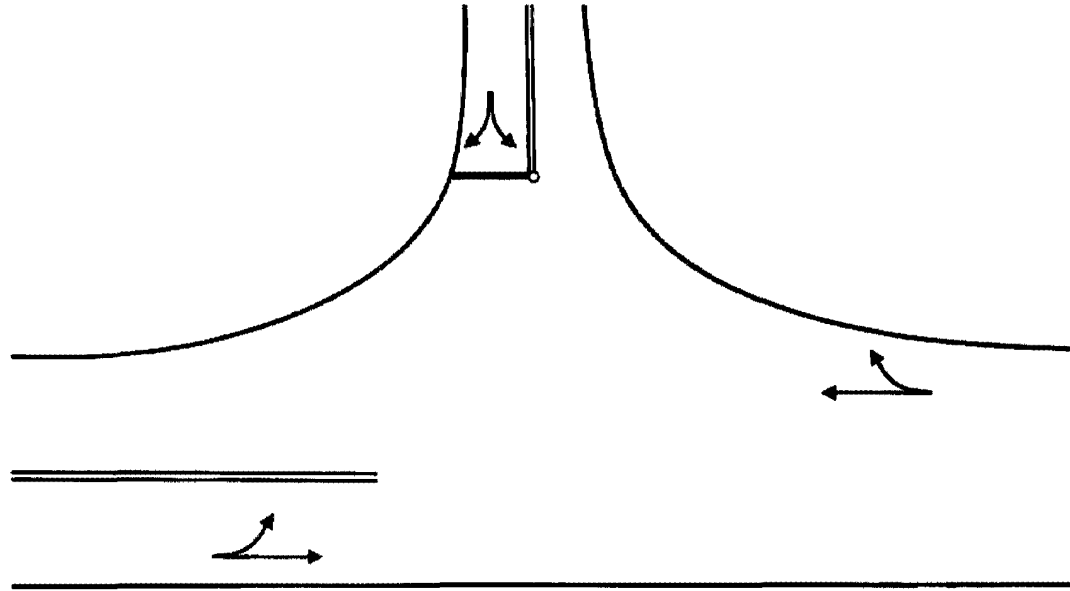
National Data & Surveying Services

Site Code: 22-120304-012
Date: 6/21/2022
Weather: Sunny
City: Brooksville
County: Hernando
Count Times: 16:00 – 18:00
Control: No Control



N/S Street: **Kettering Rd**

Speed: 30 MPH



E/W Street: **Power Line Rd**

Speed: N/A

N↑ 22-120304-012

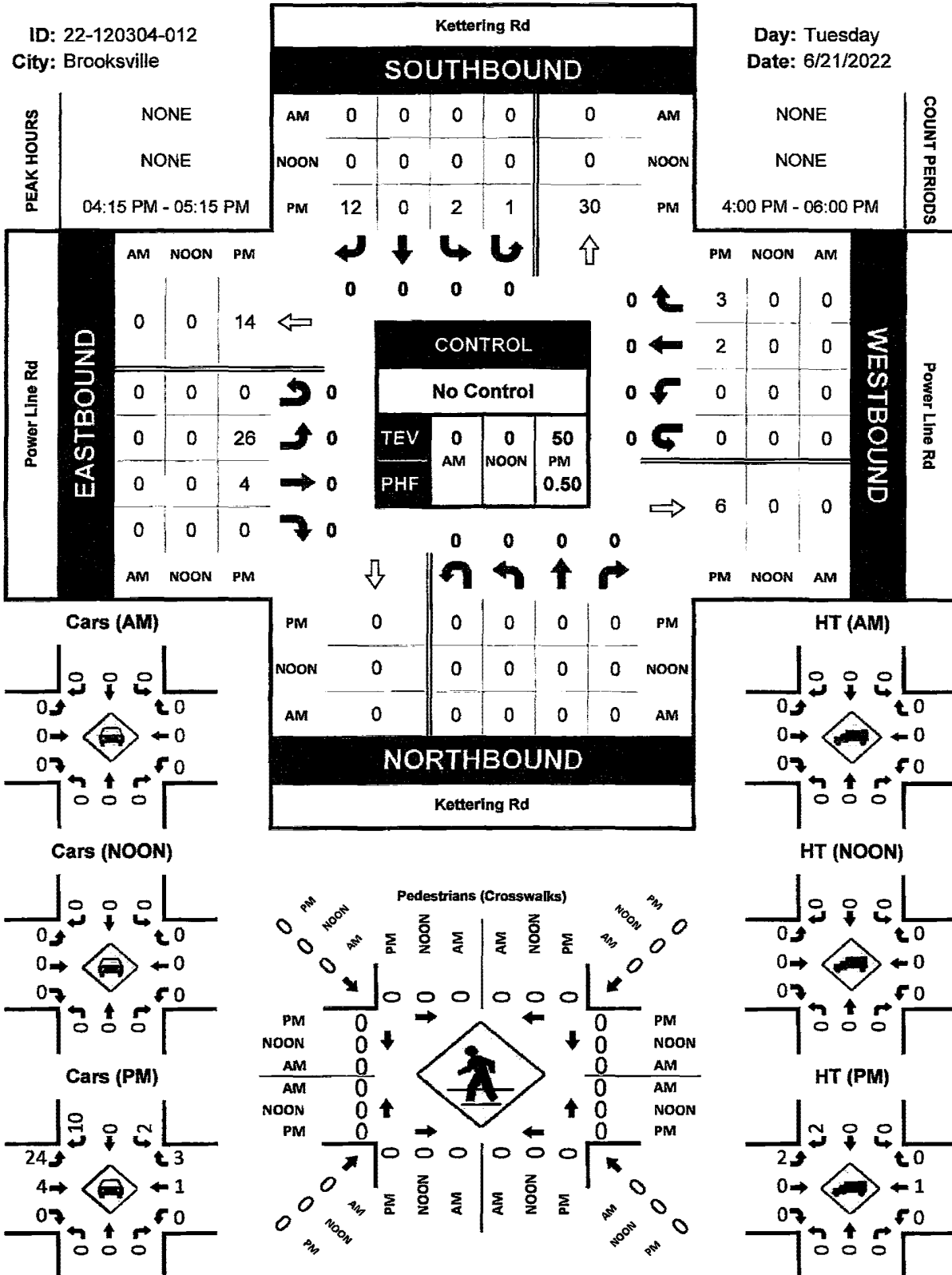
Prepared by National Data & Surveying Services

Kettering Rd & Power Line Rd

Peak Hour Turning Movement Count

ID: 22-120304-012
City: Brooksville

Day: Tuesday
Date: 6/21/2022





National Data & Surveying Services

Site Code: 22-120304-013

Date: 6/21/2022

Weather: Sunny

City: Brooksville

County: Hernando

Count Times: 16:00 – 18:00

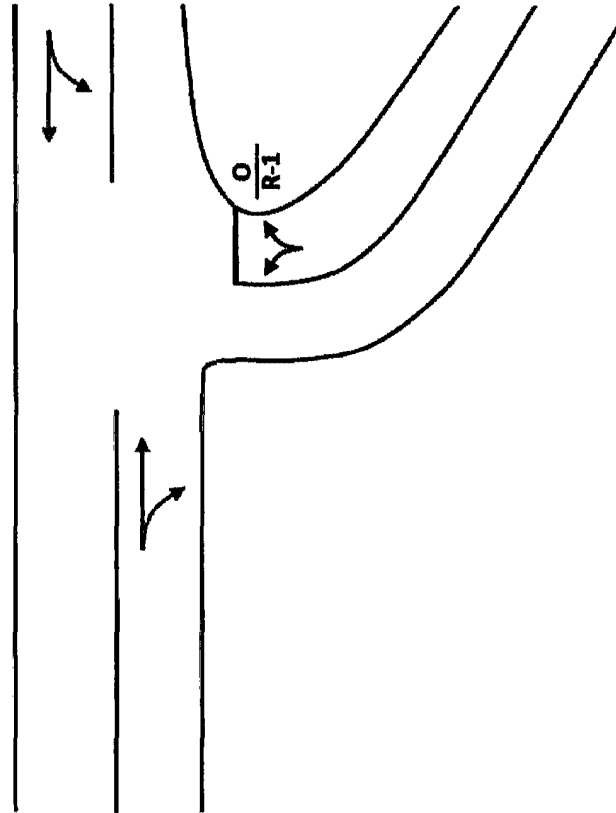
Control: 1-Way Stop(WB)



N/S Street: Lockhart Rd

Speed: 30 MPH

N↑ 22-120304-013



E/W Street: Power Line Rd

Speed: N/A

FDOT PEAK SEASON ADJUSTMENT FACTORS



2021 PEAK SEASON FACTOR CATEGORY REPORT - REPORT TYPE: ALL
 CATEGORY: 0800 HERNANDO COUNTYWIDE

WEEK	DATES	SF	MOCF: 0.97 PSCF
1	01/01/2021 - 01/02/2021	0.95	0.98
2	01/03/2021 - 01/09/2021	1.02	1.05
3	01/10/2021 - 01/16/2021	1.08	1.11
4	01/17/2021 - 01/23/2021	1.07	1.10
5	01/24/2021 - 01/30/2021	1.06	1.09
6	01/31/2021 - 02/06/2021	1.06	1.09
7	02/07/2021 - 02/13/2021	1.05	1.08
8	02/14/2021 - 02/20/2021	1.04	1.07
9	02/21/2021 - 02/27/2021	1.02	1.05
10	02/28/2021 - 03/06/2021	1.01	1.04
11	03/07/2021 - 03/13/2021	0.99	1.02
12	03/14/2021 - 03/20/2021	0.98	1.01
13	03/21/2021 - 03/27/2021	0.98	1.01
14	03/28/2021 - 04/03/2021	0.98	1.01
15	04/04/2021 - 04/10/2021	0.98	1.01
16	04/11/2021 - 04/17/2021	0.98	1.01
17	04/18/2021 - 04/24/2021	0.98	1.01
18	04/25/2021 - 05/01/2021	0.98	1.01
19	05/02/2021 - 05/08/2021	0.98	1.01
20	05/09/2021 - 05/15/2021	0.98	1.01
21	05/16/2021 - 05/22/2021	0.98	1.01
22	05/23/2021 - 05/29/2021	0.99	1.02
23	05/30/2021 - 06/05/2021	0.99	1.02
24	06/06/2021 - 06/12/2021	0.99	1.02
25	06/13/2021 - 06/19/2021	1.00	1.03
26	06/20/2021 - 06/26/2021	1.01	1.04
27	06/27/2021 - 07/03/2021	1.02	1.05
28	07/04/2021 - 07/10/2021	1.04	1.07
29	07/11/2021 - 07/17/2021	1.05	1.08
30	07/18/2021 - 07/24/2021	1.05	1.08
31	07/25/2021 - 07/31/2021	1.05	1.08
32	08/01/2021 - 08/07/2021	1.05	1.08
33	08/08/2021 - 08/14/2021	1.05	1.08
34	08/15/2021 - 08/21/2021	1.05	1.08
35	08/22/2021 - 08/28/2021	1.05	1.08
36	08/29/2021 - 09/04/2021	1.04	1.07
37	09/05/2021 - 09/11/2021	1.04	1.07
38	09/12/2021 - 09/18/2021	1.03	1.06
39	09/19/2021 - 09/25/2021	1.02	1.05
*40	09/26/2021 - 10/02/2021	1.00	1.03
*41	10/03/2021 - 10/09/2021	0.99	1.02
*42	10/10/2021 - 10/16/2021	0.99	1.00
*43	10/17/2021 - 10/23/2021	0.97	1.00
*44	10/24/2021 - 10/30/2021	0.97	1.00
*45	10/31/2021 - 11/06/2021	0.96	0.99
*46	11/07/2021 - 11/13/2021	0.96	0.99
*47	11/14/2021 - 11/20/2021	0.96	0.99
*48	11/21/2021 - 11/27/2021	0.95	0.98
*49	11/28/2021 - 12/04/2021	0.95	0.98
*50	12/05/2021 - 12/11/2021	0.95	0.98
*51	12/12/2021 - 12/18/2021	0.95	0.98
*52	12/19/2021 - 12/25/2021	1.02	1.05
53	12/26/2021 - 12/31/2021	1.08	1.11

* PEAK SEASON

08-MAR-2022 12:36:28

830UPD

7_0800_PKSEASON.TXT

CORTEZ BOULEVARD PAVEMENT MAKING PLANS



**STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION**

CONTRACT PLANS

FINANCIAL PROJECT ID 416732-4-52-01

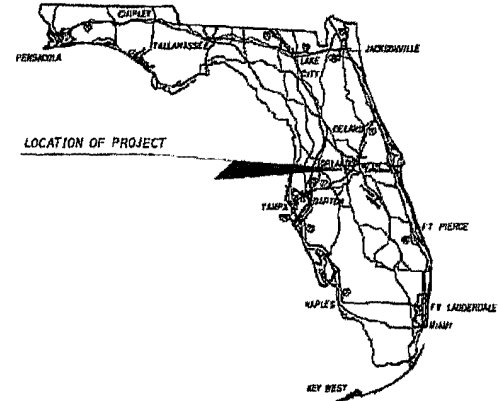
(FEDERAL FUNDS)

HERNANDO COUNTY (08070 & 08120)

STATE ROAD NO. 50

FROM WINDMERE ROAD/BRONSON BOULEVARD TO EAST OF US 98/MCKETHAN RD

SIGNING AND PAVEMENT MARKING PLANS



INDEX OF SIGNING AND PAVEMENT MARKING PLANS

SHEET NO.	SHEET DESCRIPTION
S-1	KEY SHEET
S-2	SIGNATURE SHEET
S-2A	SIGNATURE SHEET
S-3	TABLE OF QUANTITIES
S-13	GENERAL NOTES
S-14 - S-20	PAVEMENT MARKING PLAN
S-21 - S-22	SIGNING PLAN
S-23 - S-28	GUIDE SIGN WORKSHEET
S-29	SIGN CROSS SECTION
S-30	CANTILEVER SIGN DETAIL
S-31	REPORT OF CORE BORINGS

SIGNING AND PAVEMENT MARKING PLANS

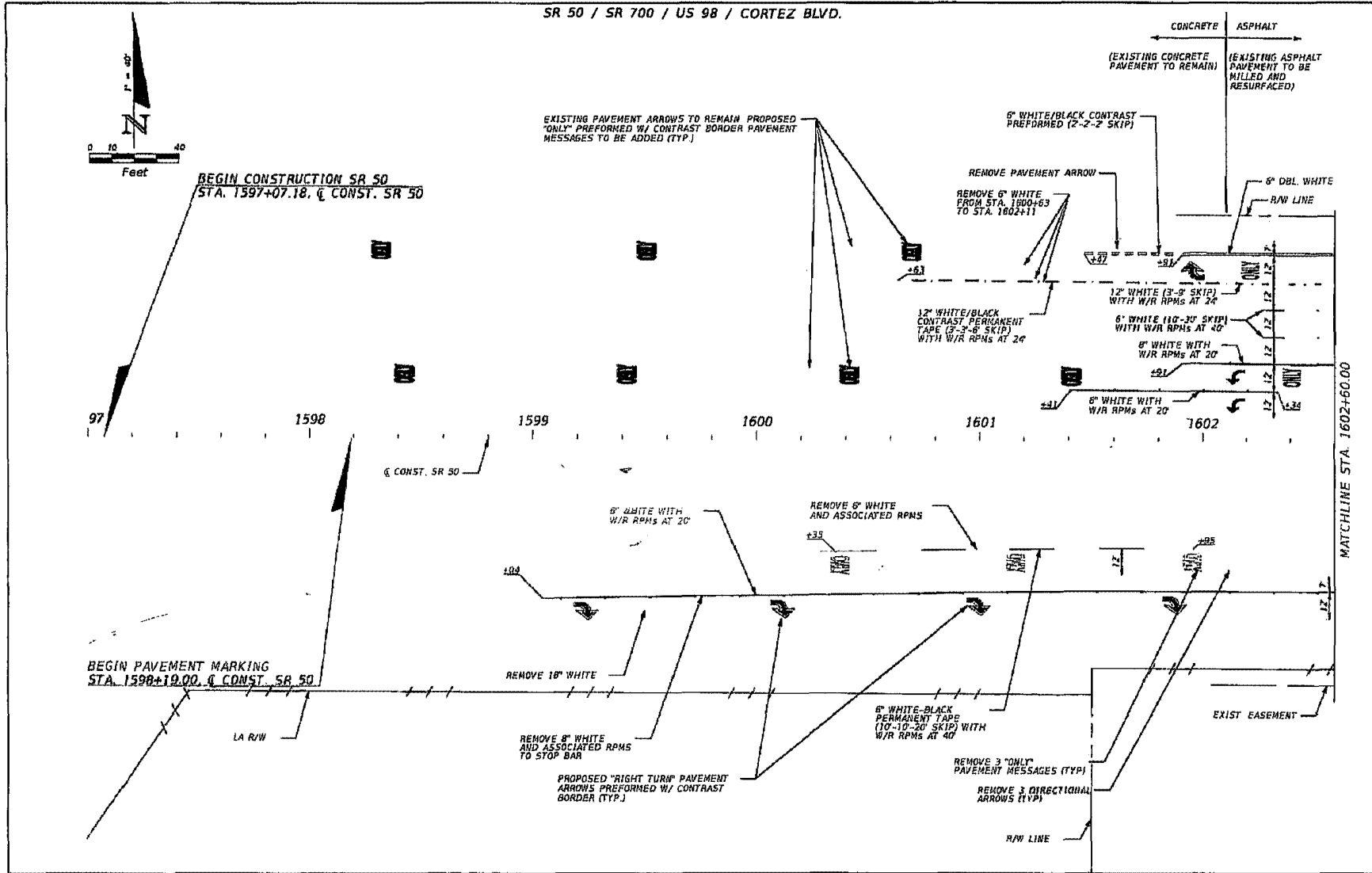
MICHAEL J. OATES, P.E.
P.E. NO. 48783
MOR ENGINEERING, INC.
4830 W. KENNEDY BLVD.
SUITE 400
TAMPA, FL 33609-2548
(813) 282-2300
CONTRACT NO. C-9581
VENDOR NO. VF-470880568
CERTIFICATE OF AUTHORIZATION 4213

FDOT PROJECT MANAGER:
KEVIN LEE

KEY SHEET REVISIONS	
DATE	DESCRIPTION
6/16/21	ADDED SHEET NUMBER S-2A TO INDEX.

CONSTRUCTION CONTRACT NO.	FISCAL YEAR	SHEET NO.
T7396	20	S-1

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-33.004, F.A.C.

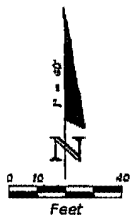


THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-33.004, F.A.C.

REVISIONS				MICHAEL J. GATES, P.E. P.E. LICENSE NUMBER 49282 HDR Engineering, Inc. 4330 West Kennedy Blvd., Suite 400 Tampa, FL 33609-2548 CERTIFICATE OF AUTHORIZATION NO. 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. S-14
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					SR 50	HERNANDO	416732-4-52-01	

**PAVEMENT MARKING
PLAN (1)**

MATCHLINE STA. 1602+60.00



SR 50 / SR 700 / US 98 / CORTEZ BLVD.

CONCRETE ASPHALT
 (EXISTING CONCRETE PAVEMENT TO REMAIN) (EXISTING ASPHALT PAVEMENT TO BE MILLED AND RESURFACED)

6" WHITE/BLACK CONTRAST PREFORMED (2'-2'-2" SKIP)
 REMOVE PAVEMENT ARROW
 REMOVE 6" WHITE FROM STA. 1600+63 TO STA. 1602+11
 12" WHITE (3'-8" SKIP) WITH W/R RPHS AT 24'
 6" WHITE (10'-20" SKIP) WITH W/R RPHS AT 40'
 6" WHITE WITH W/R RPHS AT 20'
 6" WHITE WITH W/R RPHS AT 20'
 6" DBL WHITE R/W LINE

EXISTING PAVEMENT ARROWS TO REMAIN PROPOSED ONLY PREFORMED W/ CONTRAST BORDER PAVEMENT MESSAGES TO BE ADDED (TYP.)

BEGIN CONSTRUCTION SR 50
 STA. 1597+07.18, C/ CONST. SR 50

BEGIN PAVEMENT MARKING
 STA. 1598+19.00, C/ CONST. SR 50

6" WHITE WITH W/R RPHS AT 20'

REMOVE 6" WHITE AND ASSOCIATED RPHS

REMOVE 10" WHITE

REMOVE 6" WHITE AND ASSOCIATED RPHS TO STOP BAR

PROPOSED "RIGHT TURN" PAVEMENT ARROWS PREFORMED W/ CONTRAST BORDER (TYP.)

6" WHITE-BLACK PERMANENT TAPE (10'-10'-20" SKIP) WITH W/R RPHS AT 40'

REMOVE 3 "ONLY" PAVEMENT MESSAGES (TYP.)

REMOVE 3 DIRECTIONAL ARROWS (TYP.)

EXIST EASEMENT

R/W LINE

LA R/W

C/ CONST. SR 50

97

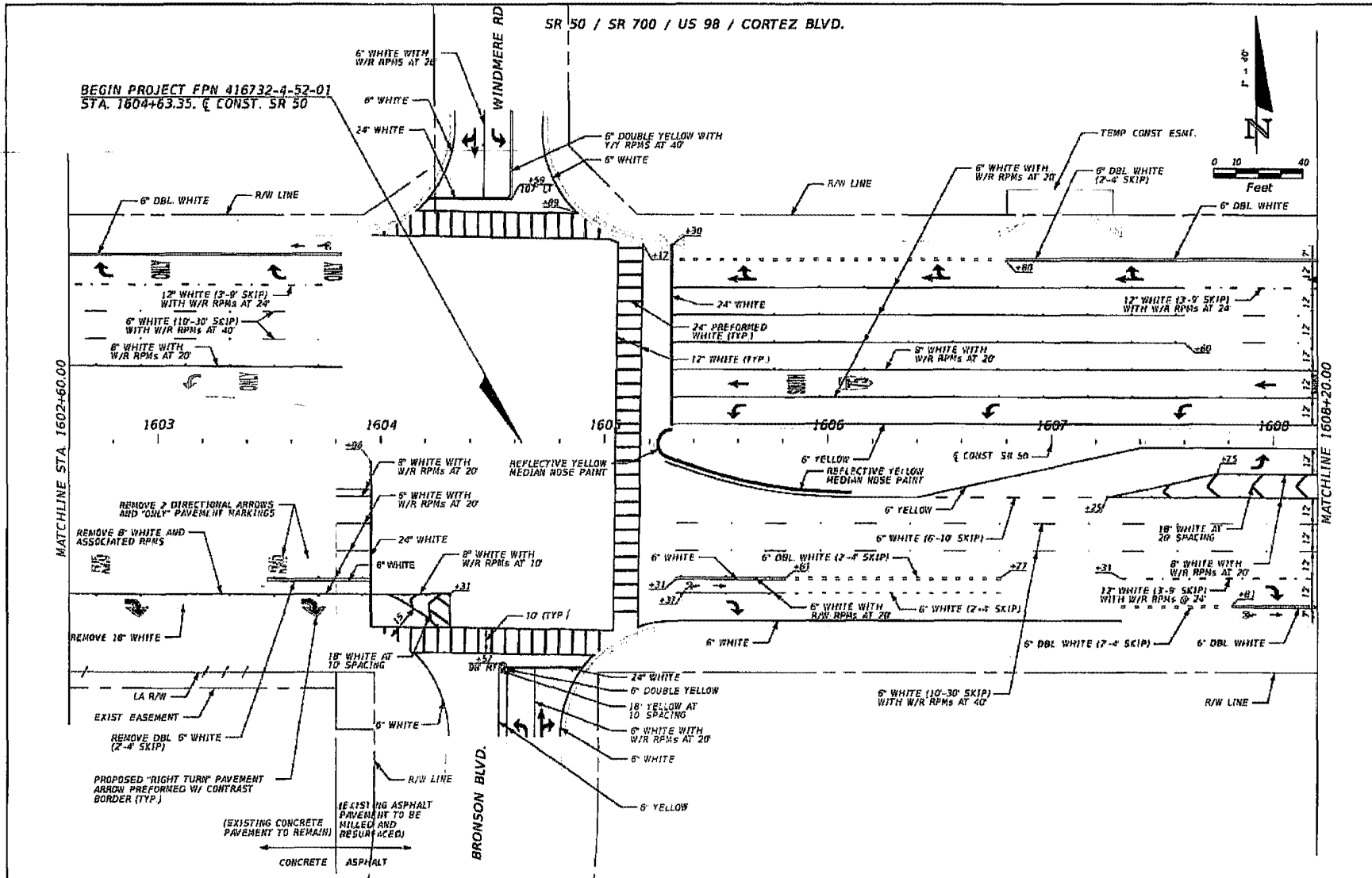
1598

1599

1600

1601

1602

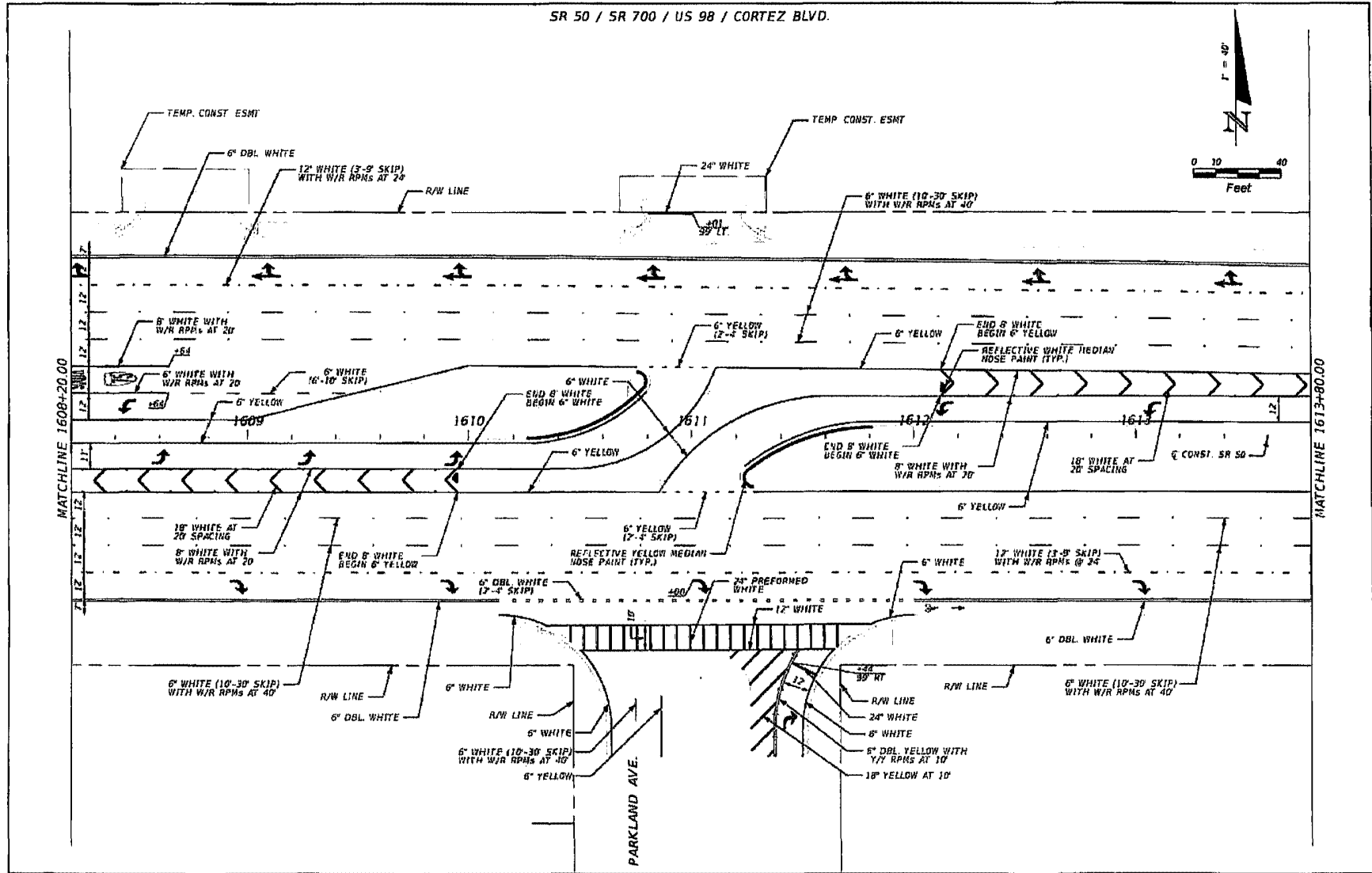
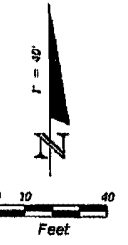


THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 91G15-23.004, F.A.C.

REVISIONS		REVISIONS		MICHAEL J. DATES, P.E. P.E. LICENSE NUMBER 49282 HDR Engineering, Inc 4830 West Kennedy Blvd., Suite 400 Tampa, FL 33609-2540 CERTIFICATE OF AUTHORIZATION NO. 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. S-15
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					SR 50	HERNANDO	416732-4-52-01	

**PAVEMENT MARKING
PLAN (2)**

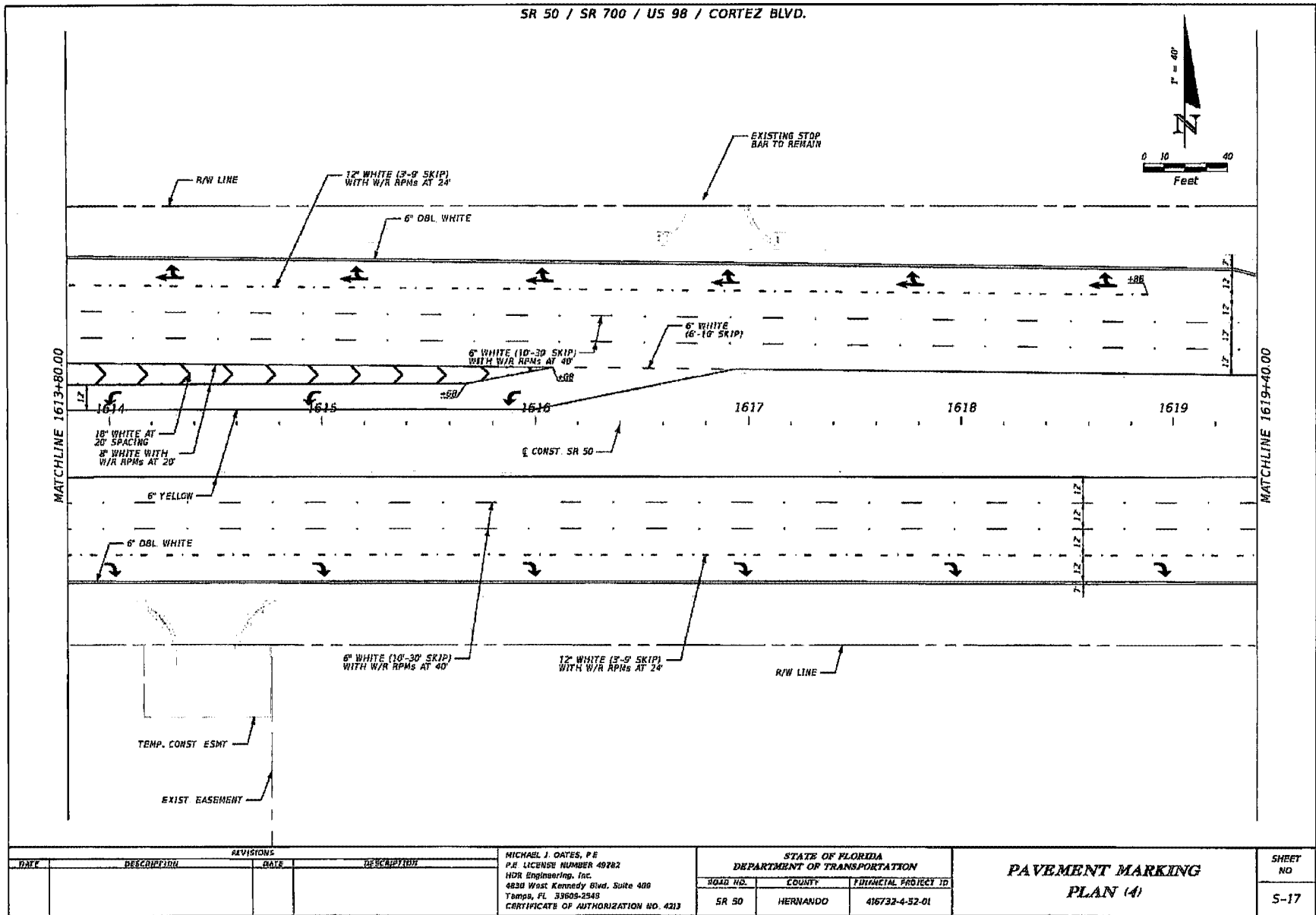
SR 50 / SR 700 / US 98 / CORTEZ BLVD.



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS				MICHAEL J. OATES, P.E. P.E. LICENSE NUMBER 49282 HDR Engineering, Inc. 4830 West Kennedy Blvd., Suite 400 Tampa, FL 33609-2848 CERTIFICATE OF AUTHORIZATION NO. 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. S-16
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
				SR 50	HERNANDO	416732-4-52-01		

PAVEMENT MARKING PLAN (3)

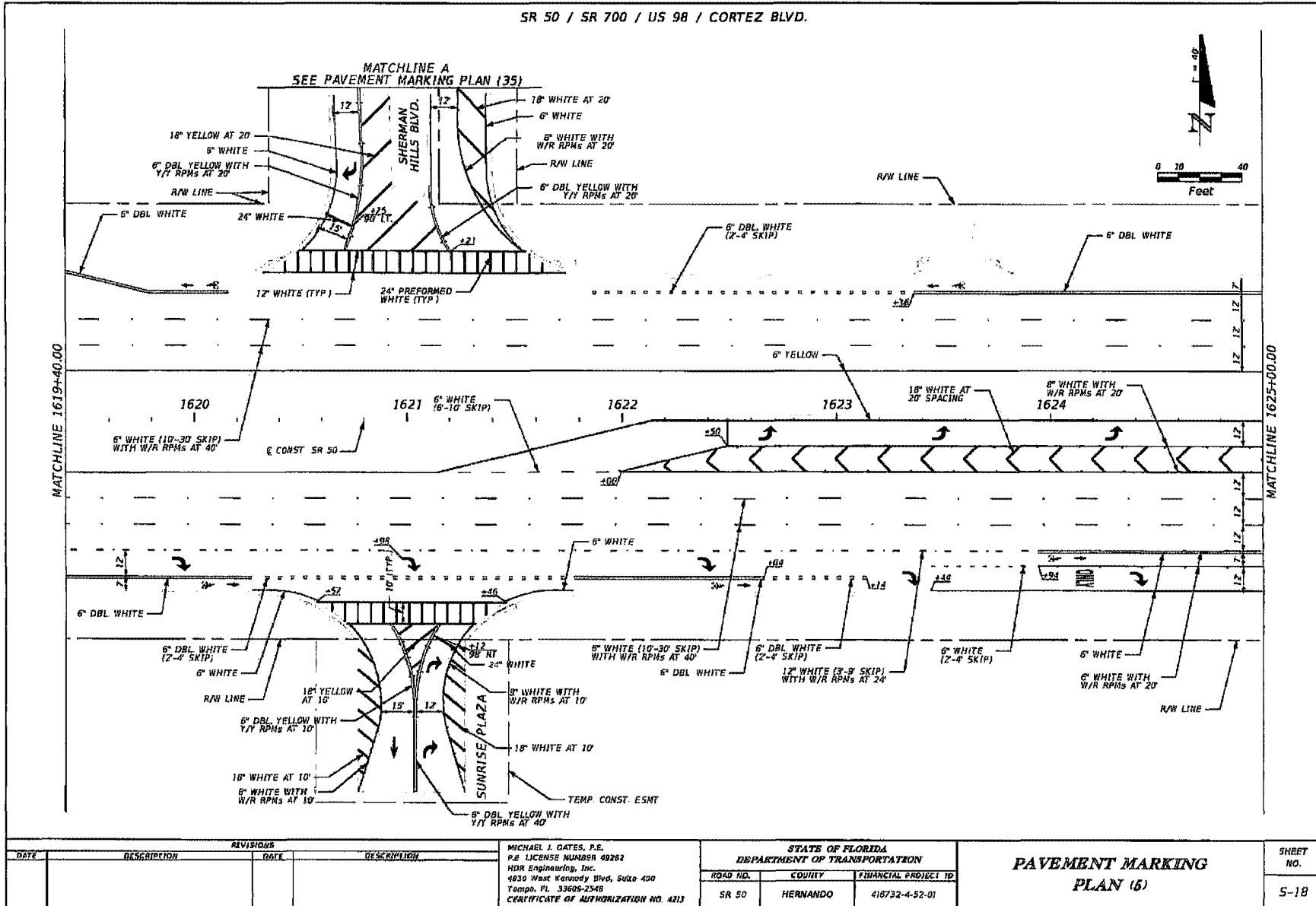


THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS		DESCRIPTION	MICHAEL J. GATES, P.E. P.E. LICENSE NUMBER 49782 HDR Engineering, Inc. 4830 West Kennedy Blvd, Suite 400 Tampa, FL 33609-2948 CERTIFICATE OF AUTHORIZATION NO. 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PAVEMENT MARKING PLAN (4)	SHEET NO S-17
DATE	DESCRIPTION			DATE	ROAD NO.	COUNTY		
				SR 50	HERNANDO	416733-4-52-01		

SHEET SET 11/27/2019 11:38:21 AM P:\2019\416733\416733-4-52-01\1171.DWG 416733-4-52-01

SR 50 / SR 700 / US 98 / CORTEZ BLVD.

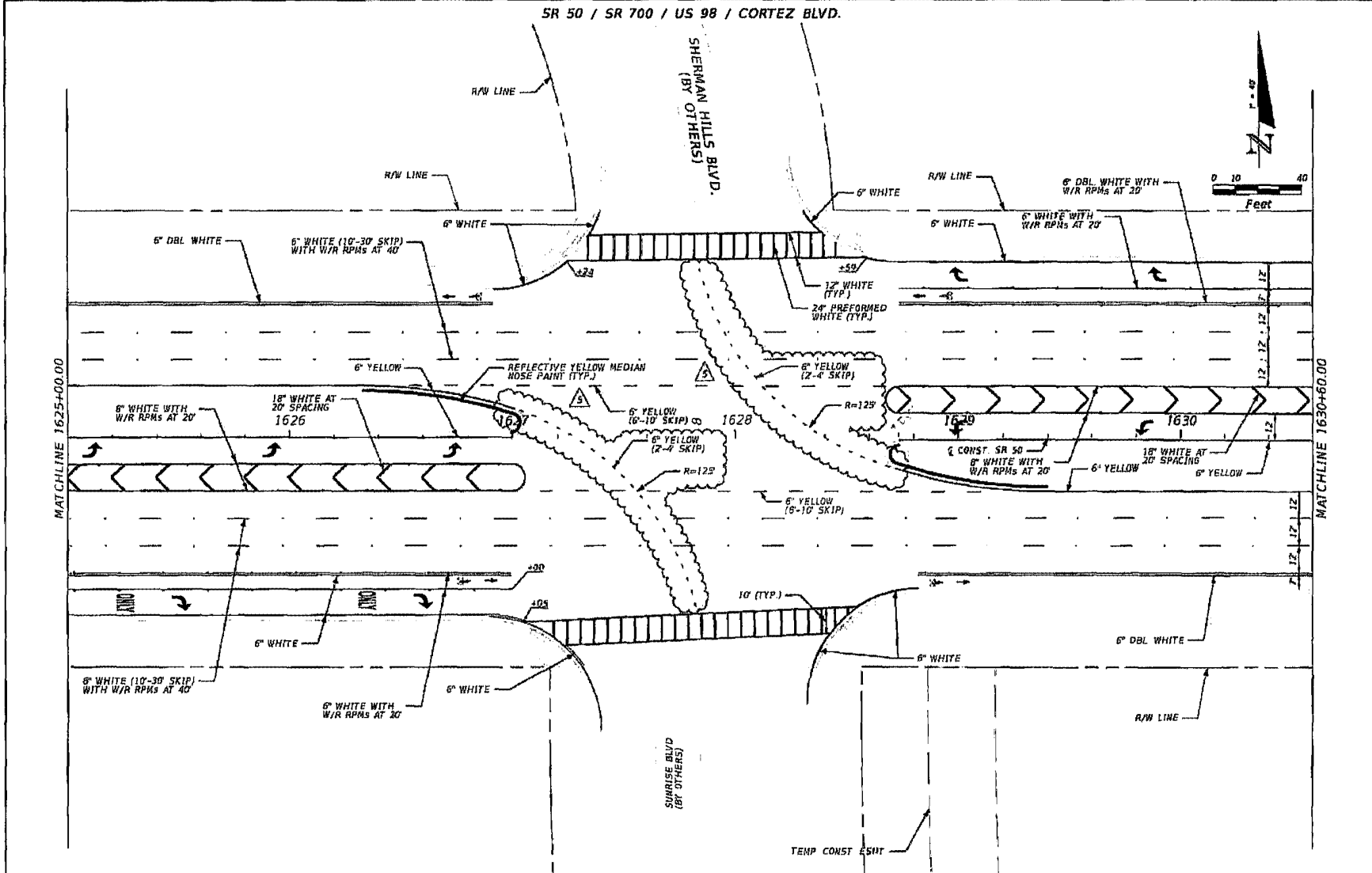


THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS		DESCRIPTION		MICHAEL J. OATES, P.E. P.E. LICENSE NUMBER 49282 HDR Engineering, Inc. 4830 West Kennedy Blvd, Suite 400 Tampa, FL 33609-2548 CERTIFICATE OF AUTHORIZATION NO. 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. 5-18
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
					SR 50	HERNANDO	416732-4-52-01	

**PAVEMENT MARKING
PLAN (5)**

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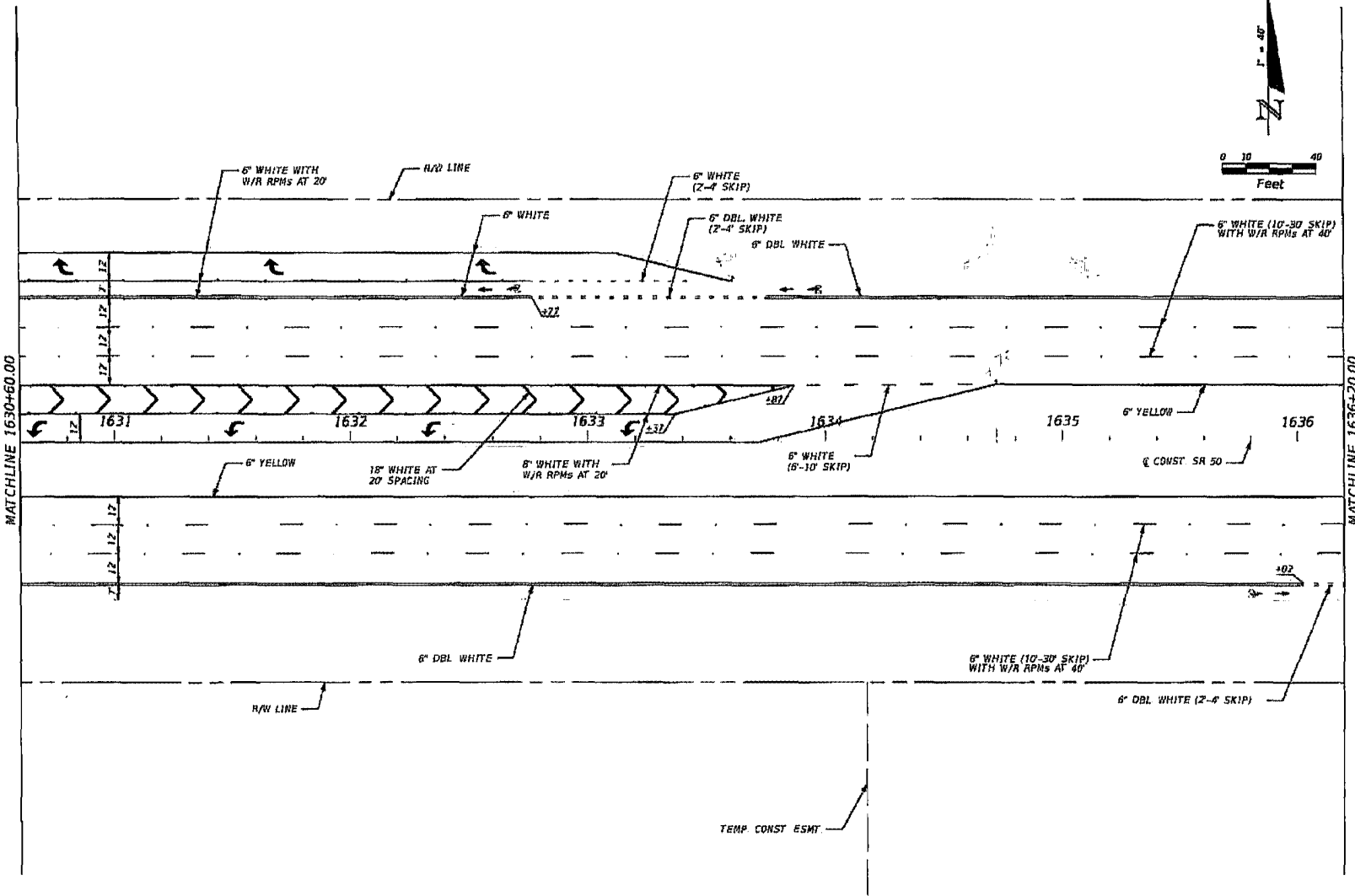


THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS		DATE	DESCRIPTION	MICHAEL J. OATES, P.E. P.E. LICENSE NUMBER 49282 HDR Engineering, Inc. 4850 West Kennedy Blvd., Suite 400 Tampa, FL 33609-2548 CERTIFICATE OF AUTHORIZATION NO. 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. S-19
DATE	DESCRIPTION				ROAD NO.	COUNTY	FINANCIAL PROJECT NO.	
6/16/21	ADDED SKIP LINE				SR 50	HERNANDO	48732-4-52-01	

**PAVEMENT MARKING
PLAN (6)**

SR 50 / SR 700 / US 98 / CORTEZ BLVD.



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G13-23.004, F.A.C.

REVISIONS		DESCRIPTION	
DATE	DESCRIPTION	DATE	DESCRIPTION

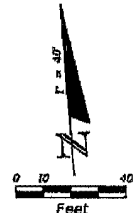
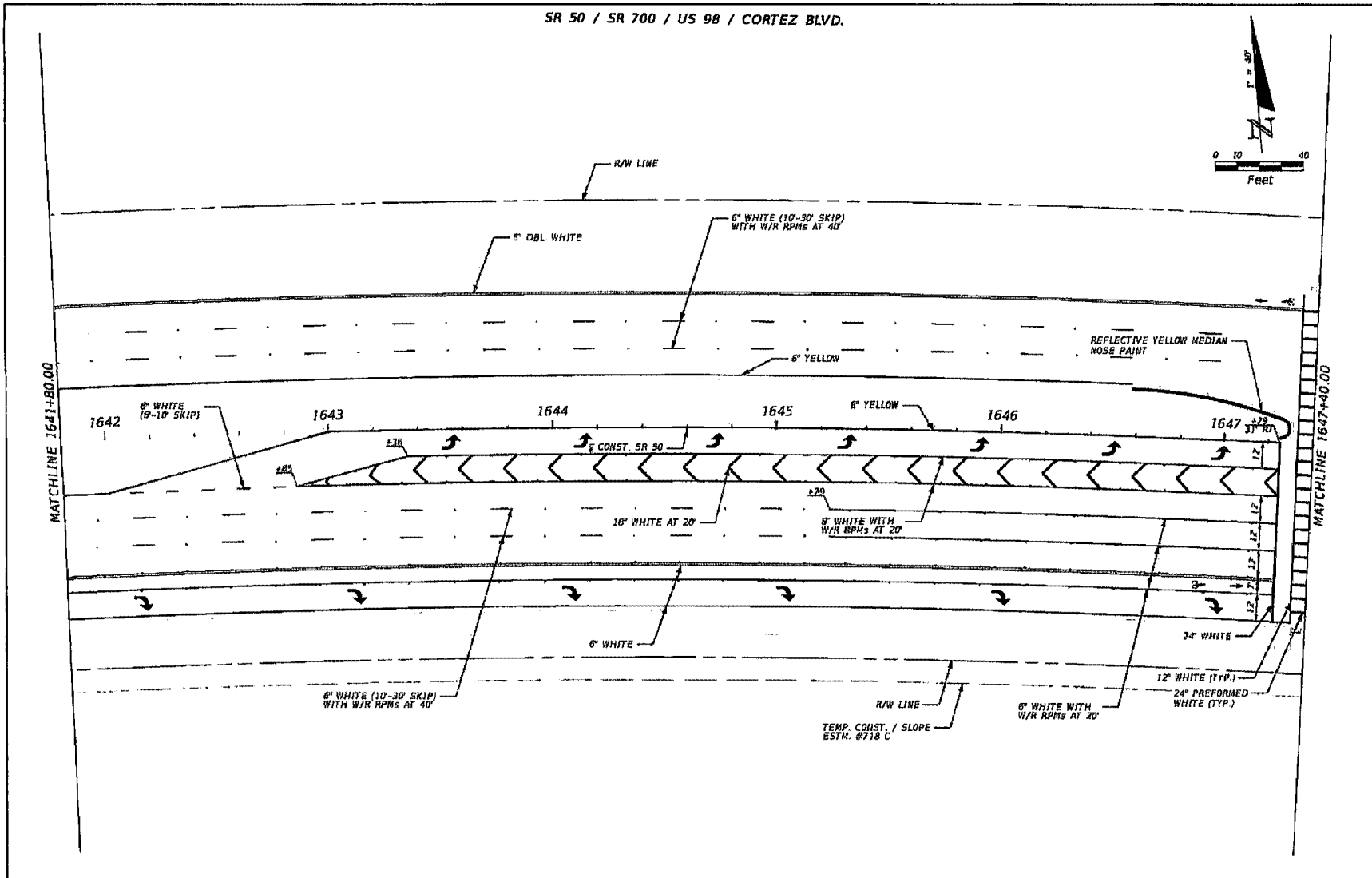
MICHAEL J. DATES, P.E.
 P.E. LICENSE NUMBER 49282
 HDR Engineering, Inc.
 4830 West Kennedy Blvd. Suite 400
 Tampa, FL 33609-2848
 CERTIFICATE OF AUTHORIZATION NO 4213

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 50	HERNANDO	418732-4-52-01

**PAVEMENT MARKING
PLAN (7)**

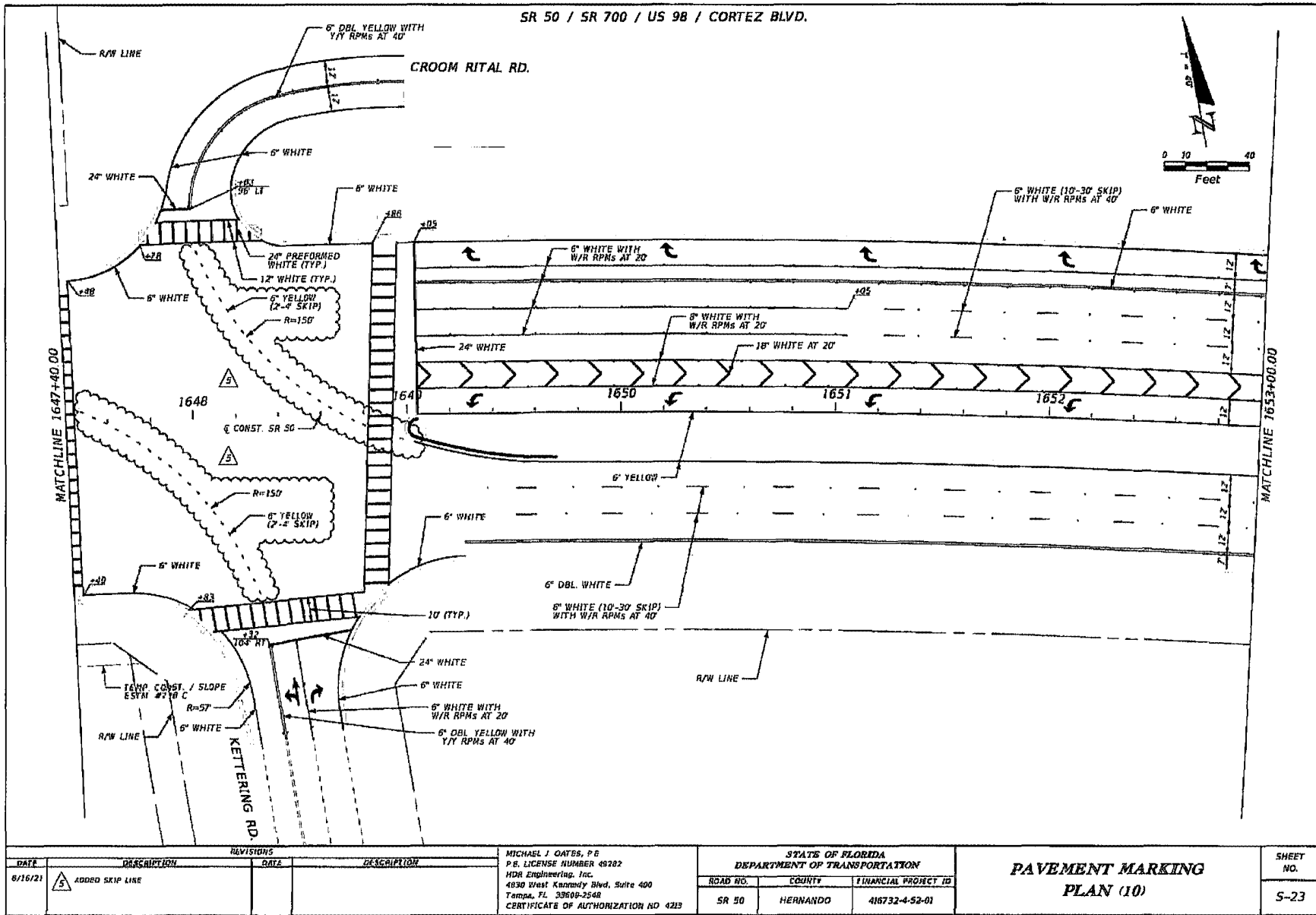
SHEET NO.
S-20

SR 50 / SR 700 / US 98 / CORTEZ BLVD.



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61B11-23.001, F.A.C.

REVISIONS				MICHAEL J. OATES, P.E. P.S. LICENSE NUMBER 49282 HDR Engineering, Inc. 4830 West Kennedy Blvd, Suite 400 Tampa, FL 33609-2548 CERTIFICATE OF AUTHORIZATION NO. 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PAVEMENT MARKING PLAN (9)	SHEET NO. 5-22
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 50	HERNANDO	416732-4-52-01		



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

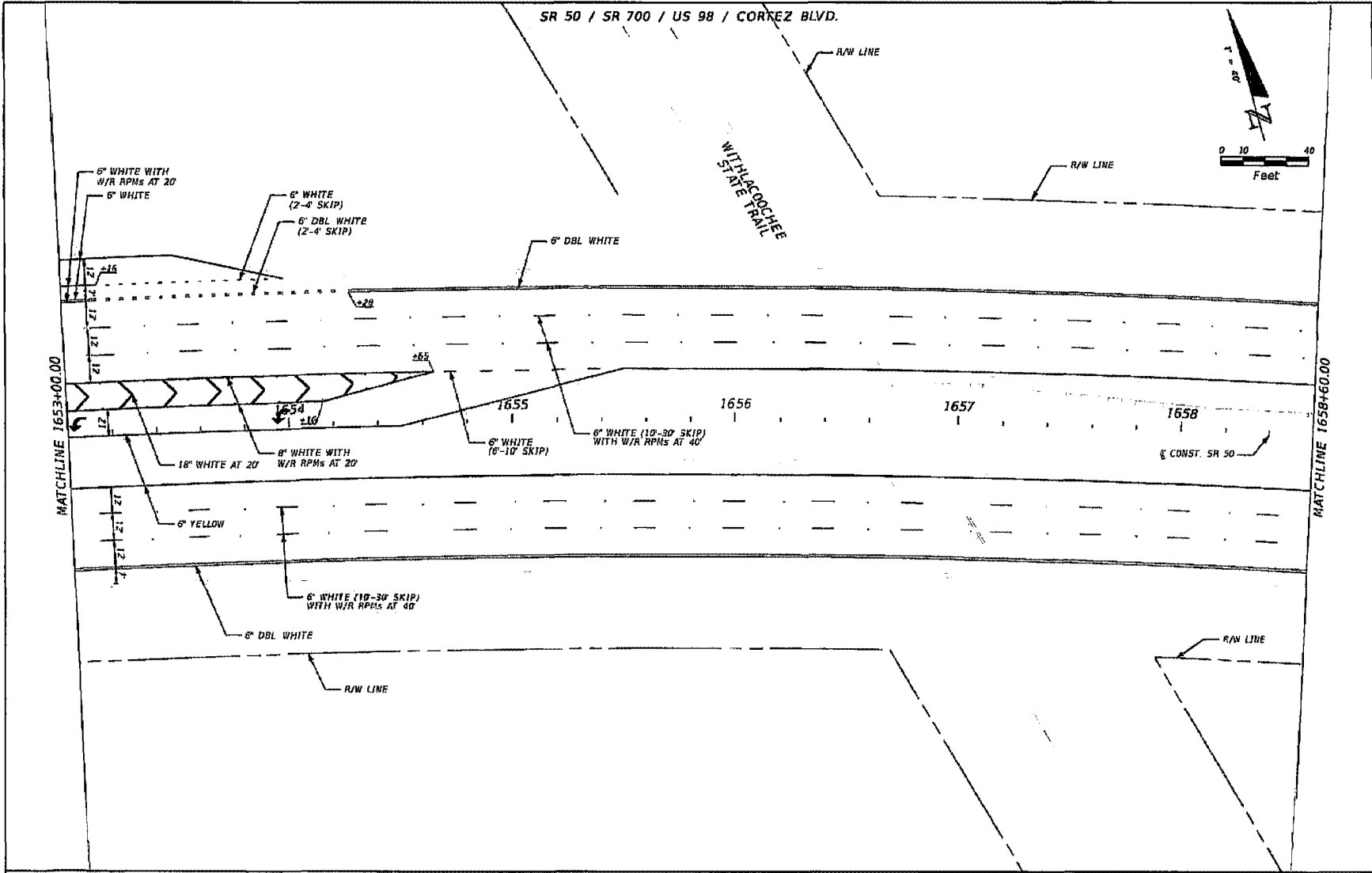
DATE	DESCRIPTION	REVISIONS	DATE	DESCRIPTION
6/16/21	5	ADDED SKIP LINE		

MICHAEL J. GATTS, P.E.
 P.E. LICENSE NUMBER 49282
 HDR Engineering, Inc.
 4830 West Kennedy Blvd, Suite 400
 Tampa, FL 33609-2548
 CERTIFICATE OF AUTHORIZATION NO 4213

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 50	HERNANDO	416732-4-52-01

PAVEMENT MARKING PLAN (10)

SHEET NO.
5-23

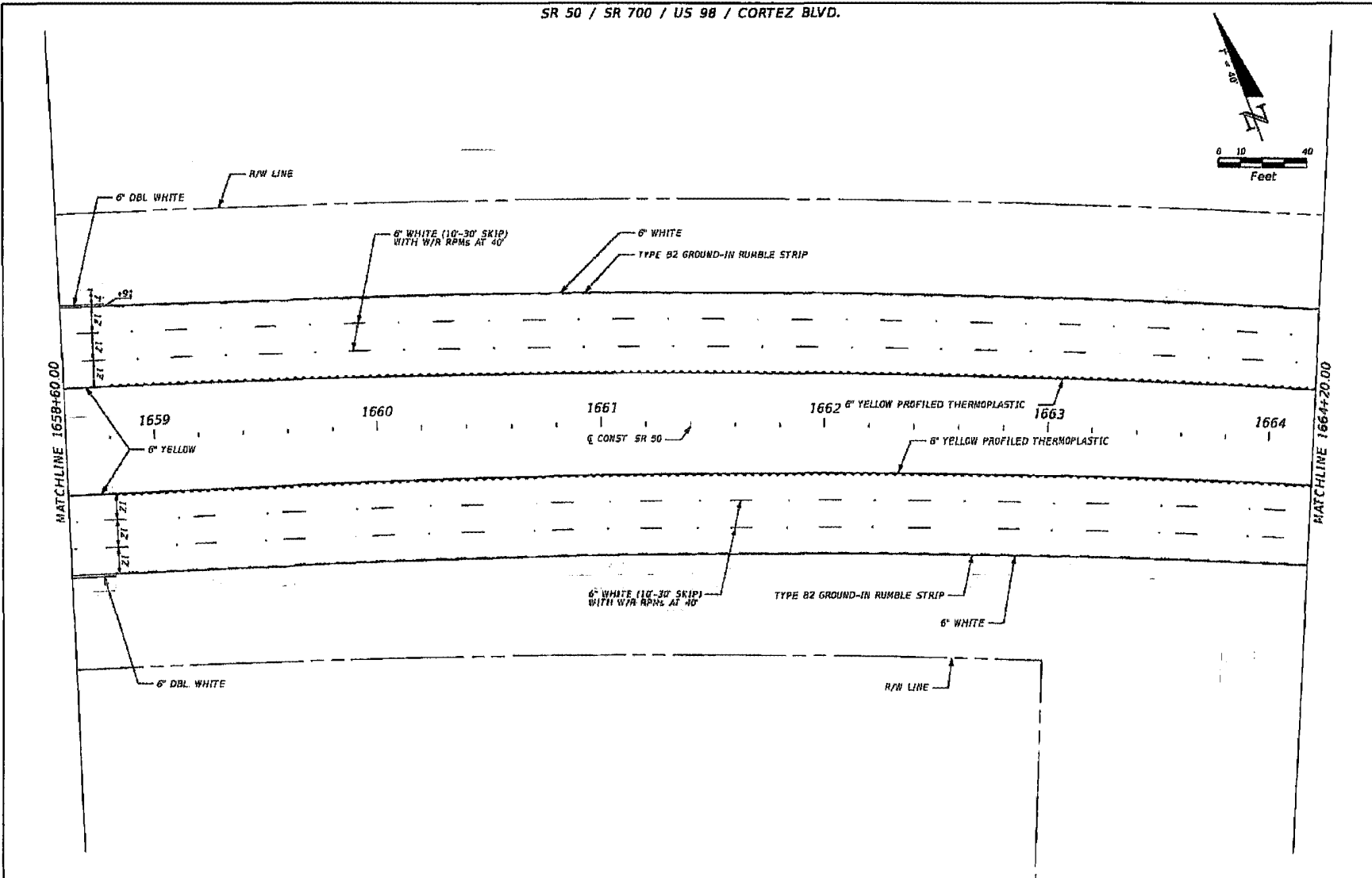


THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS		DESCRIPTION	MICHAEL J. DATES, P.E. P.E. LICENSE NUMBER 49282 HDR Engineering, Inc. 4630 West Kennedy Blvd., Suite 400 Tampa, FL 33609-2548 CERTIFICATE OF AUTHORIZATION NO. 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PAVEMENT MARKING PLAN (11)	SHEET NO. 5-24
DATE	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT NO.		
				SR 50	HERNANDO	416732-4-52-01		

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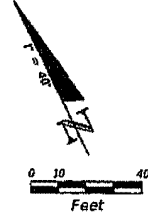
SR 50 / SR 700 / US 98 / CORTEZ BLVD.



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY STORED AND SEALED UNDER RULE 61G13-23.004, F.A.C.

REVISIONS				MICHAEL J. DATES, P.E. P.E. LICENSE NUMBER 49382 HDR Engineering, Inc. 4630 West Kennedy Blvd., Suite 400 Tampa, FL 33609-2348 CERTIFICATE OF AUTHORIZATION NO 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PAVEMENT MARKING PLAN (12)	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT NO.		5-25
				SR 50	HERNANDO	416732-4-52-01			

SR 50 / SR 700 / US 98 / CORTEZ BLVD.



R/W LINE

R/W LINE

6" WHITE (10'-30' SKIP)
WITH W/R RPMs AT 40'

TYPE B2 GROUND-IN RUMBLE STRIP

6" WHITE

1665

1666

6" YELLOW PROFILED
THERMOPLASTIC

1667

1668

1669

6" YELLOW

6" YELLOW PROFILED THERMOPLASTIC

CONST SR 50

TYPE B2 GROUND-IN RUMBLE STRIP

6" WHITE (10'-30' SKIP)
WITH W/R RPMs AT 40'

6" WHITE

6" WHITE
(6'-10' SKIP)

MATCHLINE 1664+20.00

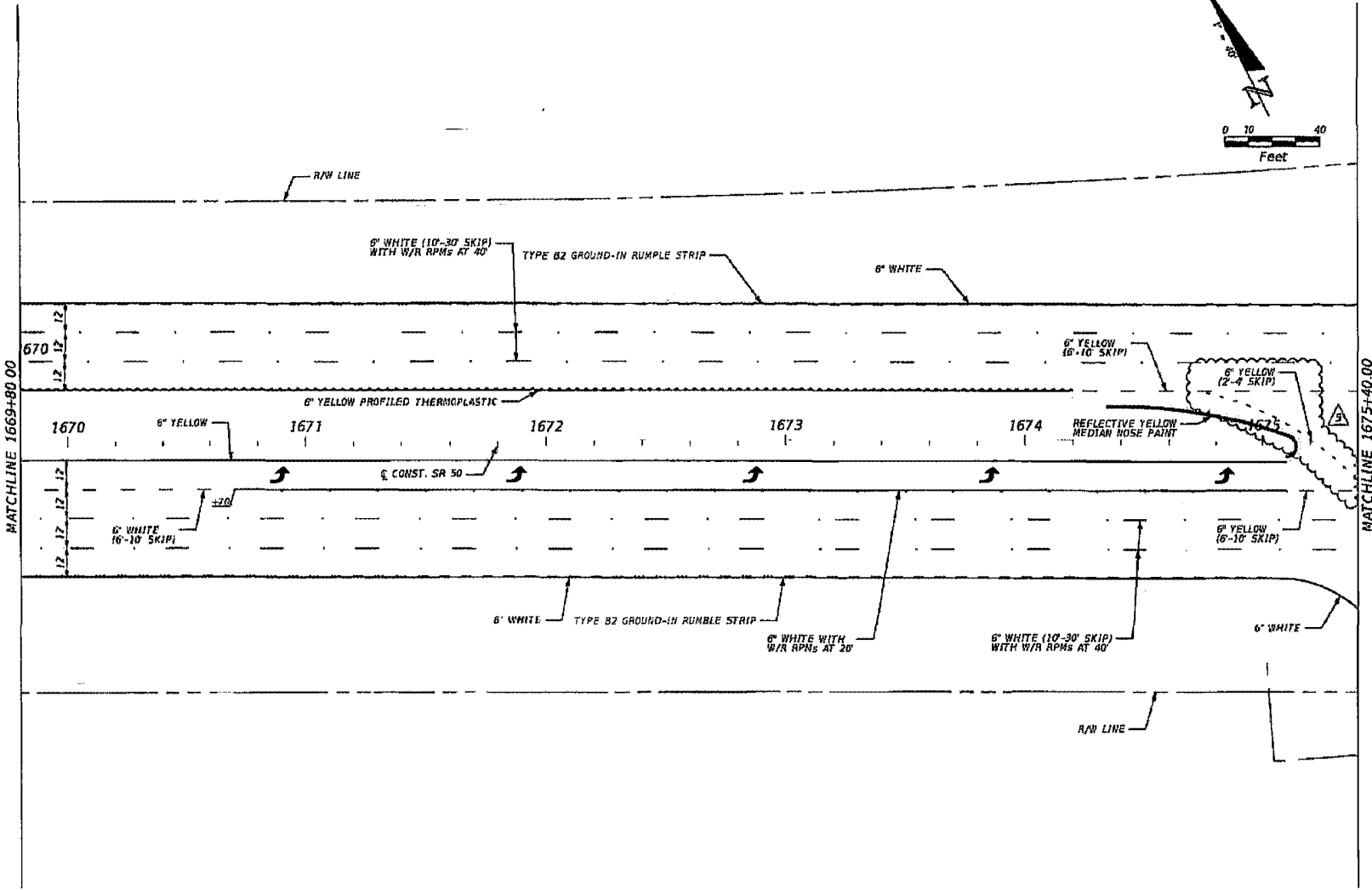
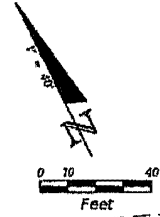
MATCHLINE 1669+80.00

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61015-23.004, F.A.C.

REVISIONS		DESCRIPTION		MICHAEL J. DATES, P.E. P.E. LICENSE NUMBER 49202 HDR Engineering, Inc. 4830 West Kennedy Blvd, Suite 400 Tampa, FL 33609-2548 CERTIFICATE OF AUTHORIZATION NO 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PAVEMENT MARKING PLAN (13)	SHEET NO. S-26
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 50	HERNANDO	416732-4-52-01		

UNOFFICIAL DATE PLOTTED: 01/24/2018 10:45:11 AM

SR 50 / SR 700 / US 98 / CORTEZ BLVD.



MATCHLINE 1669+80.00

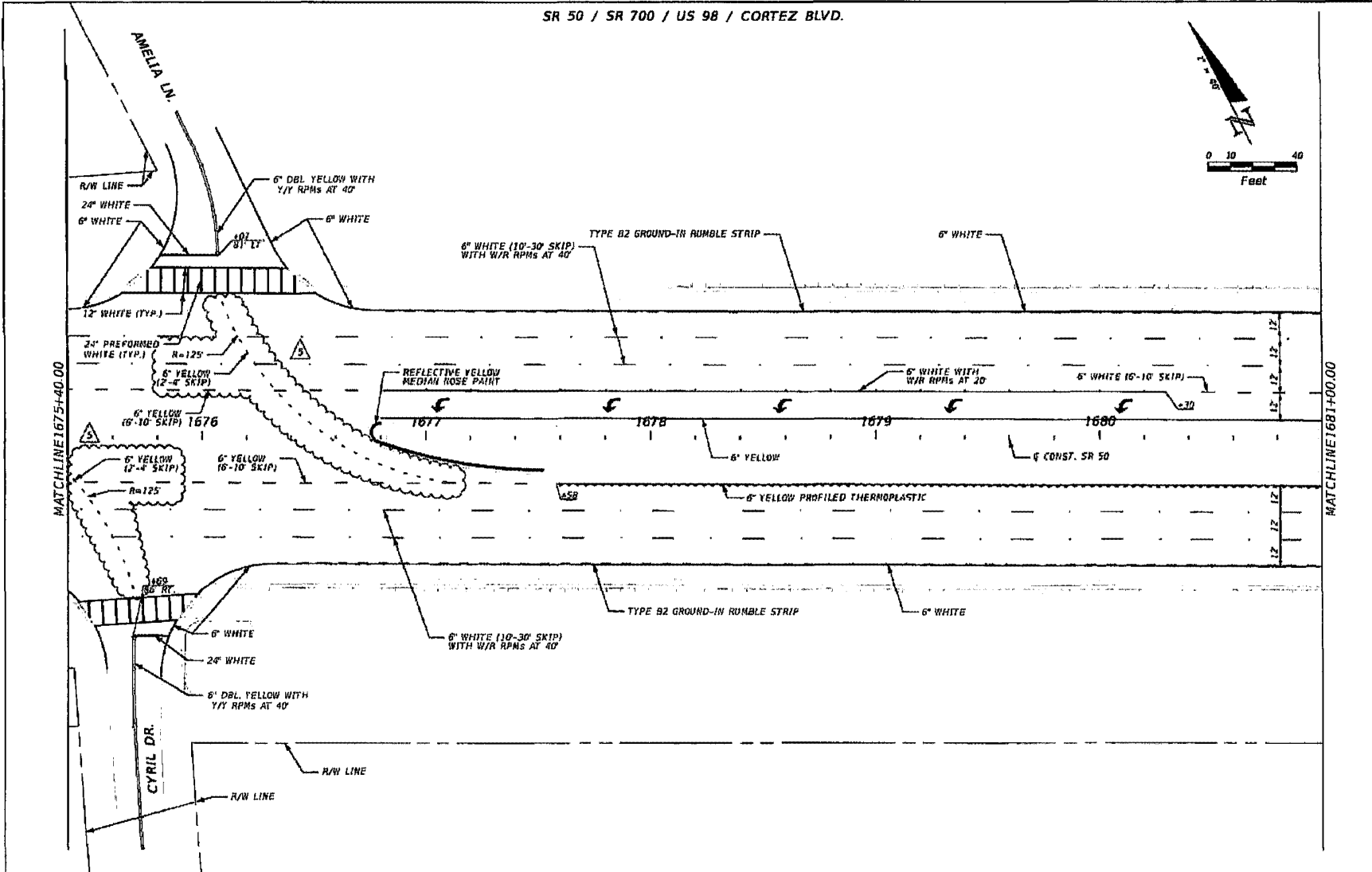
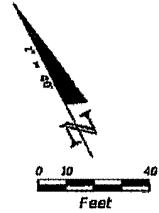
MATCHLINE 1675+40.00

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 91C19-23.004, F.A.C.

DATE		DESCRIPTION		REVISIONS		MICHAEL J. GATES, P.E. P.E. LICENSE NUMBER 49202 NDH Engineering, Inc. 4810 West Kennedy Blvd. Suite 400 Tampa, FL 33609-2548 CERTIFICATE OF AUTHORIZATION NO. 4213	STATES OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. S-27
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD NO.	COUNTY		FINANCIAL PROJECT ID			
6/18/21	▲ ADDED SKIP LINE				SR 50	HERNANDO	416732-4-52-01			

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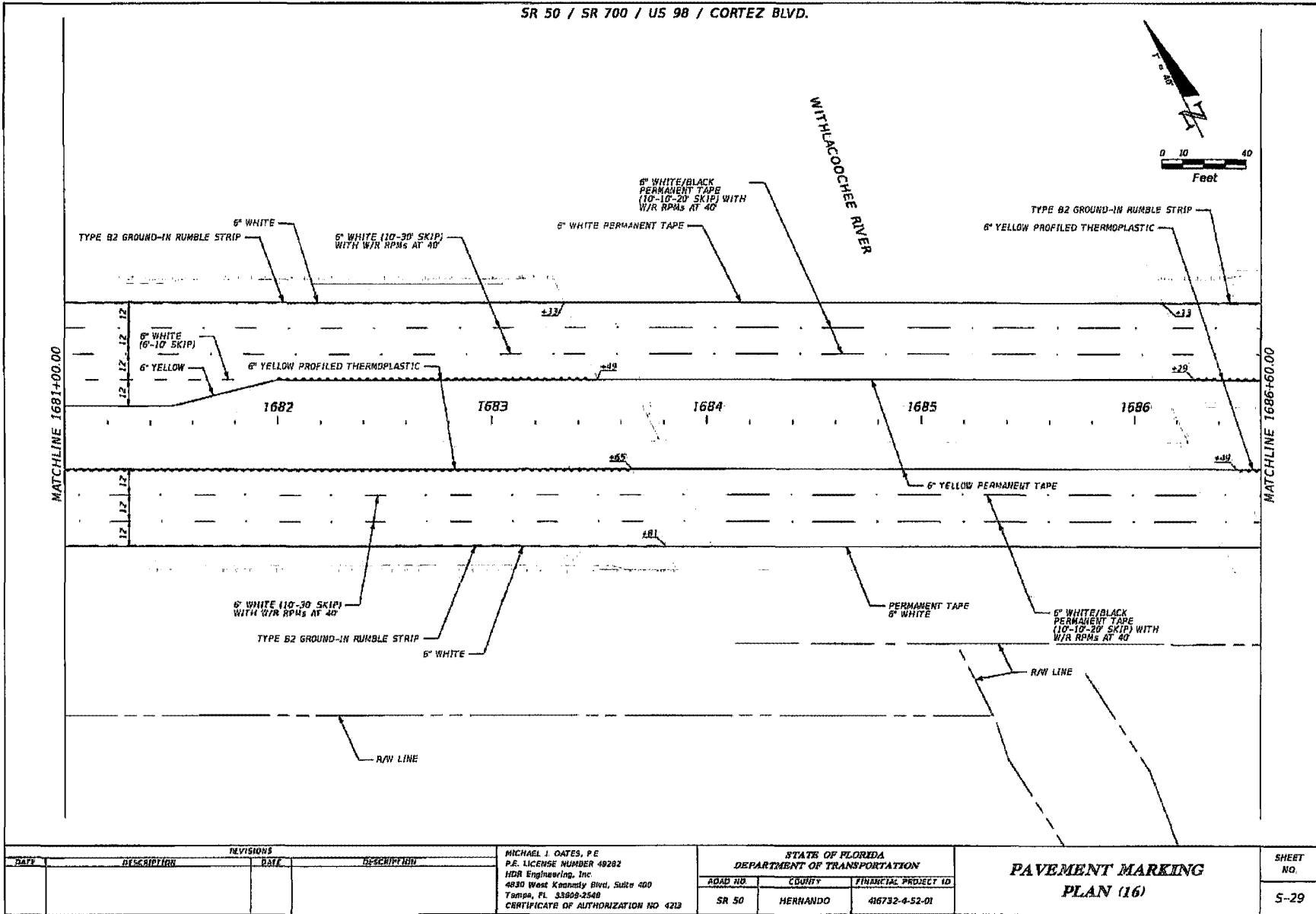
SR 50 / SR 700 / US 98 / CORTEZ BLVD.



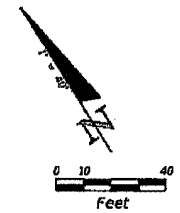
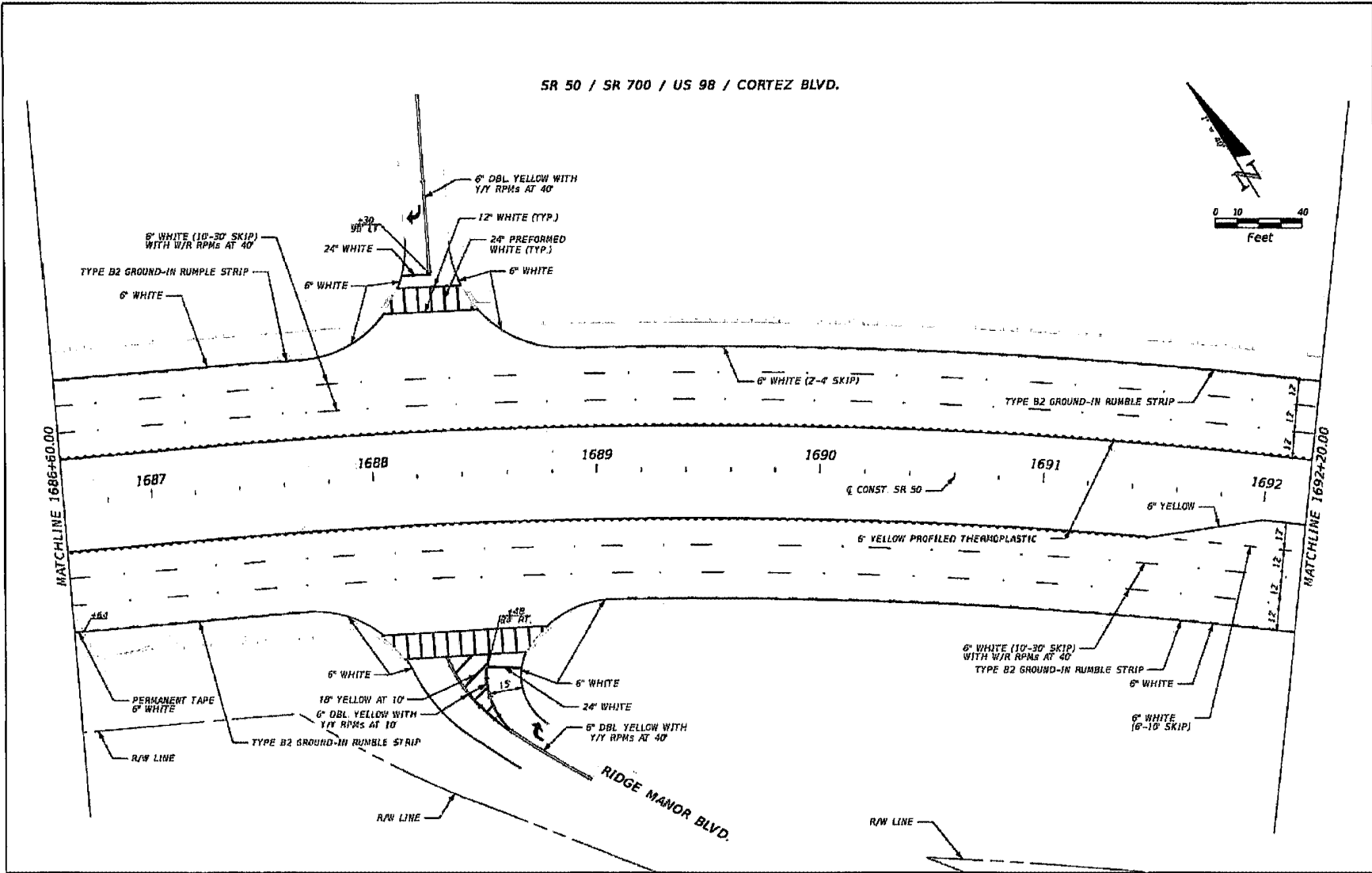
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS		DESCRIPTION	MICHAEL J. DAVIS, P.E. P.E. LICENSE NUMBER 49282 HDA Engineering, Inc. 4830 West Kennedy Blvd, Suite 400 Tampa, FL 33609-2548 CERTIFICATE OF AUTHORIZATION NO. 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PAVEMENT MARKING PLAN (16)	SHEET NO. 5-28
DATE	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
6/16/21	△ ADDED SKIP LINE		SR 50	HERNANDO	416732-4-52-01			

10/01/21 10:01:31 AM



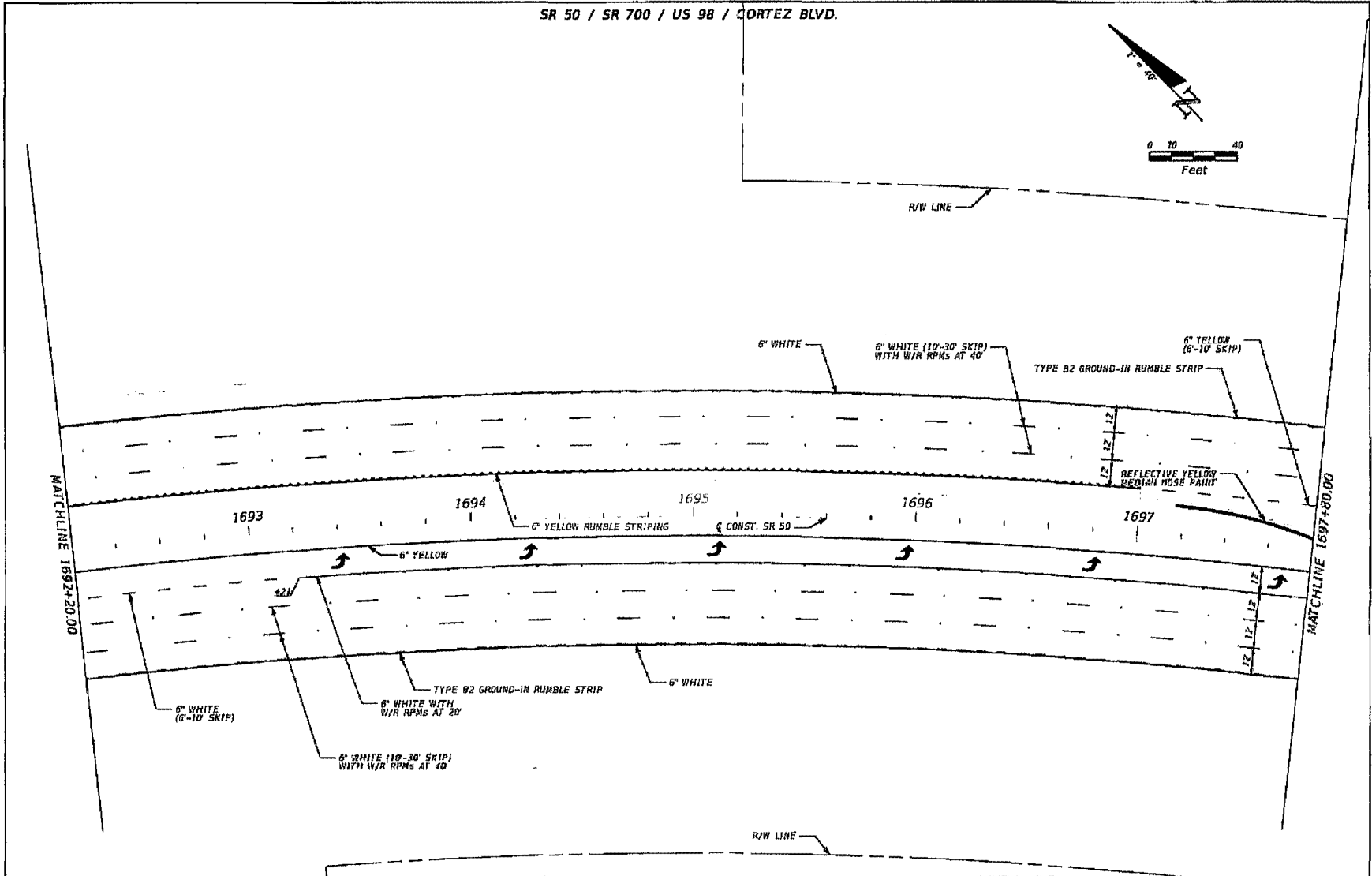
SR 50 / SR 700 / US 98 / CORTEZ BLVD.



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS		DESCRIPTION	MICHAEL J. DAVIS, P.E. P.E. LICENSE NUMBER 49202 HDA Engineering, Inc. 4830 West Kennedy Blvd., Suite 400 Tampa, FL 33609-2549 CERTIFICATE OF AUTHORIZATION NO. 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PAVEMENT MARKING PLAN (17)	SHEET NO. S-30
DATE	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				SR 50	HERNANDO	416732-4-52-01		

11/21/2017 11:21:17 AM

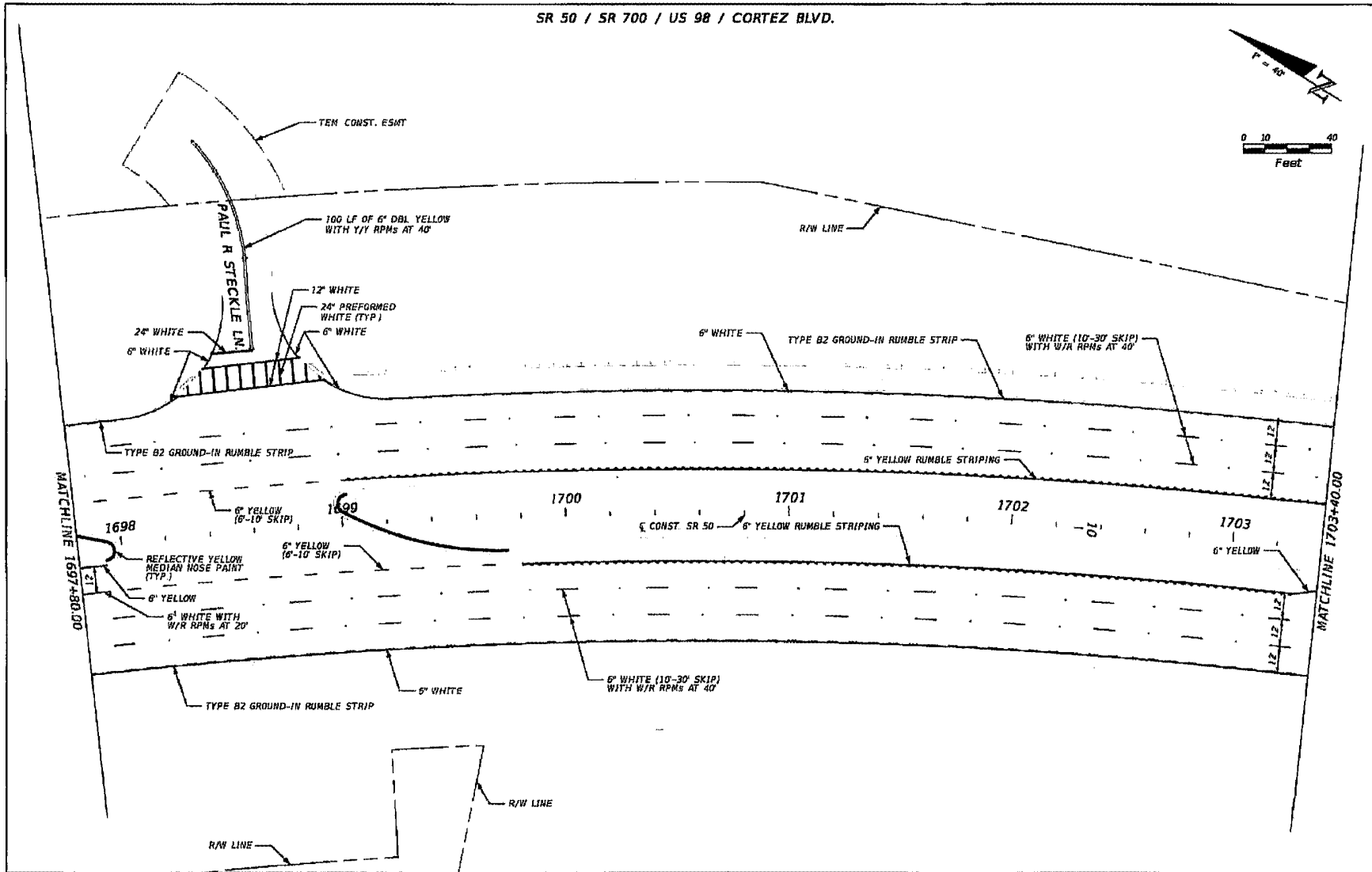


THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS		DESCRIPTION	MICHABL J. GATES, P.E. P.E. LICENSE NUMBER 49292 HDR Engineering, Inc. 4830 West Kennedy Blvd, Suite 400 Tampa, FL 33609-2548 CERTIFICATE OF AUTHORIZATION NO. 4219	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PAVEMENT MARKING PLAN (18)	SHEET NO. S-31
DATE	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				SR 50	HERNANDO	418732-4-52-01		

4/17/2014 11:18:55 AM P:\2014\418732\4-52-01\1801 PLAN\1801 PLAN.dwg

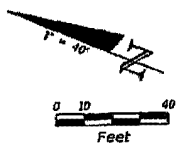
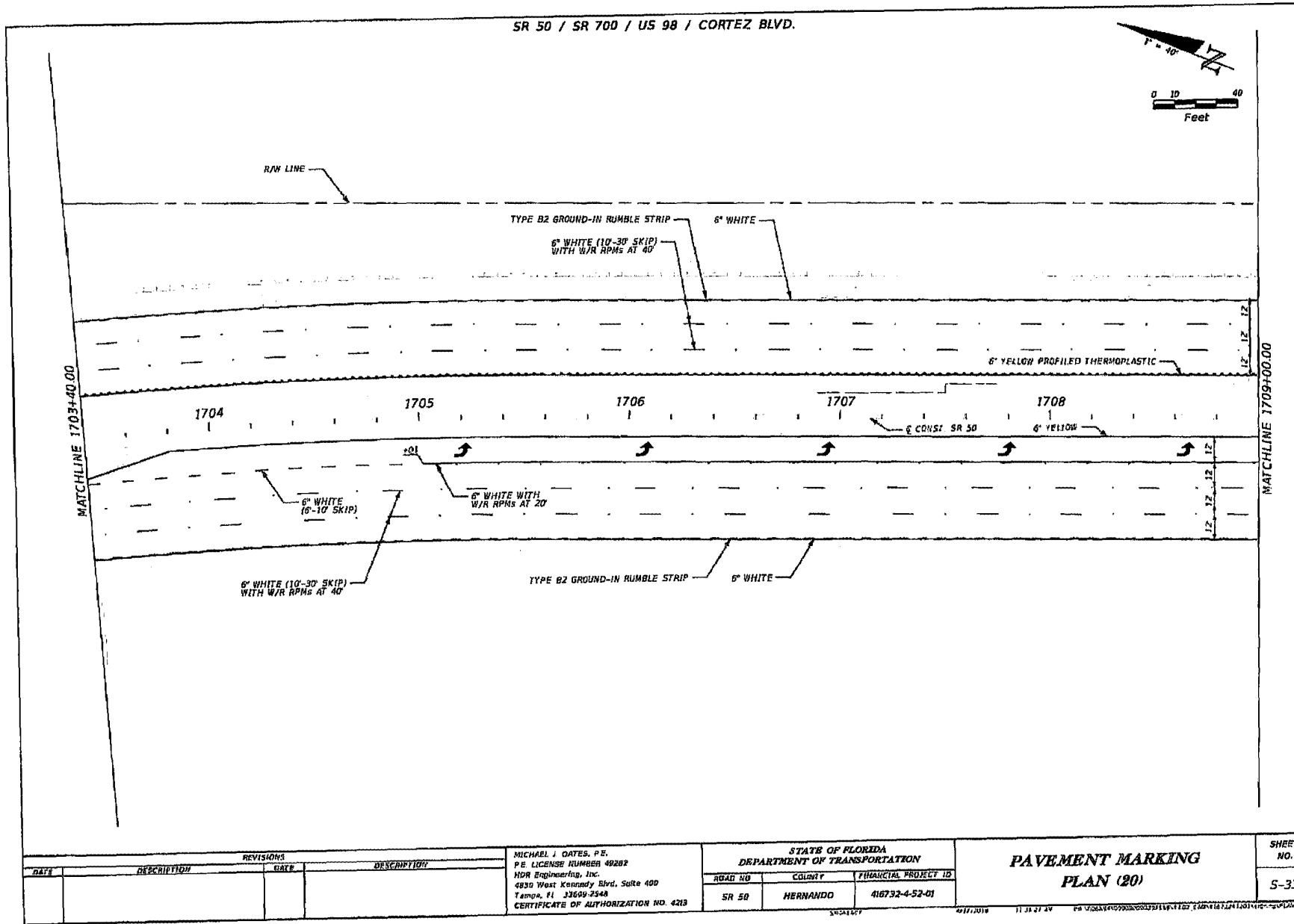
SR 50 / SR 700 / US 98 / CORTEZ BLVD.



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61B17-29.004, F.A.C.

REVISIONS			MICHAEL J. OATES, P.E. P.E. LICENSE NUMBER 49282 HDR Engineering, Inc. 4850 West Kennedy Blvd., Suite 400 Tampa, FL 33609-2548 CERTIFICATE OF AUTHORIZATION NO 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PAVEMENT MARKING PLAN (19)	SHEET NO. S-32
DATE	DESCRIPTION	DATE		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
			SR 50	HERNANDO	416732-4-52-01			

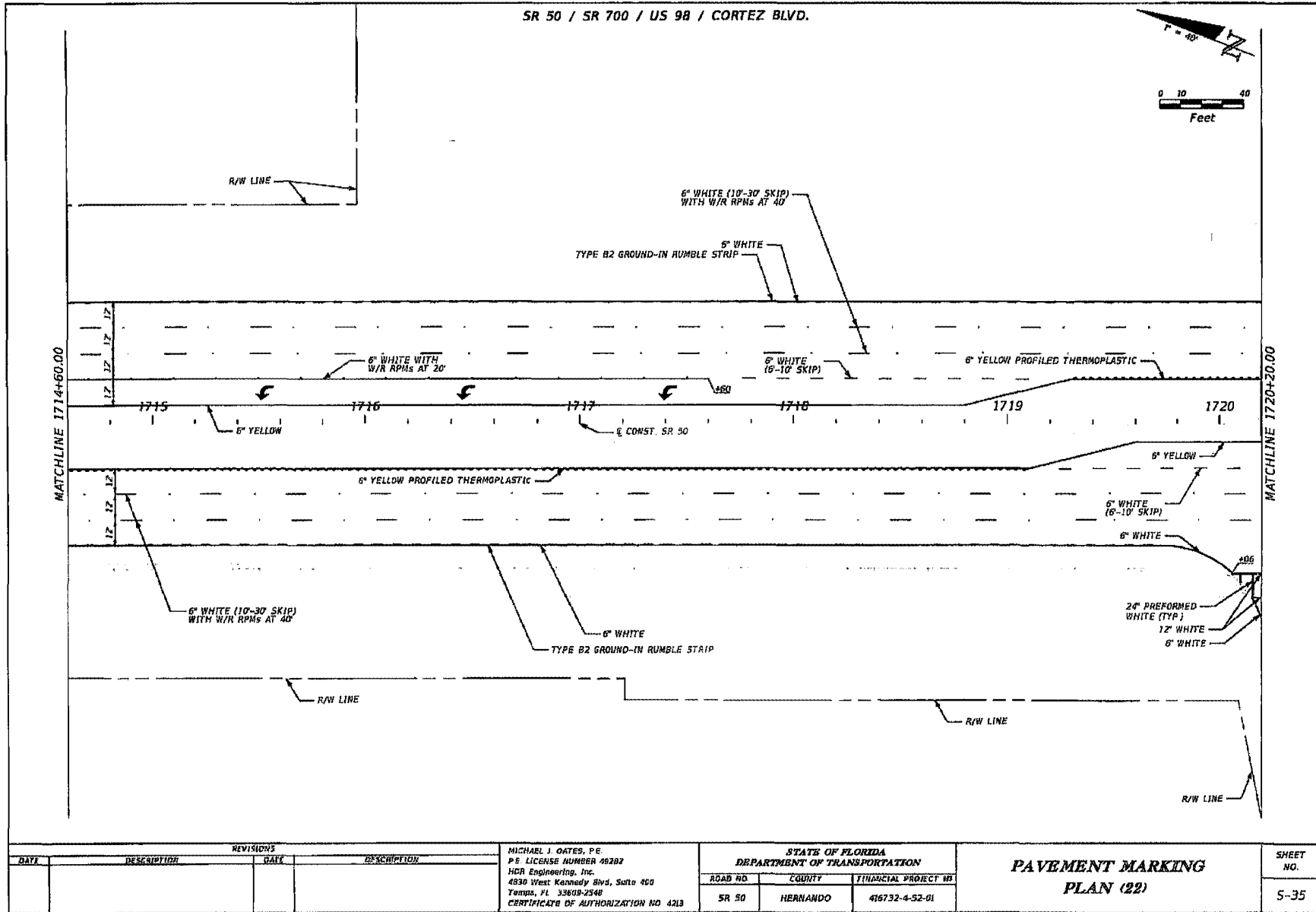
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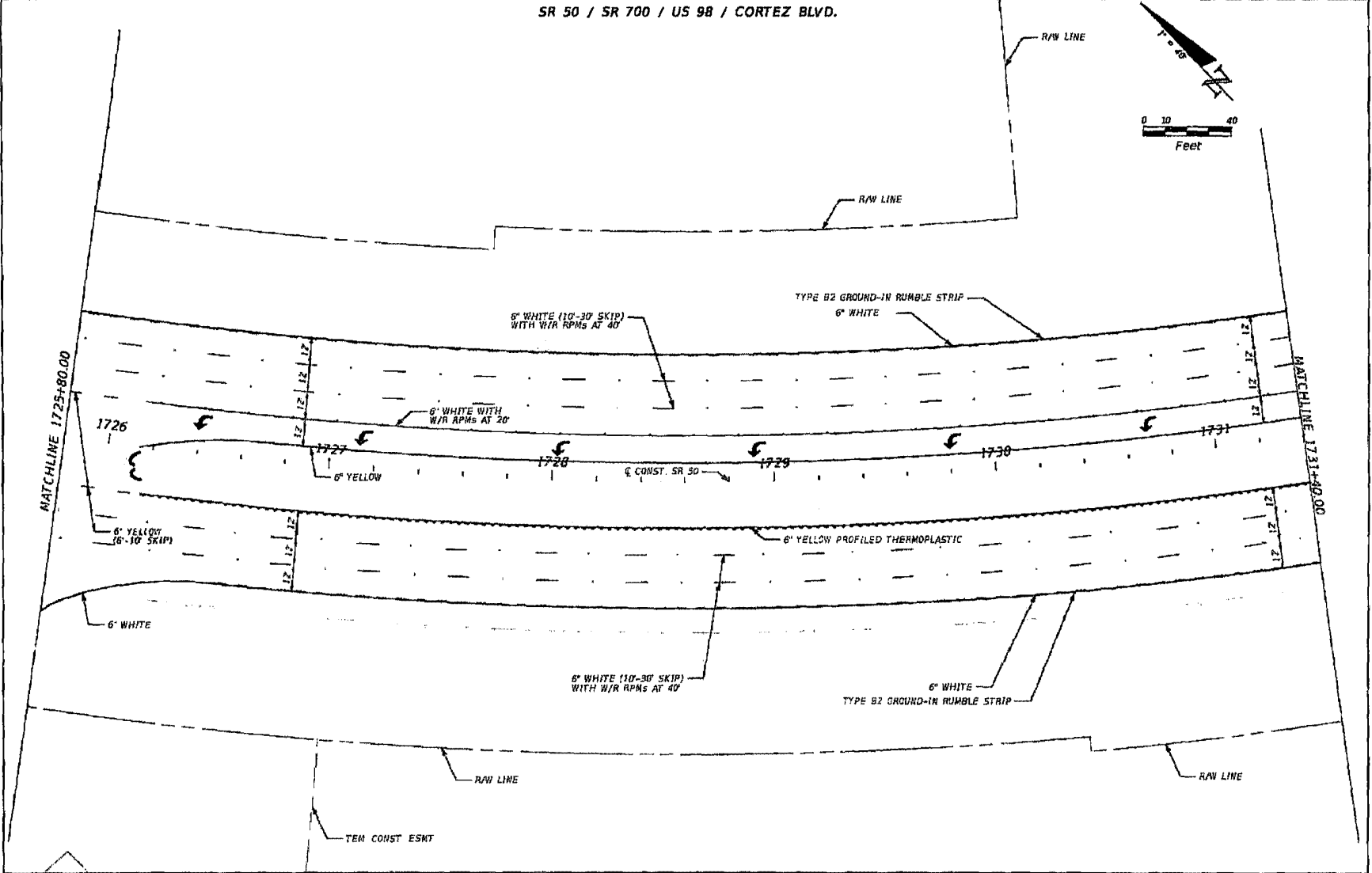
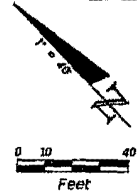
THIS OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY STORED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">DATE</th> <th style="width: 60%;">DESCRIPTION</th> <th style="width: 30%;">DATE</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>			DATE	DESCRIPTION	DATE				MICHAEL J. OATES, P.E. P.E. LICENSE NUMBER 49282 MJR Engineering, Inc. 4830 West Kennedy Blvd., Suite 400 Tampa, FL 33609-2548 CERTIFICATE OF AUTHORIZATION NO. 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PAVEMENT MARKING PLAN (20)	SHEET NO. S-33
DATE	DESCRIPTION	DATE												
			<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">ROAD NO.</th> <th style="width: 33%;">COUNTY</th> <th style="width: 34%;">FINANCIAL PROJECT ID</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">SR 50</td> <td style="text-align: center;">HERNANDO</td> <td style="text-align: center;">416732-4-52-01</td> </tr> </tbody> </table>	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	SR 50	HERNANDO	416732-4-52-01					
ROAD NO.	COUNTY	FINANCIAL PROJECT ID												
SR 50	HERNANDO	416732-4-52-01												

9/17/2019 11:33:21 AM PG 02/20/2019 11:33:21 AM



SR 50 / SR 700 / US 98 / CORTEZ BLVD.

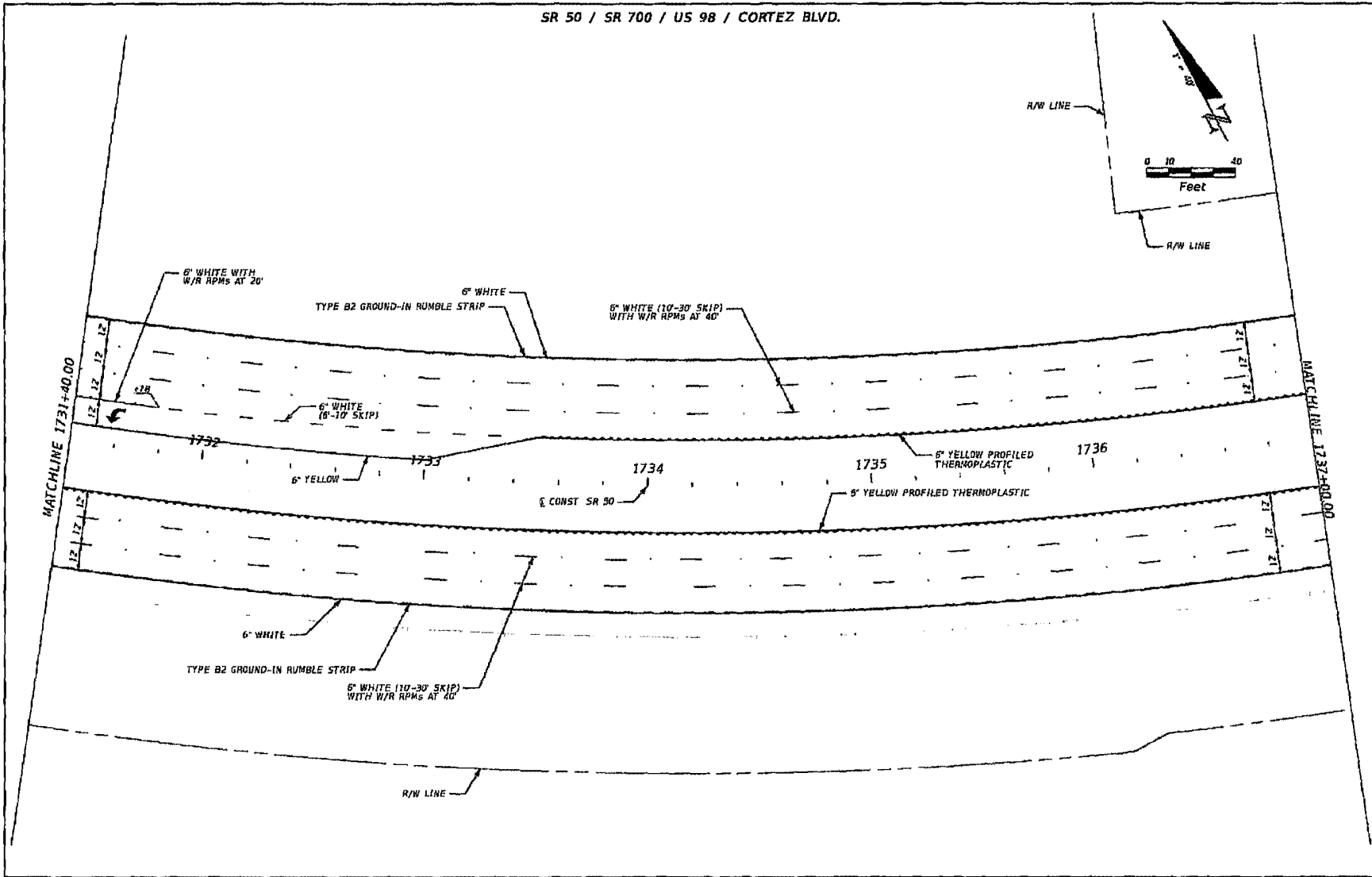


DATE		DESCRIPTION		REVISIONS		DESCRIPTION	MICHAEL J. DATES, P.E. P.E. LICENSE NUMBER 49262 HDR Engineering, Inc. 4850 West Kennedy Blvd., Suite 400 Tampa, FL 33609-2548 CERTIFICATE OF AUTHORIZATION NO 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. 5-37
DATE	DESCRIPTION	DATE	DESCRIPTION	ROAD NO.	COUNTY			FINANCIAL PROJECT ID			
					SR 50	HERNANDO	416732-4-52-01	PAVEMENT MARKING PLAN (24)			

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

BK: 4662 PG: 1191

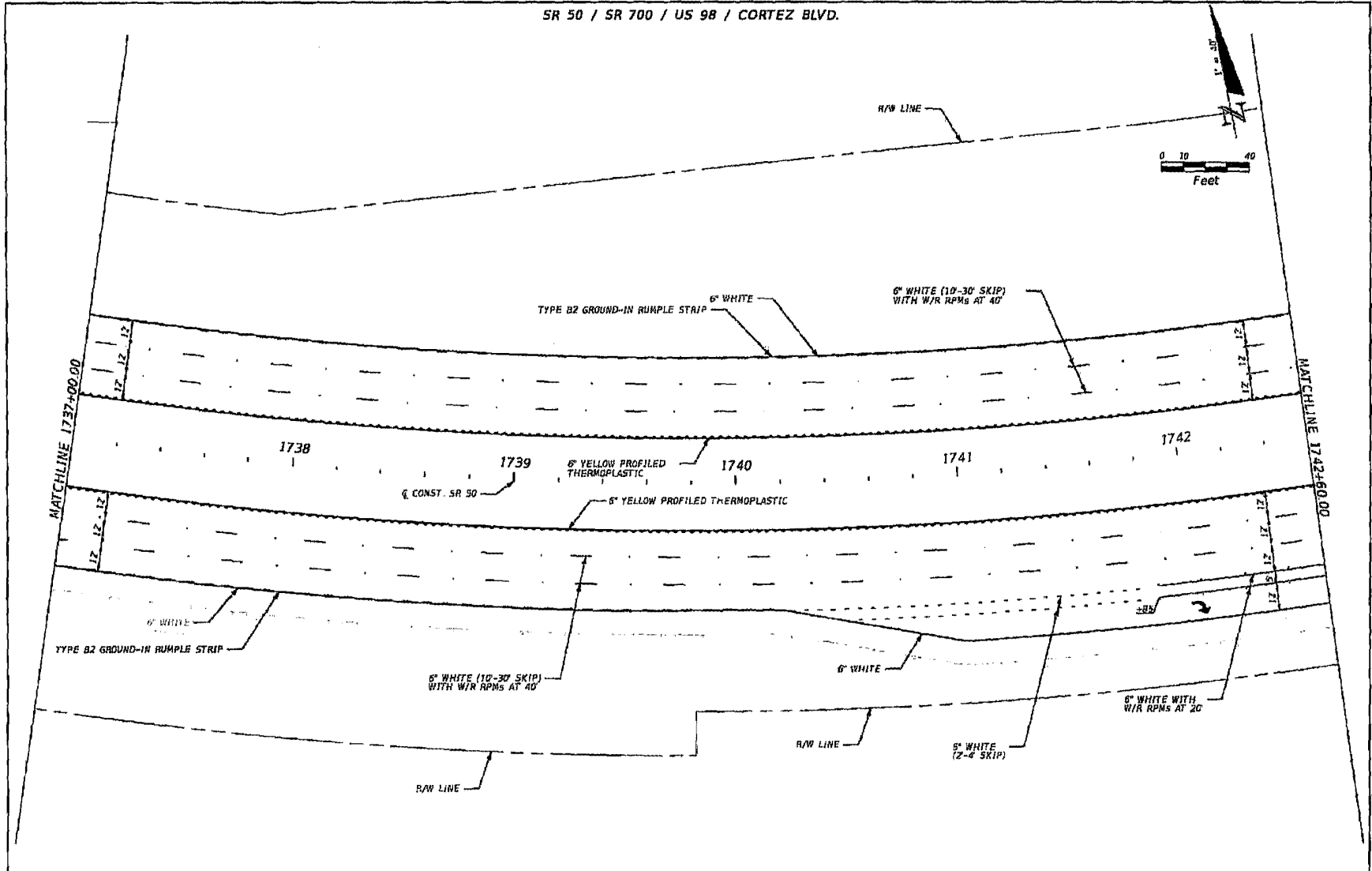
SR 50 / SR 700 / US 98 / CORTEZ BLVD.



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G13-23.004, F.A.C.

REVISIONS		DATE	DESCRIPTION	DATE	DESCRIPTION	MICHAEL J. DATES, P.E. P.E. LICENSE NUMBER 49282 HDR Engineering, Inc. 4320 West Kennedy Blvd. Suite 400 Tampa, FL 33609-2948 CERTIFICATE OF AUTHORIZATION NO 4219	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PAVEMENT MARKING PLAN (26)	SHEET NO. S-38
DATE	DESCRIPTION						ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
						SR 50	HERNANDO	416732-4-52-01			

SR 50 / SR 700 / US 98 / CORTEZ BLVD.



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY STORED AND SEALED UNDER RULE 91G13-23 00F, F.A.C.

DATE	DESCRIPTION	REVISIONS	
		DATE	DESCRIPTION

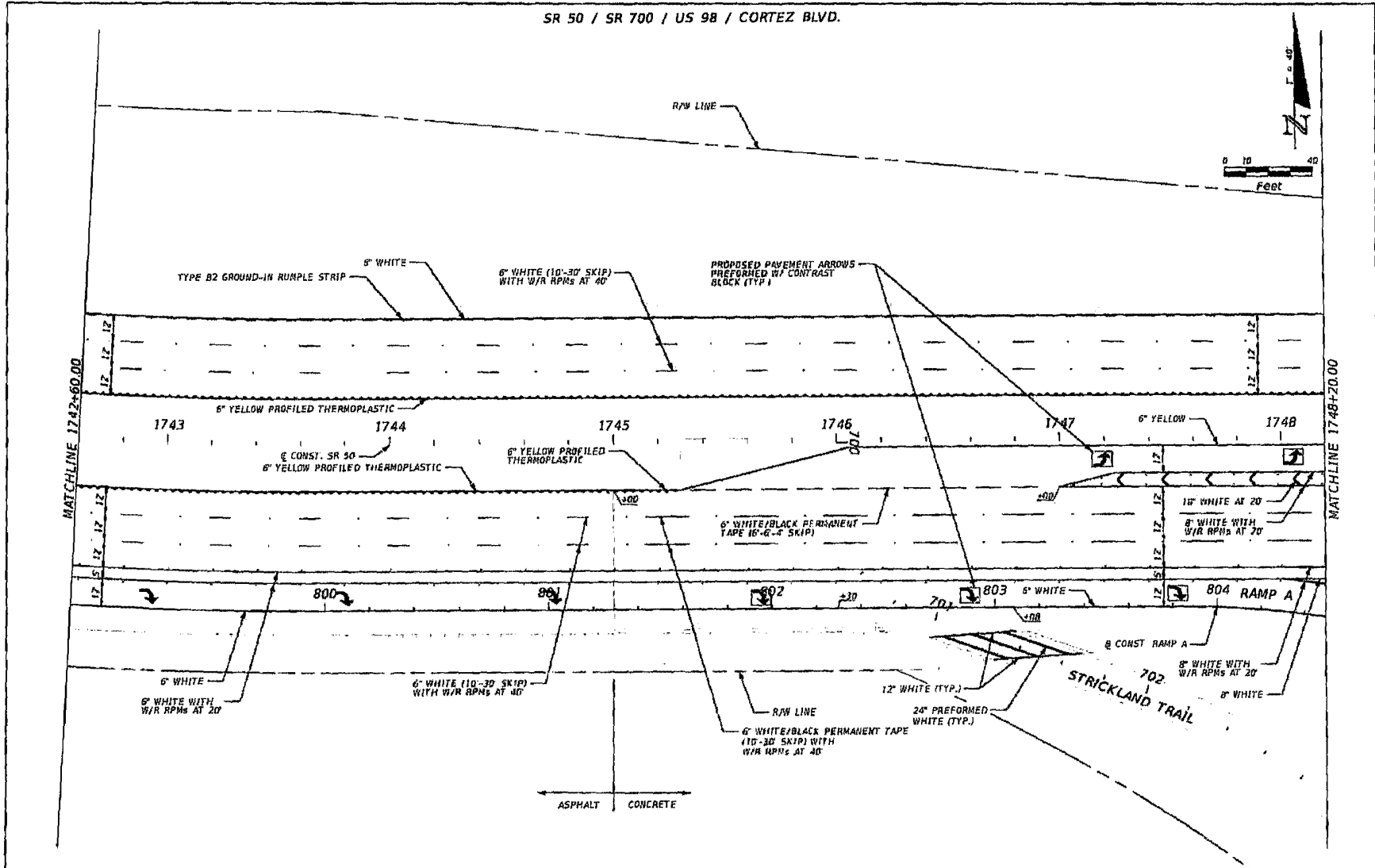
MICHAEL J. GATES, P.E.
 P.E. LICENSE NUMBER 49282
 HDR Engineering, Inc.
 4850 West Kennedy Blvd, Suite 400
 Tampa, FL 33609-2848
 CERTIFICATE OF AUTHORIZATION NO 4213

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 50	HERNANDO	416732-4-52-01

**PAVEMENT MARKING
 PLAN (26)**

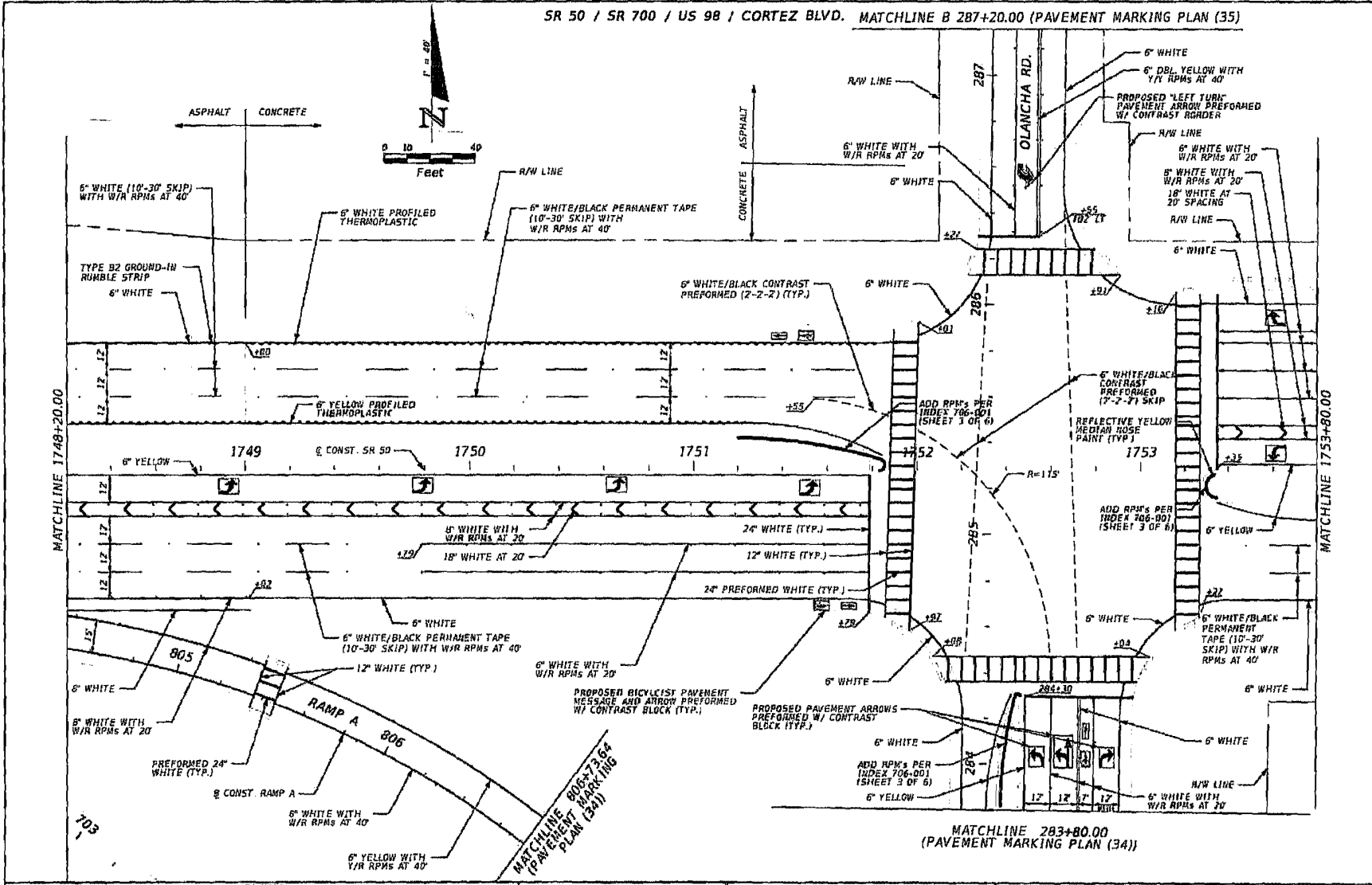
SHEET NO
5-39

DATE PLOTTED: 11/17/2014 11:21:00 AM PLOTTER: HP DesignJet 5000PS2



REVISIONS				MICHAEL J. DAVES, P.E. P.E. LICENSE NUMBER 48282 HDR Engineering, Inc. 4830 West Kennedy Blvd, Suite 400 Tampa, FL 33609-2548 CERTIFICATE OF AUTHORIZATION NO 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO. S-40
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID	
				SR 50	HERNANDO	418732-4-52-01	PAVEMENT MARKING PLANS (27)	

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY STORED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



REVISIONS		DATE	DESCRIPTION
NO.	DESCRIPTION		

MICHAEL J. OATES, P.E.
 P.E. LICENSE NUMBER 49282
 HDR Engineering, Inc.
 4030 West Kennedy Blvd. Suite 400
 Tampa, FL 33609-2545
 CERTIFICATE OF AUTHORIZATION NO. 4213

STATE OF FLORIDA
 DEPARTMENT OF TRANSPORTATION

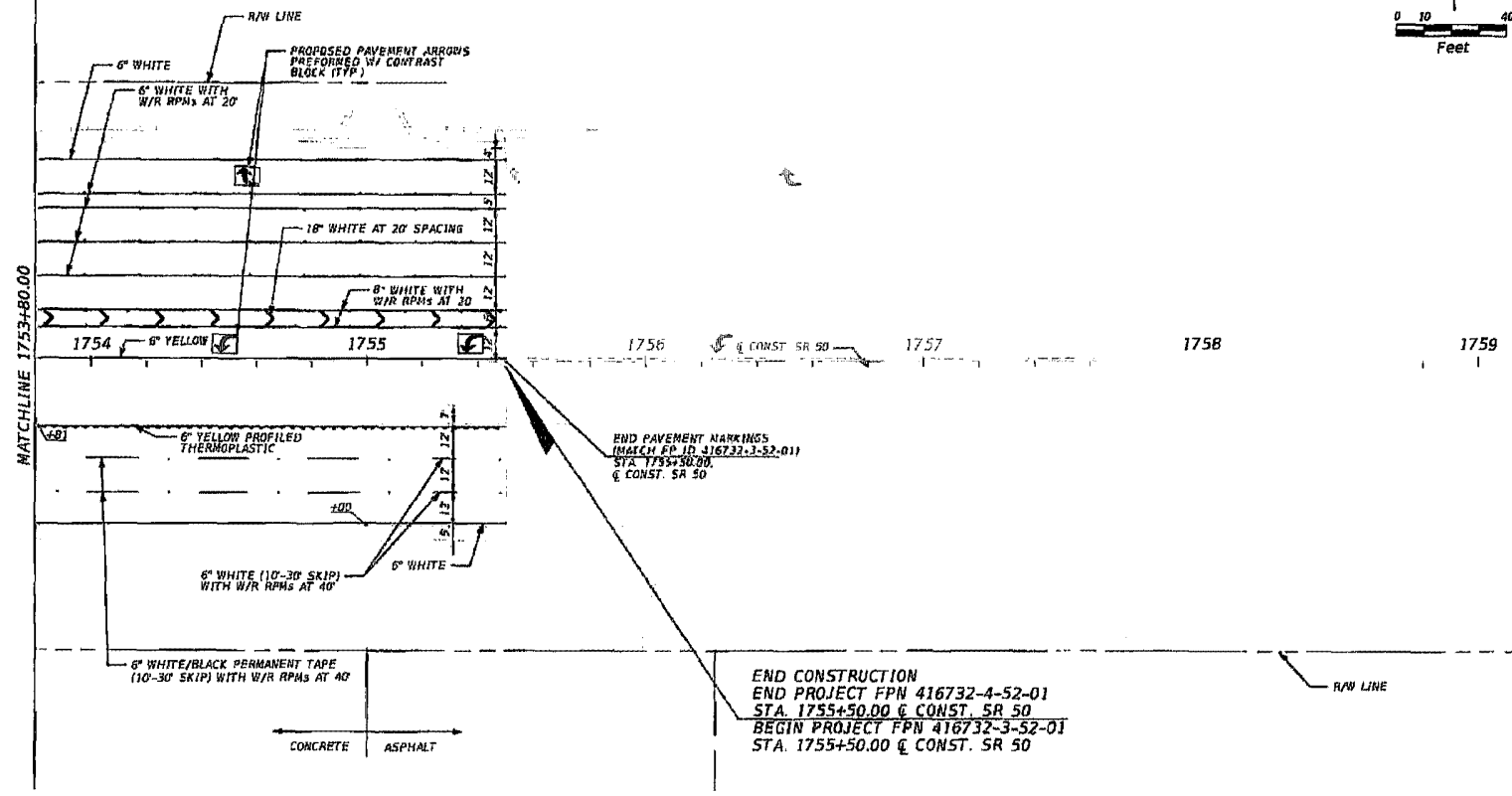
ROAD NO.	COUNTY	FINANCIAL PROJECT ID.
SR 50	HERNANDO	416732-4-52-01

PAVEMENT MARKING PLAN (28)

SHEET NO.
 5-41

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.006, F.A.C.

FOR CONSTRUCTION PLANS EAST
OF US 98/ MCKETHAN ROAD
SEE FPN 416732-3-52-01
(ICON CONSULTING GROUP)



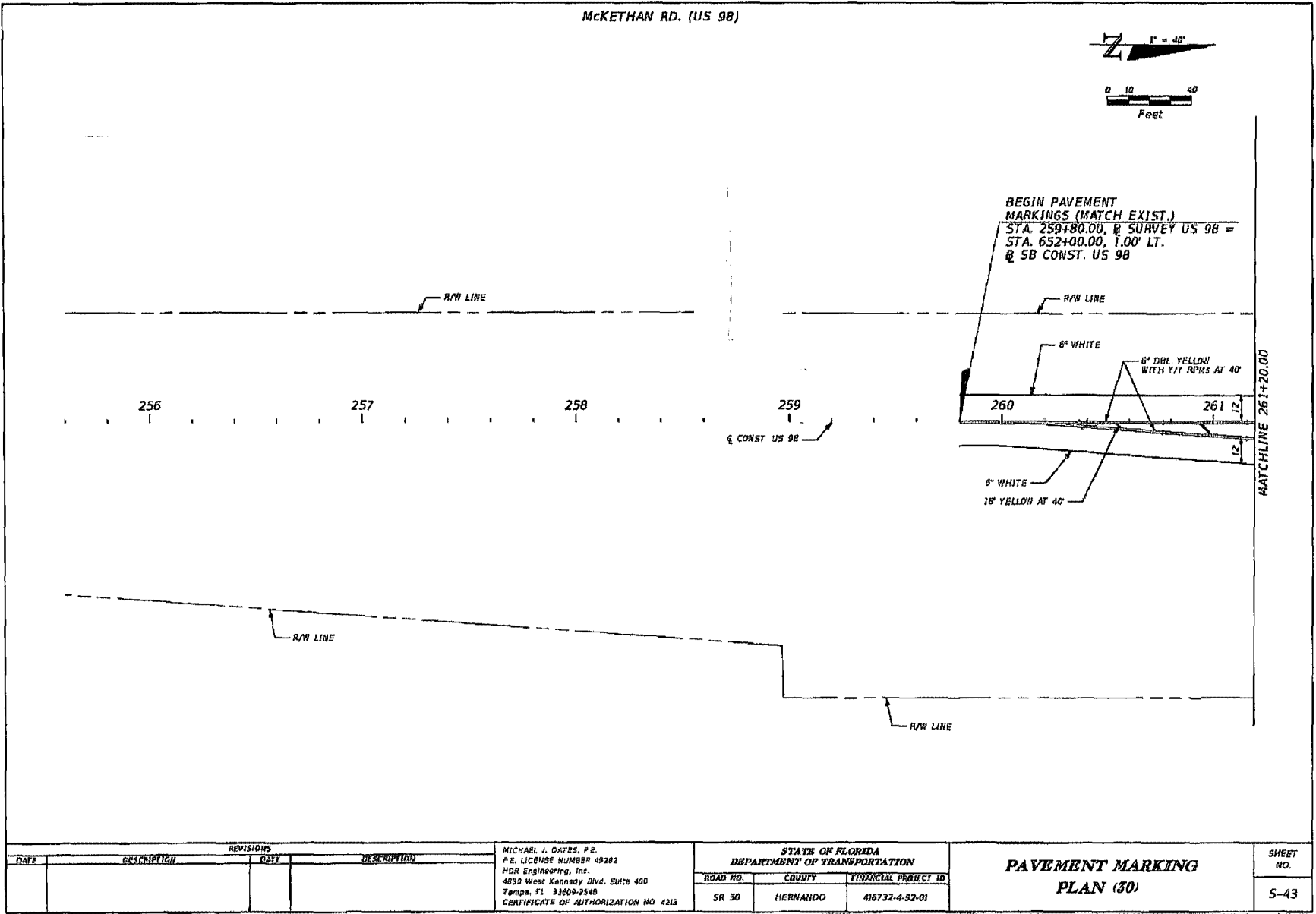
END PAVEMENT MARKINGS
(MATCH FPN 416732-3-52-01)
STA. 1755+50.00
& CONST. SR 50

END CONSTRUCTION
END PROJECT FPN 416732-4-52-01
STA. 1755+50.00 & CONST. SR 50
BEGIN PROJECT FPN 416732-3-52-01
STA. 1755+50.00 & CONST. SR 50

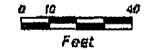
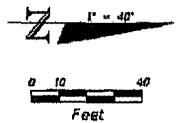
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS		DESCRIPTION	DATE	DRAWN	CHECKED	APPROVED	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	ROAD NO.	COUNTY	FINANCIAL PROJECT ID	PAVEMENT MARKING PLAN (29)	SHEET NO.
NO.	DESCRIPTION											
								SR 50	HERNANDO	416732-4-52-01		5-42

MICHAEL I. OATRE, P.E.
P.E. LICENSE NUMBER 49282
ICON ENGINEERING, INC.
4830 West Kennedy Blvd., Suite 400
Yonkers, FL 33609-2548
CERTIFICATE OF AUTHORIZATION NO 423



McKETHAN RD. (US 98)

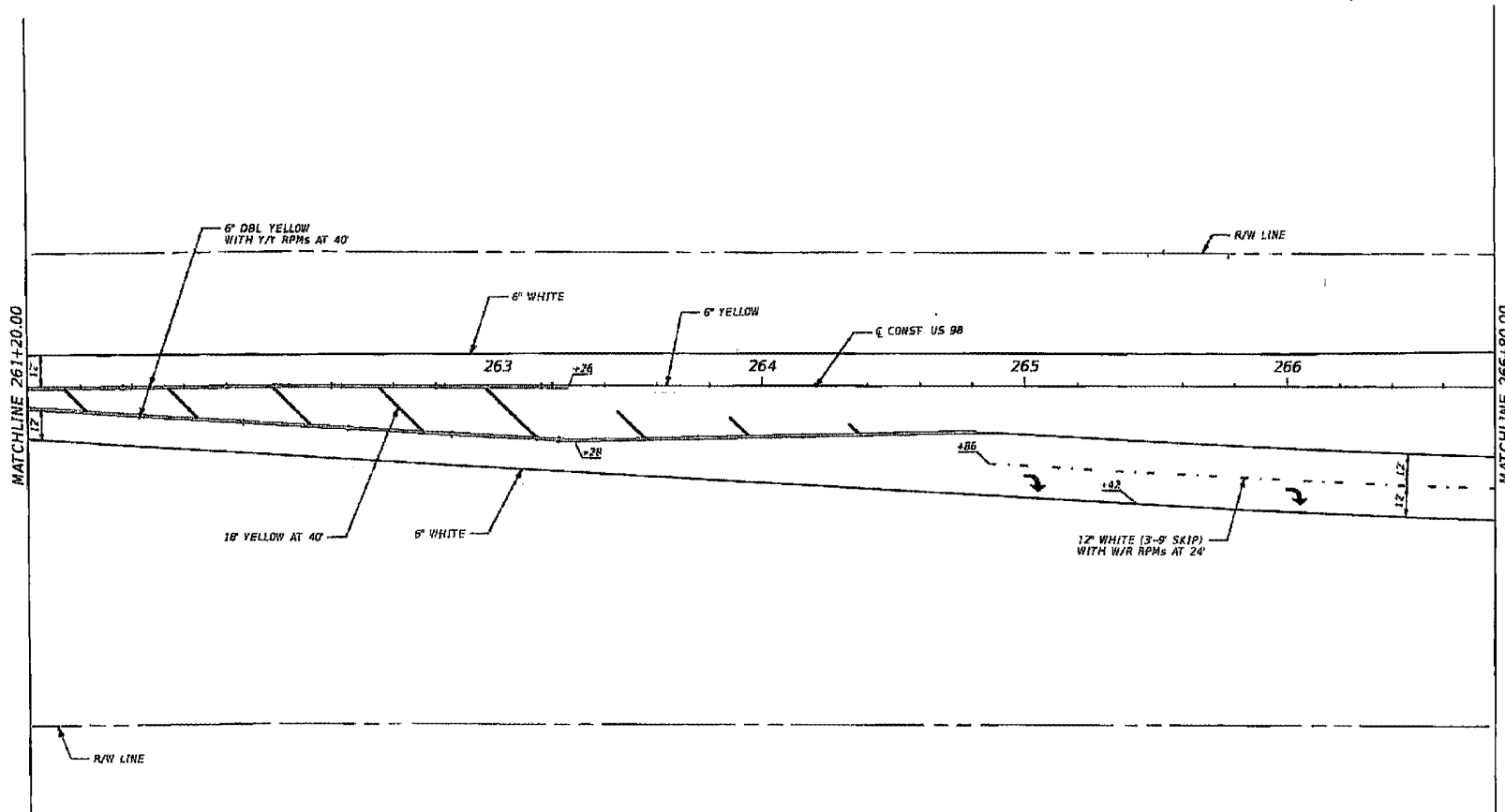
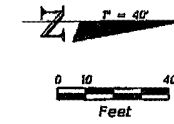


BEGIN PAVEMENT MARKINGS (MATCH EXIST.)
 STA. 259+80.00, SURVEY US 98 =
 STA. 652+00.00, 1.00' LT.
 @ SB CONST. US 98

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS		DESCRIPTION	MICHAEAL J. GATES, P.E. P.E. LICENSE NUMBER 49282 HDR Engineering, Inc. 4830 West Kennedy Blvd. Suite 400 Tampa, FL 33609-2548 CERTIFICATE OF AUTHORIZATION NO 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PAVEMENT MARKING PLAN (30)	SHEET NO. S-43
DATE	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				SR 30	HERNANDO	416732-4-52-01		

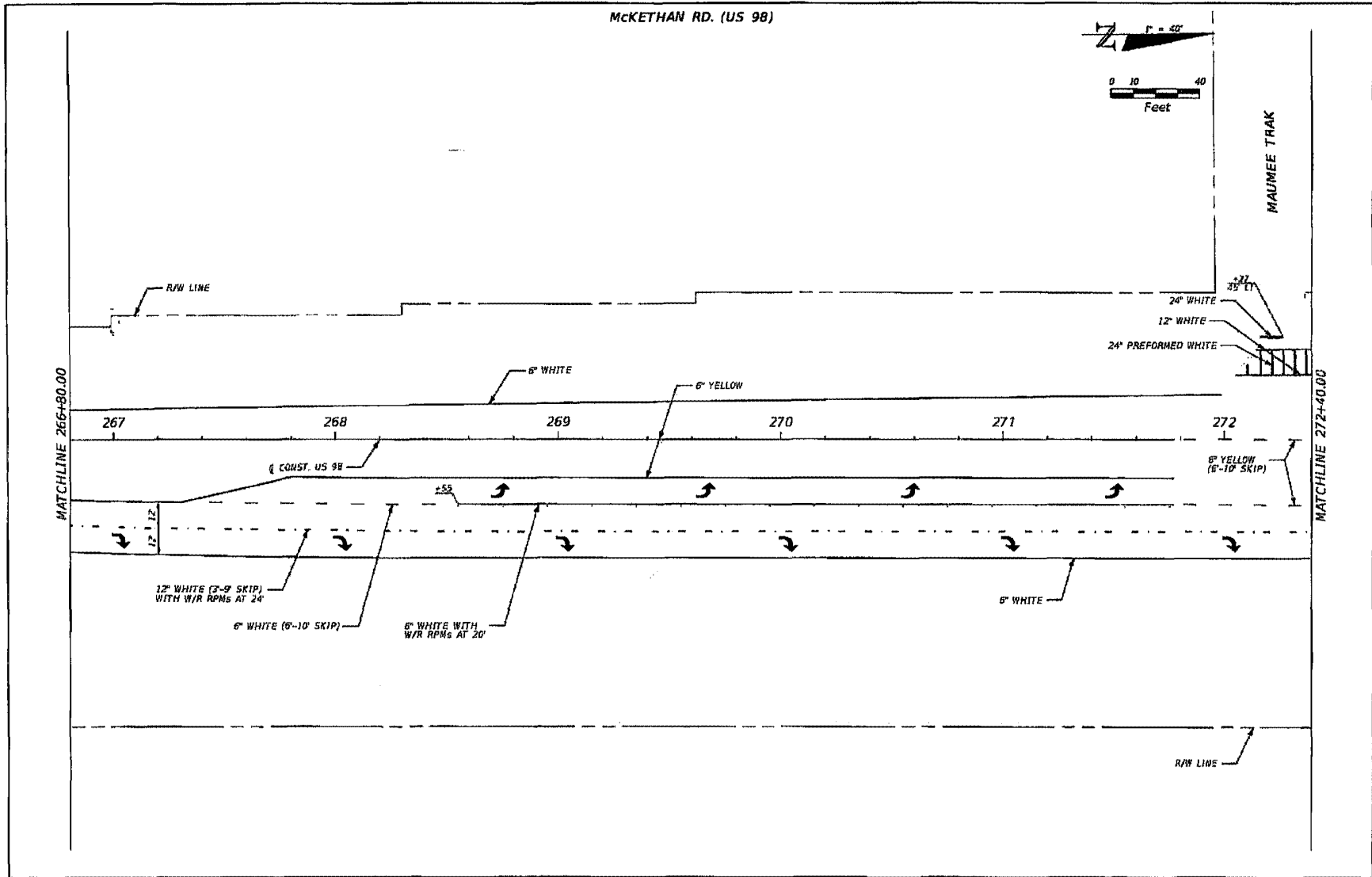
McKETHAN RD. (US 98)



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61B15-23.004, F.A.C.

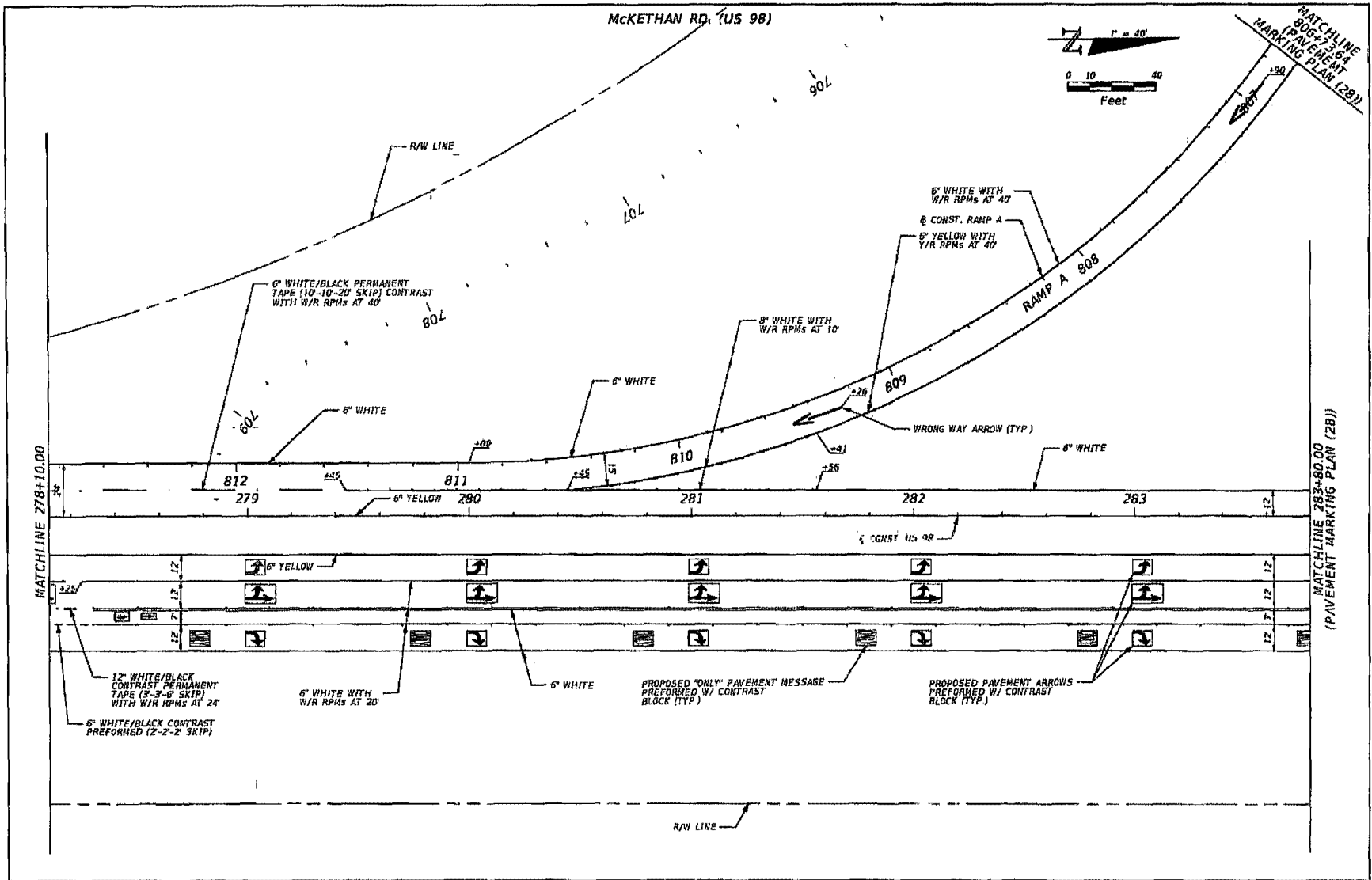
REVISIONS		DESCRIPTION	MICHAEL J. OATES, P.E. P.E. LICENSE NUMBER 49292 HDR Engineering, Inc. 4630 West Kennedy Blvd., Suite 400 Tampa, FL 33609-2348 CERTIFICATE OF AUTHORIZATION NO. 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PAVEMENT MARKING PLAN (51)	SHEET NO. S-44
DATE	DESCRIPTION			ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
				SR 50	HERNANDO	416732-4-52-01		

DATE PLOTTED: 11/21/18



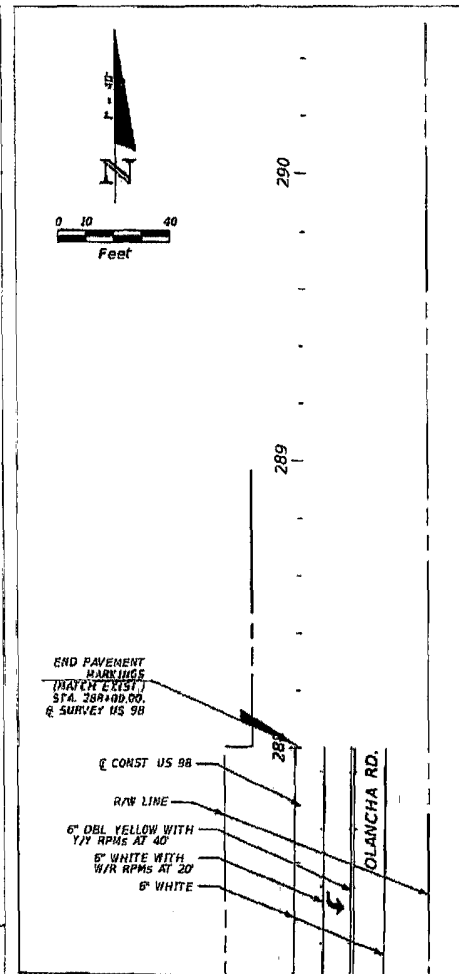
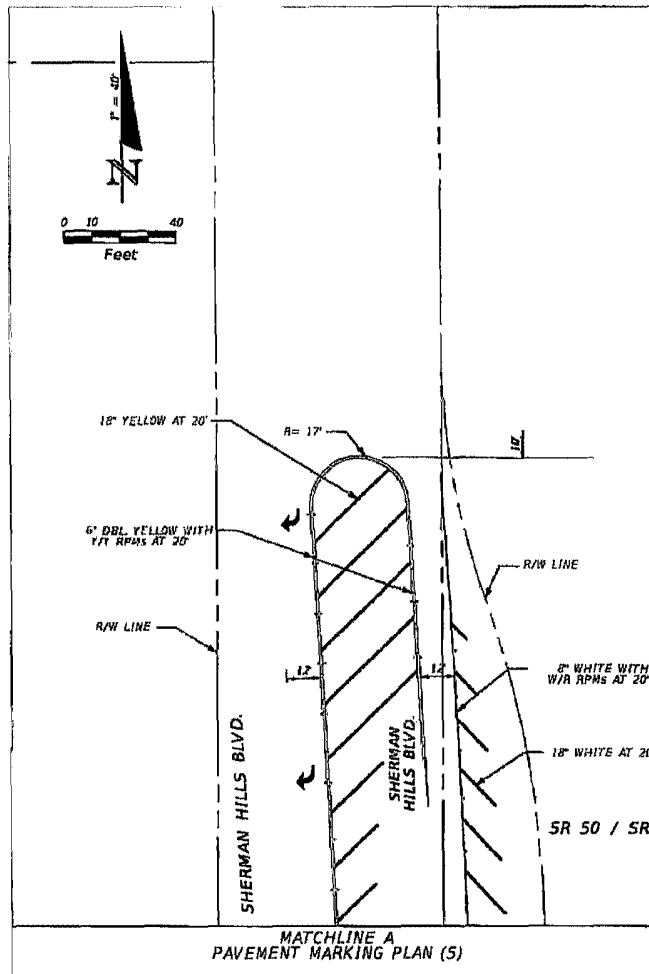
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

REVISIONS		DESCRIPTION	DATE	MATERIALS	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	PAVEMENT MARKING PLAN (32)	SHEET NO. 5-45
DATE	DESCRIPTION						
				MICHAEL J. GATES, P.E. P.E. LICENSE NUMBER 49282 HDR Engineering, Inc. 4830 West Kennedy Blvd., Suite 400 Tampa, FL 33609-2548 CERTIFICATE OF AUTHORIZATION NO. 4213	ROAD NO. SR 50	COUNTY HERNANDO	FINANCIAL PROJECT ID 416732-4-52-01



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61D15-23.004, F.A.C.

REVISIONS		DESCRIPTION		MICHAEL J. DATES, P.E. P.E. LICENSE NUMBER 49282 HDR Engineering, Inc. 4839 West Kennedy Blvd, Suite 400 Tampa, FL 33609-2548 CERTIFICATE OF AUTHORIZATION NO. 4213	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			PAVEMENT MARKING PLAN (34)	SHEET NO 5-47
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
					SR 50	HERNANDO	416732-4-52-01		



REVISIONS		DATE	DESCRIPTION

MICHAEL J. GATES, P.E.
P.E. LICENSE NUMBER 40287
HDR Engineering, Inc.
4830 West Kennedy Blvd, Suite 400
Tampa, FL 33609-2548
CERTIFICATE OF AUTHORIZATION NO. 4218

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO.	COUNTY	FINANCIAL PROJECT ID
SR 50	HERNANDO	416732-4-52-01

**PAVEMENT MARKING
PLAN (36)**

SHEET NO	5-48
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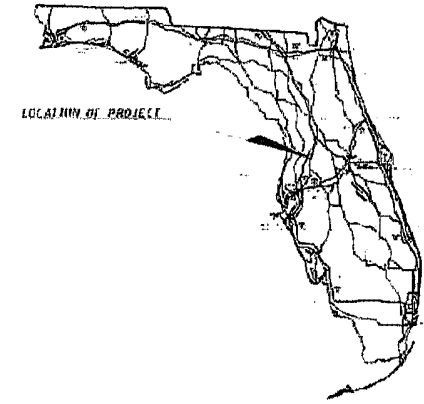
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.009, F.A.C.

**STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
CONTRACT PLANS**



FINANCIAL PROJECT ID 416732-3-52-01
(FEDERAL FUNDS)


HERNANDO COUNTY (08070)
STATE ROAD NO. 50 (CORTEZ BLVD.)
FROM EAST OF US 98/MCKETHAN RD TO EAST OF US 301



SIGNING AND PAVEMENT MARKING PLANS



INDEX OF SIGNING AND PAVEMENT MARKING PLANS

SHEET NO	SHEET DESCRIPTION
5-1	KEY SHEET
5-2 THRU  5-2A  5-2B	SIGNATURE SHEET
5-3 THRU 5-6	TABULATION OF QUANTITIES
5-7	GENERAL NOTES
5-8 THRU 5-33	SIGNING AND PAVEMENT MARKING PLAN
5-34 THRU 5-37	GUIDE SIGN WORKSHEET

 SIGNING AND PAVEMENT MARKING PLANS
ENGINEER OF RECORD:
JANEY B WALLS, P.E.
P.E. NO: 76169
BURDESS & NIPLE, INC
10005 N DALE HARBRY HIGHWAY, SUITE 201
TAMPA, FL 33618
CONTRACT NO: C-9FGB
VENDOR NO: 59-3576100001
CERTIFICATE OF AUTHORIZATION NO: 9853

KEY SHEET REVISIONS	
DATE	DESCRIPTION
8/5/20	 ADDED SHEET 5-2A AND UPDATED ENGINEER OF RECORD INFORMATION
9/30/21	 ADDED SHEET 5-2B

FDOT PROJECT MANAGER:
KEVIN LEE

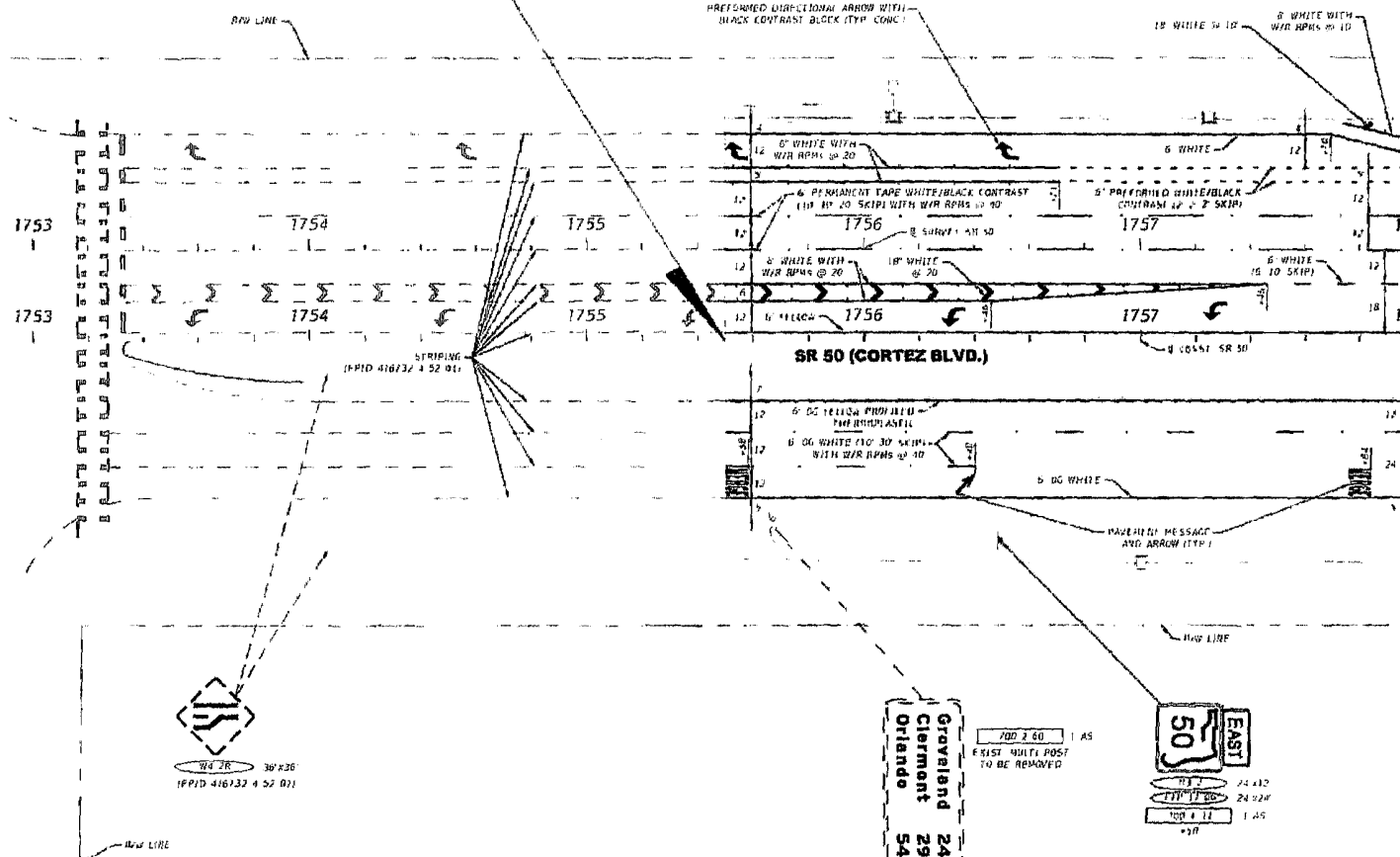
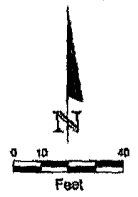
CONSTRUCTION CONTRACT NO	FISCAL YEAR	SHEET NO
T7396	20	5-1

FOR OFFICIAL USE ONLY: THIS SHEET IS THE PROPERTY OF THE STATE OF FLORIDA. IT IS TO BE USED ONLY FOR THE PROJECT AND NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT PERMISSION OF THE STATE OF FLORIDA.

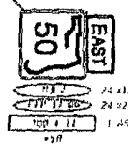
OLANCHA RD.

MCKETHAN RD.

BEGIN PROJECT
 BEGIN CONSTRUCTION
 BEGIN SIGNING AND PAVEMENT MARKING
 (MATCH I.P.I.D. 416732-3-52-01)
 STA. 1755+50 ON R. CONST. SR 50



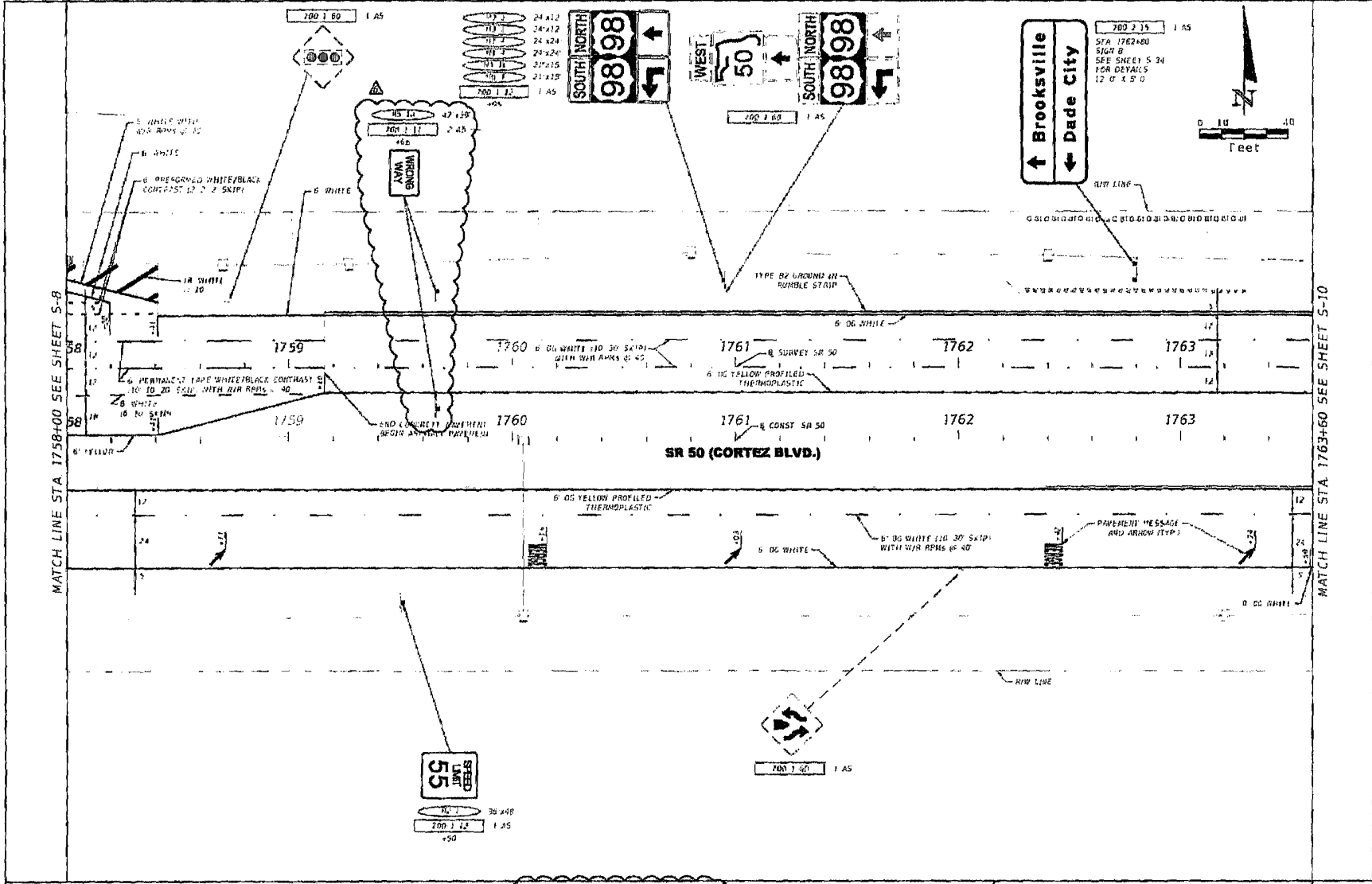
MATCH LINE STA. 1758+00 SEE SHEET S-9



200 2 60 1 AS
 EXIST. WHITE POST
 TO BE REMOVED

REVISIONS		DESCRIPTION	DATE	BY	CHECKED	APPROVED	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	SIGNING AND PAVEMENT MARKING PLAN (1)	SHEET NO.	
NO.	DATE									
1	11/24/2022						SR 50	HERRANDO	416732-3-52-01	5-8

FOR STATE RECORD OF THIS SHEET IN THE ELECTRONIC FILE SYSTEM, SIGNING AND PAVEMENT MARKING PLAN (1) MUST BE FILED WITH THIS SHEET.



MATCH LINE STA. 1758+00 SEE SHEET S-8

MATCH LINE STA. 1763+60 SEE SHEET S-10

DATE	BY	DESCRIPTION
4/30/21		ADDED WRONG-WAY SIGNING AND UPDATED ENGINEER OF RECORD INFORMATION

JANCY B. WALKS, P.E.
 P.E. NO: 76169
 MURGESS & NIPLE, INC.
 3800S W. DALE HADRY HIGHWAY, SUITE 20
 TAMPA, FL 33618
 CERTIFICATE OF AUTHORIZATION: 9853

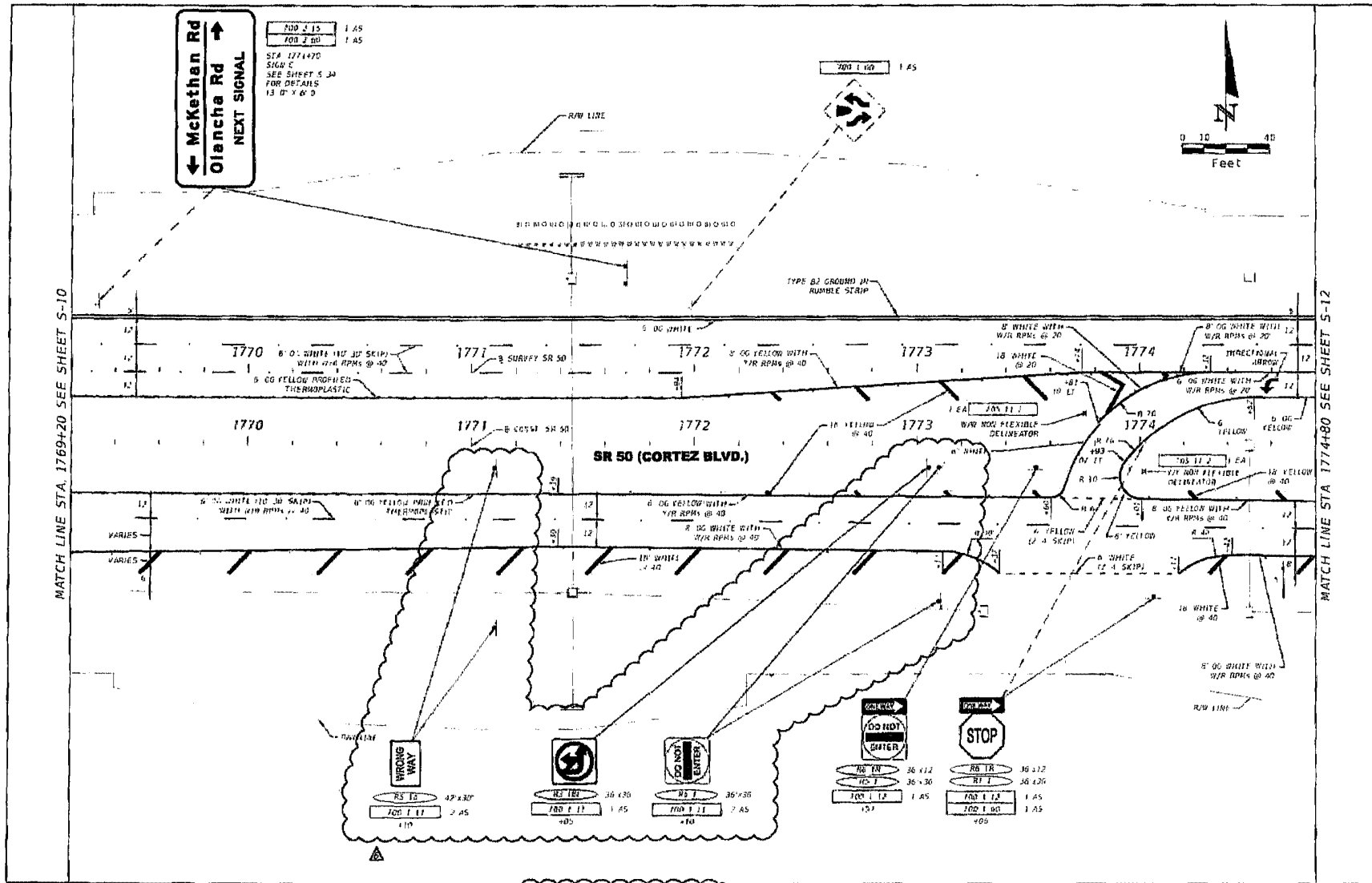
STATE OF FLORIDA		
DEPARTMENT OF TRANSPORTATION		
RD. NO.	COUNTY	FINANCIAL PROJECT NO.
SR 50	HERRNANDO	416732-3-52-01

SIGNING AND PAVEMENT MARKING PLAN (2)

SHEET NO.
5-9

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE OR PRINTED COPY AND NOT THE ORIGINAL DRAWING OR PRINTED COPY.

SHEET 5 OF 7

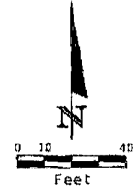


MATCH LINE STA. 1769+20 SEE SHEET S-10

MATCH LINE STA 1774+80 SEE SHEET S-12

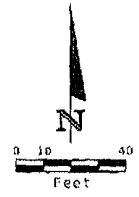
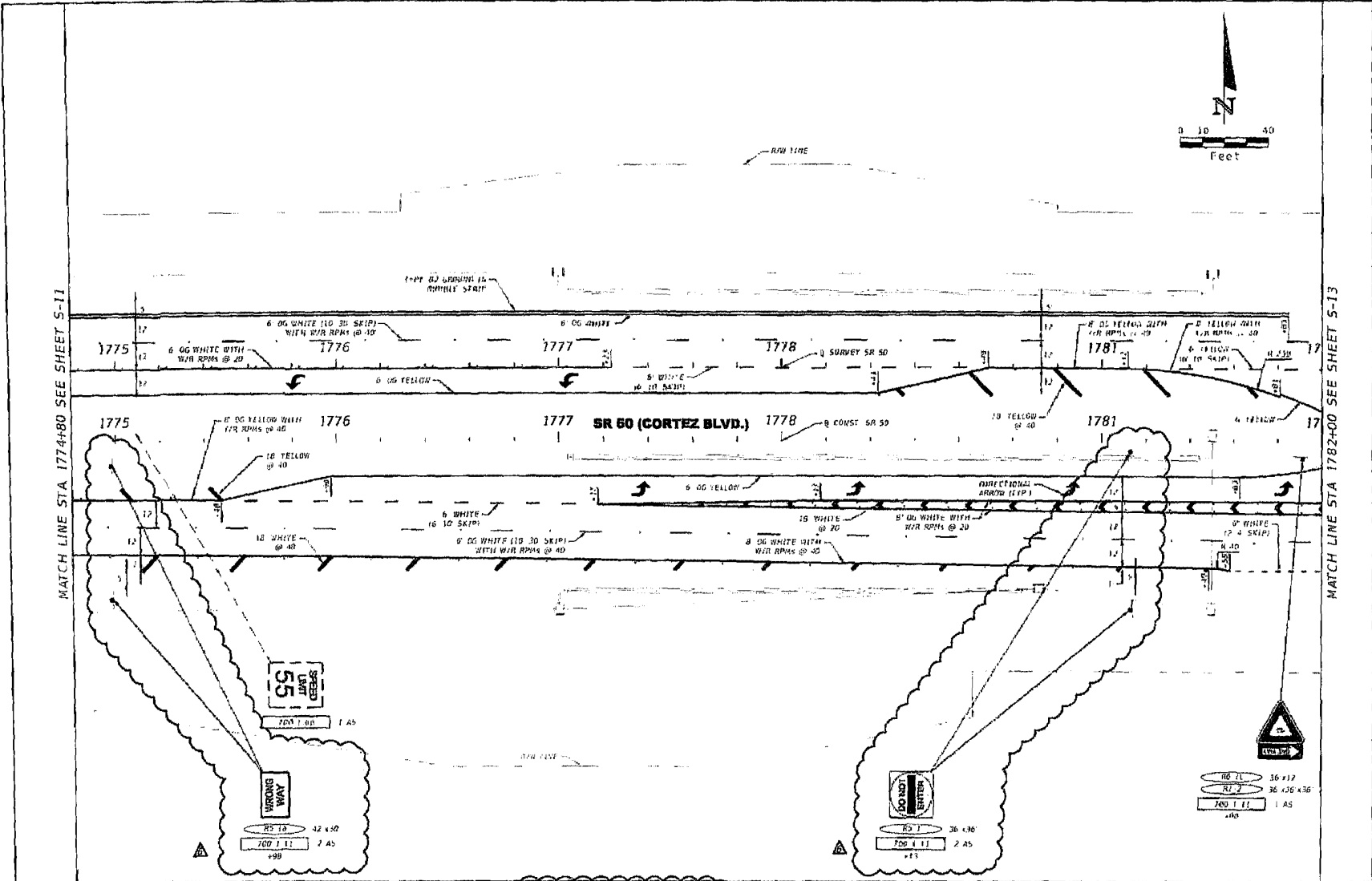
← McKethan Rd
 Olanche Rd →
 NEXT SIGNAL

ADD 2 15 1 AS
 FOR 2 20 1 AS
 STA 1771+70
 SIGN C
 SEE SHEET S-34
 FOR DETAILS
 13' 0" X 6' 0"



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE STORED AS PER THE SIGNING AND PAVING PLAN (4) PROJECT IN

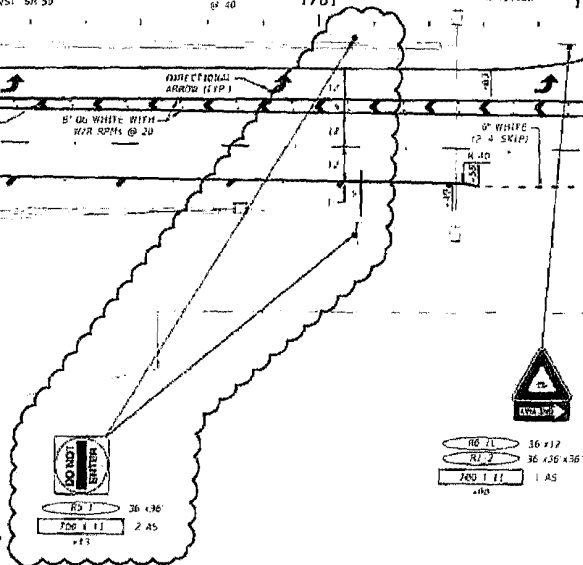
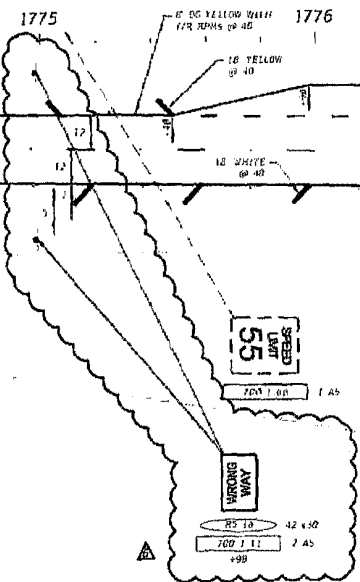
REVISIONS		DATE	DESCRIPTION	JANEY B WALLS, P.E. P.E. NO: 76159 RURGESS & NIPLE, INC. 10005 N DALE MADRY HIGHWAY, SUITE 201 TAMPA, FL 33618 CERTIFICATE OF AUTHORIZATION 9853	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING AND PAVEMENT MARKING PLAN (4)	SHEET NO S-11
NO	DESCRIPTION				NO	COUNT	FINANCIAL PROJECT ID		
4/30/21	ADDED WRONG-WAY SIGNING AND UPDATED ENGINEER OF RECORD INFORMATION				SR 50	HERNANDO	416732-3-92-01		



MATCH LINE STA 1774+80 SEE SHEET S-11

MATCH LINE STA 1782+00 SEE SHEET S-13

THIS ELECTRICAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE. DIGITALLY SIGNED AND SEALED UNDER RULE 61A.17, F.S. 6A.C.

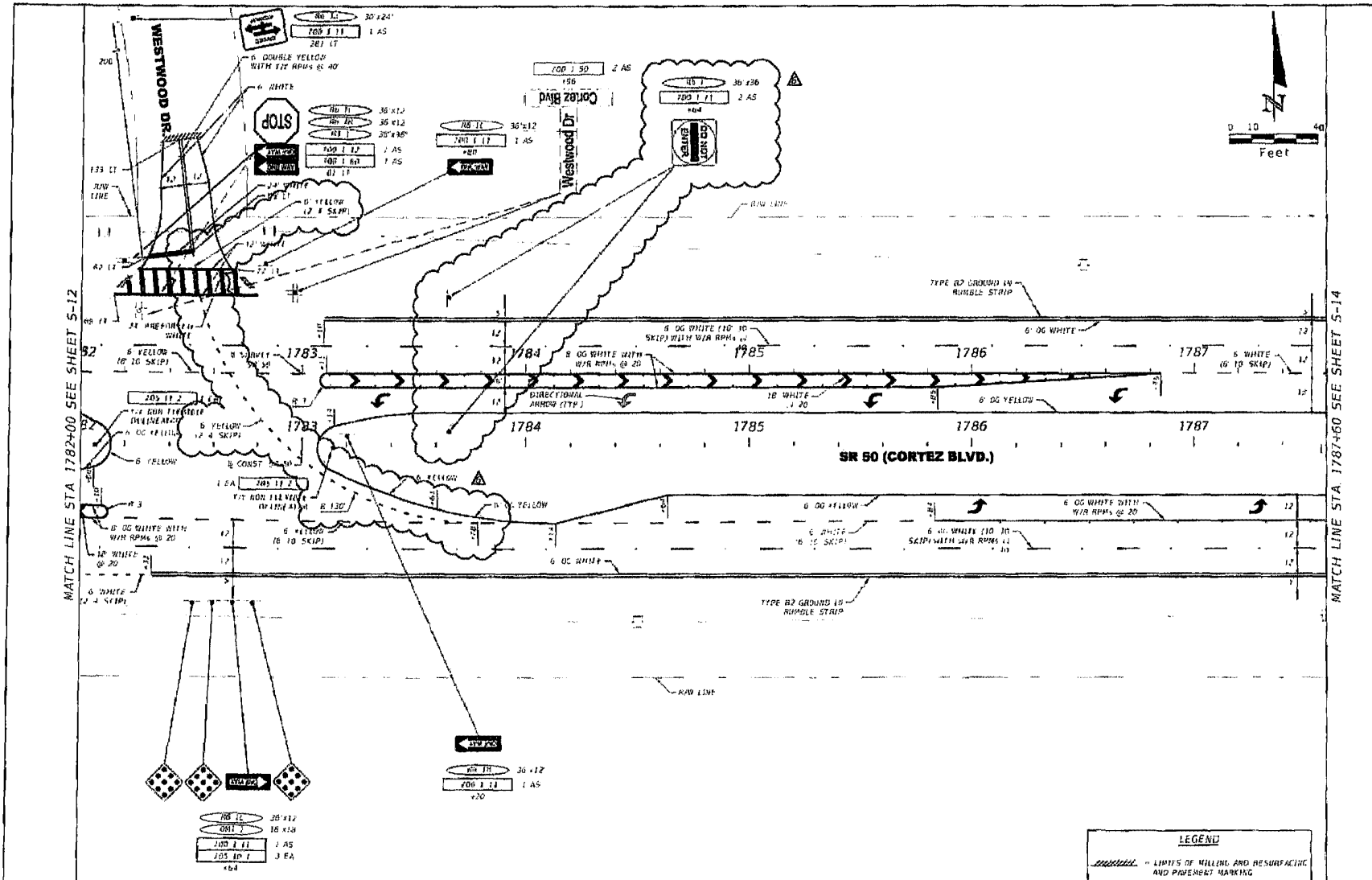


DATE	BY	REVISIONS
4/30/21	JAW	ADDED WRONG WAY SIGNING AND UPDATED ENGINEER OF RECORD INFORMATION.

JANEY B. WALLS, P.E.
 P.E. NO.: 76159
 BRIDGES & RIPLE, INC.
 10000 N DALE HARRY HIGHWAY, SUITE 201
 TAMPA, FL 33618
 CERTIFICATE OF AUTHORIZATION: 9853

STATE OF FLORIDA		
DEPARTMENT OF TRANSPORTATION		
PROJ. NO.	COUNTY	FUNDING PRODUCT ID
SR 50	HERNANDO	416732-3-52-01

SIGNING AND PAVEMENT MARKING PLAN (5)	SHEET NO.
	S-12



MATCH LINE STA 1782+00 SEE SHEET S-12

MATCH LINE STA 1787+60 SEE SHEET S-14

LEGEND
 - LIMITS OF MILLING AND RESURFACING AND PAVEMENT MARKING

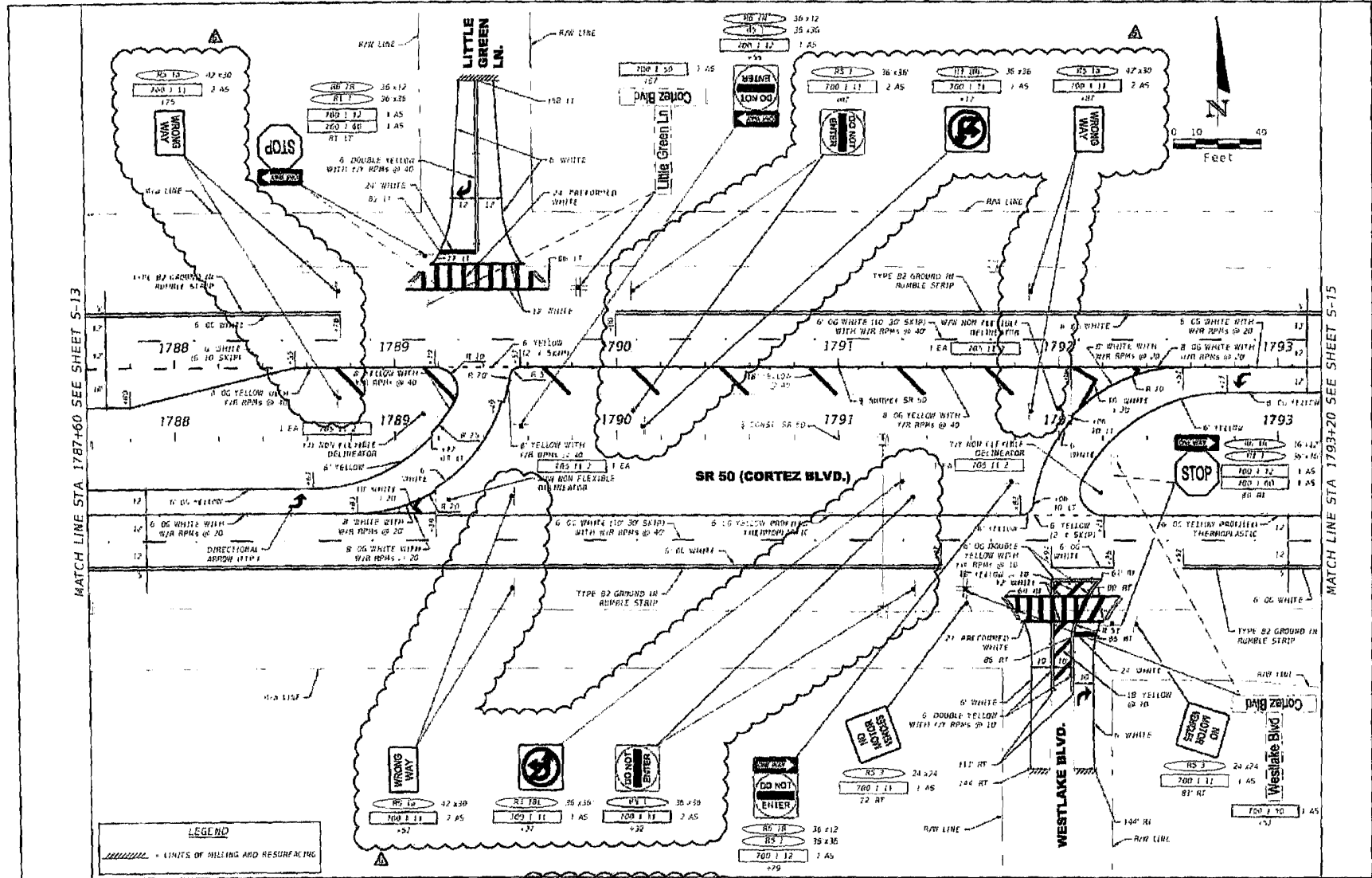
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DATASET. SIGNED AND SEALED UNDER SEAL NO. 2308674 AT

REVISIONS		DESCRIPTION	DATE	BY
NO.	DATE			
1	11/10/23	ADDED WRONG-WAY SIGNING AND PAVEMENT MARKING AND UPDATED ENGINEER OF RECORD INFORMATION		

HANEY B. WALLS, P.E. P.E. NO: 76789 HURDLESS & NIPL, INC. 10006 N. DALE HARRY HIGHWAY, SUITE 201 TAMPA, FL 33618 CERTIFICATE OF AUTHORIZATION: 9853		STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	
SR 50	HERNANDO	FINANCIAL PROJECT ID: 416732-3-52-01	

SIGNING AND PAVEMENT MARKING PLAN (6)

SHEET NO
 S-13



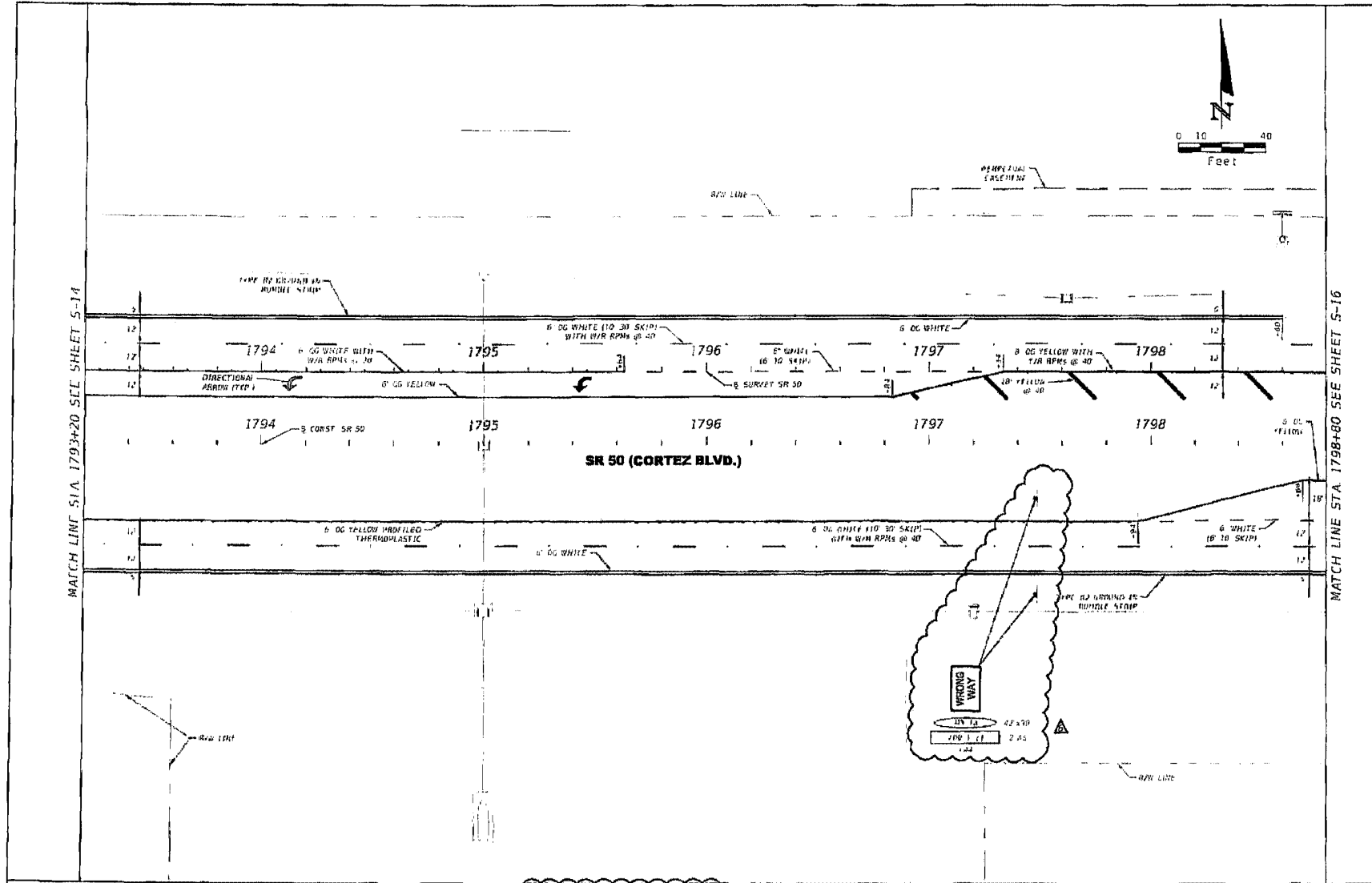
REVISIONS		DESCRIPTION		PROJECT INFORMATION		SHEET INFORMATION	
DATE	DESCRIPTION	DATE	DESCRIPTION	PROJECT NO.	COUNTY	PROJECT NAME	SHEET NO.
4/30/21	ADDED WRONG WAY SIGNING AND UPDATED ENGINEER OF RECORD INFORMATION			SR 50	HERNANDO	416732-3-52-01	5-14

JAMER B WALLS, P.E.
 P.E. NO. 76160
 BURGESS & OPLE, INC.
 10006 N DALE MADRY HIGHWAY, SUITE 201
 TAMPA, FL 33618
 CERTIFICATE OF AUTHORIZATION: 9853

STATE OF FLORIDA
 DEPARTMENT OF TRANSPORTATION
 SR 50

SIGNING AND PAVEMENT MARKING PLAN (7)

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE WHICH MAY VARY FROM THIS PRINTED COPY. THE OFFICIAL RECORD SHALL BE THE ELECTRONIC FILE WHICH MAY VARY FROM THIS PRINTED COPY.



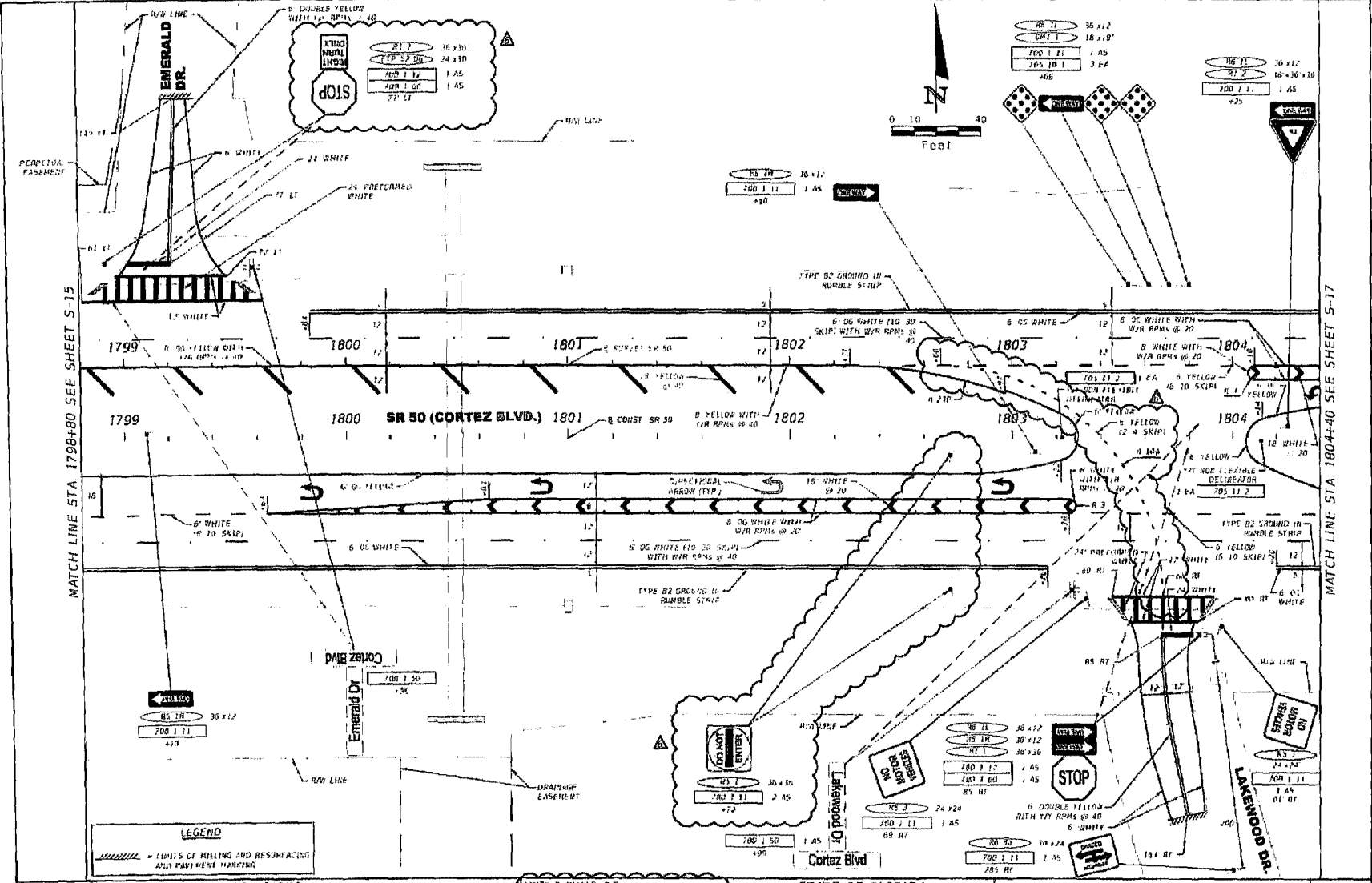
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE WHICH WILL BE STORED UNDER THE PROJECT FILE NUMBER.

REVISIONS		DESCRIPTION	DATE	BY	CHECKED	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	SIGNING AND PAVEMENT MARKING PLAN (8)	SHEET NO	
NO.	DATE								
1	4/30/21	ADDED WRONG-WAY SIGNING AND UPDATED ENGINEER OF RECORD INFORMATION				SR 50	HERNANDEZ	416732-3-52-01	5

JANNEY & WALLS, P.E.
 P.E. NO. 76169
 BURNESS & NIPLE, INC.
 11000 N. DALE HARBOR HIGHWAY, SUITE 201
 TAMPA, FL 33618
 CERTIFICATE OF AUTHORIZATION: 9853

**SIGNING AND PAVEMENT
MARKING PLAN (8)**

SHEET
NO
5
15



MATCH LINE STA 1798+80 SEE SHEET S-15

MATCH LINE STA 1804+40 SEE SHEET S-17

LEGEND

////// = LIMITS OF MILLING AND RESURFACING AND PAVEMENT MARKING

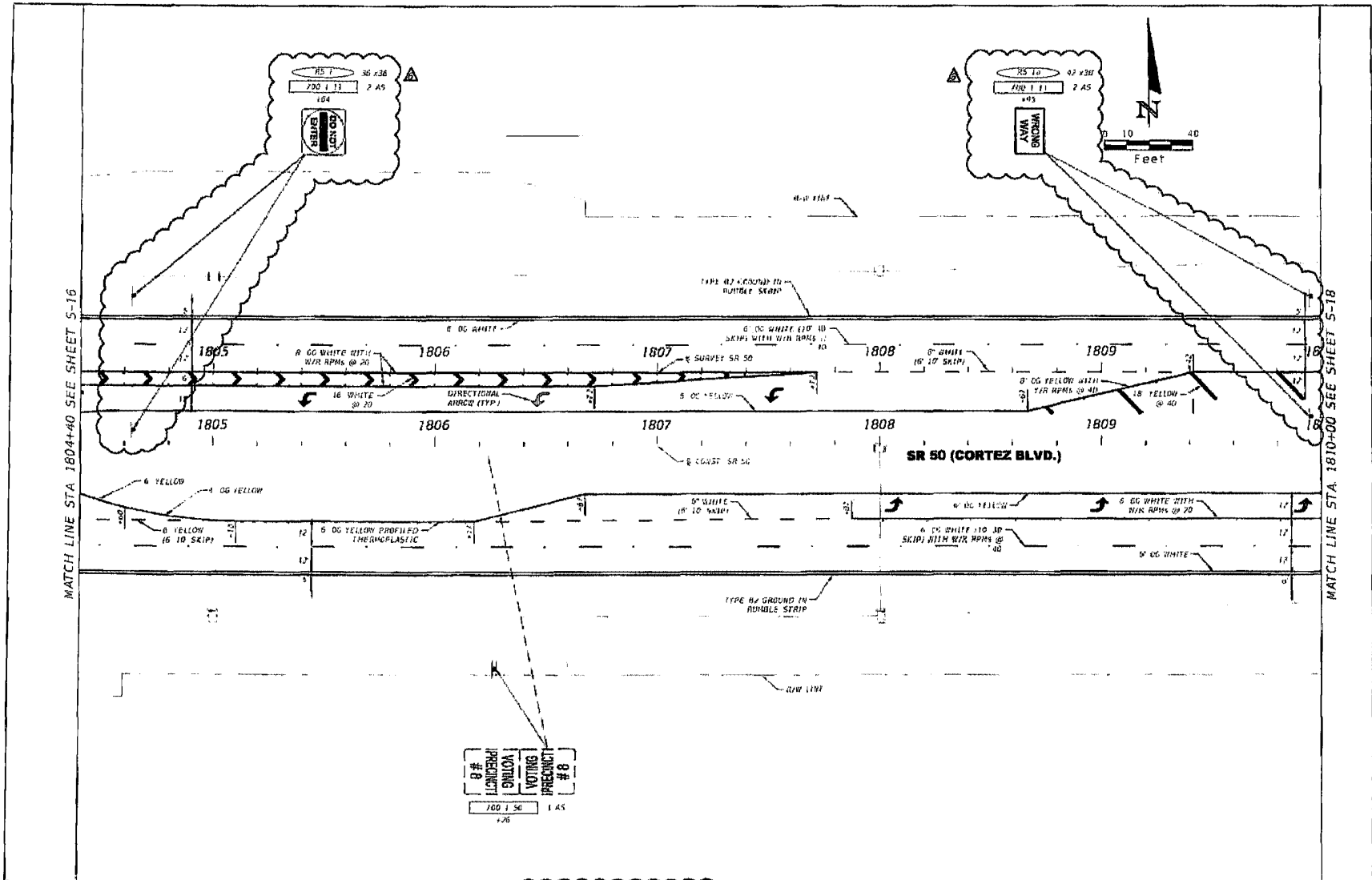
REVISIONS		
NO.	DESCRIPTION	DATE
4730/21	ADDED WRONG-WAY SIGNING AND PAVEMENT MARKING AND UPDATED ENGINEER OF RECORD INFORMATION	

JANET B. WALLS, P.E.
 P.E. NO. 76169
 BURGESS & NIPLE, INC.
 10006 N. DALE HADRY HIGHWAY, SUITE 201
 TAMPA, FL 33618
 CERTIFICATE OF AUTHORIZATION: 9853

STATE OF FLORIDA	
DEPARTMENT OF TRANSPORTATION	
SR 50	COUNTY: HERNANDO
	FUNDING PROJECT ID: 416732-3 52 01

SIGNING AND PAVEMENT MARKING PLAN (9)	
SHEET NO.	S-16

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DUMP, UNSTAMPED AND SEALED, AND SHALL BE THE AUTHORITY IN THE EVENT OF A DISCREPANCY.



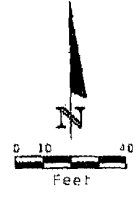
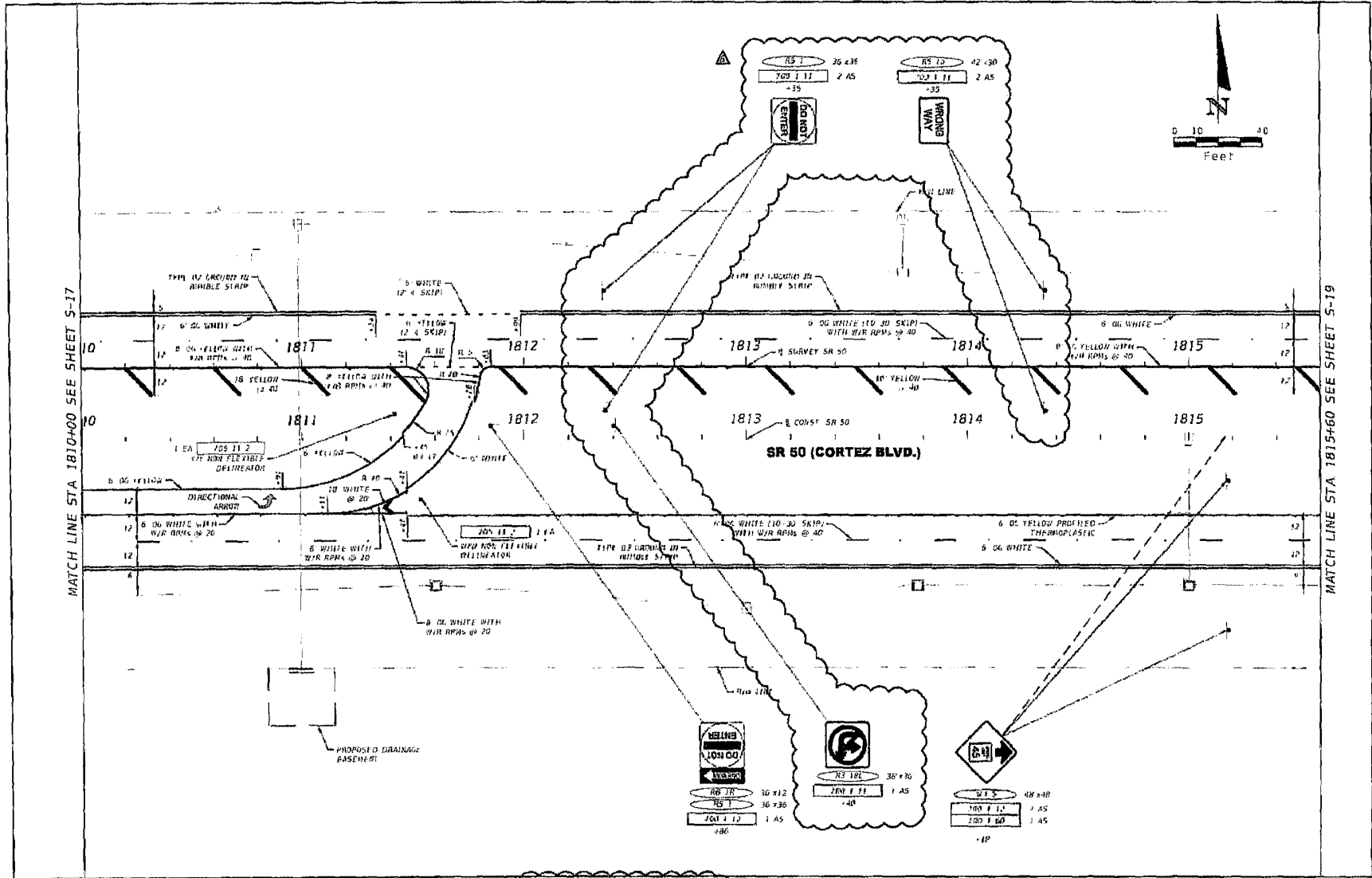
MATCH LINE STA. 1804+40 SEE SHEET S-16

MATCH LINE STA. 1810+00 SEE SHEET S-17

THE RECORD OF THIS SHEET IS THE LEGAL FILED RECORD AND SHALL BE KEPT IN THE OFFICE OF THE ENGINEER IN CHARGE OF THE PROJECT.

8 #
 LONGER
 CONTROL
 1 VOTING
 PRECISION
 # 8
 700 1 56 1 AS
 7/26

REVISIONS 4730/21 ADDED WRONG-WAY SIGNING AND UPDATED ENGINEER OF RECORD INFORMATION		JAMES B. WALLS, P.E. P.E. NO: 76169 BURGESS & NIPLE, INC. 14000 N. DALE HARRY HIGHWAY, SUITE 201 TAMPA, FL 33618 CERTIFICATE OF AUTHORIZATION: 9853		STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION RD. NO. COUNTY FEDERAL PROJECT ID SR 50 HERNANDO 416732-3-52-07		SIGNING AND PAVEMENT MARKING PLAN (10)		SHEET NO. S-17
---	--	---	--	--	--	---	--	-------------------

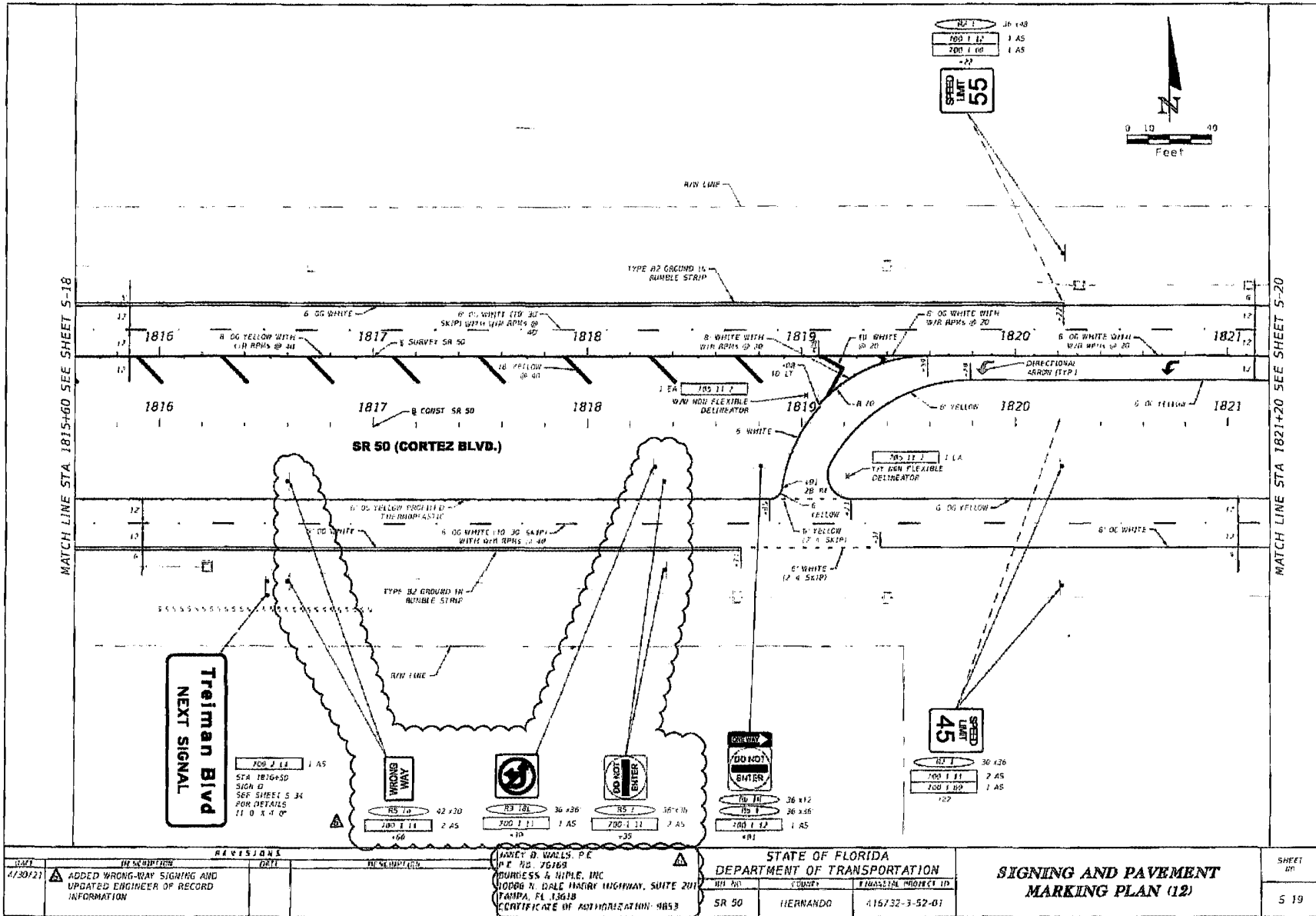


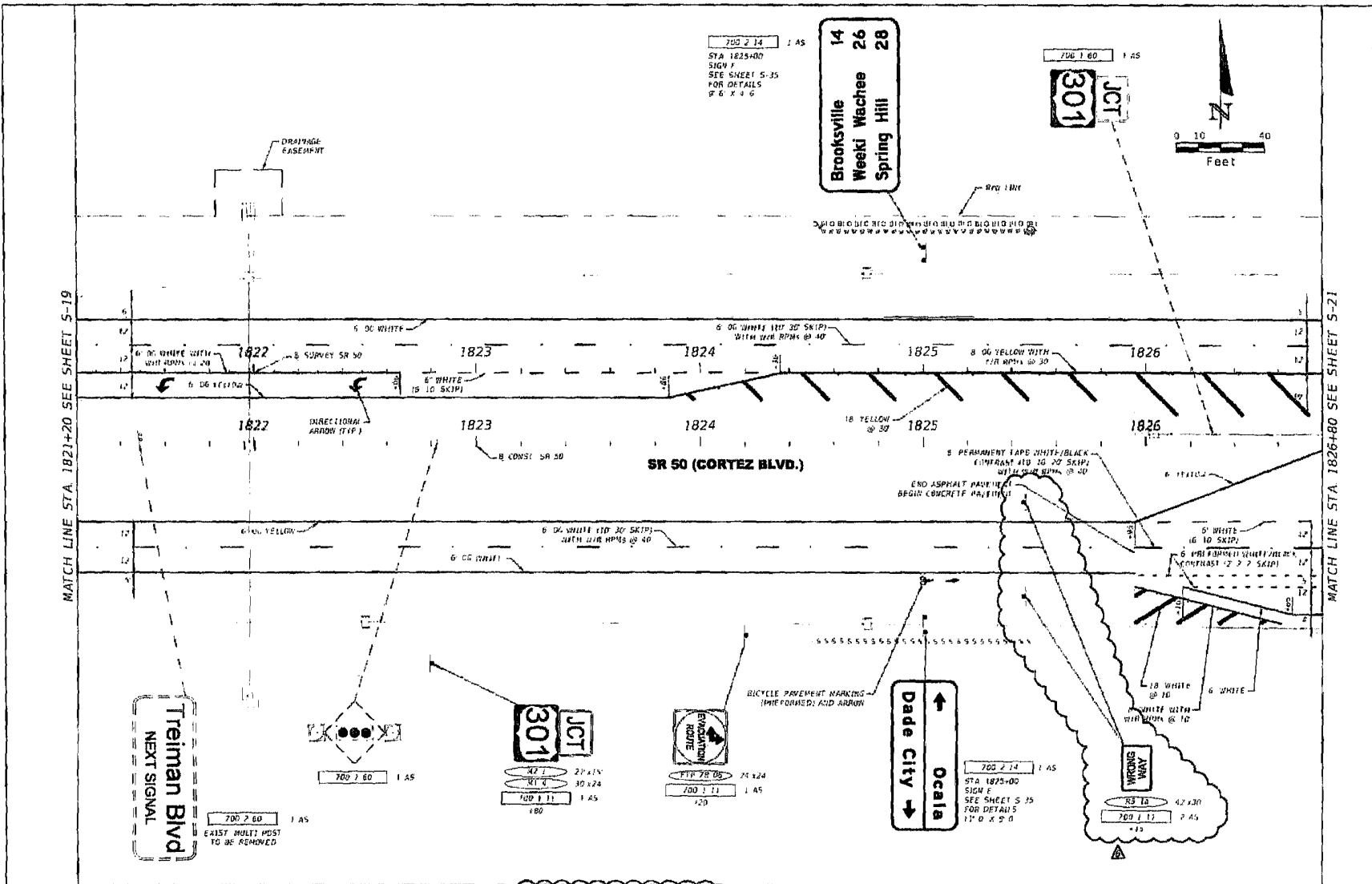
MATCH LINE STA. 1810+00 SEE SHEET S-17

MATCH LINE STA. 1815+60 SEE SHEET S-19

THE OFFICIAL RECORD OF THIS SHEET IS THE AUTOCAD FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15, F.S. 318.04, F.A.C.

REVISIONS				JAMES B. WALLS, P.E. P.E. NO.: 76169 BURGESS & RIPLE, INC. 1000 N. DALE HADRY HIGHWAY, SUITE 201 TAMPA, FL 33618 CERTIFICATE OF AUTHORIZATION: 9853	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING AND PAVEMENT MARKING PLAN (11)	SHEET 60 S-18
NO.	DESCRIPTION	DATE	BY		RD. NO.	COUNTY	TRAVELER PROJECT NO.		
07/30/22	ADDED WRONG WAY SIGNING AND UPDATED ENGINEER OF RECORD INFORMATION			SR 50	HERNANDO	416732-3-52-01			





MATCH LINE STA. 1821+20 SEE SHEET S-19

MATCH LINE STA. 1826+80 SEE SHEET S-21

14
26
28
Brooksville
Weeki Wachee
Spring Hill

JCT
301

Dade City
↑
Ocala
↓

Trelman Blvd
NEXT SIGNAL



700 2 14 1 AS
STA. 1825+00
SIGN 7
SEE SHEET S-35
FOR DETAILS
1' D X 5' 0"

700 1 60 1 AS

700 2 60 1 AS
EXIST. MULTI PDST
TO BE REMOVED

42 1 21 x 14
RT 6 30 x 24
700 1 11 1 AS

FLY 75 05 24 x 24
700 1 11 1 AS

700 2 14 1 AS
STA. 1825+00
SIGN 6
SEE SHEET S-35
FOR DETAILS
1' D X 5' 0"

83 10 42 x 30
700 1 11 1 AS

DATE	DESCRIPTION	BY	APP'D
4/30/21	ADDED WRONG-WAY SIGNING AND UPDATED ENGINEER OF RECORD INFORMATION		

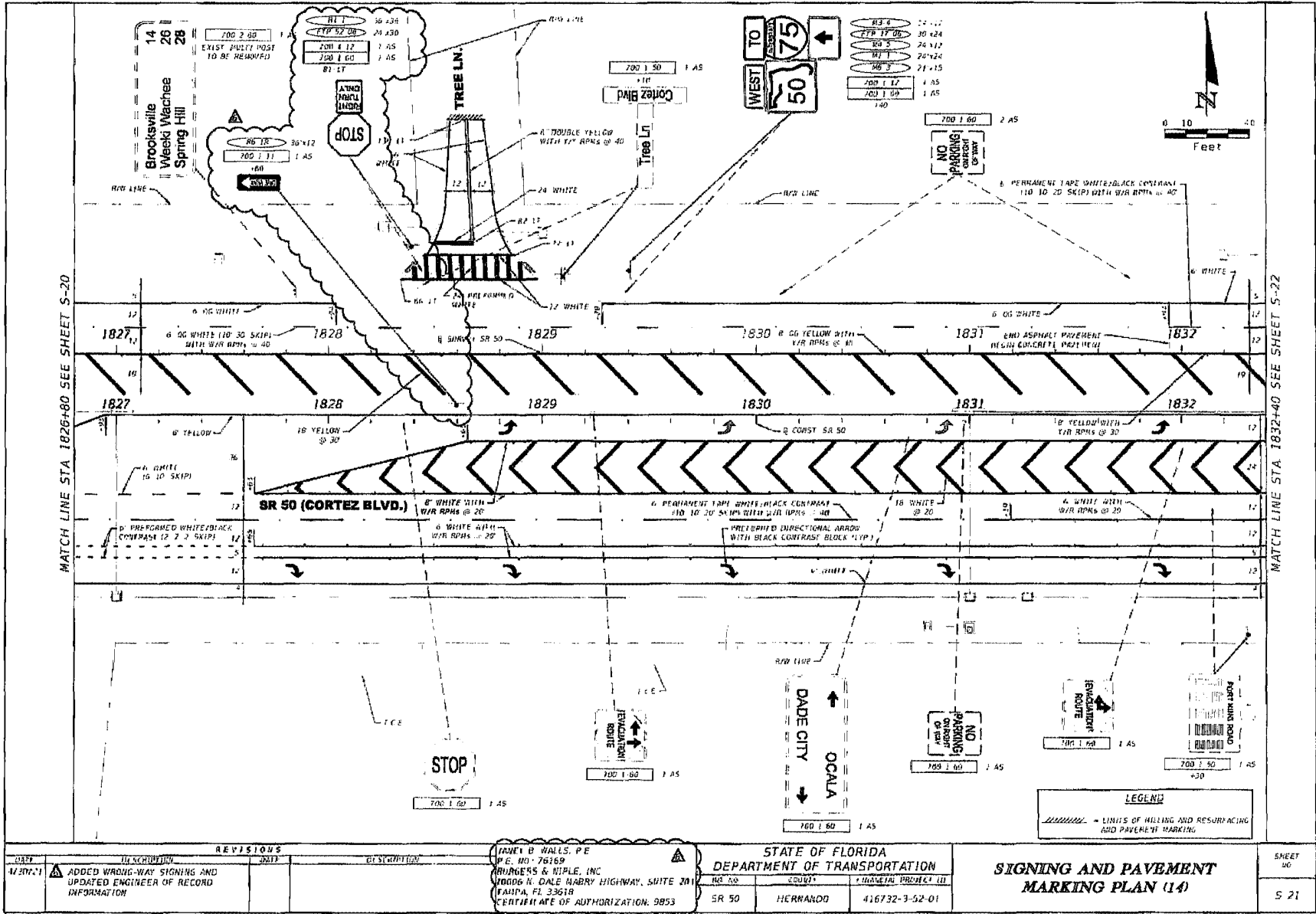
JANEY B. WALLS, P.E.
P.E. NO.: 70169
BURGESS & WIPLE, INC
1400S N DALE HARRY HIGHWAY, SUITE 201
TAMPA, FL 33618
CERTIFICATE OF AUTHORIZATION: 9853

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
RD NO	COUNTY	FINANCIAL PROJECT ID
SR 50	HERNANDO	416732-3-52-01

**SIGNING AND PAVEMENT
MARKING PLAN (13)**

SHEET
NO
S-20

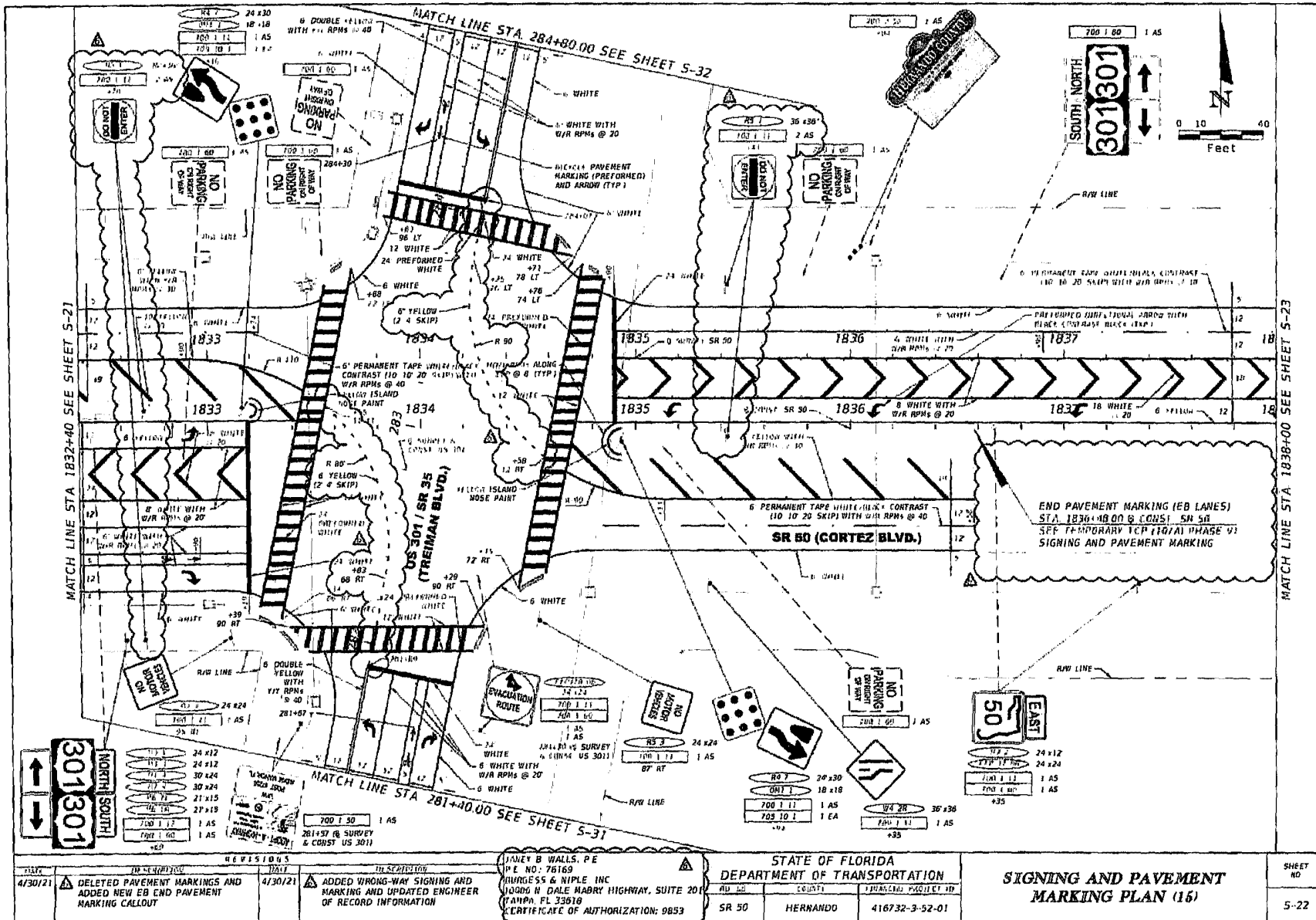
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND CERTIFIED BY THE ENGINEER OF RECORD.



MATCH LINE STA. 1826+80 SEE SHEET S-20

MATCH LINE STA. 1832+40 SEE SHEET S-22

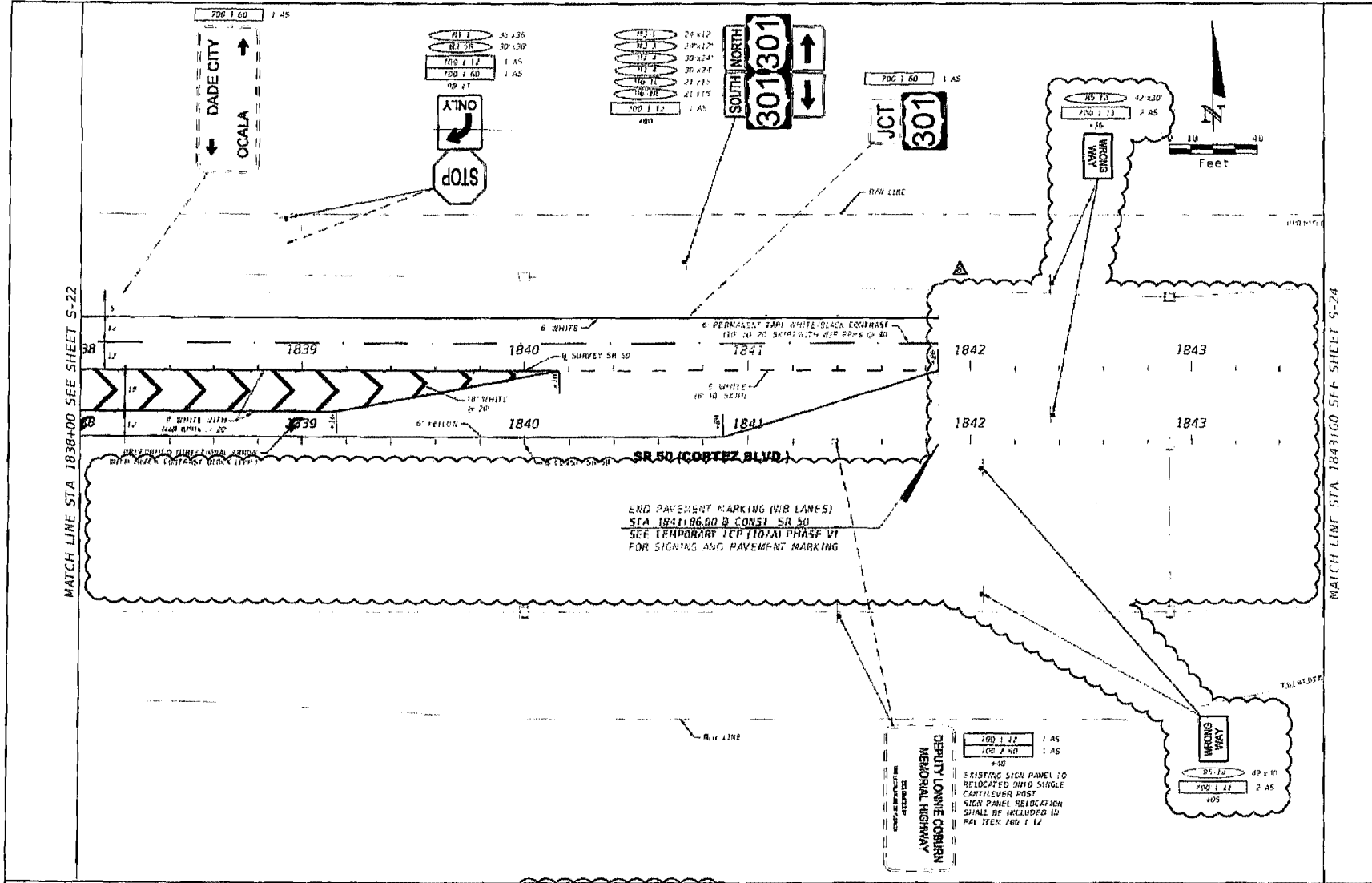
THE OFFICIAL RECORD OF THIS STREET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61B13-23.004 F.A.C.



THE OFFICIAL RECORD OF THIS PLAN IS THE ELECTRONIC FILE DIGITALLY SIGNED AND VERIFIED UNDER PUBLIC KEY INFRASTRUCTURE (PKI)

REVISIONS 4/30/21 DELETED PAVEMENT MARKINGS AND ADDED NEW EB END PAVEMENT MARKING CALLOUT		REVISIONS 4/30/21 ADDED WRONG-WAY SIGNING AND MARKING AND UPDATED ENGINEER OF RECORD INFORMATION		STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION AD 50 COUNTY HERNANDO PROJECT NO 416732-3-52-01		SIGNING AND PAVEMENT MARKING PLAN (16)		SHEET NO 5-22	
--	--	---	--	---	--	---	--	------------------	--

JANEY B WALLS, P.E.
 P.E. NO. 76169
 JANEY B WALLS & NIPPLE INC
 14000 N DALE HADRY HIGHWAY, SUITE 201
 TAMPA, FL 33618
 CERTIFICATE OF AUTHORIZATION: 9853



MATCH LINE STA 1838+00 SEE SHEET S-22

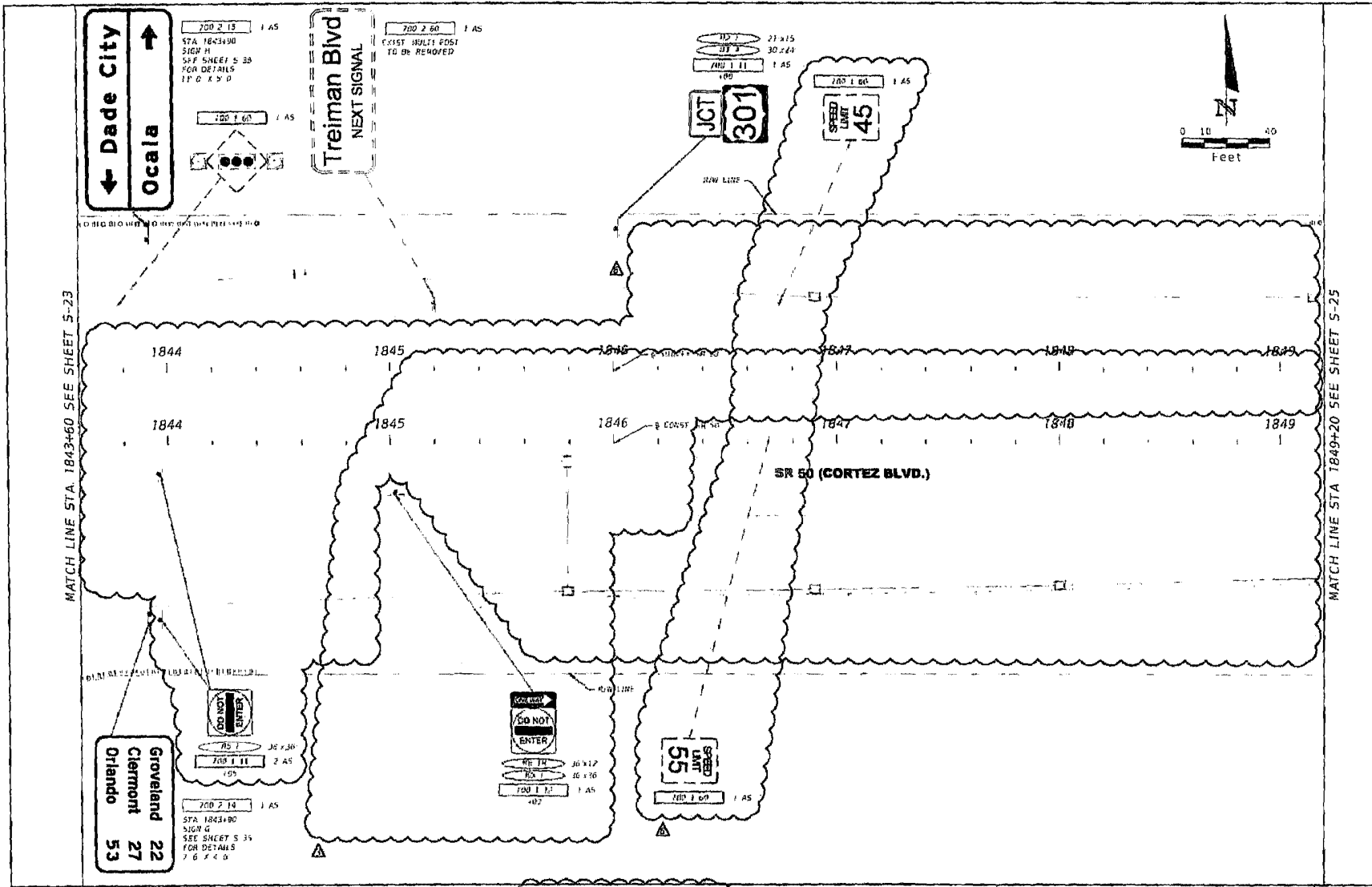
MATCH LINE STA 1843+00 SEE SHEET S-24

END PAVEMENT MARKING (WB LANES)
 STA 1841+86.00 @ CONST SR 50
 SEE TEMPORARY ICP (TOTAL PHASE VI)
 FOR SIGNING AND PAVEMENT MARKING

DEPUTY LONNIE COBBLEN
 MEMORIAL HIGHWAY
 700 1 12 1 AS
 700 2 12 1 AS
 4-30
 EXISTING SIGN PANEL TO
 RELOCATED AND SINGLE
 CANTILEVER POST
 SIGN PANEL RELOCATION
 SHALL BE INCLUDED IN
 PAY ITEM FOR 1 12

REVISIONS		DATE	DESCRIPTION	DESIGNER	STATE OF FLORIDA	DEPARTMENT OF TRANSPORTATION	SIGNING AND PAVEMENT MARKING PLAN (16)	SHEET NO.
4/30/21	DELETED PAVEMENT MARKINGS AND ADDED NEW WB ENG PAVEMENT MARKING CALLOUT	4/30/21	ADDED WRONG-WAY SIGNING AND UPDATED ENGINEER OF RECORD INFORMATION	JANEY H WALLS, P.E. P.E. NO: 75169 BURRESS & NIPLE, INC 10006 N DALE HARRY HIGHWAY, SUITE 201 TAMPA, FL 33619 CERTIFICATE OF AUTHORIZATION: 9853	SR 50	HERNANDO	416732-3-52-01	S-23

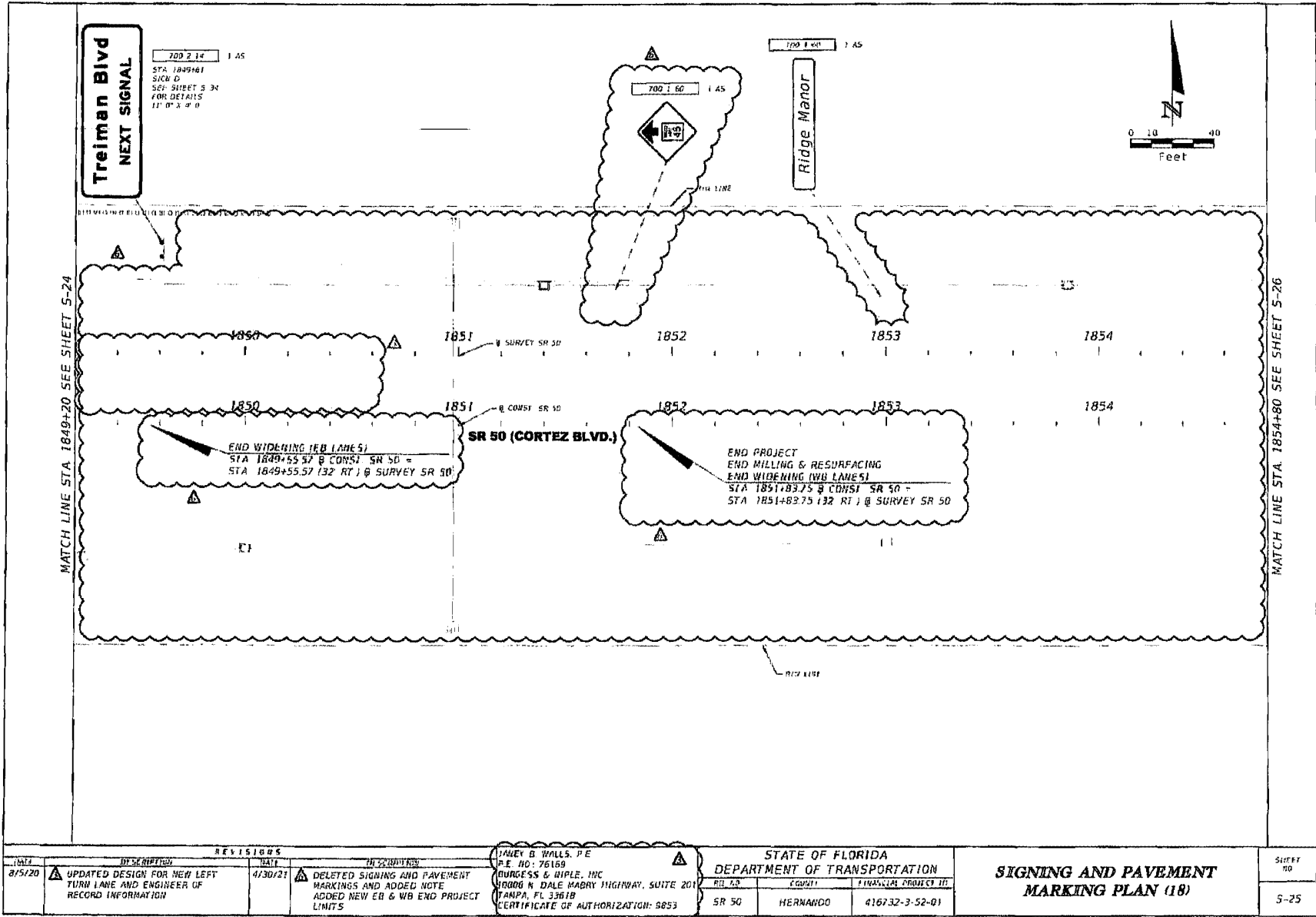
THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DOCUMENT SHOWN AND STORED UNDER NAME FILE SIGNING AND PAVEMENT MARKING PLAN (16)



ALL SYMBOLS, RECORDS, AND THIS SHEET IS THE PROPERTY OF THE STATE OF FLORIDA. ANY REVISIONS TO THIS SHEET SHALL BE MADE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, SECTION 201.01.

REVISIONS		DESCRIPTION		STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO.
01/5/20	▲	UPDATED DESIGN FOR NEW LEFT TURN LANE AND ENGINEER OF RECORD INFORMATION	4/30/21	▲	DELETED SIGNING AND PAVEMENT MARKINGS ADDED WRONG-WAY SIGNING	SR 50 HERRANDO 416732-3-52 01	S-24
INNEY B WALLS, P.E. P.E. NO.: 76189 BURGESS & NIPLE, INC. 11000 W. DALE HARBAY HIGHWAY, SUITE 201 TAMPA, FL 33618 CERTIFICATE OF AUTHORIZATION: 9853				FINANCIAL PROJECT ID:			

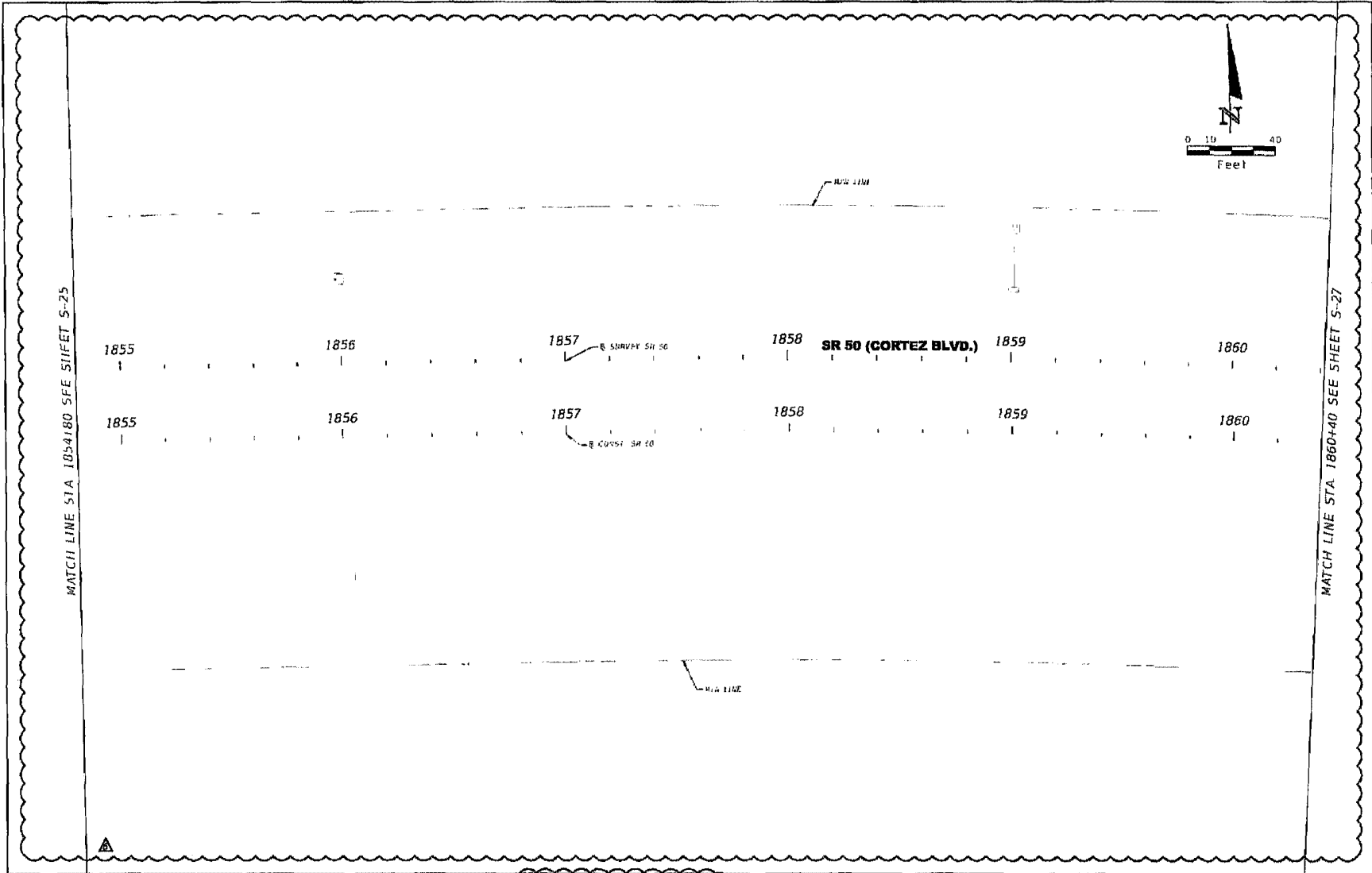
0771 01



THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE. DIGITALLY SIGNED AND SEALED UNDER RULE 61B15 F.S. 304.12.C

REVISIONS		IN CHARGE		STATE OF FLORIDA			SHEET NO
DATE	DESCRIPTION	DATE	DESCRIPTION	DEPARTMENT OF TRANSPORTATION	ROUTE NO.	PROJECT NO.	
8/5/20	▲ UPDATED DESIGN FOR NEW LEFT TURN LANE AND ENGINEER OF RECORD INFORMATION	4/30/21	▲ DELETED SIGNING AND PAVEMENT MARKINGS AND ADDED NOTE ADDED NEW EB & WB END PROJECT LIMITS	JANEY B WALLS, P.E. P.E. NO: 76169 BURNESS & RIPLE, INC 18000 N DALE MADRY HIGHWAY, SUITE 201 TAMPA, FL 33618 CERTIFICATE OF AUTHORIZATION: 9853	SR 50	HERNANDO 416732-3-52-01	S-25

SIGNING AND PAVEMENT MARKING PLAN (18)



IF THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE THE ELECTRONIC FILE SHALL BE THE OFFICIAL RECORD OF THIS SHEET

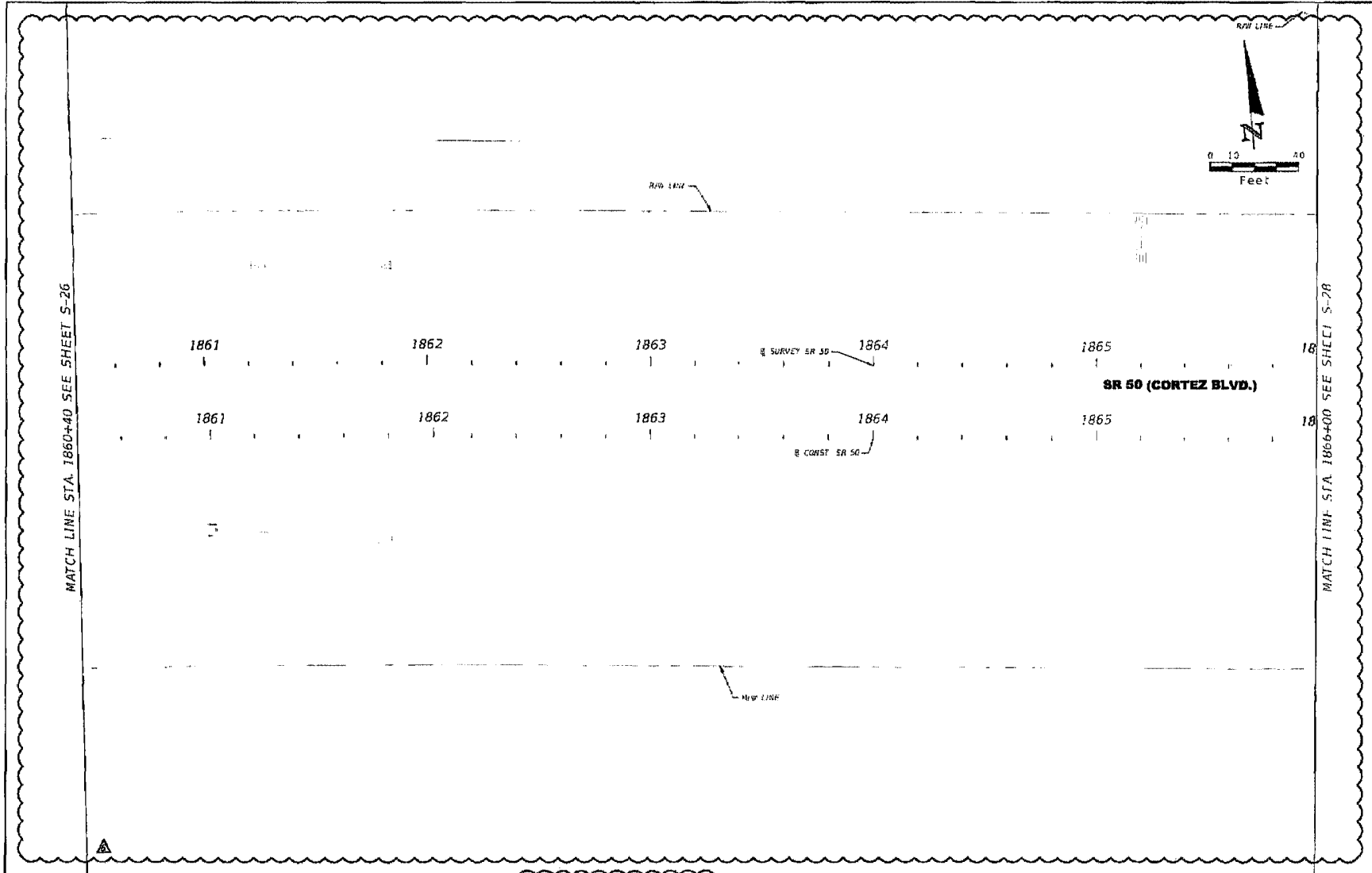
DATE	DESCRIPTION	REVISOR	DATE	DESCRIPTION
03/30/21	DELETED SIGNING AND PAVEMENT MARKINGS THIS SHEET UPDATED ENGINEER OF RECORD INFORMATION			

HANEY H. WALLS, P.E.
 P.E. NO: 76189
 BURGESS & NIPLE, INC.
 10006 N DALE HARRY HIGHWAY, SUITE 201
 TAMPA, FL 33618
 CERTIFICATE OF AUTHORIZATION: 0853

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
SR 50	HERNANDO	416732-3-52-01

**SIGNING AND PAVEMENT
MARKING PLAN (19)**

SHEET
NO
5-25



THE ELECTRICAL RECORD OF THIS SHEET IS THE RESPONSIBILITY OF THE DESIGNER AND SHALL BE MAINTAINED IN THE PROJECT FILE.

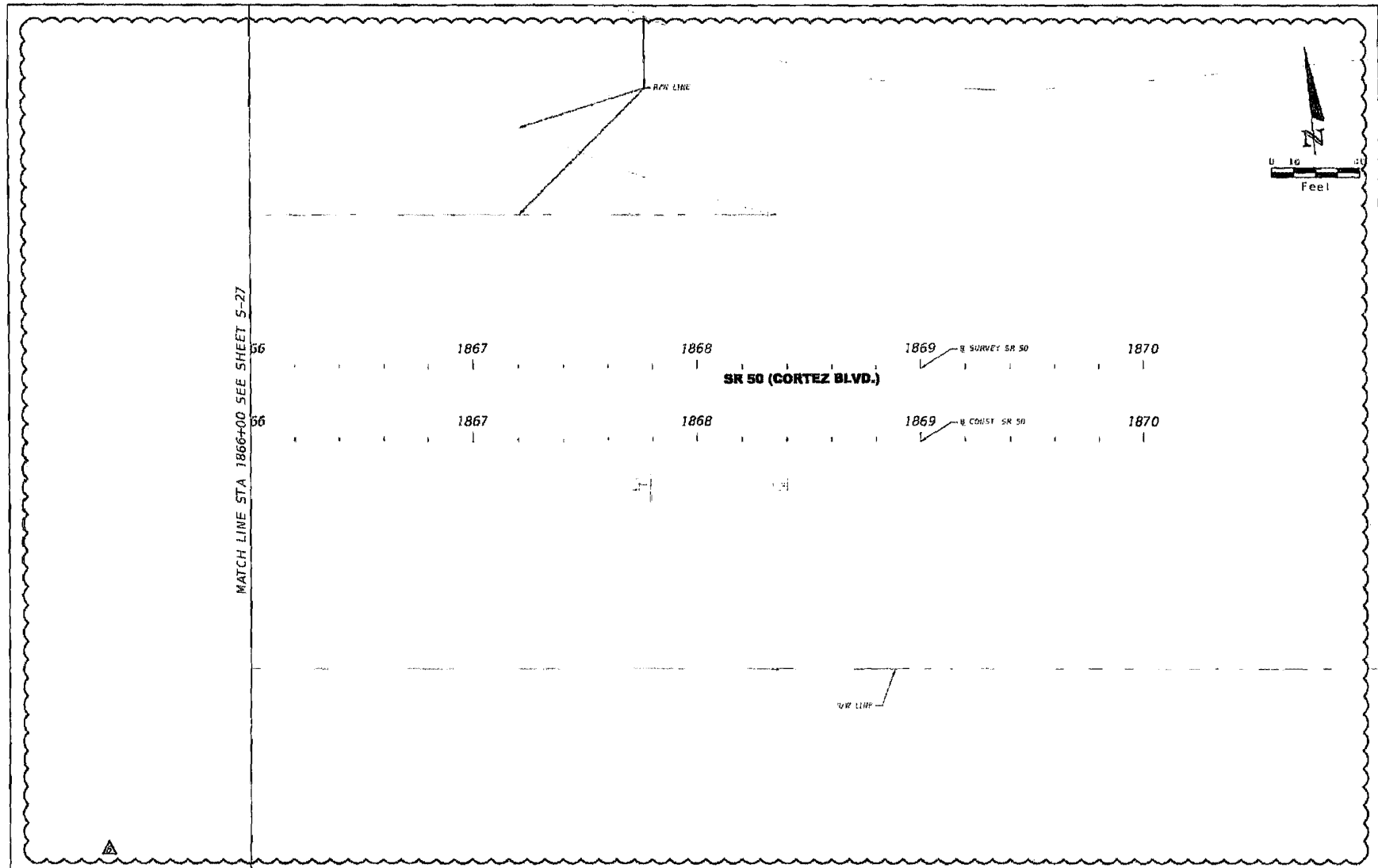
REVISIONS		DESCRIPTION	DATE	BY
NO.	DATE			
1	11-30-21	DELETED SIGNING AND PAVEMENT MARKINGS THIS SHEET UPDATED ENGINEER OF RECORD INFORMATION		

JAMES B WALLS, P.E.
 P.E. NO: 76189
 BURGESS & NIPLE, INC
 10006 N DALE MARRY HIGHWAY, SUITE 201
 TAMPA, FL 33618
 CERTIFICATE OF AUTHORIZATION: 9859

STATE OF FLORIDA
 DEPARTMENT OF TRANSPORTATION
 SR 50 COUNTY: HERNANDO PROJECT NO: 476732-3-52-01

SIGNING AND PAVEMENT MARKING PLAN (20)

SHEET NO
 5-27

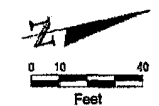


THE INFORMATION ON THIS SHEET IS THE PROPERTY OF THE STATE OF FLORIDA. IT IS TO BE USED ONLY FOR THE PROJECT AND NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

REVISIONS		DATE	BY	DESCRIPTION	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	SHEET NO.		
NO.	DESCRIPTION						PROJECT NO.	COUNTY	FINANCIAL PROJECT ID
1	DELETED SIGNING AND PAVEMENT MARKINGS THIS SHEET	4/30/21		UPDATED ENGINEER OF RECORD INFORMATION	SR 50	HERNANDO	416732-3-52-01	S-28

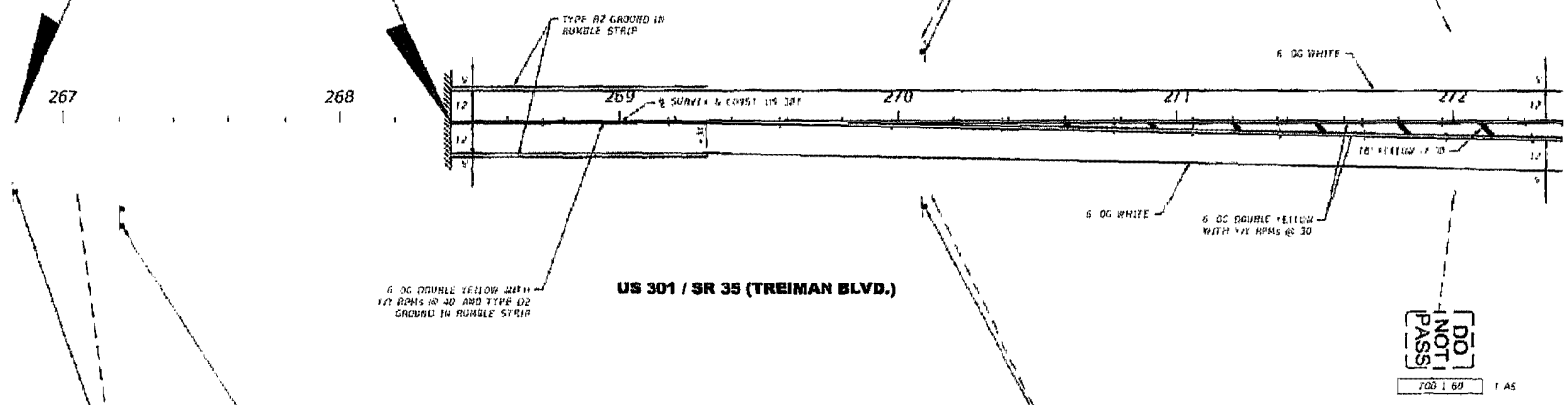
JAVY E WALLS, P.E.
 P.E. NO: 76169
 BURDENS & MAPLE, INC.
 IRVING W DALE HADRY HIGHWAY, SUITE 201
 TAMPA, FL 33618
 CERTIFICATE OF AUTHORIZATION: 9253

SIGNING AND PAVEMENT MARKING PLAN (21)



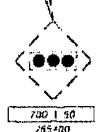
BEGIN WIDENING
 BEGIN MILLING AND RESURFACING
 BEGIN PAVEMENT MARKING
 STA 268+00.00 & SURVY & CONST US 301
 MATCH EXIST

BEGIN CONSTRUCTION
 BEGIN SIGNING
 STA 265+00.00 & SURVY & CONST US 301



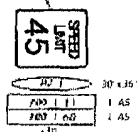
US 301 / SR 35 (TREIMAN BLVD.)

MATCH LINE STA 272+40 SEE SHEET S-30



**Cortez Blvd
 NEXT SIGNAL**

709 2 14 1 AS
 STA 267+20
 SIGN 1
 SEE SHEET S 3b
 FOR DETAILS
 10 0 X 4 0

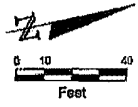


LEGEND
 [Symbol] = LIMITS OF MILLING AND RESURFACING AND PAVEMENT MARKING

REVISIONS				DATE	DESCRIPTION	BY	CHECKED BY
NO.	DATE	DESCRIPTION	BY				

JANEY B WALLS, P.E. P.E. NO: 76169 WFN CONSULTANT GROUP, INC. 10006 N DALE MADON HIGHWAY, SUITE 200 TAMPA, FL 33618 CERTIFICATE OF AUTHORIZATION: 6230			STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING AND PAVEMENT MARKING PLAN (22)	SHEET NO 5-29
RD 03	CDMP#	# FINANCIAL PROJECT ID	SR 50	HERNANDO	416732-3-52-01		

THIS DRAWING IS THE PROPERTY OF THE STATE OF FLORIDA. IT IS TO BE USED ONLY FOR THE PROJECT AND NOT FOR ANY OTHER PURPOSE.



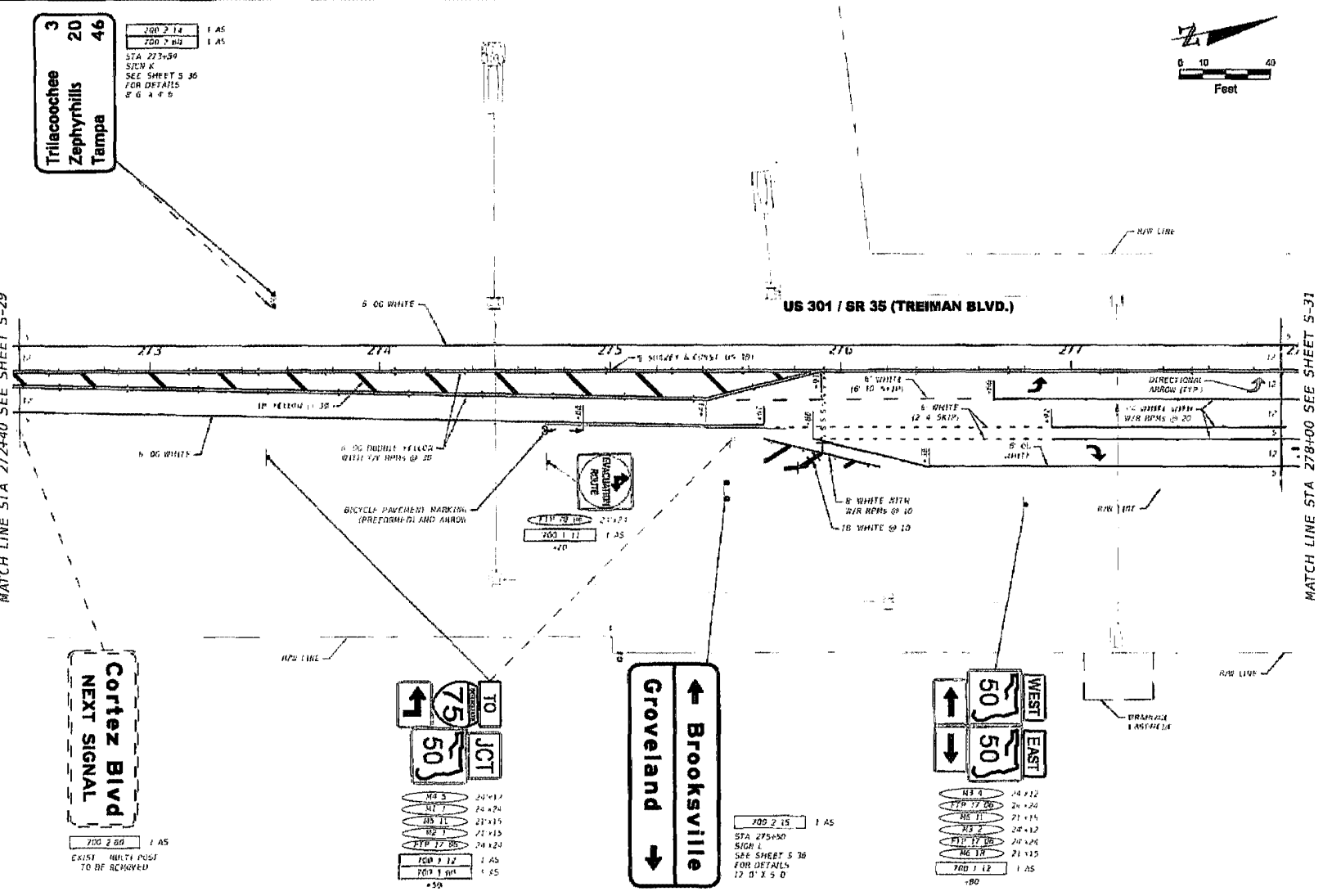
Trilacocochee 3
Zephyrhills 20
Tampa 46

JOB 2 12 1 AS
JOB 7 80 1 AS
STA 273+50
SIGN K
SEE SHEET S 36
FOR DETAILS
12 0' X 5 0'

MATCH LINE STA 272+40 SEE SHEET S-29

MATCH LINE STA 278+00 SEE SHEET S-31

US 301 / SR 35 (TREIMAN BLVD.)



Cortez Blvd
NEXT SIGNAL

JOB 2 80 1 AS
EXIST MULTI POST
TO BE REMOVED

TO JCT 75
50
NO 5 24+17
NO 7 24+24
NO 11 27+15
NO 1 27+15
STP 17 85 24+24
JOB 7 12 1 AS
JOB 1 80 1 AS
50

Groveland
Brooksville

WEST 50
EAST 50
NO 4 24+12
STP 17 85 24+24
NO 11 27+15
NO 1 27+15
STP 17 85 24+24
NO 15 27+15
JOB 1 12 1 AS
80

JOB 2 15 1 AS
STA 275+50
SIGN L
SEE SHEET S 36
FOR DETAILS
12 0' X 5 0'

NO.	BY	DATE	DESCRIPTION

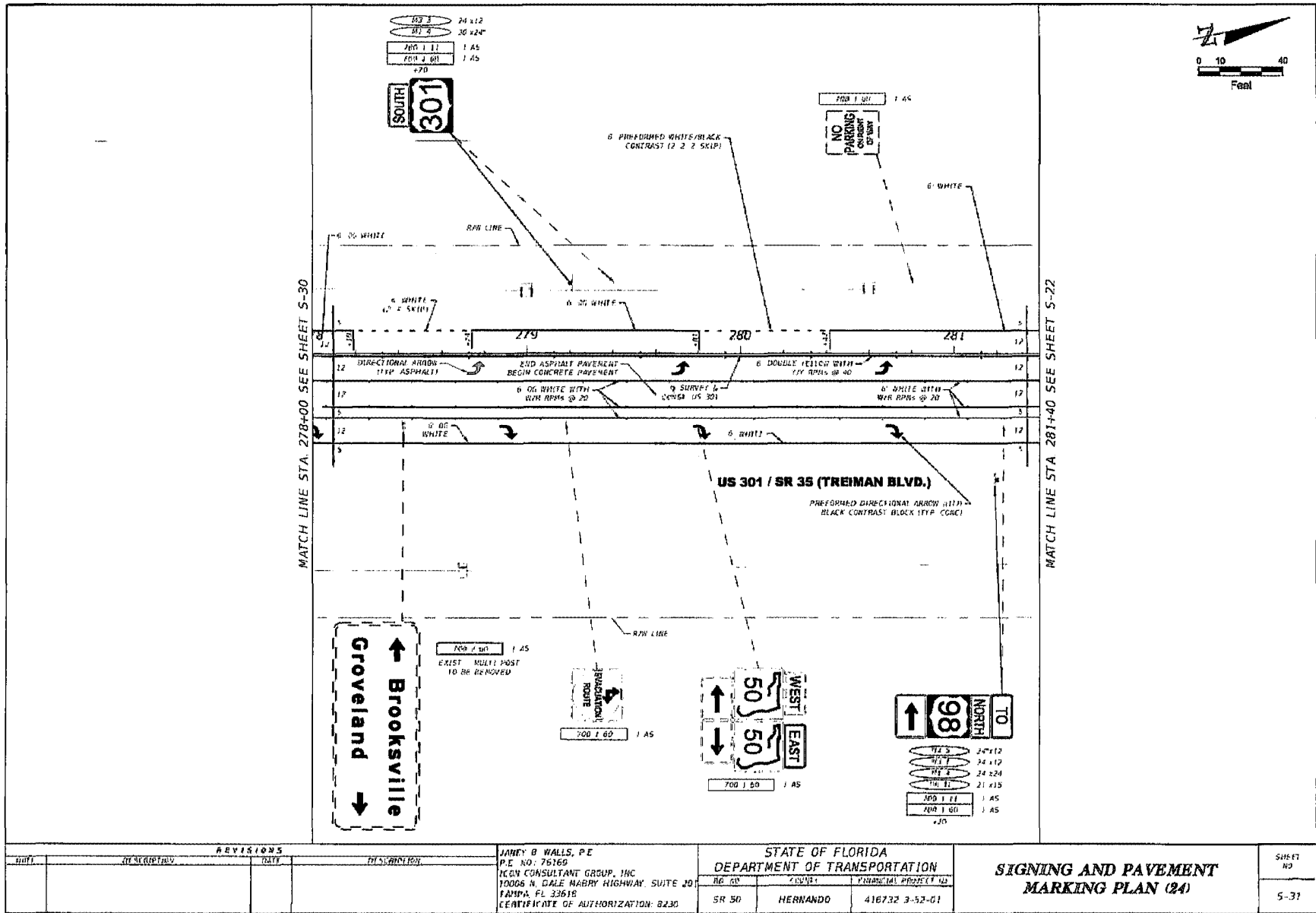
JAMES B. WALLS, P.E.
P.E. NO. 26169
ICM CONSULTANT GROUP, INC.
10006 N. DALE MABRY HIGHWAY, SUITE 201
TAMPA, FL 33618
CERTIFICATE OF AUTHORIZATION: 8230

STATE OF FLORIDA		
DEPARTMENT OF TRANSPORTATION		
RD 35	COUNTY	FINANCIAL PROJECT ID#
SR 50	HERNANDO	416732-3-52-01

SIGNING AND PAVEMENT MARKING PLAN (25)

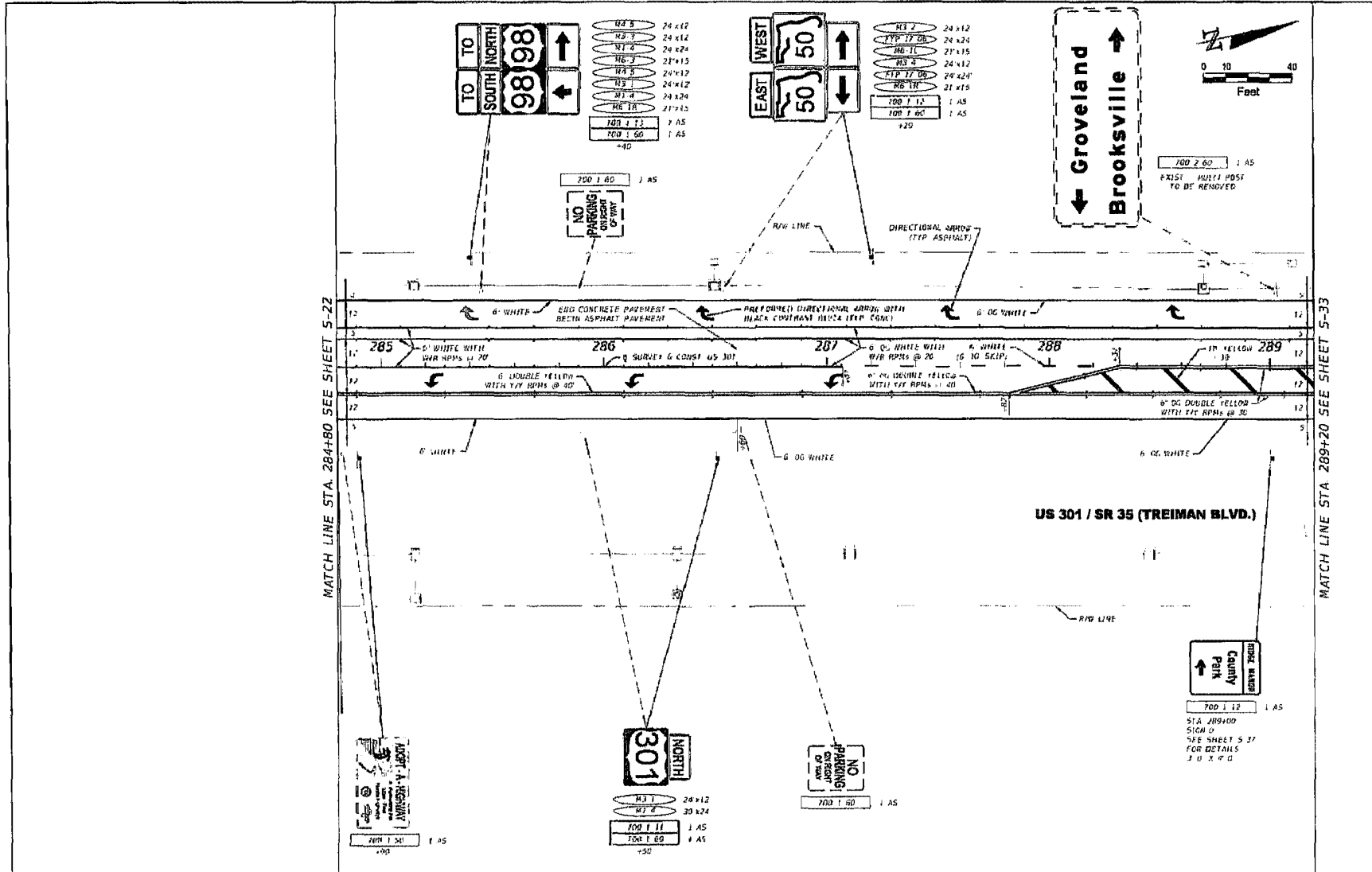
SHEET
S-30

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-2.001, F.A.C.



REVISIONS				DATE	BY	DESCRIPTION
NO.	DESCRIPTION	DATE	BY			

JAMES B WALLS, PE P.E. NO: 76169 TCGW CONSULTANT GROUP, INC 10006 N. DALE MARRY HIGHWAY, SUITE 201 TAMPA, FL 33618 CERTIFICATE OF AUTHORIZATION: B230			STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNING AND PAVEMENT MARKING PLAN (24)	SHEET NO 5-37
RC CD SR 50	COUNTY HERNANDO	FUNDING PROJECT NO 416732 3-52-01	DATE PLOTTED: 01/24/2018 10:54 AM				



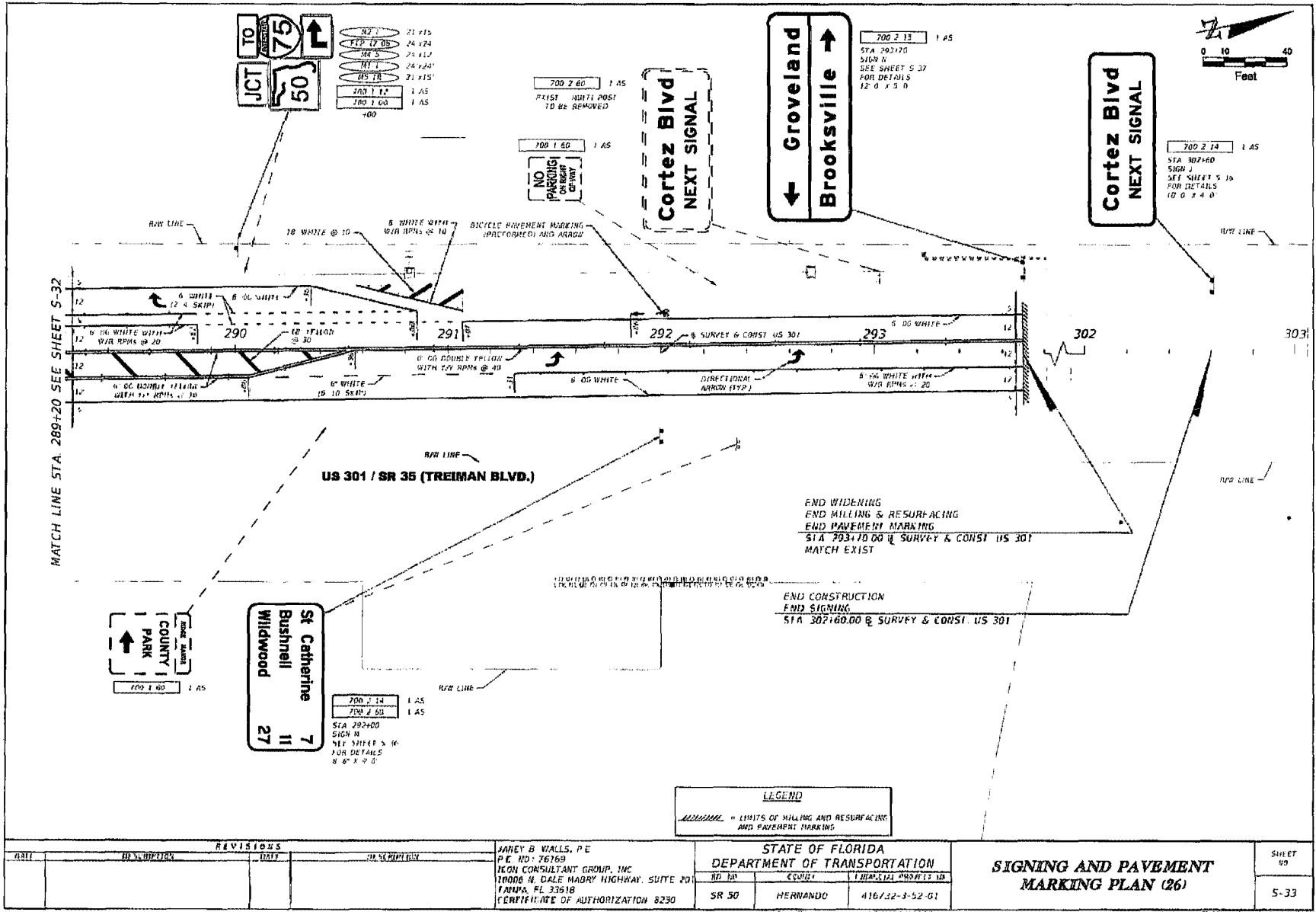
MATCH LINE STA. 284+80 SEE SHEET S-22

MATCH LINE STA. 289+20 SEE SHEET S-33

US 301 / SR 35 (TREIMAN BLVD.)

REVISORS NO. 1 DATE NO. 2 DATE		JAMES B. WALLS, P.E. P.E. NO: 76769 HCDM CONSULTANT GROUP, INC. 10006 N DALE MABRY HIGHWAY SUITE 201 TAMPA, FL 33618 CERTIFICATE OF AUTHORIZATION: 8230	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION DIV. 50 COUNTY FINANCIAL PROJECT #	SIGNING AND PAVEMENT MARKING PLAN (26)	SHEET 50 S-32
SR 50	HERNANDO	416732-3-52-01			

NOT A PART OF RECORD. THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.001, F.A.C.



ADDITIONAL BACKGROUND TRAFFIC



TRANSPORTATION ANALYSIS

STATEWIDE LOGISTICS CENTER

Prepared For

CENTRAL FLORIDA DEVELOPMENT

Prepared By



LINCKS & ASSOCIATES, INC.

Engineers - Planners

Tampa, Florida

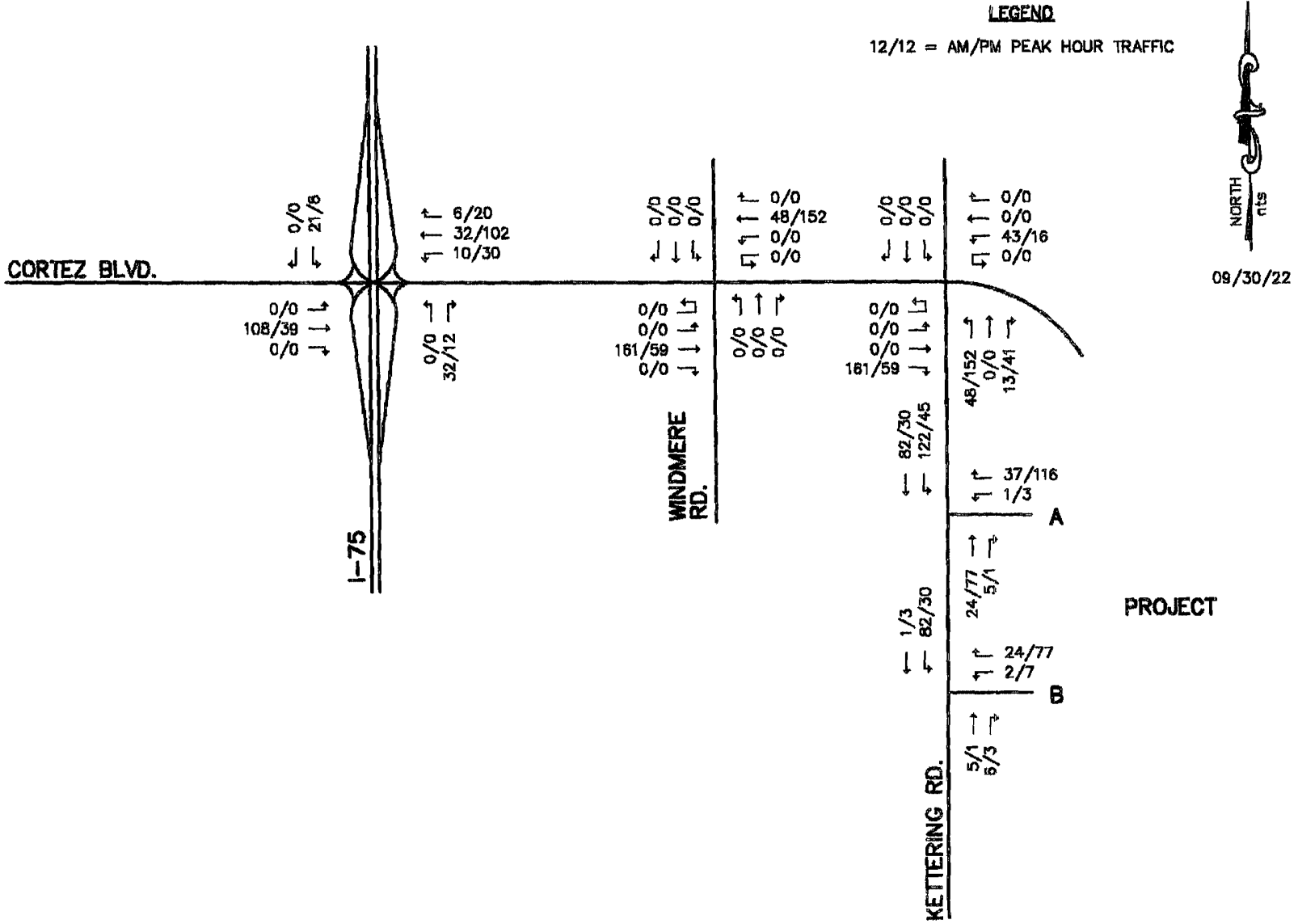


FIGURE 3
PROJECT TRAFFIC

TRANSPORTATION ANALYSIS

BENTON HILL ESTATES

Prepared For

MERITAGE HOMES

Prepared By



LINCKS & ASSOCIATES, INC.
Engineers - Planners
Tampa, Florida

TRANSPORTATION ANALYSIS

BENTON HILLS ESTATES

Prepared For
MERITAGE HOMES

Prepared By
LINCKS & ASSOCIATES, INC.
5023 West Laurel Street
Tampa, Florida 33607
813-289-0039
State of Florida Authorization No. EB0004638

January, 2022

Project No. 21130

Steven J. Henry, P.E.
P.E. No. 51555

Date





TABLE 1
ESTIMATED PROJECT TRIP ENDS (1)

<u>Land Use</u>	<u>ITE LUC</u>	<u>Size</u>	<u>Daily Trip Ends</u>	<u>AM Peak Hour Trip Ends</u>			<u>PM Peak Hour Trip Ends</u>		
				<u>In</u>	<u>Out</u>	<u>Total</u>	<u>In</u>	<u>Out</u>	<u>Total</u>
Single Family	210	660 DU's	5,727	108	307	415	369	217	586

(1) Source: ITE Trip Generation Manual, 11th Edition, 2021.

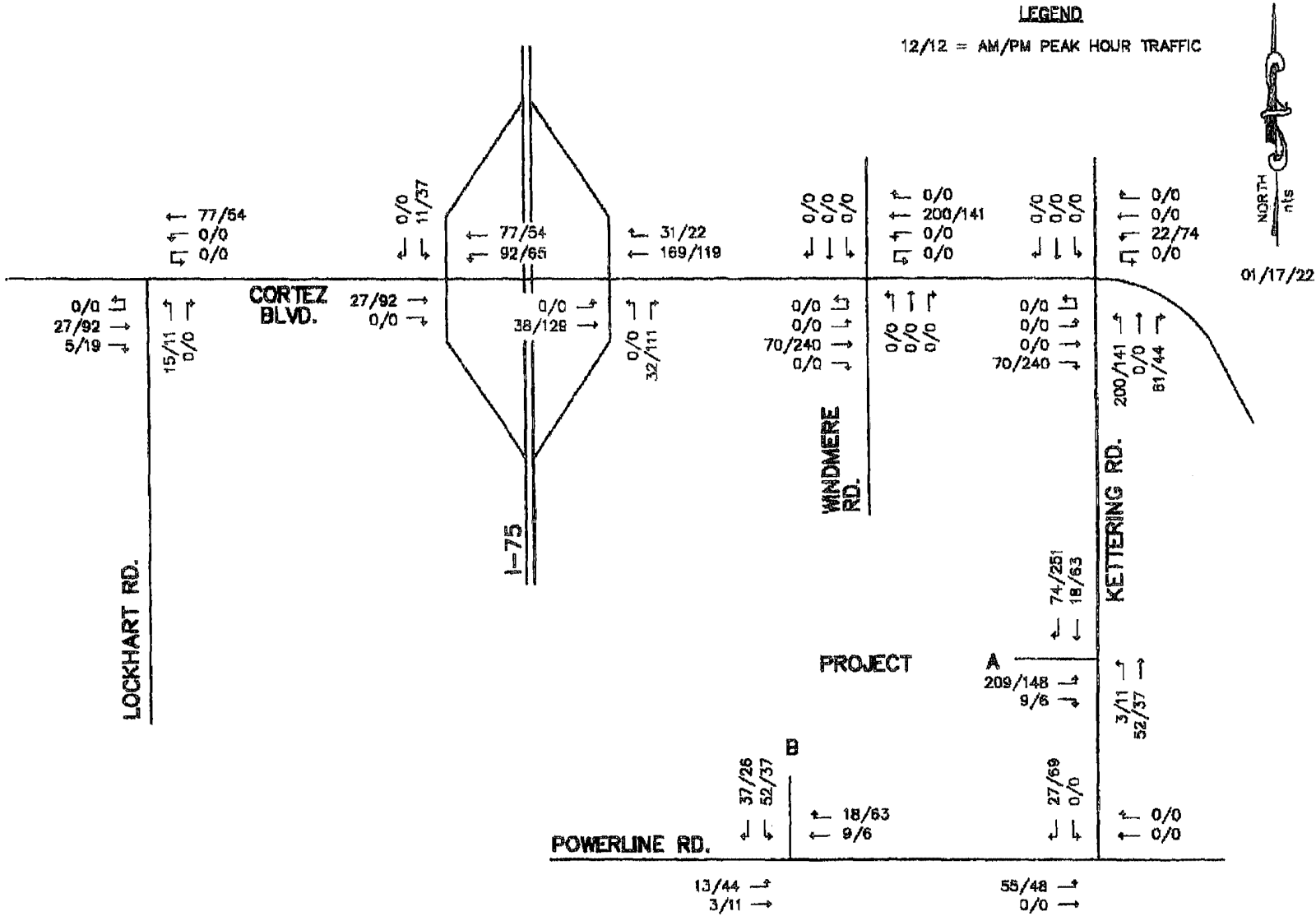


FIGURE 3
PROJECT TRAFFIC

TRANSPORTATION ANALYSIS

KETTERING INDUSTRIAL

Prepared For

JDC PROPERTY GROUP, L.L.C

Prepared By



LINCKS & ASSOCIATES, INC.

Engineers - Planners

Tampa, Florida

TRANSPORTATION ANALYSIS

KETTERING INDUSTRIAL

Prepared For
JDC PROPERTY GROUP, L.L.C

Prepared By
LINCKS & ASSOCIATES, INC.
5023 West Laurel Street
Tampa, Florida 33607
813-289-0039
State of Florida Authorization No. EB0004638

January, 2022

Project No. 21241

Steven J. Henry, P.E.
P.E. No. 51555

Date





TABLE 1
ESTIMATED STREET PROJECT TRIP ENDS (1)

<u>Land Use</u>	<u>Size</u>	<u>Daily Trip Ends</u>	<u>AM Peak Hour Trip Ends</u>			<u>PM Peak Hour Trip Ends</u>		
			<u>In</u>	<u>Out</u>	<u>Total</u>	<u>In</u>	<u>Out</u>	<u>Total</u>
Warehouse/ Distribution Facility	337,137 SF	3,052	141	195	336	118	116	234

(1) Source: Data provided by End User

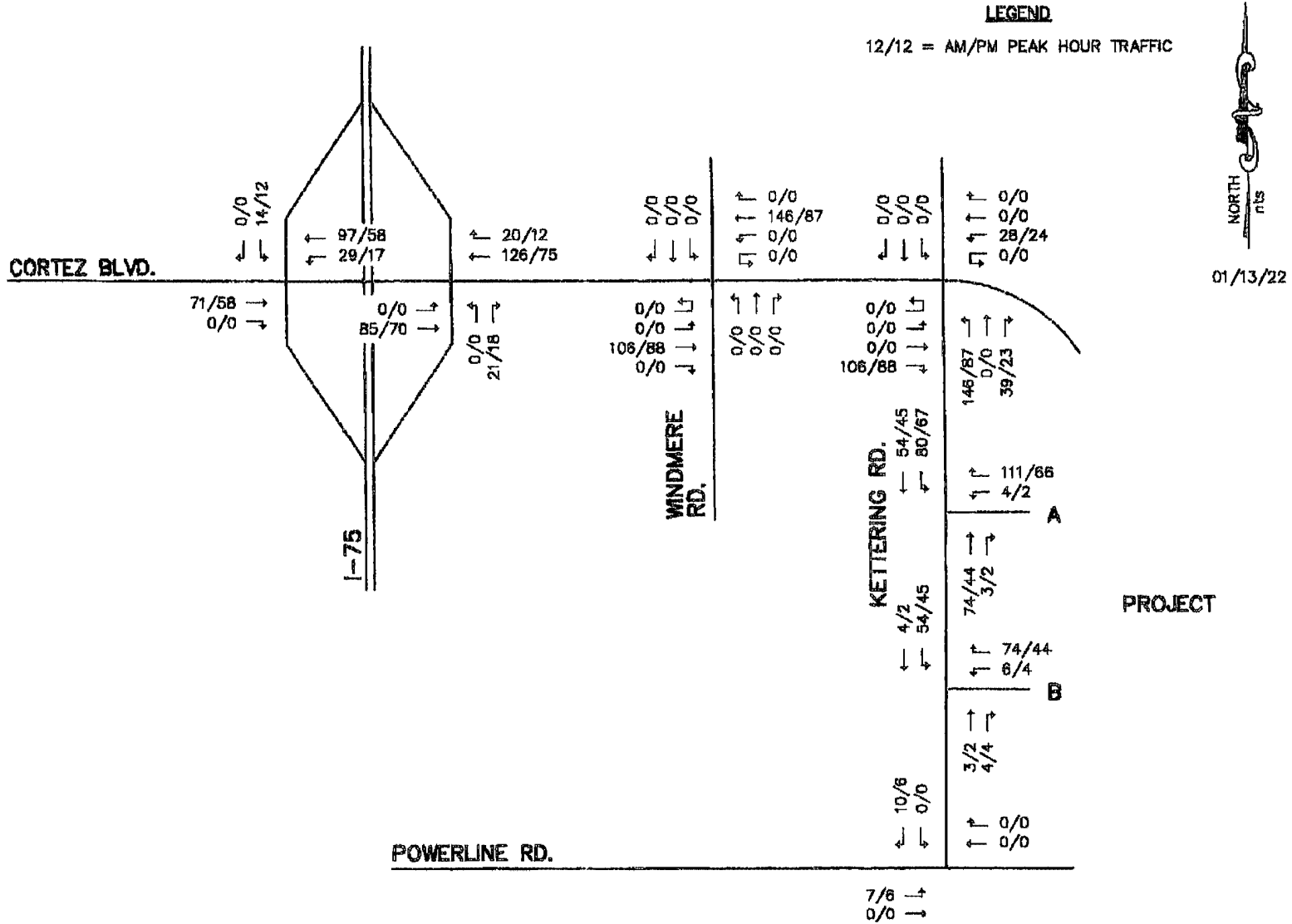


FIGURE 3
PROJECT TRAFFIC

SIGNAL TIMINGS



CONTROLLER OPERATION NOTES:

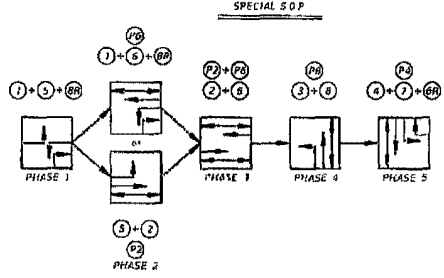
- MAJOR STREETS ARE SR 50 (CORTEZ BOULEVARD) MOVEMENTS 2 AND 6
- MINOR STREETS ARE US 98 (MCKETHAN ROAD) MOVEMENT 6
OLANCHA ROAD MOVEMENT 4
- PROGRAM SPECIAL SIGNAL OPERATING PLAN WITH THE FOLLOWING CONCURRENT FACTORED PEDESTRIANS FOR MOVEMENTS 2 (P2), 4 (P4), 6 (P6), AND 8 (P8). WHEN THE SIGNAL IS IN FLASHING MODE, MOVEMENTS 2 AND 6 FLASH YELLOW. ALL OTHER MOVEMENTS FLASH RED. WIRE EACH PHASE/MOVEMENT FROM THE SIGNAL DISPLAY TO THE CONTROLLER AS A SEPARATE PHASE/MOVEMENT. THIS INCLUDES LEFT TURN MOVEMENTS. EACH LEFT TURN MOVEMENT SHALL HAVE CONDUCTORS AVAILABLE FOR PROTECTED AND PERMISSIVE OPERATION.
- PROGRAM MOVEMENT 6R AS OVERLAP A TO COME UP WITH MOVEMENT 4 AND MATCH YELLOW AND ALL RED INTERVALS.
- PROGRAM ALL DETECTION ZONES AS 6' X 30' AND LOCATED 2' AHEAD OF THE STOP BAR

INTERSECTION NOTES:

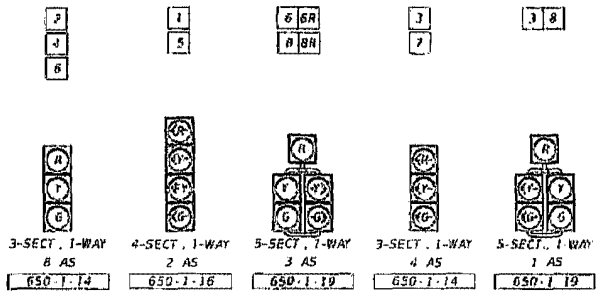
- THE POSTED SPEED LIMIT IS AS FOLLOWS:
SR 50 (CORTEZ BOULEVARD) = 55 MPH
MCKETHAN ROAD = 35 MPH
OLANCHA ROAD = 35 MPH
- STREET LIGHTING LUMINAIRE BRACKET ARMS WILL BE ADDED TO ALL FOUR STEEL SIGNAL STRAIN POLES AT THIS INTERSECTION. SEE THE STRAIN POLE SCHEDULE FOR BRACKET ARM DETAILS. ALSO, SEE THE LIGHTING PLANS FOR THE LUMINAIRES TO BE ATTACHED AND THE ASSOCIATED DETAILS.

REMOVAL PAY ITEMS

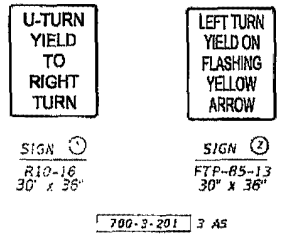
632-3-E	1 P1
641-2-BD	2 EA
678-5-BDD	2 AS



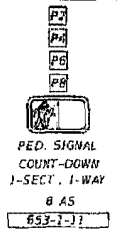
SIGNAL HEAD DETAILS



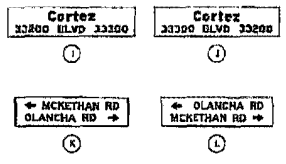
REGULATORY SIGNS



PEDESTRIAN HEAD DETAILS



INTERNALLY ILLUMINATED STREET NAME SIGNS



CONTROLLER TIMINGS

MOVEMENT NUMBER	1	2	3	4	5	6	7	8
MINIMUM GREEN	5	20	10	10	5	20	10	10
EXTENSION	2	5	0	5	0	2	5	0
MAXIMUM GREEN 1	20	30	30	20	50	30	30	
MAXIMUM GREEN 2	40	40	40	40	40	40	40	
YELLOW CLEARANCE	5	5	5	4	0	5	4	0
ALL RED	2	2	2	7	4	2	2	2
PEDESTRIAN WALK	7		7		7		7	
RED CLEARANCE			37		13		42	
RECALL	MIN		MIN		MIN		MIN	

VIDEO VEHICLE DETECTION ASSIGNMENTS

VIDEO DETECTION	DETECTION ZONE	DELAY (SEC)
V-1	DZ-5	
V-1	DZ-2	
V-2	DZ-7	
V-2	DZ-4	
V-3	DZ-1	
V-3	DZ-6	
V-3	DZ-8R	
V-3	DZ-3	
V-4	DZ-8	
V-4	DZ-8R	

TIMINGS ARE INITIAL AND MAY REQUIRE FIELD ADJUSTING AS DIRECTED BY THE ENGINEER. INSTALL CONCURRENT TIMING OF INITIAL AND EXTENSION INTERVALS.

DATE	REVISION	DESCRIPTION	REVISION	DATE	DESCRIPTION	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SHEET NO
						ROAD NO	COUNTY	FINANCIAL PROJECT ID	
						50	HERNANDO	418732-4-52-01	7-14

MICHAEL J. DATES, PE
PE LICENSE NUMBER 49282
HDR Engineering, Inc.
4830 W. Kennedy Blvd., Suite 400
Tampa, FL 33609-2948
CERTIFICATE OF AUTHORIZATION NO 4213

SIGNALIZATION PLAN (6)

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED UNDER RULE 61G15-23.001, F.A.C.

Windmeir

CONTROLLER OPERATION NOTES:

- MAJOR STREET IS SR 50 (CORTEZ BOULEVARD), MOVEMENTS 2 AND 6
- MINOR STREETS ARE:
BRONSON BOULEVARD, MOVEMENT 4
WINDMEIR ROAD, MOVEMENT 8
- PROGRAM SIGNAL OPERATING PLAN NO. 7 WITH THE FOLLOWING:
CONCURRENT ACTUATION PEDESTRIANS FOR MOVEMENTS 2 (P2), 4 (P4) AND 6 (P6).
WHEN THE SIGNAL IS IN FLASHING MODE, MOVEMENTS 2 AND 6 FLASH YELLOW. ALL OTHER SIGNALS FLASH RED.
WIRE EACH PHASE MOVEMENT FROM THE SIGNAL DISPLAY TO THE CONTROLLER AS A SEPARATE PHASE/MOVEMENT. THIS INCLUDES LEFT TURN MOVEMENTS. EACH LEFT TURN MOVEMENT SHALL HAVE CONDUCTORS AVAILABLE FOR PROTECTED AND PERMISSIVE OPERATION
- WIRE THE CABINET FOR SOP 10 BUT THE INITIAL OPERATION IS SOP 7

CONSTRUCTION NOTES:

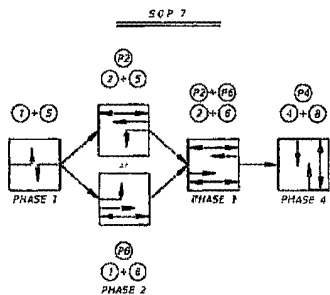
- ALL DETECTION ZONES ARE 6' X 30' AND PLACED 2' AHEAD OF THE STOP BAR

INTERSECTION NOTES:

- THE POSTED SPEED LIMIT IS AS FOLLOWS:
SR 50 (CORTEZ BOULEVARD) = 45 MPH
WINDMEIR ROAD = 30 MPH
BRONSON BOULEVARD = 30 MPH

REMOVAL PAY ITEMS

632-7-6	1 P1
641-2-80	2 EA
646-1-60	2 EA
670-5-800	2 AS



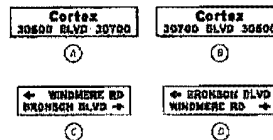
MOVEMENT NUMBER	1	2	3	4	5	6	7	8
MINIMUM GREEN	7	20		5	5	20		5
EXTENSION	5	0	4	4	5	0	4	5
MAXIMUM GREEN 1	30	30		30	15	30		30
MAXIMUM GREEN 2	40	140		50	40	140		50
YELLOW CLEARANCE	4	4	0	3	7	4	4	0
ALL RED	2	0	2	6	5	0	2	6
PEDESTRIAN WALK				7				7
PED CLEARANCE				24				24
RECALL				N/A				N/A

TIMINGS ARE INITIAL AND MAY REQUIRE FIELD ADJUSTING AS DIRECTED BY THE ENGINEER. INSTALL CONCURRENT TIMING OF INITIAL AND EXTENSION INTERVALS.

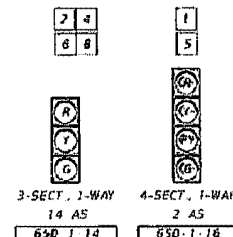
VIDEO VEHICLE DETECTION ASSIGNMENTS

VIDEO DETECTION	DETECTION ZONE	DELAY (SEC)
V-1	DZ-1	
	DZ-6	
	DZ-6R	
V-2	DZ-5	
	DZ-2	
V-3	DZ-6	
	DZ-4	
V-4	DZ-4	

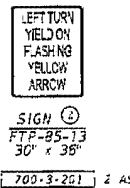
INTERNALLY ILLUMINATED STREET NAME SIGNS



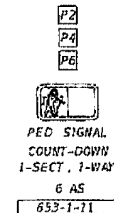
SIGNAL HEAD DETAILS



REGULATORY SIGNS



PEDESTRIAN HEAD DETAILS



DATE	REVISIONS	DESCRIPTION

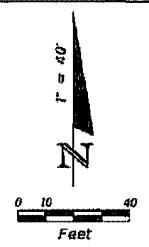
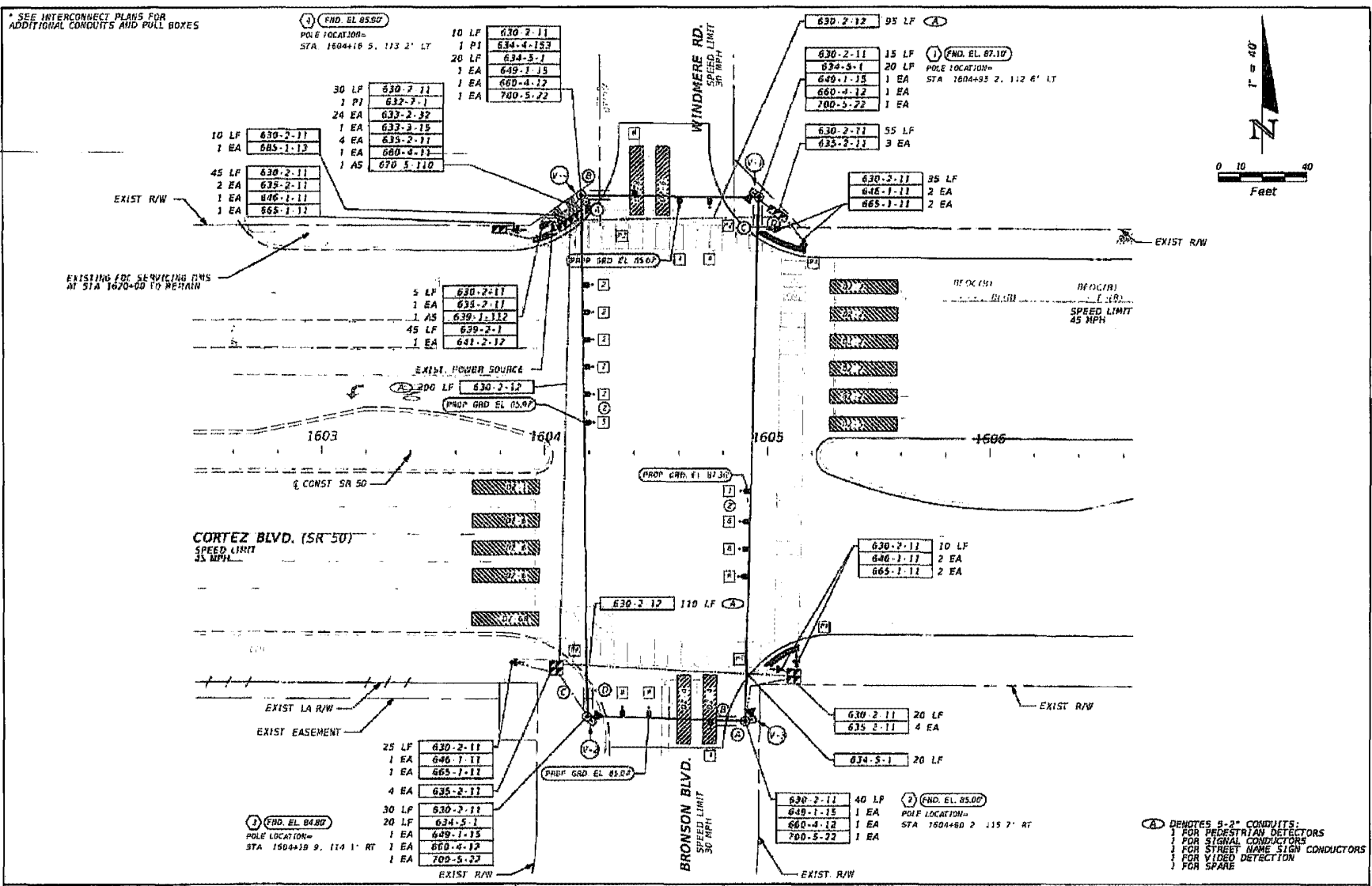
MICHAEL J. GATES, PE
PE LICENSE NUMBER 49262
HDR Engineering, Inc.
4830 W Kennedy Blvd, Suite 400
Tampa, FL 33609-2548
CERTIFICATE OF AUTHORIZATION NO 4213

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION		
ROAD NO	COUNTY	FINANCIAL PROJECT ID
50	HERNANDO	416732-4-52-01

SIGNALIZATION PLAN (2)

SHEET NO.
T-10

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.



REVISIONS		DATE	DESCRIPTION

MICHAEL J. OATES, PE PE LICENSE NUMBER 49282 HDR Engineering, Inc. 4836 W. Kennedy Blvd., Suite 400 Tampa, FL 33609-2948 CERTIFICATE OF AUTHORIZATION NO 4213				STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			SIGNALIZATION PLAN (1)	SHEET NO. T-9
ROAD NO.	COUNTY	FINANCIAL PROJECT ID						
50	HERNANDO	48732-4-52-01						

THE OFFICIAL RECORD OF THIS SHEET IS THE ELECTRONIC FILE DIGITALLY SIGNED AND SEALED UNDER RULE 61G15-23.004, F.A.C.

Hernando County, FL
ECONOLITE

SR 50 - SR 50 @ I 75 - Econolite Type - Cobalt

Controller Timing Plan (MM) 2-1

Plan 1 - ""

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Min Green	7	15	0	10	7	15	0	10	0	0	0	0	0	0	0	0
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	7	0	7	0	7	0	7	0	0	7	7	0	0	0	0
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	32	0	24	0	29	0	22	0	0	11	12	0	0	0	0
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	0.0	5.0	5.0	5.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	25	35	0	25	25	35	0	25	0	0	0	0	0	0	0	0
Max2	25	35	0	25	25	35	0	25	0	0	0	0	0	0	0	0
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Clear	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Schedule (MM) 5-4

Schedule Number - 1

Day Plan No.: 1

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	X	X	X	X	X	X	X

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 2

Day Plan No.: 2

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
							X

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 3

Day Plan No.: 3

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	X						

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION
 District Seven Traffic Signal Retiming Continuing Contract - Hernando County
 FM: 433391-3-32-01

SR 50 (US 98) at Kettering Road/Croom Rital Road [3] Prepared By: **BMH** Date: **04/30/20**

East-West Roadway: **SR 50 (US 98)** North-South Roadway: **Kettering Road/Croom Rital Road**

PHASE TIMES							
PHASE	1	2	4	5	6	8	8
MOVEMENT	EBL	WB	NB	WBL	EB		SB
LEFT TURN	Prot	Prot	Perm	Prot	Prot		Perm
MIN GRN	5	30	8	5	30		8
GAP EXT	3.0	5.0	4.0	3.0	5.0		4.0
YEL CLR	5.5	5.5	5.5	5.5	5.5		5.5
RED CLR	2.0	2.0	2.6	2.0	2.0		2.6
MAX 1	10	50	25	20	50		25
MAX 2	10	70	20	20	70		20
MAX 3			45				
MAX GREEN EXT			5				
WALK							
PED CLR							

All Week	ACTION PLAN				COORDINATION PATTERN TABLES			
	Plan	Start	End	Action Plan	Cycle Length	Offset	Pattern	Alt Sequence
	FREE	0:00	24:00	100				FREE

NOTES

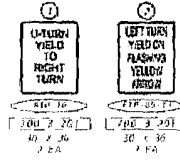
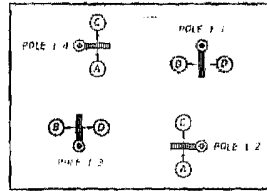
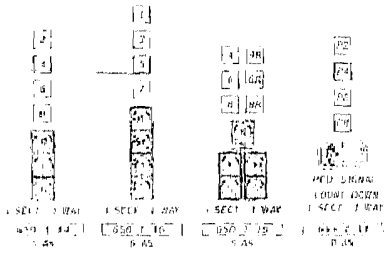
1. Controller Type: Econolite ASC/2S-2100
2. Force-off Mode: Floating
3. Maximum Mode: Inhibit Max

**INTERNALLY ILLUMINATED
STREET NAME SIGNS**

LET COMPANY NEED WORK SHEET AND DE PAPER

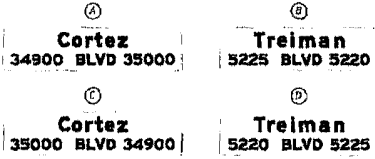
4 EA 700 5 27 (A) (B) (C) (D)

STREET NAME SIGN ASSEMBLIES SHALL BE INTERNALLY ILLUMINATED AND SHALL BE DOUBLE PANEL 130 WAT

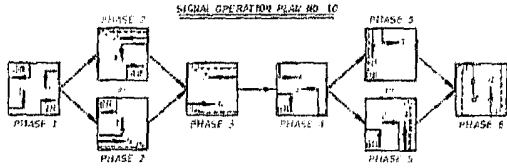


CONTROLLER OPERATIONS

1. THE MAIN STREET IS ON SO (LEFT) BLVD MOVEMENTS 7 AND 8
2. THE MAIN STREET IS ON SO (LEFT) BLVD MOVEMENTS 1 AND 2
3. SIGNAL OPERATING PLAN IS SHOWN
4. CONSTRUCTION VEHICLES PROCEED THROUGH PHASES 2 AND 3
5. LEFT TURN VEHICLES SHALL BE PERMITTED TO PROCEED THROUGH PHASES 2 AND 3
6. DURING PLANNING OPERATIONS, SIGNALS 2 AND 6 TO FLASH YELLOW AND ALL OTHER MOVEMENTS SHALL FLASH RED

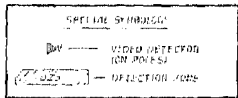


SIGNAL OPERATION PLAN NO. 10



PHASE	MOVEMENT	CONTROL	OPERATION
CO-6	02 6 2W	02 6 2W	02 6 2W
	02 6 R		
CO-5	02 5	02 5	02 5
	02 5 R		
CO-4	02 4	02 4	02 4
	02 4 R		
CO-3	02 3	02 3	02 3
	02 3 R		

PHASE	MOVEMENT	CONTROL	OPERATION
CO-6	02 6 2W	02 6 2W	02 6 2W
	02 6 R		
CO-5	02 5	02 5	02 5
	02 5 R		
CO-4	02 4	02 4	02 4
	02 4 R		
CO-3	02 3	02 3	02 3
	02 3 R		

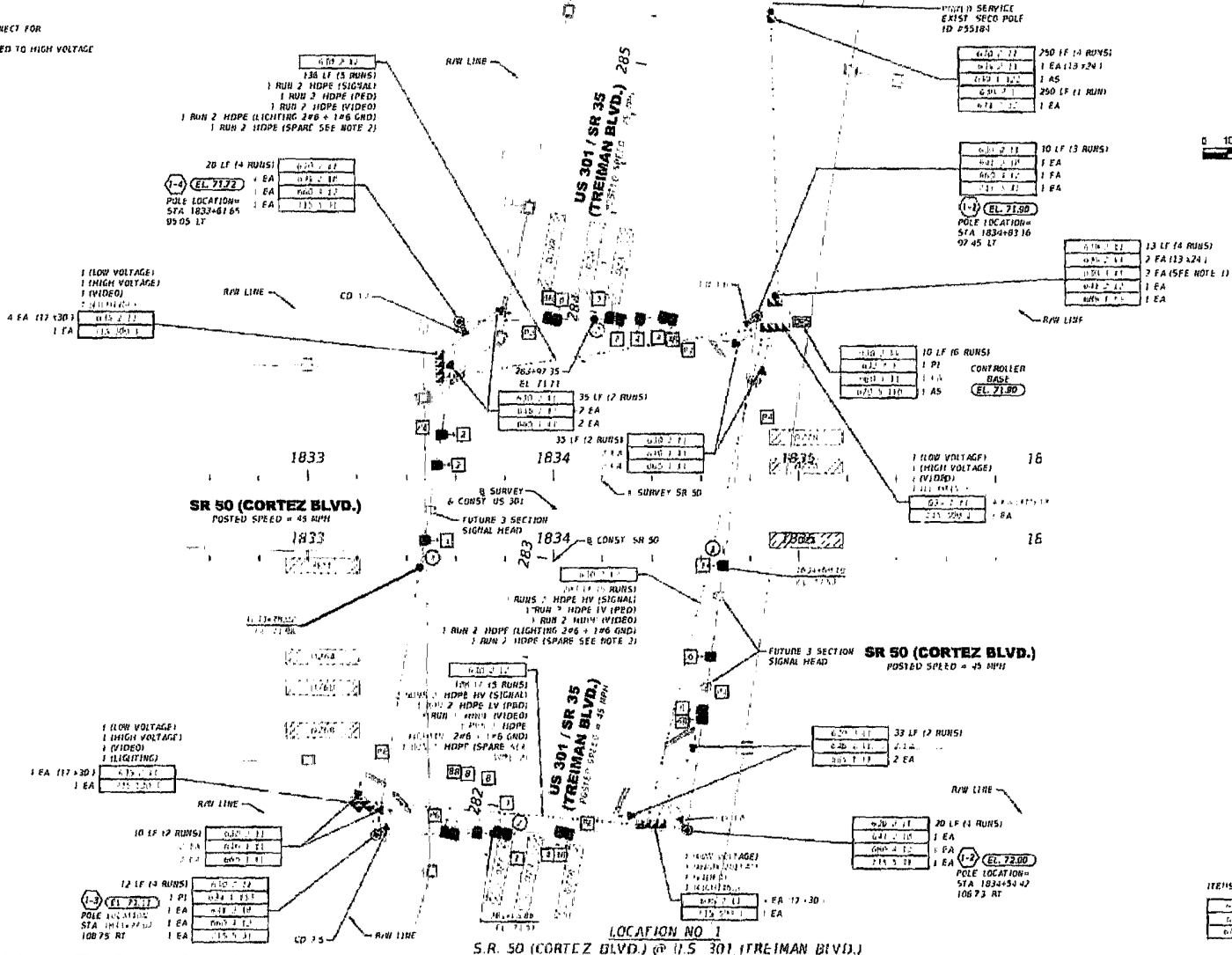
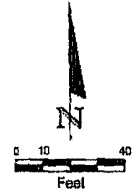


REVISIONS				DATE	BY	CHECKED	APPROVED	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	PROJECT NO.	SHEET NO.	
NO.	DESCRIPTION	DATE	BY								
1	ISSUED							SR 50	HERNANDO	416732-3-52-01	T-6

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VS301

- NOTES
 1 PROVIDE SEPARATE DISCONNECT FOR INTERSECTION LIGHTING
 2 SPARE CONDUIT TO BE PULLED TO HIGH VOLTAGE PULL BOX



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REVISIONS		DATE	BY	CHECKED BY	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION	SIGNALIZATION PLAN (1)	SHEET NO T-5

Hernando County, FL
ECONOLITE

1-Cortez Blvd @ Jasmine St - 192.168.150.83 - Econolite Type - ASC/3

Time Base Day Plan/Schedule
Day Plan (MM) 5-3

Day Plan #1

Event	Action Plan	Start Time
1	2	00:00
2	2	07:00
3	2	07:45
4	2	09:00
5	2	15:00
6	2	15:45
7	2	21:30

Day Plan #2

Event	Action Plan	Start Time
1	99	00:00
2	2	08:00
3	99	18:00

Schedule (MM) 5-4

Schedule Number - 1

Day Plan No.: 1

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
		X	X	X	X	X	

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 2

Day Plan No.: 2

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	X						X

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

Coordinator Pattern # 2

Split Pattern	2	TS2 (Pat-Off)	0-2	Splits In	Seconds
Cycle	90	Std (COS)	73	Offsets In	Seconds
Offset Value	55s	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	1		
Actuated Walk Rest	No	Sequence	0		
Phase					
Reservice	No	Action Plan	2		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 2)	10	25	0	30	35	25	0	30	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	65s	90s	0s	0s

Misc. Data			
Veh Perm 1	0	Veh Perm 2	0
Veh Perm 2 Disp	0	Crossing Arterial Pat	0
Split Demand Pat 1	0	Split Demand Pat 2	0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X			X											
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase													X	X	X	X
Special Function Outputs																

Coordinator Pattern # 3

Split Pattern	3	TS2 (Pat-Off)	0-3	Splits In	Seconds
Cycle	60	Std (COS)	10	Offsets In	Seconds
Offset Value	45s	Dwell/Add Time	0		
Actuated Coord	No	Timing Plan	1		
Actuated Walk Rest	No	Sequence	0		
Phase					
Reservice	No	Action Plan	3		
Max Select	None	Force Off	None		

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 3)	15	20	0	20	20	20	0	20	0	0	0	0	0	0	0	0

Hernando County, FL
ECONOLITE

1-Cortez Blvd @ Jasmine St - 192.168.150.83 - Econolite Type - ASC/3

Coordination Split Pattern
Split Pattern Data (MM) 3-3

Split Pattern # 1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Split (seconds)	15	25	0	30	35	25	0	30	0	0	0	0	0	0	0	0
Coord Phase		X			X											
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase													X	X	X	X

Ring	1	2	3	4
Split Sum	70s	90s	0s	0s

Split Pattern # 2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Split (seconds)	10	25	0	30	35	25	0	30	0	0	0	0	0	0	0	0
Coord Phase		X			X											
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase													X	X	X	X

Ring	1	2	3	4
Split Sum	65s	90s	0s	0s

Split Pattern # 3

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Split (seconds)	15	20	0	20	20	20	0	20	0	0	0	0	0	0	0	0
Coord Phase		X			X											
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase													X	X	X	X

ECONOLITE Hernando County, FL

1-Cortez Blvd @ Jasmine St - 192.168.150.83 - Econolite Type - ASC/3

Preempt Plan

Preempt Plan (MM) 4-1

No Enabled Preempts

Plan 2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction																
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Hernando County, FL



3 - Cortez Blvd @ Main St - 192.168.150.79 - Econolite Type - ASC/3

Configuration Controller Sequence

Phase Ring Sequence and Assignment (MM) 1-1-1

Hardware Alternate Sequence Enable: No

Phase Ring Sequence.....(Note: Sequences identical to the prior one are not printed)

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
	B	B	B	B												

Sequence 1

Ring 1	1	2	3	4	9	10	.	.	.	.	.	.	.	.	.	.
Ring 2	5	6	7	8	11	12	.	.	.	.	.	.	.	.	.	.

Phases In Use/Exclusive Ped (MM) 1-2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phases In Use	X	X		X	X	X		X								
Exclusive Ped																

Phase Compatibility (MM) 1-1-2

Phase	
n/a	Barrier Mode

Phase and Overlap Descriptions

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Description																

Administration (MM) 1-7-1

Enable Controller/Cabinet Interlock CRC No
 CRC (16 bit) 2471
 Enable Automatic Backup to Datakey No

Plan 3

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction																
Min Green	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Bk Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	10	0	10	0	10	0	10	0	10	0	10	0	10	0	10
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	16	0	16	0	16	0	16	0	16	0	16
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
Max2	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Max3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dym Step	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Act B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sec/Act	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPTDuc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TTReduc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Coordinator Pattern # 2

Split Pattern 2 TS2 (Pat-Off) 0-2 Splits In Seconds
 Cycle 90 Std (COS) 73 Offsets In Seconds
 Offset Value 62s Dwell/Add Time 0
 Actuated Coord Yes Timing Plan 1
 Actuated Walk Rest No Sequence 0
 Phase No Action Plan 2
 Reservice
 Max Select None Force Off None

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 2)	15	45	0	20	15	45	0	20	0	0	0	0	0	0	0	0
Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	80s	80s	0s	0s

Misc. Data
 Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0
 Split Demand Pat 1 0 Split Demand Pat 2 0 Crossing Arterial Pat 0

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase													X	X	X	X
Special Function Outputs																

Coordinator Pattern # 3

Split Pattern 3 TS2 (Pat-Off) 0-3 Splits In Seconds
 Cycle 60 Std (COS) 10 Offsets In Seconds
 Offset Value 50s Dwell/Add Time 0
 Actuated Coord Yes Timing Plan 1
 Actuated Walk Rest No Sequence 0
 Phase No Action Plan 3
 Reservice
 Max Select None Force Off None

Split Preference Phases

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description																
Splits (Split Pat 3)	15	25	0	20	15	25	0	20	0	0	0	0	0	0	0	0

Pref 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pref 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Ring	1	2	3	4
Ring Split Ext	0	0	0	0
Ring Displacement	-	0	0	0
Split Sum	60s	60s	0s	0s

Misc. Data
 Veh Perm 1 0 Veh Perm 2 0 Veh Perm 2 Disp 0
 Split Demand 0 Split Demand 0 Crossing Arterial 0
 Pat 1 Pat 2 Pat

Split Pattern

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase		X				X										
Vehicle Recall																
Pedestrian Recall																
Recall to Max. Time																
Omit Phase													X	X	X	X
Special Function Outputs																

Hernando County, FL
ECONOLITE

3 - Cortez Blvd @ Main St - 192.168.150.79 - Econolite Type - ASC/3

Time Base Day Plan/Schedule
Day Plan (MM) 5-3

Day Plan #1

Event	Action Plan	Start Time
1	99	00:00
2	3	07:00
3	2	07:45
4	3	09:00
5	2	15:00
6	3	15:45
7	99	21:30

Day Plan #2

Event	Action Plan	Start Time
1	99	06:00
2	2	09:00
3	99	18:00

Schedule (MM) 5-4

Schedule Number - 1

Day Plan No.: 1

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
		X	X	X	X	X	

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

Schedule Number - 2

Day Plan No.: 1

Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	X	X	X	X	X	X	X	X	X	X	X	X

Day (DOW)	SUN	MON	TUE	WED	THU	FRI	SAT
	X						X

Day (DOM)	1	2	3	4	5	6	7	8	9	10	11
	X	X	X	X	X	X	X	X	X	X	X
	12	13	14	15	16	17	18	19	20	21	22
	X	X	X	X	X	X	X	X	X	X	X
	23	24	25	26	27	28	29	30	31		
	X	X	X	X	X	X	X	X	X		

INTERSECTION ANALYSIS



PEAK SEASON WITH EXISTING/BUDGETED IMPROVEMENTS



Lanes, Volumes, Timings

11: Cortez Blvd & East Jefferson St & Jasmine Dr

10/27/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	10	354	10	679	404	23	6	140	720	28	104	3
Future Volume (vph)	10	354	10	679	404	23	6	140	720	28	104	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		300	400		400	400		0	300		0
Storage Lanes	1		1	2		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	1863	1583	1770	1855	0
Flt Permitted	0.950			0.950			0.625			0.511		
Satd. Flow (perm)	1770	3539	1583	3433	3539	1583	1164	1863	1583	952	1855	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			61			750			2
Link Speed (mph)		45			45			45			30	
Link Distance (ft)		2005			1665			2021			1421	
Travel Time (s)		30.4			25.2			30.6			32.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	369	10	707	421	24	6	146	750	29	108	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	369	10	707	421	24	6	146	750	29	111	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Free	Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases			6			2	4		Free	8		

Lanes, Volumes, Timings
 11: Cortez Blvd & East Jefferson St & Jasmine Dr

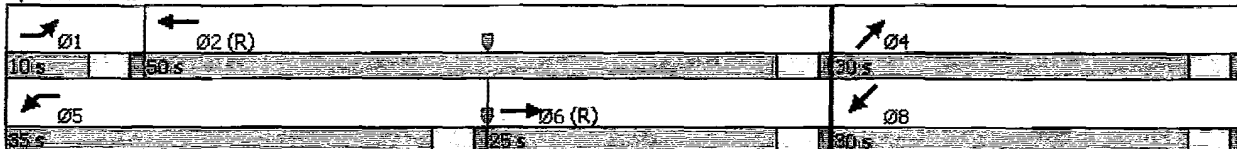
10/27/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	1	6	6	5	2	2	4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	10.0	25.0	25.0	35.0	50.0	50.0	30.0	30.0		30.0	30.0	
Total Split (%)	11.1%	27.8%	27.8%	38.9%	55.6%	55.6%	33.3%	33.3%		33.3%	33.3%	
Maximum Green (s)	6.0	21.0	21.0	31.0	46.0	46.0	26.0	26.0		26.0	26.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0	0	0	0		0	0	
Act Effct Green (s)	6.1	41.5	41.5	24.1	67.4	67.4	12.4	12.4	90.0	12.4	12.4	
Actuated g/C Ratio	0.07	0.46	0.46	0.27	0.75	0.75	0.14	0.14	1.00	0.14	0.14	
v/c Ratio	0.08	0.23	0.01	0.77	0.16	0.02	0.04	0.57	0.47	0.22	0.43	
Control Delay	40.4	16.8	0.0	36.2	4.4	0.2	31.7	44.4	1.0	37.0	39.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	40.4	16.8	0.0	36.2	4.4	0.2	31.7	44.4	1.0	37.0	39.2	
LOS	D	B	A	D	A	A	C	D	A	D	D	
Approach Delay		17.0			23.8			8.2			38.7	
Approach LOS		B			C			A			D	

Intersection Summary

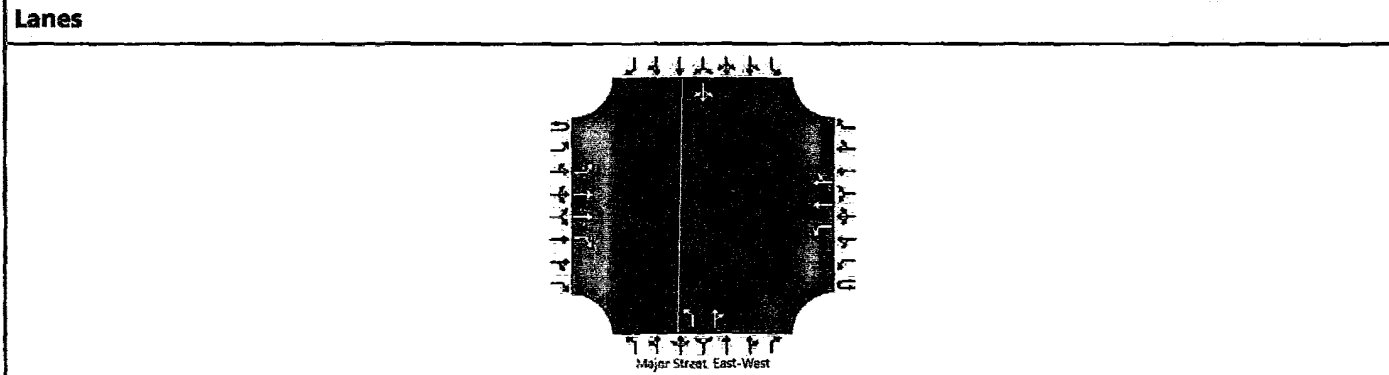
Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 55 (61%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 18.1
 Intersection Capacity Utilization 54.0%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 11: Cortez Blvd & East Jefferson St & Jasmine Dr



HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst		Intersection		Agency/Co.		Jurisdiction	
Date Performed	9/23/2022	East/West Street	Cortez Blvd	Analysis Year	2022	North/South Street	Lockhart Rd
Time Analyzed	PM Peak	Peak Hour Factor	0.96	Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Peakseason Traffic and Existing/Budgeted Geometry						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12	
Priority																
Number of Lanes	0	1	2	1	0	1	2	0	1	1	0		0	1	0	
Configuration		L	T	R		L	T	TR	L		TR			LTR		
Volume (veh/h)	1	0	636	20	3	42	783	0	61	0	43		0	0	0	
Percent Heavy Vehicles (%)	3	3			3	3			3	3	3		3	3	3	
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized	No															
Median Type | Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)	6.4	4.1			6.4	4.1			7.5	6.5	6.9		7.5	6.5	6.9	
Critical Headway (sec)	6.46	4.16			6.46	4.16			7.56	6.56	6.96		7.56	6.56	6.96	
Base Follow-Up Headway (sec)	2.5	2.2			2.5	2.2			3.5	4.0	3.3		3.5	4.0	3.3	
Follow-Up Headway (sec)	2.53	2.23			2.53	2.23			3.53	4.03	3.33		3.53	4.03	3.33	

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1			47				64		45				0	
Capacity, c (veh/h)		433			855				268		662					
v/c Ratio		0.00			0.05				0.24		0.07					
95% Queue Length, Q ₉₅ (veh)		0.0			0.2				0.9		0.2					
Control Delay (s/veh)		13.3			9.5				22.6		10.8					
Level of Service (LOS)		B			A				C		B					
Approach Delay (s/veh)	0.0				0.5				17.7							
Approach LOS									C							

Lanes, Volumes, Timings
 2: I-75 NB/I-75 SB & Cortez Blvd

12/09/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	489	92	154	497	121	116	0	319	108	0	291
Future Volume (vph)	151	489	92	154	497	121	116	0	319	108	0	291
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	435		0	620		0	0		545	0		650
Storage Lanes	2		1	1		1	3		2	3		2
Taper Length (ft)	50			100			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.94	1.00	0.88	0.94	1.00	0.88
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	4990	0	2787	4990	0	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	4990	0	2787	4990	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			295			295			326			297
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1000			840			750			850	
Travel Time (s)		15.2			12.7			17.0			19.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	154	499	94	157	507	123	118	0	326	110	0	297
Shared Lane Traffic (%)												
Lane Group Flow (vph)	154	499	94	157	507	123	118	0	326	110	0	297
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1		1	1		1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left		Right	Left		Right
Leading Detector (ft)	20	100	20	20	100	20	20		20	20		20
Trailing Detector (ft)	0	0	0	0	0	0	0		0	0		0
Detector 1 Position(ft)	0	0	0	0	0	0	0		0	0		0
Detector 1 Size(ft)	20	6	20	20	6	20	20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3			7		
Permitted Phases			2			6			8			4

Lanes, Volumes, Timings
 2: I-75 NB/I-75 SB & Cortez Blvd

12/09/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	3		8	7		4
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	10.0		5.0	10.0		10.0
Minimum Split (s)	17.9	28.9	28.9	17.9	28.9	28.9	20.9		25.0	20.9		20.9
Total Split (s)	25.0	35.0	35.0	25.0	35.0	35.0	25.0		25.0	25.0		25.0
Total Split (%)	22.7%	31.8%	31.8%	22.7%	31.8%	31.8%	22.7%		22.7%	22.7%		22.7%
Maximum Green (s)	14.1	24.1	24.1	14.1	24.1	24.1	14.1		14.1	14.1		14.1
Yellow Time (s)	4.9	4.9	4.9	4.9	4.9	4.9	4.9		4.9	4.9		4.9
All-Red Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	10.9	10.9	10.9	10.9	10.9	10.9	10.9		10.9	10.9		10.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lead		Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	Min	Min	None	Min	Min	None		None	None		None
Act Effct Green (s)	9.4	16.1	16.1	9.5	16.2	16.2	10.0		10.1	10.0		10.1
Actuated g/C Ratio	0.11	0.18	0.18	0.11	0.18	0.18	0.11		0.11	0.11		0.11
v/c Ratio	0.43	0.55	0.18	0.43	0.55	0.23	0.21		0.54	0.20		0.51
Control Delay	41.5	36.0	0.7	41.5	36.0	1.0	38.1		8.3	38.0		8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	41.5	36.0	0.7	41.5	36.0	1.0	38.1		8.3	38.0		8.3
LOS	D	D	A	D	D	A	D		A	D		A
Approach Delay		32.7			31.6			16.2			16.3	
Approach LOS		C			C			B			B	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 89.4
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.55
 Intersection Signal Delay: 26.5
 Intersection Capacity Utilization 48.7%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service A

Splits and Phases: 2: I-75 NB/I-75 SB & Cortez Blvd



Lanes, Volumes, Timings
 3: Bronson Blvd./Windmere Rd. & Cortez Blvd

10/27/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	555	175	78	587	15	149	45	78	38	12	37
Future Volume (vph)	182	555	175	78	587	15	149	45	78	38	12	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	485		0	350		0	105		0	115		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	100			50			50			50		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.81	0.81	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.996			0.905			0.887	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	7514	0	1770	1686	0	1770	1652	0
Flt Permitted	0.299			0.421			0.723			0.674		
Satd. Flow (perm)	557	5085	1583	784	7514	0	1347	1686	0	1255	1652	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			184		6			72			39	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		840			700			700			800	
Travel Time (s)		12.7			10.6			15.9			18.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	192	584	184	82	618	16	157	47	82	40	13	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	192	584	184	82	634	0	157	129	0	40	52	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		10			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2		2	6			8			4		

Lanes, Volumes, Timings

3: Bronson Blvd./Windmere Rd. & Cortez Blvd

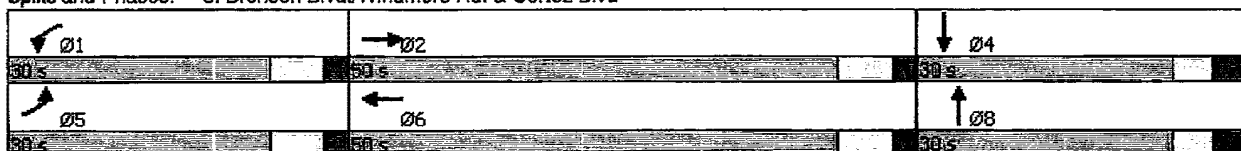
10/27/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	25.0	25.0	14.0	25.0		17.4	17.4		17.4	17.4	
Total Split (s)	30.0	50.0	50.0	30.0	50.0		30.0	30.0		30.0	30.0	
Total Split (%)	27.3%	45.5%	45.5%	27.3%	45.5%		27.3%	27.3%		27.3%	27.3%	
Maximum Green (s)	23.0	43.0	43.0	23.0	43.0		22.6	22.6		22.6	22.6	
Yellow Time (s)	4.9	4.9	4.9	4.9	4.9		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1		3.7	3.7		3.7	3.7	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.4	7.4		7.4	7.4	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	None	Min		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0							
Flash Dont Walk (s)		11.0	11.0		11.0							
Pedestrian Callis (#/hr)		0	0		0							
Act Effct Green (s)	28.8	20.6	20.6	22.6	15.1		12.6	12.6		12.6	12.6	
Actuated g/C Ratio	0.49	0.35	0.35	0.38	0.26		0.21	0.21		0.21	0.21	
v/c Ratio	0.40	0.33	0.27	0.19	0.33		0.55	0.31		0.15	0.14	
Control Delay	10.4	16.6	4.6	9.3	19.1		29.0	12.4		20.7	10.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	10.4	16.6	4.6	9.3	19.1		29.0	12.4		20.7	10.2	
LOS	B	B	A	A	B		C	B		C	B	
Approach Delay		13.1			18.0			21.5			14.8	
Approach LOS		B			B			C			B	

Intersection Summary

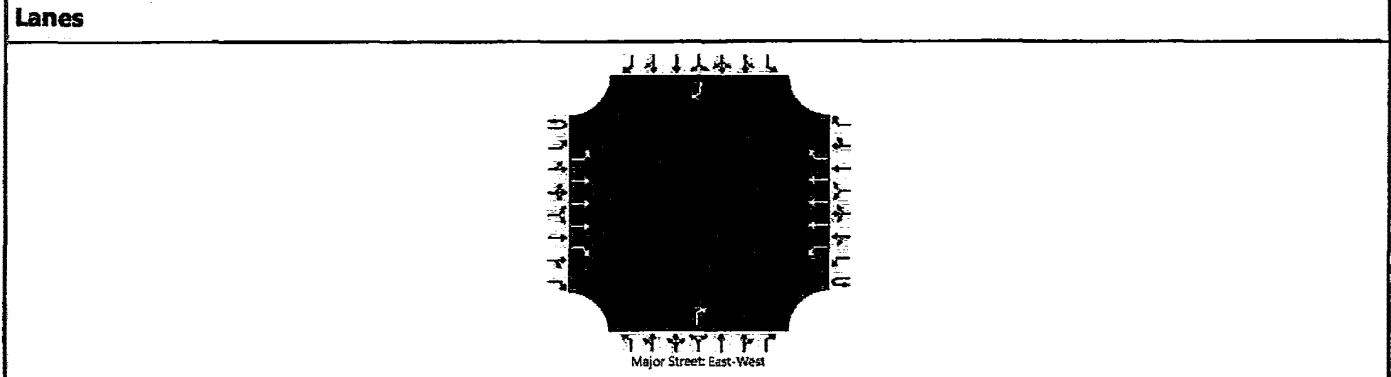
Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 59.1
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.55
 Intersection Signal Delay: 16.0
 Intersection Capacity Utilization 63.2%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 3: Bronson Blvd./Windmere Rd. & Cortez Blvd



HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst		Intersection		Agency/Co.		Jurisdiction	
Date Performed	9/23/2022	East/West Street	Cortez Blvd	Analysis Year	2022	North/South Street	Parkland Ave
Time Analyzed	PM Peak	Peak Hour Factor	0.94	Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Peakseason Traffic and Existing/Budgeted Geometry						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	3	1	0	1	3	1		0	0	1		0	0	1
Configuration		L	T	R		L	T	R				R				R
Volume (veh/h)	6	12	653	37	35	58	597	38				28				20
Percent Heavy Vehicles (%)	3	3			3	3						3				3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)	5.6	5.3			5.6	5.3							7.1				7.1
Critical Headway (sec)	5.66	5.36			5.66	5.36							7.16				7.16
Base Follow-Up Headway (sec)	2.3	3.1			2.3	3.1							3.9				3.9
Follow-Up Headway (sec)	2.33	3.13			2.33	3.13							3.93				3.93

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		19				99							30				21
Capacity, c (veh/h)		625				594							552				576
v/c Ratio		0.03				0.17							0.05				0.04
95% Queue Length, Q ₉₅ (veh)		0.1				0.6							0.2				0.1
Control Delay (s/veh)		10.9				12.3							11.9				11.5
Level of Service (LOS)		B				B							B				B
Approach Delay (s/veh)	0.3				1.6				11.9				11.5				
Approach LOS									B				B				

Lanes, Volumes, Timings

1: Kettering Rd./Croom Rital Rd. & Cortez Blvd

10/28/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	648	44	28	571	14	59	2	45	7	2	5
Future Volume (vph)	31	648	44	28	571	14	59	2	45	7	2	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		1000	540		440	0		470	0		0
Storage Lanes	1		1	1		1	0		1	0		0
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.952	
Flt Protected	0.950			0.950				0.954			0.976	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	0	1777	1583	0	1731	0
Flt Permitted	0.950			0.950				0.723			0.809	
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	0	1347	1583	0	1435	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			145			145			138		5	
Link Speed (mph)		45			45			55			35	
Link Distance (ft)		2695			10277			1000			500	
Travel Time (s)		40.8			155.7			12.4			9.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	32	675	46	29	595	15	61	2	47	7	2	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	675	46	29	595	15	0	63	47	0	14	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases			6			2	4		4	8		

Lanes, Volumes, Timings

1: Kettering Rd./Croom Rital Rd. & Cortez Blvd

10/28/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	4	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	30.0	30.0	5.0	30.0	30.0	8.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	12.5	37.5	37.5	12.5	37.5	37.5	16.1	16.1	16.1	16.1	16.1	
Total Split (s)	20.0	50.0	50.0	20.0	50.0	50.0	25.0	25.0	25.0	25.0	25.0	
Total Split (%)	21.1%	52.6%	52.6%	21.1%	52.6%	52.6%	26.3%	26.3%	26.3%	26.3%	26.3%	
Maximum Green (s)	12.5	42.5	42.5	12.5	42.5	42.5	16.9	16.9	16.9	16.9	16.9	
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.6	2.6	2.6	2.6	2.6	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5		8.1	8.1		8.1	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0	7.0						
Flash Dont Walk (s)		11.0	11.0		11.0	11.0						
Pedestrian Calls (#/hr)		0	0		0	0						
Act Effct Green (s)	6.8	36.0	36.0	6.7	35.9	35.9		9.3	9.3		9.3	
Actuated g/C Ratio	0.11	0.59	0.59	0.11	0.59	0.59		0.15	0.15		0.15	
v/c Ratio	0.16	0.22	0.05	0.15	0.20	0.02		0.31	0.13		0.06	
Control Delay	29.6	9.9	0.1	29.6	9.8	0.0		29.8	0.8		21.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay	29.6	9.9	0.1	29.6	9.8	0.0		29.8	0.8		21.9	
LOS	C	A	A	C	A	A		C	A		C	
Approach Delay		10.1			10.5			17.4			21.9	
Approach LOS		B			B			B			C	

Intersection Summary

Area Type: Other
 Cycle Length: 95
 Actuated Cycle Length: 60.9
 Natural Cycle: 70
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.31
 Intersection Signal Delay: 10.9
 Intersection Capacity Utilization 58.1%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

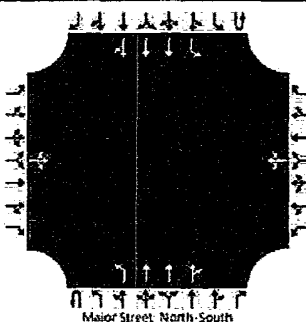
Splits and Phases: 1: Kettering Rd./Croom Rital Rd. & Cortez Blvd



HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst		Intersection	
Agency/Co.		Jurisdiction	
Date Performed	9/23/2022	East/West Street	Ridge Manor Blvd
Analysis Year	2022	North/South Street	Cortez Blvd
Time Analyzed	PM Peak	Peak Hour Factor	0.97
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Peakseason Traffic and Existing/Budgeted Geometry		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound					
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R		
Movement																		
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6		
Number of Lanes		0	1	0		0	1	0		0	1	3	0		0	1	3	0
Configuration			LTR				LTR			L	T	TR			L	T	TR	
Volume (veh/h)		3	2	4		3	0	58		0	2	567	6		0	116	556	0
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3	3				3	3		
Proportion Time Blocked																		
Percent Grade (%)		0				0												
Right Turn Channelized																		
Median Type | Storage		Left + Thru											1					

Critical and Follow-up Headways

























Base Critical Headway (sec)		6.4	6.5	7.1		6.4	6.5	7.1		5.3				5.3		
Critical Headway (sec)		6.46	6.56	7.16		6.46	6.56	7.16		5.36				5.36		
Base Follow-Up Headway (sec)		3.8	4.0	3.9		3.8	4.0	3.9		3.1				3.1		
Follow-Up Headway (sec)		3.83	4.03	3.93		3.83	4.03	3.93		3.13				3.13		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			9				63				2				120		
Capacity, c (veh/h)			281				561				622				610		
v/c Ratio			0.03				0.11				0.00				0.20		
95% Queue Length, Q ₉₅ (veh)			0.1				0.4				0.0				0.7		
Control Delay (s/veh)			18.2				12.2				10.8				12.3		
Level of Service (LOS)			C				B				B				B		
Approach Delay (s/veh)		18.2				12.2				0.0				2.1			
Approach LOS		C				B											

Lanes, Volumes, Timings
8: McKethan Rd & Cortez Blvd

10/28/2022

												
Lane Group:	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	317	219	22	303	6	282	39	8	4	13	5
Future Volume (vph)	18	317	219	22	303	6	282	39	8	4	13	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		800	500		400	400		200	400		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.961	
Flt Protected	0.950			0.950			0.950	0.964		0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1681	1706	1583	1770	1790	0
Flt Permitted	0.450			0.545			0.545	0.561		0.950		
Satd. Flow (perm)	838	5085	1583	1015	5085	1583	964	993	1583	1770	1790	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			250			181			112			5
Link Speed (mph)		45			30			30			30	
Link Distance (ft)		10277			1013			1273			1001	
Travel Time (s)		155.7			23.0			28.9			22.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	19	330	228	23	316	6	294	41	8	4	14	5
Shared Lane Traffic (%)							43%					
Lane Group Flow (vph)	19	330	228	23	316	6	168	167	8	4	19	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6	7	3	8	1	7	4	
Permitted Phases	2		2	6		6	8		8			

Lanes, Volumes, Timings
8: McKethan Rd & Cortez Blvd

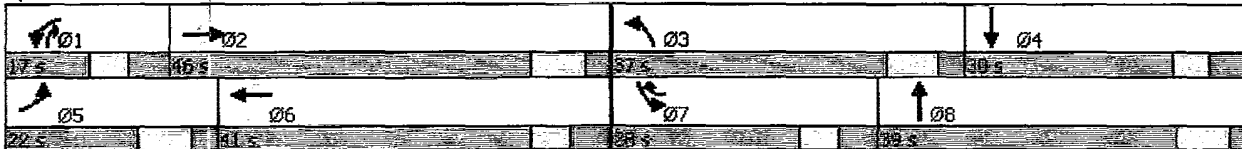
10/28/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	7	3	8	1	7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	27.7	27.7	13.2	26.2	26.2	27.7	25.7	13.2	26.2	26.2	26.2
Total Split (s)	22.0	46.0	46.0	17.0	41.0	28.0	37.0	39.0	17.0	28.0	30.0	30.0
Total Split (%)	16.9%	35.4%	35.4%	13.1%	31.5%	21.5%	28.5%	30.0%	13.1%	21.5%	23.1%	23.1%
Maximum Green (s)	13.8	37.8	37.8	8.8	32.8	19.8	28.8	31.3	8.8	19.8	21.8	21.8
Yellow Time (s)	5.5	5.5	5.5	4.0	4.0	4.0	5.5	5.5	4.0	4.0	4.0	4.0
All-Red Time (s)	2.7	2.7	2.7	4.2	4.2	4.2	2.7	2.2	4.2	4.2	4.2	4.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.2	8.2	8.2	8.2	8.2	8.2	8.2	7.7	8.2	8.2	8.2	8.2
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max	Max	Max	None	None	Max	Max	Max
Act Effct Green (s)	53.9	45.6	45.6	39.3	32.8	60.8	58.8	59.3	45.5	19.8	21.8	21.8
Actuated g/C Ratio	0.41	0.35	0.35	0.30	0.25	0.47	0.45	0.46	0.35	0.15	0.17	0.17
v/c Ratio	0.04	0.18	0.32	0.07	0.25	0.01	0.28	0.27	0.01	0.01	0.06	0.06
Control Delay	22.4	31.1	4.1	23.5	39.4	0.0	23.2	22.7	0.0	47.2	37.5	37.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.4	31.1	4.1	23.5	39.4	0.0	23.2	22.7	0.0	47.2	37.5	37.5
LOS	C	C	A	C	D	A	C	C	A	D	D	D
Approach Delay		20.1			37.6			22.4				39.2
Approach LOS		C			D			C				D

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.32
 Intersection Signal Delay: 25.8
 Intersection Capacity Utilization 45.9%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service A

Splits and Phases: 8: McKethan Rd & Cortez Blvd



Lanes, Volumes, Timings
18: US 301 & Cortez Blvd

12/09/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	204	46	62	228	16	44	214	42	11	152	45
Future Volume (vph)	50	204	46	62	228	16	44	214	42	11	152	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	300		0	200		300	300		300
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frnt			0.850		0.990				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3504	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.583			0.603			0.549			0.610		
Satd. Flow (perm)	1086	3539	1583	1123	3504	0	1023	1863	1583	1136	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			146		5				83			83
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		6987			1760			1365			907	
Travel Time (s)		105.9			26.7			20.7			13.7	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	56	229	52	70	256	18	49	240	47	12	171	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	229	52	70	274	0	49	240	47	12	171	51
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2		2	6			8		8	4		4

Lanes, Volumes, Timings
18: US 301 & Cortez Blvd

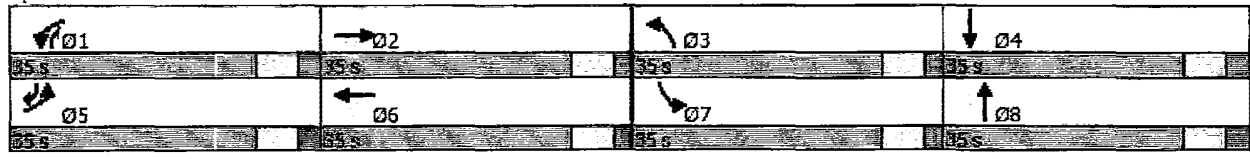
12/09/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6		3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.3	24.8	24.8	12.3	24.8		11.8	25.7	12.3	11.8	25.7	12.3
Total Split (s)	35.0	35.0	35.0	35.0	35.0		35.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)	25.0%	25.0%	25.0%	25.0%	25.0%		25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Maximum Green (s)	27.7	28.2	28.2	27.7	28.2		28.2	27.3	27.7	28.2	27.3	27.7
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8		4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0		2.0	2.9	2.5	2.0	2.9	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.8	6.8	7.3	6.8		6.8	7.7	7.3	6.8	7.7	7.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	34.6	29.6	29.6	35.2	29.9		21.8	19.5	35.1	18.2	14.0	29.3
Actuated g/C Ratio	0.44	0.38	0.38	0.45	0.38		0.28	0.25	0.45	0.23	0.18	0.38
v/c Ratio	0.10	0.17	0.08	0.12	0.20		0.14	0.52	0.06	0.04	0.51	0.08
Control Delay	12.9	20.8	0.2	12.9	20.3		20.5	30.7	1.4	19.3	37.5	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.9	20.8	0.2	12.9	20.3		20.5	30.7	1.4	19.3	37.5	1.9
LOS	B	C	A	B	C		C	C	A	B	D	A
Approach Delay		16.3			18.8			25.1			28.8	
Approach LOS		B			B			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 77.8
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.52
 Intersection Signal Delay: 21.7
 Intersection Capacity Utilization 50.2%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service A

Splits and Phases: 18: US 301 & Cortez Blvd



Lanes, Volumes, Timings
3: Cortez Blvd & Main Str

10/27/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	934	12	3	899	9	15	1	2	12	2	100
Future Volume (vph)	76	934	12	3	899	9	15	1	2	12	2	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.900			0.853	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1676	0	1770	1589	0
Flt Permitted	0.247			0.285			0.702			0.756		
Satd. Flow (perm)	460	3539	1583	531	3539	1583	1308	1676	0	1408	1589	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			109		2			105	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		862			2594			709			741	
Travel Time (s)		13.1			39.3			16.1			16.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	80	983	13	3	946	9	16	1	2	13	2	105
Shared Lane Traffic (%)												
Lane Group Flow (vph)	80	983	13	3	946	9	16	3	0	13	107	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2		2	4			8		

Lanes, Volumes, Timings
3: Cortez Blvd & Main Str

10/27/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	20.0	20.0		20.0	20.0	
Total Split (s)	15.0	25.0	25.0	15.0	25.0	25.0	20.0	20.0		20.0	20.0	
Total Split (%)	25.0%	41.7%	41.7%	25.0%	41.7%	41.7%	33.3%	33.3%		33.3%	33.3%	
Maximum Green (s)	10.5	20.5	20.5	10.5	20.5	20.5	15.5	15.5		15.5	15.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	45.7	45.1	45.1	42.8	40.4	40.4	6.8	6.8		6.8	6.8	
Actuated g/C Ratio	0.76	0.75	0.75	0.71	0.67	0.67	0.11	0.11		0.11	0.11	
v/c Ratio	0.16	0.37	0.01	0.01	0.40	0.01	0.11	0.02		0.08	0.39	
Control Delay	3.3	4.9	0.0	3.0	7.6	0.0	24.5	18.3		23.9	10.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	3.3	4.9	0.0	3.0	7.6	0.0	24.5	18.3		23.9	10.8	
LOS	A	A	A	A	A	A	C	B		C	B	
Approach Delay		4.7			7.5			23.6			12.2	
Approach LOS		A			A			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 50 (83%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.40
 Intersection Signal Delay: 6.5
 Intersection Capacity Utilization 48.7%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

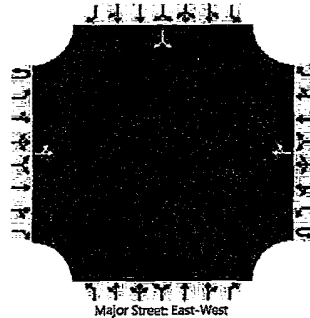
Splits and Phases: 3: Cortez Blvd & Main Str

15 s	25 s	20 s
15 s	25 s	20 s

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst		Intersection					
Agency/Co.		Jurisdiction					
Date Performed	9/23/2022	East/West Street	Powerline Rd				
Analysis Year	2022	North/South Street	Kettering Rd				
Time Analyzed	PM Peak	Peak Hour Factor	0.50				
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25				
Project Description	Peakseason Traffic and Existing/Budgeted Geometry						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		27	4				2	3						2		12
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

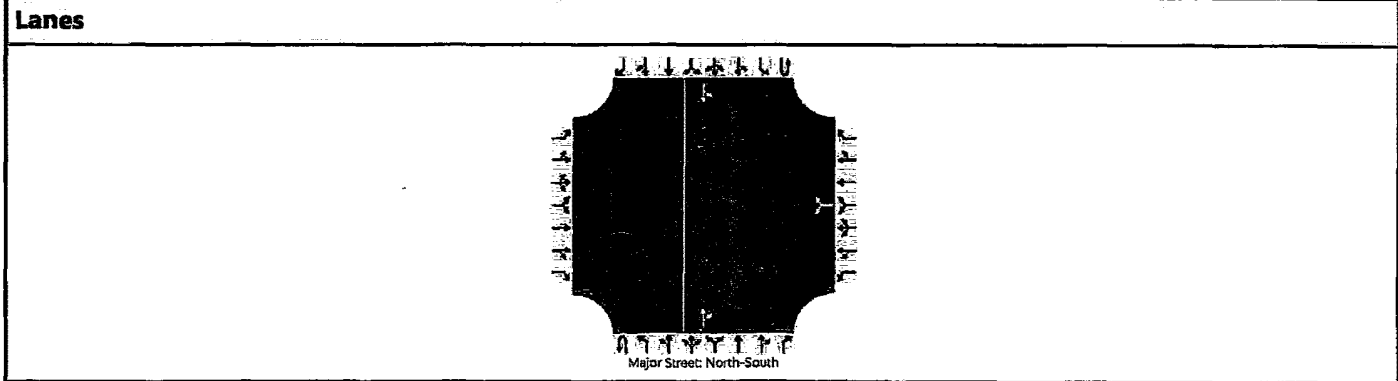
Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		54														28	
Capacity, c (veh/h)		1603														1032	
v/c Ratio		0.03														0.03	
95% Queue Length, Q ₉₅ (veh)		0.1														0.1	
Control Delay (s/veh)		7.3														8.6	
Level of Service (LOS)		A														A	
Approach Delay (s/veh)		6.4												8.6			
Approach LOS														A			

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst		Intersection	
Agency/Co.		Jurisdiction	
Date Performed	9/23/2022	East/West Street	Powerline Rd
Analysis Year	2022	North/South Street	Lockhart Rd
Time Analyzed	PM Peak	Peak Hour Factor	0.48
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Peakseason Traffic and Existing/Budgeted Geometry		



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0		0	1	0		0	1	0
Configuration							LR					TR			LT	
Volume (veh/h)						12		72			7	4		6	9	
Percent Heavy Vehicles (%)						3		3						3		
Proportion Time Blocked																
Percent Grade (%)							0									
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.43		6.23						4.13		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.53		3.33						2.23		

Delay, Queue Length, and Level of Service

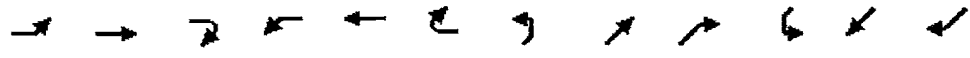
Flow Rate, v (veh/h)						175								13		
Capacity, c (veh/h)						1037								1586		
v/c Ratio						0.17								0.01		
95% Queue Length, Q ₉₅ (veh)						0.6								0.0		
Control Delay (s/veh)						9.2								7.3		
Level of Service (LOS)						A								A		
Approach Delay (s/veh)					9.2								3.0			
Approach LOS					A											

BACKGROUND WITH EXISTING/BUDGETED IMPROVEMENTS



Lanes, Volumes, Timings
 11: Cortez Blvd & East Jefferson St & Jasmine Dr

10/28/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NEB	SWL	SWT	SWR
Lane Configurations	↔	↕	↔	↔↕	↕	↔	↔	↕	↔	↔	↕	↔
Traffic Volume (vph)	13	446	13	758	451	26	7	176	907	35	131	4
Future Volume (vph)	13	446	13	758	451	26	7	176	907	35	131	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		300	400		400	400		0	300		0
Storage Lanes	1		1	2		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	1863	1583	1770	1855	0
Flt Permitted	0.950			0.950			0.554			0.433		
Satd. Flow (perm)	1770	3539	1583	3433	3539	1583	1032	1863	1583	807	1855	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			61			747		2	
Link Speed (mph)		45			45			45			30	
Link Distance (ft)		2005			1665			2021			1421	
Travel Time (s)		30.4			25.2			30.6			32.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	14	465	14	790	470	27	7	183	945	36	136	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	465	14	790	470	27	7	183	945	36	140	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Free	Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases			6			2	4		Free	8		

Lanes, Volumes, Timings

11: Cortez Blvd & East Jefferson St & Jasmine Dr

10/28/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	1	6	6	5	2	2	4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	10.0	25.0	25.0	35.0	50.0	50.0	30.0	30.0		30.0	30.0	
Total Split (%)	11.1%	27.8%	27.8%	38.9%	55.6%	55.6%	33.3%	33.3%		33.3%	33.3%	
Maximum Green (s)	6.0	21.0	21.0	31.0	46.0	46.0	26.0	26.0		26.0	26.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0	0	0	0		0	0	
Act Effct Green (s)	6.3	37.6	37.6	26.2	65.5	65.5	14.1	14.1	90.0	14.1	14.1	
Actuated g/C Ratio	0.07	0.42	0.42	0.29	0.73	0.73	0.16	0.16	1.00	0.16	0.16	
v/c Ratio	0.11	0.31	0.02	0.79	0.18	0.02	0.04	0.63	0.60	0.29	0.48	
Control Delay	40.8	20.2	0.1	35.3	5.2	0.5	30.1	44.5	1.7	37.7	38.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	40.8	20.2	0.1	35.3	5.2	0.5	30.1	44.5	1.7	37.7	38.6	
LOS	D	C	A	D	A	A	C	D	A	D	D	
Approach Delay		20.2			23.6			8.7			38.4	
Approach LOS		C			C			A			D	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 55 (61%), Referenced to phase 2:WBT and 6:EBT, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 18.4

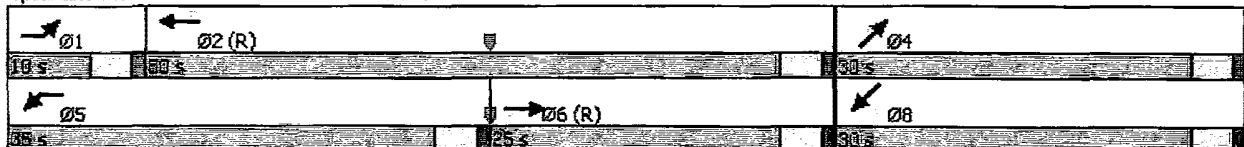
Intersection LOS: B

Intersection Capacity Utilization 60.7%

ICU Level of Service B

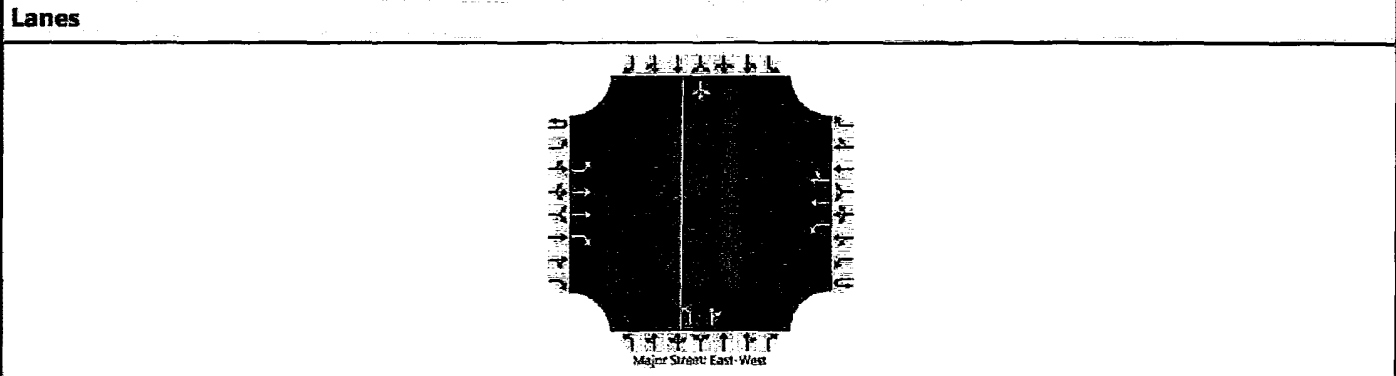
Analysis Period (min) 15

Splits and Phases: 11: Cortez Blvd & East Jefferson St & Jasmine Dr



HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst		Intersection					
Agency/Co.		Jurisdiction					
Date Performed	9/23/2022	East/West Street	Cortez Blvd				
Analysis Year	2035	North/South Street	Lockhart Rd				
Time Analyzed	PM Peak	Peak Hour Factor	0.96				
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25				
Project Description	Background Traffic and Existing/Budgeted Geometry						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	2	1	0	1	2	0		1	1	0		0	1	0
Configuration		L	T	R		L	T	TR		L		TR			LTR	
Volume (veh/h)	1	0	710	22	4	50	942	0		77	0	54		0	0	0
Percent Heavy Vehicles (%)	3	3			3	3				3	3	3		3	3	3
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized	No															
Median Type | Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)	6.4	4.1			6.4	4.1				7.5	6.5	6.9		7.5	6.5	6.9
Critical Headway (sec)	6.46	4.16			6.46	4.16				7.56	6.56	6.96		7.56	6.56	6.96
Base Follow-Up Headway (sec)	2.5	2.2			2.5	2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)	2.53	2.23			2.53	2.23				3.53	4.03	3.33		3.53	4.03	3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1				56				80		56				0
Capacity, c (veh/h)		339				786				226		624				
v/c Ratio		0.00				0.07				0.36		0.09				
95% Queue Length, Q ₉₅ (veh)		0.0				0.2				1.5		0.3				
Control Delay (s/veh)		15.7				9.9				29.5		11.3				
Level of Service (LOS)		C				A				D		B				
Approach Delay (s/veh)		0.0				0.5				22.0						
Approach LOS										C						

Lanes, Volumes, Timings
2: I-75 NB/I-75 SB & Cortez Blvd

12/09/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	777	111	305	918	205	147	0	546	191	0	362
Future Volume (vph)	182	777	111	305	918	205	147	0	546	191	0	362
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	435		0	620		0	0		545	0		650
Storage Lanes	2		1	1		1	3		2	3		2
Taper Length (ft)	50			100			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.94	1.00	0.88	0.94	1.00	0.88
Frnt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	4990	0	2787	4990	0	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	4990	0	2787	4990	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			295			295			461			369
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1000			840			750			850	
Travel Time (s)		15.2			12.7			17.0			19.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	186	793	113	311	937	209	150	0	557	195	0	369
Shared Lane Traffic (%)												
Lane Group Flow (vph)	186	793	113	311	937	209	150	0	557	195	0	369
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1		1	1		1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left		Right	Left		Right
Leading Detector (ft)	20	100	20	20	100	20	20		20	20		20
Trailing Detector (ft)	0	0	0	0	0	0	0		0	0		0
Detector 1 Position(ft)	0	0	0	0	0	0	0		0	0		0
Detector 1 Size(ft)	20	6	20	20	6	20	20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3			7		
Permitted Phases			2			6			8			4

Lanes, Volumes, Timings
2: I-75 NB/I-75 SB & Cortez Blvd

12/09/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	3		8	7		4
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	10.0		5.0	10.0		10.0
Minimum Split (s)	17.9	28.9	28.9	17.9	28.9	28.9	20.9		25.0	20.9		20.9
Total Split (s)	21.0	36.1	36.1	26.0	41.1	41.1	20.9		27.0	20.9		27.0
Total Split (%)	19.1%	32.8%	32.8%	23.6%	37.4%	37.4%	19.0%		24.5%	19.0%		24.5%
Maximum Green (s)	10.1	25.2	25.2	15.1	30.2	30.2	10.0		16.1	10.0		16.1
Yellow Time (s)	4.9	4.9	4.9	4.9	4.9	4.9	4.9		4.9	4.9		4.9
All-Red Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	10.9	10.9	10.9	10.9	10.9	10.9	10.9		10.9	10.9		10.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lead		Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	Min	Min	None	Min	Min	None		None	None		None
Act Effct Green (s)	9.5	22.0	22.0	13.4	25.9	25.9	10.0		11.7	10.0		11.7
Actuated g/C Ratio	0.09	0.22	0.22	0.13	0.26	0.26	0.10		0.12	0.10		0.12
v/c Ratio	0.58	0.72	0.20	0.68	0.72	0.33	0.30		0.76	0.39		0.57
Control Delay	52.7	41.0	0.8	50.7	37.8	2.0	45.6		16.3	46.6		8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	52.7	41.0	0.8	50.7	37.8	2.0	45.6		16.3	46.6		8.2
LOS	D	D	A	D	D	A	D		B	D		A
Approach Delay		38.8			35.4			22.5			21.5	
Approach LOS		D			D			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 101
 Natural Cycle: 95
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 31.9
 Intersection Capacity Utilization 59.2%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 2: I-75 NB/I-75 SB & Cortez Blvd

Ø1 26 s	Ø2 26.1 s	Ø3 20.9 s	Ø4 27 s
Ø5 21 s	Ø6 21.7 s	Ø7 20.9 s	Ø8 27 s

Lanes, Volumes, Timings
 3: Bronson Blvd./Windmere Rd. & Cortez Blvd

10/28/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	227	1081	219	98	1114	19	186	56	98	48	15	46
Future Volume (vph)	227	1081	219	98	1114	19	186	56	98	48	15	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	485		0	350		0	105		0	115		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	100			50			50			50		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.81	0.81	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.997			0.905			0.887	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	7521	0	1770	1686	0	1770	1652	0
Flt Permitted	0.130			0.238			0.715			0.654		
Satd. Flow (perm)	242	5085	1583	443	7521	0	1332	1686	0	1218	1652	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			231		3			82			48	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		840			700			700			800	
Travel Time (s)		12.7			10.6			15.9			18.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	239	1138	231	103	1173	20	196	59	103	51	16	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	1138	231	103	1193	0	196	162	0	51	64	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		10			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2		2	6			8			4		

Lanes, Volumes, Timings
 3: Bronson Blvd./Windmere Rd. & Cortez Blvd

10/28/2022

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	25.0	25.0	14.0	25.0		17.4	17.4		17.4	17.4	
Total Split (s)	31.0	51.0	51.0	18.0	38.0		41.0	41.0		41.0	41.0	
Total Split (%)	28.2%	46.4%	46.4%	16.4%	34.5%		37.3%	37.3%		37.3%	37.3%	
Maximum Green (s)	24.0	44.0	44.0	11.0	31.0		33.6	33.6		33.6	33.6	
Yellow Time (s)	4.9	4.9	4.9	4.9	4.9		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1		3.7	3.7		3.7	3.7	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.4	7.4		7.4	7.4	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	None	Min		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0							
Flash Dont Walk (s)		11.0	11.0		11.0							
Pedestrian Calls (#/hr)		0	0		0							
Act Effct Green (s)	41.2	30.8	30.8	30.1	21.9		17.2	17.2		17.2	17.2	
Actuated g/C Ratio	0.55	0.41	0.41	0.40	0.29		0.23	0.23		0.23	0.23	
v/c Ratio	0.59	0.54	0.29	0.32	0.54		0.64	0.36		0.18	0.15	
Control Delay	19.2	19.5	3.8	12.8	23.9		37.8	16.1		26.7	11.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	19.2	19.5	3.8	12.8	23.9		37.8	16.1		26.7	11.9	
LOS	B	B	A	B	C		D	B		C	B	
Approach Delay		17.2			23.0			28.0			18.4	
Approach LOS		B			C			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 74.7
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 20.6
 Intersection Capacity Utilization 69.4%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

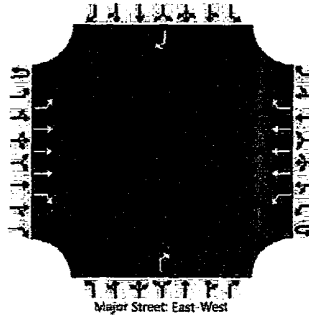
Splits and Phases: 3: Bronson Blvd./Windmere Rd. & Cortez Blvd



HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst				Intersection			
Agency/Co.				Jurisdiction			
Date Performed	9/23/2022			East/West Street	Cortez Blvd		
Analysis Year	2035			North/South Street	Parkland Ave		
Time Analyzed	PM Peak			Peak Hour Factor	0.94		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Background Traffic and Existing/Budgeted Geometry						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12	
Number of Lanes	0	1	3	1	0	1	3	1	0	0	1		0	0	1	
Configuration		L	T	R		L	T	R				R				R
Volume (veh/h)	8	15	1204	46	44	73	1127	48				35				25
Percent Heavy Vehicles (%)	3	3			3	3						3				3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)	5.6	5.3			5.6	5.3						7.1				7.1
Critical Headway (sec)	5.66	5.36			5.66	5.36						7.16				7.16
Base Follow-Up Headway (sec)	2.3	3.1			2.3	3.1						3.9				3.9
Follow-Up Headway (sec)	2.33	3.13			2.33	3.13						3.93				3.93

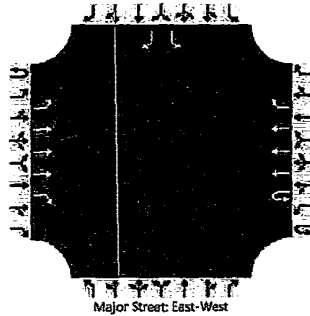
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		24				124						37				27
Capacity, c (veh/h)		338				311						356				379
v/c Ratio		0.07				0.40						0.10				0.07
95% Queue Length, Q ₉₅ (veh)		0.2				1.9						0.3				0.2
Control Delay (s/veh)		16.5				24.1						16.3				15.2
Level of Service (LOS)		C				C						C				C
Approach Delay (s/veh)	0.3				2.2				16.3				15.2			
Approach LOS	C				C				C				C			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst				Intersection			
Agency/Co.				Jurisdiction			
Date Performed	9/23/2022			East/West Street	Cortez Blvd		
Analysis Year	2035			North/South Street	Sherman Hills Realignment		
Time Analyzed	PM Peak			Peak Hour Factor	0.95		
Intersection Orientation	East-West			Analysis Time Period (hrs)	0.25		
Project Description	Background Traffic and Existing/Budgeted Geometry						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12		
Priority																	
Number of Lanes	0	1	3	1	1	0	3	1	0	0	0		1	0	1		
Configuration		L	T	R	U		T	R					L		R		
Volume (veh/h)	0	170	1291	0	0		1161	37					72		2		
Percent Heavy Vehicles (%)	3	3			3								3		3		
Proportion Time Blocked																	
Percent Grade (%)															0		
Right Turn Channelized		No				No								No			
Median Type | Storage		Left + Thru										1					

Critical and Follow-up Headways

Base Critical Headway (sec)		5.3			5.6									6.4		7.1
Critical Headway (sec)		5.36			5.66									6.46		7.16
Base Follow-Up Headway (sec)		3.1			2.3									3.8		3.9
Follow-Up Headway (sec)		3.13			2.33									3.83		3.93

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		179			0									76		2
Capacity, c (veh/h)		290			440									66		372
v/c Ratio		0.62			0.00									1.16		0.01
95% Queue Length, Q_{95} (veh)		3.8			0.0									6.0		0.0
Control Delay (s/veh)		35.6			13.2									267.4		14.7
Level of Service (LOS)		E			B									F		B
Approach Delay (s/veh)		4.1			0.0								260.6			
Approach LOS													F			

Lanes, Volumes, Timings

1: Kettering Rd./Croom Rital Rd. & Cortez Blvd

10/28/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	810	442	148	714	18	454	2	164	9	2	6
Future Volume (vph)	39	810	442	148	714	18	454	2	164	9	2	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		1000	540		440	0		470	0		0
Storage Lanes	1		1	1		1	0		1	0		0
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fr			0.850			0.850			0.850		0.952	
Flt Protected	0.950			0.950				0.953			0.974	
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	0	1775	1583	0	1727	0
Flt Permitted	0.950			0.950				0.715			0.763	
Satd. Flow (perm)	1770	5085	1583	1770	5085	1583	0	1332	1583	0	1353	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			460			238			171		6	
Link Speed (mph)		45			45			55			35	
Link Distance (ft)		2060			10277			1000			500	
Travel Time (s)		31.2			155.7			12.4			9.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	41	844	460	154	744	19	473	2	171	9	2	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	844	460	154	744	19	0	475	171	0	17	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2		7	4			8	
Permitted Phases			6			2	4		4	8		

Lanes, Volumes, Timings

1: Kettering Rd./Croom Rital Rd. & Cortez Blvd

10/28/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	7	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	30.0	30.0	5.0	30.0	30.0	5.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	12.5	37.5	37.5	12.5	37.5	37.5	13.1	16.1	16.1	16.1	16.1	
Total Split (s)	14.0	38.6	38.6	16.4	41.0	41.0	13.1	40.0	40.0	26.9	26.9	
Total Split (%)	14.7%	40.6%	40.6%	17.3%	43.2%	43.2%	13.8%	42.1%	42.1%	28.3%	28.3%	
Maximum Green (s)	6.5	31.1	31.1	8.9	33.5	33.5	5.0	31.9	31.9	18.8	18.8	
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.6	2.6	2.6	2.6	2.6	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5		8.1	8.1		8.1	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0						
Flash Dont Walk (s)		11.0	11.0		11.0	11.0						
Pedestrian Calls (#/hr)		0	0		0	0						
Act Effct Green (s)	6.3	30.2	30.2	8.9	38.2	38.2		31.9	31.9		31.9	
Actuated g/C Ratio	0.07	0.32	0.32	0.09	0.41	0.41		0.34	0.34		0.34	
v/c Ratio	0.35	0.52	0.56	0.92	0.36	0.02		1.05	0.26		0.04	
Control Delay	50.4	27.4	5.3	96.9	21.2	0.1		89.5	4.8		16.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	
Total Delay	50.4	27.4	5.3	96.9	21.2	0.1		89.5	4.8		16.8	
LOS	D	C	A	F	C	A		F	A		B	
Approach Delay		20.5			33.5			67.0			16.8	
Approach LOS		C			C			E			B	

Intersection Summary

Area Type: Other
 Cycle Length: 95
 Actuated Cycle Length: 94.1
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.05
 Intersection Signal Delay: 34.8
 Intersection Capacity Utilization 84.4%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service E

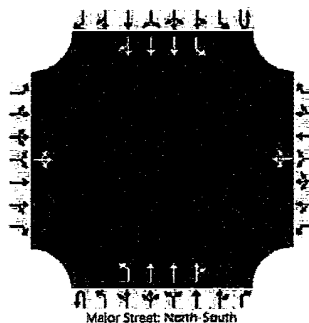
Splits and Phases: 1: Kettering Rd./Croom Rital Rd. & Cortez Blvd



HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst		Intersection		Jurisdiction			
Agency/Co.		East/West Street	Ridge Manor Blvd	North/South Street	Cortez Blvd		
Date Performed	9/23/2022	Peak Hour Factor	0.97	Analysis Time Period (hrs)	0.25		
Analysis Year	2035						
Time Analyzed	PM Peak						
Intersection Orientation	North-South						
Project Description	Background Traffic and Existing/Budgeted Geometry						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound				
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R	
Movement																	
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6	
Number of Lanes		0	1	0		0	1	0	0	1	3	0	0	1	3	0	
Configuration			LTR				LTR			L	T	TR		L	T	TR	
Volume (veh/h)		4	2	5		4	0	70	0	2	703	7	0	145	696	0	
Percent Heavy Vehicles (%)		3	3	3		3	3	3	3	3			3	3			
Proportion Time Blocked																	
Percent Grade (%)		0				0											
Right Turn Channelized																	
Median Type | Storage		Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)		6.4	6.5	7.1		6.4	6.5	7.1		5.3				5.3			
Critical Headway (sec)		6.46	6.56	7.16		6.46	6.56	7.16		5.36				5.36			
Base Follow-Up Headway (sec)		3.8	4.0	3.9		3.8	4.0	3.9		3.1				3.1			
Follow-Up Headway (sec)		3.83	4.03	3.93		3.83	4.03	3.93		3.13				3.13			

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			11			76				2				149			
Capacity, c (veh/h)			196			489				531				523			
v/c Ratio			0.06			0.16				0.00				0.29			
95% Queue Length, Q ₉₅ (veh)			0.2			0.5				0.0				1.2			
Control Delay (s/veh)			24.5			13.7				11.8				14.6			
Level of Service (LOS)			C			B				B				B			
Approach Delay (s/veh)		24.5				13.7				0.0				2.5			
Approach LOS		C				B											

Lanes, Volumes, Timings
 8: McKethan Rd & Cortez Blvd/SR 50

10/28/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	393	271	27	372	7	332	46	9	5	15	6
Future Volume (vph)	22	393	271	27	372	7	332	46	9	5	15	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		800	500		400	400		200	400		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.959	
Fit Protected	0.950			0.950			0.950	0.964		0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1681	1706	1583	1770	1786	0
Fit Permitted	0.423			0.503			0.565	0.582		0.950		
Satd. Flow (perm)	788	5085	1583	937	5085	1583	1000	1030	1583	1770	1786	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			282			112			112		6	
Link Speed (mph)		45			30			30			30	
Link Distance (ft)		10277			1013			1273			1001	
Travel Time (s)		155.7			23.0			28.9			22.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	23	409	282	28	388	7	346	48	9	5	16	6
Shared Lane Traffic (%)							43%					
Lane Group Flow (vph)	23	409	282	28	388	7	197	9	9	5	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6	7	3	8	1	7	4	
Permitted Phases	2		2	6		6	8		8			

Lanes, Volumes, Timings
 8: McKethan Rd & Cortez Blvd/SR 50

10/28/2022

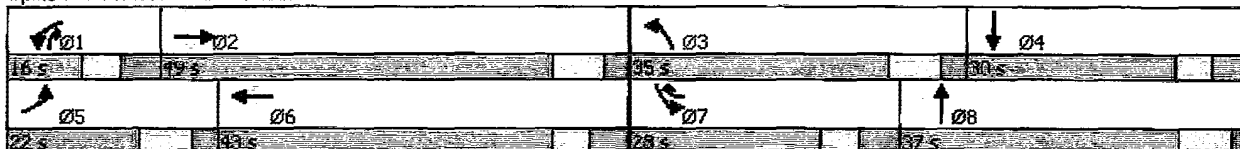
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	7	3	8	1	7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	20.0	27.7	27.7	13.2	26.2	26.2	27.7	25.7	13.2	26.2	26.2	
Total Split (s)	22.0	49.0	49.0	16.0	43.0	28.0	35.0	37.0	16.0	28.0	30.0	
Total Split (%)	16.9%	37.7%	37.7%	12.3%	33.1%	21.5%	26.9%	28.5%	12.3%	21.5%	23.1%	
Maximum Green (s)	13.8	40.8	40.8	7.8	34.8	19.8	26.8	29.3	7.8	19.8	21.8	
Yellow Time (s)	5.5	5.5	5.5	4.0	4.0	4.0	5.5	5.5	4.0	4.0	4.0	
All-Red Time (s)	2.7	2.7	2.7	4.2	4.2	4.2	2.7	2.2	4.2	4.2	4.2	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.2	8.2	8.2	8.2	8.2	8.2	8.2	7.7	8.2	8.2	8.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max	Max	None	Max	Max	Max	None	None	Max	Max	
Act Effct Green (s)	55.8	47.5	47.5	41.4	34.8	62.8	55.6	56.6	43.6	19.8	21.8	
Actuated g/C Ratio	0.43	0.37	0.37	0.32	0.27	0.48	0.43	0.44	0.34	0.15	0.17	
v/c Ratio	0.05	0.22	0.37	0.08	0.29	0.01	0.35	0.33	0.01	0.02	0.07	
Control Delay	21.3	30.2	5.1	22.5	38.4	0.0	25.4	24.9	0.0	47.2	37.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	21.3	30.2	5.1	22.5	38.4	0.0	25.4	24.9	0.0	47.2	37.2	
LOS	C	C	A	C	D	A	C	C	A	D	D	
Approach Delay		20.0			36.7			24.6			39.0	
Approach LOS		B			D			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.37
 Intersection Signal Delay: 26.0
 Intersection Capacity Utilization 48.9%
 Analysis Period (min) 15
























Intersection LOS: C
 ICU Level of Service A

Splits and Phases: 8: McKethan Rd & Cortez Blvd/SR 50



Lanes, Volumes, Timings
18: US 301 & Cortez Blvd

10/28/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	251	56	72	266	19	55	263	53	14	184	54
Future Volume (vph)	61	251	56	72	266	19	55	263	53	14	184	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	300		0	200		300	300		300
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frnt			0.850		0.990					0.850		0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3504	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.558			0.573			0.495			0.527		
Satd. Flow (perm)	1039	3539	1583	1067	3504	0	922	1863	1583	982	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			146		5				83			83
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		6987			1760			1365			907	
Travel Time (s)		105.9			26.7			20.7			13.7	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	69	282	63	81	299	21	62	296	60	16	207	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	69	282	63	81	320	0	62	296	60	16	207	61
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2		2	6			8		8	4		4

Lanes, Volumes, Timings
18: US 301 & Cortez Blvd

10/28/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6		3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.3	24.8	24.8	12.3	24.8		11.8	25.7	12.3	11.8	25.7	12.3
Total Split (s)	35.0	35.0	35.0	35.0	35.0		35.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)	25.0%	25.0%	25.0%	25.0%	25.0%		25.0%	25.0%	25.0%	25.0%	25.0%	25.0%
Maximum Green (s)	27.7	28.2	28.2	27.7	28.2		28.2	27.3	27.7	28.2	27.3	27.7
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8		4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0		2.0	2.9	2.5	2.0	2.9	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.8	6.8	7.3	6.8		6.8	7.7	7.3	6.8	7.7	7.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effect Green (s)	35.0	29.5	29.5	35.5	29.8		27.7	23.7	39.8	23.0	17.4	33.3
Actuated g/C Ratio	0.41	0.35	0.35	0.42	0.35		0.33	0.28	0.47	0.27	0.21	0.39
v/c Ratio	0.14	0.23	0.10	0.16	0.26		0.16	0.57	0.08	0.05	0.54	0.09
Control Delay	15.4	24.2	0.3	15.4	23.8		19.9	33.1	2.2	18.8	38.2	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.4	24.2	0.3	15.4	23.8		19.9	33.1	2.2	18.8	38.2	2.7
LOS	B	C	A	B	C		B	C	A	B	D	A
Approach Delay		19.1			22.1			26.7			29.4	
Approach LOS		B			C			C			C	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 84.7

Natural Cycle: 75

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.57

Intersection Signal Delay: 23.9

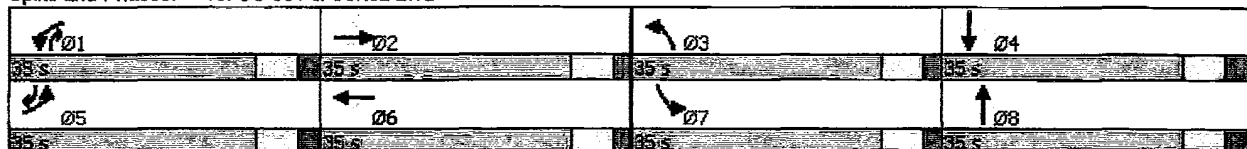
Intersection LOS: C

Intersection Capacity Utilization 54.0%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 18: US 301 & Cortez Blvd



Lanes, Volumes, Timings
3: Cortez Blvd & Main Str

10/28/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	1177	15	3	1133	11	19	1	2	15	2	126
Future Volume (vph)	95	1177	15	3	1133	11	19	1	2	15	2	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.900			0.852	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1676	0	1770	1587	0
Flt Permitted	0.158			0.207			0.678			0.756		
Satd. Flow (perm)	294	3539	1583	386	3539	1583	1263	1676	0	1408	1587	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			109		2			133	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		862			2594			709			741	
Travel Time (s)		13.1			39.3			16.1			16.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	100	1239	16	3	1193	12	20	1	2	16	2	133
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	1239	16	3	1193	12	20	3	0	16	135	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2		2	4			8		

Lanes, Volumes, Timings
3: Cortez Blvd & Main Str

10/28/2022

	↖	→	↘	↙	←	↖	↙	↑	↘	↓	↙	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	20.0	20.0		20.0	20.0	
Total Split (s)	15.0	25.0	25.0	15.0	25.0	25.0	20.0	20.0		20.0	20.0	
Total Split (%)	25.0%	41.7%	41.7%	25.0%	41.7%	41.7%	33.3%	33.3%		33.3%	33.3%	
Maximum Green (s)	10.5	20.5	20.5	10.5	20.5	20.5	15.5	15.5		15.5	15.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	45.6	44.9	44.9	41.4	37.9	37.9	7.0	7.0		7.0	7.0	
Actuated g/C Ratio	0.76	0.75	0.75	0.69	0.63	0.63	0.12	0.12		0.12	0.12	
v/c Ratio	0.26	0.47	0.01	0.01	0.53	0.01	0.14	0.02		0.10	0.45	
Control Delay	4.4	5.8	0.0	3.0	10.0	0.0	24.8	18.0		23.8	10.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	4.4	5.8	0.0	3.0	10.0	0.0	24.8	18.0		23.8	10.4	
LOS	A	A	A	A	B	A	C	B		C	B	
Approach Delay		5.6			9.9			23.9			11.9	
Approach LOS		A			A			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 50 (83%), Referenced to phase 2:WBT and 6:EBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.53
 Intersection Signal Delay: 8.0
 Intersection Capacity Utilization 63.7%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service B

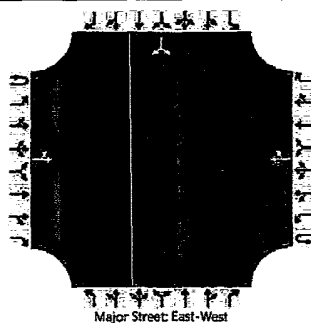
Splits and Phases: 3: Cortez Blvd & Main Str



HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst		Intersection	
Agency/Co.		Jurisdiction	
Date Performed	9/23/2022	East/West Street	Powerline Rd
Analysis Year	2035	North/South Street	Kettering Rd
Time Analyzed	PM Peak	Peak Hour Factor	0.50
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Background Traffic and Existing/Budgeted Geometry		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration		LT						TR							LR	
Volume (veh/h)		81	5				2	4						2		90
Percent Heavy Vehicles (%)		3												3		3
Proportion Time Blocked																
Percent Grade (%)														0		
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1												7.1		6.2
Critical Headway (sec)		4.13												6.43		6.23
Base Follow-Up Headway (sec)		2.2												3.5		3.3
Follow-Up Headway (sec)		2.23												3.53		3.33

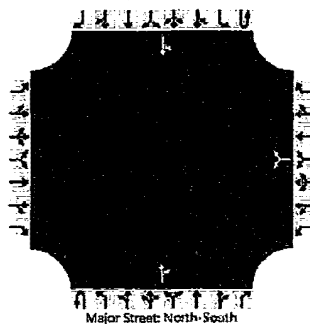
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		162														184	
Capacity, c (veh/h)		1600														1052	
v/c Ratio		0.10														0.17	
95% Queue Length, Q ₉₅ (veh)		0.3														0.6	
Control Delay (s/veh)		7.5														9.1	
Level of Service (LOS)		A														A	
Approach Delay (s/veh)		7.1												9.1			
Approach LOS		A												A			

HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst		Intersection		Agency/Co.		Jurisdiction	
Date Performed	9/23/2022	East/West Street	Powerline Rd	Analysis Year	2035	North/South Street	Lockhart Rd
Time Analyzed	PM Peak	Peak Hour Factor	0.48	Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Background Traffic and Existing/Budgeted Geometry						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0		0	1	0		0	1	0
Configuration							LR					TR			LT	
Volume (veh/h)						15		91			9	5			8	11
Percent Heavy Vehicles (%)						3		3							3	
Proportion Time Blocked																
Percent Grade (%)							0									
Right Turn Channelized																
Median Type | Storage							Undivided									

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2							4.1	
Critical Headway (sec)						6.43		6.23							4.13	
Base Follow-Up Headway (sec)						3.5		3.3							2.2	
Follow-Up Headway (sec)						3.53		3.33							2.23	

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						221									17	
Capacity, c (veh/h)						1027									1577	
v/c Ratio						0.21									0.01	
95% Queue Length, Q ₉₅ (veh)						0.8									0.0	
Control Delay (s/veh)						9.5									7.3	
Level of Service (LOS)						A									A	
Approach Delay (s/veh)						9.5									3.1	
Approach LOS						A										




















BACKGROUND WITH REQUIRED IMPROVEMENTS



LINCKS & ASSOCIATES, INC.

Lanes, Volumes, Timings
23: Cortez Blvd & Sherman Hills Realignment

10/28/2022

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	170	1291	0	0	0	1161	37	0	0	0	72	0
Future Volume (vph)	170	1291	0	0	0	1161	37	0	0	0	72	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		300		600		485	0		0	0	
Storage Lanes	1		1		1		1	0		0	1	
Taper Length (ft)	25				25			25			25	
Lane Util. Factor	1.00	0.91	1.00	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00
Fit Protected	0.950										0.950	
Satd. Flow (prot)	1770	5085	1863	1863	0	5085	1583	0	0	0	1770	0
Fit Permitted	0.950										0.950	
Satd. Flow (perm)	1770	5085	1863	1863	0	5085	1583	0	0	0	1770	0
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)							96					
Link Speed (mph)		45				45			30			30
Link Distance (ft)		635				2060			109			832
Travel Time (s)		9.6				31.2			2.5			18.9
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	179	1359	0	0	0	1222	39	0	0	0	76	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	179	1359	0	0	0	1222	39	0	0	0	76	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	RNA	Left	Left	Right	Left	Left	Right	Left	Left
Median Width(ft)		12				12			12			12
Link Offset(ft)		0				0			0			0
Crosswalk Width(ft)		16				16			16			16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	9	15		9	15		9	15	
Number of Detectors	1	2	1	1		2	1				1	
Detector Template	Left	Thru	Right	Left		Thru	Right				Left	
Leading Detector (ft)	20	100	20	20		100	20				20	
Trailing Detector (ft)	0	0	0	0		0	0				0	
Detector 1 Position(ft)	0	0	0	0		0	0				0	
Detector 1 Size(ft)	20	6	20	20		6	20				20	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex				Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0		0.0	0.0				0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0		0.0	0.0				0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0		0.0	0.0				0.0	
Detector 2 Position(ft)		94				94						
Detector 2 Size(ft)		6				6						
Detector 2 Type		Cl+Ex				Cl+Ex						
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0						
Turn Type	Prot	NA	Perm	Perm		NA	Perm				Prot	
Protected Phases	7	4				8					6	
Permitted Phases			4	8			8					

Lanes, Volumes, Timings
23: Cortez Blvd & Sherman Hills Realignment

10/28/2022

Lane Group	SBR
Lane Configurations	7
Traffic Volume (vph)	2
Future Volume (vph)	2
Ideal Flow (vphpl)	1900
Storage Length (ft)	0
Storage Lanes	1
Taber Length (ft)	
Lane Util. Factor	1.00
Frt	0.850
Flt Protected	
Satd. Flow (prot)	1583
Flt Permitted	
Satd. Flow (perm)	1583
Right Turn on Red	Yes
Satd. Flow (RTOR)	92
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	0.95
Adj. Flow (vph)	2
Shared Lane Traffic (%)	
Lane Group Flow (vph)	2
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Turning Speed (mph)	9
Number of Detectors	1
Detector Template	Right
Leading Detector (ft)	20
Trailing Detector (ft)	.0
Detector 1 Position(ft)	0
Detector 1 Size(ft)	20
Detector 1 Type	Cl+Ex
Detector 1 Channel	
Detector 1 Extend (s)	0.0
Detector 1 Queue (s)	0.0
Detector 1 Delay (s)	0.0
Detector 2 Position(ft)	
Detector 2 Size(ft)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	Perm
Protected Phases	
Permitted Phases	6

Lanes, Volumes, Timings
 23: Cortez Blvd & Sherman Hills Realignment

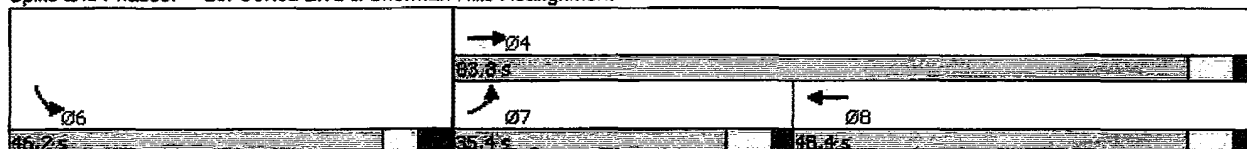
10/28/2022

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Detector Phase	7	4	4	8		8	8				6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0		5.0	5.0				5.0	
Minimum Split (s)	12.0	25.0	25.0	25.0		25.0	25.0				25.4	
Total Split (s)	35.4	83.8	83.8	48.4		48.4	48.4				46.2	
Total Split (%)	27.2%	64.5%	64.5%	37.2%		37.2%	37.2%				35.5%	
Maximum Green (s)	28.4	76.8	76.8	41.4		41.4	41.4				38.8	
Yellow Time (s)	4.9	4.9	4.9	4.9		4.9	4.9				3.7	
All-Red Time (s)	2.1	2.1	2.1	2.1		2.1	2.1				3.7	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0	0.0				0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0		7.0	7.0				7.4	
Lead/Lag	Lead			Lag		Lag	Lag					
Lead-Lag Optimize?	Yes			Yes		Yes	Yes					
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0	3.0				3.0	
Recall Mode	None	None	None	None		None	None				Min	
Walk Time (s)		7.0	7.0	7.0		7.0	7.0				7.0	
Flash Dont Walk (s)		11.0	11.0	11.0		11.0	11.0				11.0	
Pedestrian Calls (#/hr)		0	0	0		0	0				0	
Act Effct Green (s)	13.6	47.8				26.9	26.9				9.1	
Actuated g/C Ratio	0.19	0.67				0.37	0.37				0.13	
v/c Ratio	0.53	0.40				0.64	0.06				0.34	
Control Delay	34.5	5.8				20.4	0.2				36.2	
Queue Delay	0.0	0.0				0.0	0.0				0.0	
Total Delay	34.5	5.8				20.4	0.2				36.2	
LOS	C	A				C	A				D	
Approach Delay		9.1				19.8						35.3
Approach LOS		A				B						D

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 71.8
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 14.5
 Intersection Capacity Utilization 50.8%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 23: Cortez Blvd & Sherman Hills Realignment



Lanes, Volumes, Timings
 23: Cortez Blvd & Sherman Hills Realignment

10/28/2022

Lane Group	SBR
Detector Phase	6
Switch Phase	
Minimum Initial (s)	5.0
Minimum Split (s)	25.4
Total Split (s)	46.2
Total Split (%)	35.5%
Maximum Green (s)	38.8
Yellow Time (s)	3.7
All-Red Time (s)	3.7
Lost Time Adjust (s)	0.0
Total Lost Time (s)	7.4
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	3.0
Recall Mode	Min
Walk Time (s)	7.0
Flash Dont Walk (s)	11.0
Pedestrian Calls (#/hr)	0
Act Effct Green (s)	9.1
Actuated g/C Ratio	0.13
v/c Ratio	0.01
Control Delay	0.0
Queue Delay	0.0
Total Delay	0.0
LOS	A
Approach Delay	
Approach LOS	
Intersection Summary	

Lanes, Volumes, Timings

1: Kettering Rd./Croom Rital Rd. & Cortez Blvd

10/28/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	810	442	148	714	18	454	2	164	9	2	6
Future Volume (vph)	39	810	442	148	714	18	454	2	164	9	2	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		1000	540		440	0		470	0		0
Storage Lanes	1		1	2		1	2		1	0		0
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.952	
Flt Protected	0.950			0.950			0.950				0.974	
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3433	1863	1583	0	1727	0
Flt Permitted	0.950			0.950			0.950					
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583	3433	1863	1583	0	1773	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			460			238			171		6	
Link Speed (mph)		45			45			55			35	
Link Distance (ft)		2060			10277			1000			500	
Travel Time (s)		31.2			155.7			12.4			9.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	41	844	460	154	744	19	473	2	171	9	2	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	844	460	154	744	19	473	2	171	0	17	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2		7	4			8	
Permitted Phases			6			2			4	8		

Lanes, Volumes, Timings

1: Kettering Rd./Croom Rital Rd. & Cortez Blvd

10/28/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	7	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	30.0	30.0	5.0	30.0	30.0	5.0	8.0	8.0	8.0	8.0	
Minimum Split (s)	12.5	37.5	37.5	12.5	37.5	37.5	13.1	16.1	16.1	16.1	16.1	
Total Split (s)	14.0	37.9	37.9	15.0	38.9	38.9	26.0	42.1	42.1	16.1	16.1	
Total Split (%)	14.7%	39.9%	39.9%	15.8%	40.9%	40.9%	27.4%	44.3%	44.3%	16.9%	16.9%	
Maximum Green (s)	6.5	30.4	30.4	7.5	31.4	31.4	17.9	34.0	34.0	8.0	8.0	
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.6	2.6	2.6	2.6	2.6	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	8.1	8.1	8.1		8.1	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	
Walk Time (s)		7.0	7.0		7.0	7.0						
Flash Dont Walk (s)		11.0	11.0		11.0	11.0						
Pedestrian Calls (#/hr)		0	0		0	0						
Act Effct Green (s)	6.3	30.5	30.5	7.4	37.7	37.7	15.3	20.9	20.9		8.1	
Actuated g/C Ratio	0.08	0.37	0.37	0.09	0.46	0.46	0.19	0.25	0.25		0.10	
v/c Ratio	0.30	0.45	0.53	0.50	0.32	0.02	0.74	0.00	0.32		0.09	
Control Delay	45.7	22.0	4.9	44.0	18.1	0.1	40.5	20.0	5.2		32.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay	45.7	22.0	4.9	44.0	18.1	0.1	40.5	20.0	5.2		32.3	
LOS	D	C	A	D	B	A	D	B	A		C	
Approach Delay		16.9			22.1			31.1			32.3	
Approach LOS		B			C			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 95
 Actuated Cycle Length: 82.3
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 21.7
 Intersection Capacity Utilization 68.1%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 1: Kettering Rd./Croom Rital Rd. & Cortez Blvd



BACKGROUND PLUS PROJECT WITH REQUIRED IMPROVEMENTS FOR
BACKGROUND



Lanes, Volumes, Timings
 11: Cortez Blvd & East Jefferson St & Jasmine Dr

10/28/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	13	504	13	826	490	30	7	176	1009	41	131	4
Future Volume (vph)	13	504	13	826	490	30	7	176	1009	41	131	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		300	400		400	400		0	300		0
Storage Lanes	1		1	2		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frnt			0.850			0.850			0.850		0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	3433	3539	1583	1770	1863	1583	1770	1855	0
Flt Permitted	0.950			0.950			0.554			0.433		
Satd. Flow (perm)	1770	3539	1583	3433	3539	1583	1032	1863	1583	807	1855	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			61			730		2	
Link Speed (mph)		45			45			45			30	
Link Distance (ft)		2005			1665			2021			1421	
Travel Time (s)		30.4			25.2			30.6			32.3	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	14	525	14	860	510	31	7	183	1051	43	136	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	525	14	860	510	31	7	183	1051	43	140	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Free	Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases			6			2	4		Free	8		

Lanes, Volumes, Timings

11: Cortez Blvd & East Jefferson St & Jasmine Dr

10/28/2022

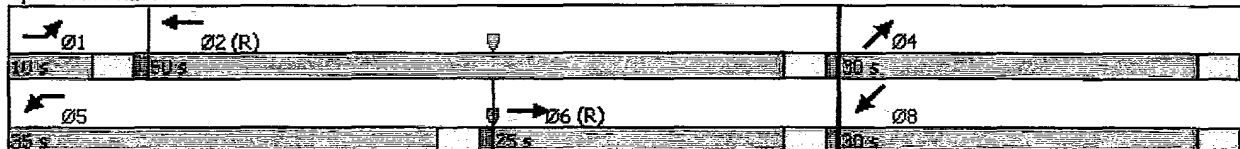


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Detector Phase	1	6	6	5	2	2	4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5		22.5	22.5	
Total Split (s)	10.0	25.0	25.0	35.0	50.0	50.0	30.0	30.0		30.0	30.0	
Total Split (%)	11.1%	27.8%	27.8%	38.9%	55.6%	55.6%	33.3%	33.3%		33.3%	33.3%	
Maximum Green (s)	6.0	21.0	21.0	31.0	46.0	46.0	26.0	26.0		26.0	26.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)		0	0		0	0	0	0		0	0	
Act Effct Green (s)	6.3	35.8	35.8	28.1	65.5	65.5	14.1	14.1	90.0	14.1	14.1	
Actuated g/C Ratio	0.07	0.40	0.40	0.31	0.73	0.73	0.16	0.16	1.00	0.16	0.16	
v/c Ratio	0.11	0.37	0.02	0.80	0.20	0.03	0.04	0.63	0.66	0.34	0.48	
Control Delay	40.8	22.1	0.1	34.5	5.2	0.8	30.1	44.5	2.2	39.8	38.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	40.8	22.1	0.1	34.5	5.2	0.8	30.1	44.5	2.2	39.8	38.6	
LOS	D	C	A	C	A	A	C	D	A	D	D	
Approach Delay		22.0			23.1			8.6			38.9	
Approach LOS		C			C			A			D	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 55 (61%), Referenced to phase 2:WBT and 6:EBT, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 18.4
 Intersection Capacity Utilization 64.3%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service C

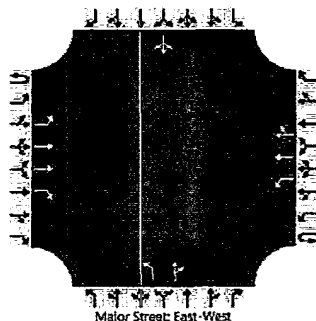
Splits and Phases: 11: Cortez Blvd & East Jefferson St & Jasmine Dr



HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst		Intersection	
Agency/Co.		Jurisdiction	
Date Performed	9/23/2022	East/West Street	Cortez Blvd
Analysis Year	2035	North/South Street	Lockhart Rd
Time Analyzed	PM Peak	Peak Hour Factor	0.96
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Bck +Prj and req bck Impr		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6	7	8	9		10	11	12	
Priority																
Number of Lanes	0	1	2	1	0	1	2	0	1	1	0		0	1	0	
Configuration		L	T	R		L	T	TR		L		TR			LTR	
Volume (veh/h)	1	0	117	22	4	102	1217	0	77	0	130		0	0	0	
Percent Heavy Vehicles (%)	3	3			3	3			3	3	3		3	3	3	
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized	No															
Median Type | Storage					Left + Thru								1			

Critical and Follow-up Headways

Base Critical Headway (sec)	6.4	4.1			6.4	4.1			7.5	6.5	6.9		7.5	6.5	6.9	
Critical Headway (sec)	6.46	4.16			6.46	4.16			7.56	6.56	6.96		7.56	6.56	6.96	
Base Follow-Up Headway (sec)	2.5	2.2			2.5	2.2			3.5	4.0	3.3		3.5	4.0	3.3	
Follow-Up Headway (sec)	2.53	2.23			2.53	2.23			3.53	4.03	3.33		3.53	4.03	3.33	

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		1			110				80		135				0	
Capacity, c (veh/h)		221			534				115		454					
v/c Ratio		0.00			0.21				0.70		0.30					
95% Queue Length, Q ₉₅ (veh)		0.0			0.8				3.7		1.2					
Control Delay (s/veh)		21.4			13.5				88.0		16.3					
Level of Service (LOS)		C			B				F		C					
Approach Delay (s/veh)	0.0				1.1				43.0							
Approach LOS									E							

Lanes, Volumes, Timings
2: I-75 NB/I-75 SB & Cortez Blvd

12/09/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	1385	111	450	1563	304	147	0	959	483	0	362
Future Volume (vph)	182	1385	111	450	1563	304	147	0	959	483	0	362
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	435		0	620		0	0		545	0		650
Storage Lanes	2		1	1		1	3		2	3		2
Taper Length (ft)	50			100			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.94	1.00	0.88	0.94	1.00	0.88
Fr			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	5085	1583	4990	0	2787	4990	0	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	5085	1583	3433	5085	1583	4990	0	2787	4990	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			295			295			305			354
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1000			840			750			850	
Travel Time (s)		15.2			12.7			17.0			19.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	186	1413	113	459	1595	310	150	0	979	493	0	369
Shared Lane Traffic (%)												
Lane Group Flow (vph)	186	1413	113	459	1595	310	150	0	979	493	0	369
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1		1	1		1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left		Right	Left		Right
Leading Detector (ft)	20	100	20	20	100	20	20		20	20		20
Trailing Detector (ft)	0	0	0	0	0	0	0		0	0		0
Detector 1 Position(ft)	0	0	0	0	0	0	0		0	0		0
Detector 1 Size(ft)	20	6	20	20	6	20	20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3			7		
Permitted Phases			2			6			8			4

Lanes, Volumes, Timings
2: I-75 NB/I-75 SB & Cortez Blvd

12/09/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	6	3		8	7		4
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	10.0		5.0	10.0		10.0
Minimum Split (s)	17.9	28.9	28.9	17.9	28.9	28.9	20.9		25.0	20.9		20.9
Total Split (s)	17.9	38.0	38.0	21.0	41.1	41.1	20.9		30.0	21.0		30.1
Total Split (%)	16.3%	34.5%	34.5%	19.1%	37.4%	37.4%	19.0%		27.3%	19.1%		27.4%
Maximum Green (s)	7.0	27.1	27.1	10.1	30.2	30.2	10.0		19.1	10.1		19.2
Yellow Time (s)	4.9	4.9	4.9	4.9	4.9	4.9	4.9		4.9	4.9		4.9
All-Red Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0		6.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	10.9	10.9	10.9	10.9	10.9	10.9	10.9		10.9	10.9		10.9
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead		Lag	Lead		Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0
Recall Mode	None	Min	Min	None	Min	Min	None		None	None		None
Act Effct Green (s)	7.0	27.1	27.1	10.1	30.2	30.2	10.0		19.1	10.1		19.2
Actuated g/C Ratio	0.06	0.25	0.25	0.09	0.27	0.27	0.09		0.17	0.09		0.17
v/c Ratio	0.85	1.13	0.18	1.46	1.14	0.48	0.33		1.33	1.08		0.47
Control Delay	84.0	107.2	0.7	259.0	110.4	7.2	49.0		184.8	111.5		7.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	84.0	107.2	0.7	259.0	110.4	7.2	49.0		184.8	111.5		7.3
LOS	F	F	A	F	F	A	D		F	F		A
Approach Delay		97.6			125.7			166.8			66.9	
Approach LOS		F			F			F			E	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Natural Cycle: 145
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.46
 Intersection Signal Delay: 117.1
 Intersection Capacity Utilization 91.0%
 Analysis Period (min) 15
 Intersection LOS: F
 ICU Level of Service E

Splits and Phases: 2: I-75 NB/I-75 SB & Cortez Blvd

21 s	38 s	20.9 s	30.1 s
17.9 s	41.1 s	21 s	30 s

Lanes, Volumes, Timings

3: Bronson Blvd./Windmere Rd. & Cortez Blvd

12/09/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	2323	312	131	1893	19	300	94	131	76	43	46
Future Volume (vph)	219	2323	312	131	1893	19	300	94	131	76	43	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	485		0	350		0	105		0	115		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	100			50			50			50		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.81	0.81	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.999			0.913			0.923	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	7537	0	1770	1701	0	1770	1719	0
Flt Permitted	0.075			0.086			0.697			0.498		
Satd. Flow (perm)	140	5085	1583	160	7537	0	1298	1701	0	928	1719	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			259		2			61			47	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		840			700			700			800	
Travel Time (s)		12.7			10.6			15.9			18.2	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	231	2445	328	138	1993	20	316	99	138	80	45	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	231	2445	328	138	2013	0	316	237	0	80	93	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		10			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100		20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0		0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2		2	6			8			4		

Lanes, Volumes, Timings
 3: Bronson Blvd./Windmere Rd. & Cortez Blvd

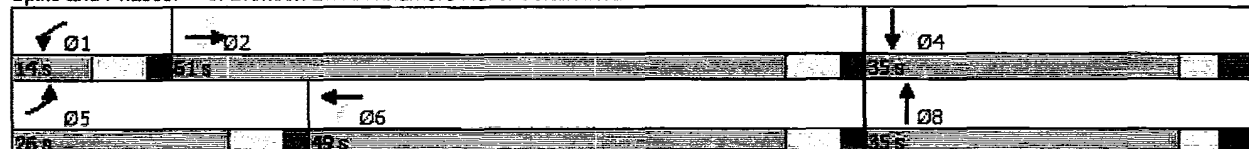
12/09/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	14.0	25.0	25.0	14.0	25.0		17.4	17.4		17.4	17.4	
Total Split (s)	26.0	61.0	61.0	14.0	49.0		35.0	35.0		35.0	35.0	
Total Split (%)	23.6%	55.5%	55.5%	12.7%	44.5%		31.8%	31.8%		31.8%	31.8%	
Maximum Green (s)	19.0	54.0	54.0	7.0	42.0		27.6	27.6		27.6	27.6	
Yellow Time (s)	4.9	4.9	4.9	4.9	4.9		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.1	2.1	2.1	2.1	2.1		3.7	3.7		3.7	3.7	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	7.0	7.0	7.0	7.0	7.0		7.4	7.4		7.4	7.4	
Lead/Lag	Lead	Lag	Lag	Lead	Lag							
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes							
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	None	Min		None	None		None	None	
Walk Time (s)		7.0	7.0		7.0							
Flash Dont Walk (s)		11.0	11.0		11.0							
Pedestrian Calls (#/hr)		0	0		0							
Act Effect Green (s)	66.5	54.0	54.0	53.6	46.6		27.6	27.6		27.6	27.6	
Actuated g/C Ratio	0.60	0.49	0.49	0.49	0.42		0.25	0.25		0.25	0.25	
v/c Ratio	0.78	0.98	0.36	0.77	0.63		0.97	0.50		0.34	0.20	
Control Delay	42.5	41.7	5.1	50.3	26.5		85.4	30.1		38.9	18.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	42.5	41.7	5.1	50.3	26.5		85.4	30.1		38.9	18.8	
LOS	D	D	A	D	C		F	C		D	B	
Approach Delay		37.8			28.0			61.7			28.1	
Approach LOS		D			C			E			C	

Intersection Summary

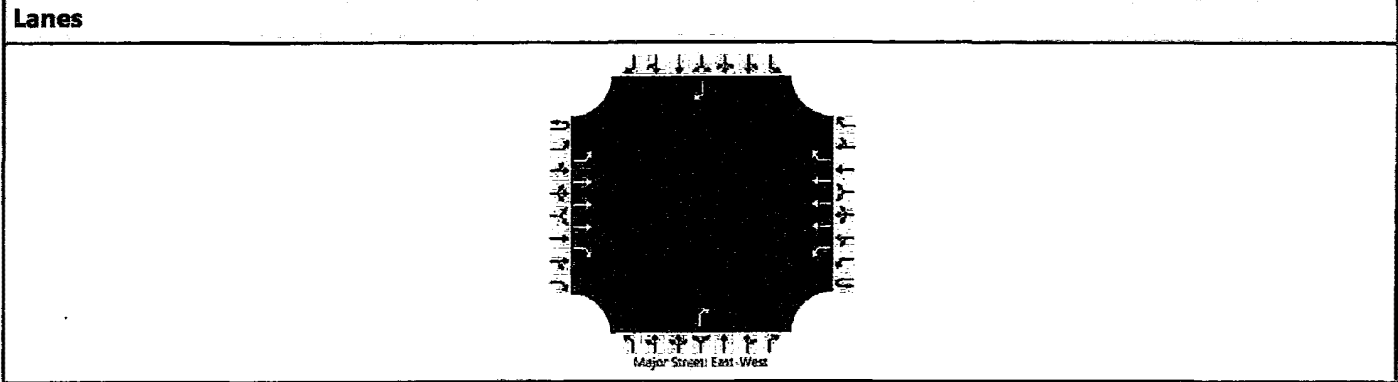
Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 110
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 36.2
 Intersection Capacity Utilization 101.1%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service G

Splits and Phases: 3: Bronson Blvd./Windmere Rd. & Cortez Blvd



HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst		Intersection		Agency/Co.		Jurisdiction	
Date Performed	9/23/2022	East/West Street	Cortez Blvd	Analysis Year	2035	North/South Street	Parkland Ave
Time Analyzed	PM Peak	Peak Hour Factor	0.94	Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Bck+Prj and Req Bck Impr						



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	1	3	1	0	1	3	1		0	0	1		0	0	1
Configuration		L	T	R		L	T	R				R				R
Volume (veh/h)	8	15	2369	127	44	140	1938	48				160				25
Percent Heavy Vehicles (%)	3	3			3	3						3				3
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized	No				No				No				No			
Median Type | Storage	Left + Thru								1							

Critical and Follow-up Headways

Base Critical Headway (sec)	5.6	5.3			5.6	5.3						7.1				7.1
Critical Headway (sec)	5.66	5.36			5.66	5.36						7.16				7.16
Base Follow-Up Headway (sec)	2.3	3.1			2.3	3.1						3.9				3.9
Follow-Up Headway (sec)	2.33	3.13			2.33	3.13						3.93				3.93

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		24				196						170				27
Capacity, c (veh/h)		128										138				196
v/c Ratio		0.19										1.24				0.14
95% Queue Length, Q ₉₅ (veh)		0.7										10.3				0.5
Control Delay (s/veh)		39.6										216.6				26.2
Level of Service (LOS)		E										F				D
Approach Delay (s/veh)	0.4								216.6				26.2			
Approach LOS									F				D			

Lanes, Volumes, Timings

1: Kettering Rd./Croom Rital Rd. & Cortez Blvd

12/14/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	1135	553	437	1036	18	517	2	260	9	34	6
Future Volume (vph)	61	1135	553	437	1036	18	517	2	260	9	34	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	430		1000	540		440	0		470	0		0
Storage Lanes	1		1	2		1	2		1	0		0
Taper Length (ft)	100			100			25			25		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.984	
Fit Protected	0.950			0.950			0.950				0.991	
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3433	1863	1583	0	1816	0
Fit Permitted	0.950			0.950			0.950				0.936	
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583	3433	1863	1583	0	1716	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			576			205			271		5	
Link Speed (mph)		45			45			55			35	
Link Distance (ft)		2060			10277			1000			500	
Travel Time (s)		31.2			155.7			12.4			9.7	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	64	1182	576	455	1079	19	539	2	271	9	35	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	1182	576	455	1079	19	539	2	271	0	50	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	
Protected Phases	1	6		5	2		7	4			8	
Permitted Phases			6			2			4	8		

Lanes, Volumes, Timings

1: Kettering Rd./Croom Rital Rd. & Cortez Blvd

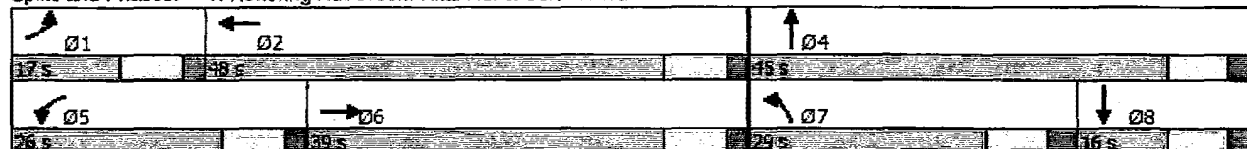
12/14/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	7	4	4	8	8	
Switch Phase												
Minimum Initial (s)	5.0	30.0	30.0	5.0	30.0	30.0	5.0	8.0	8.0	7.9	7.9	
Minimum Split (s)	12.5	37.5	37.5	12.5	37.5	37.5	13.1	16.1	16.1	16.0	16.0	
Total Split (s)	17.0	39.0	39.0	26.0	48.0	48.0	29.0	45.0	45.0	16.0	16.0	
Total Split (%)	15.5%	35.5%	35.5%	23.6%	43.6%	43.6%	26.4%	40.9%	40.9%	14.5%	14.5%	
Maximum Green (s)	9.5	31.5	31.5	18.5	40.5	40.5	20.9	36.9	36.9	7.9	7.9	
Yellow Time (s)	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.6	2.6	2.6	2.6	2.6	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			0.0
Total Lost Time (s)	7.5	7.5	7.5	7.5	7.5	7.5	8.1	8.1	8.1			8.1
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Min	Min	None	Min	Min	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0						
Flash Dont Walk (s)		11.0	11.0		11.0	11.0						
Pedestrian Calls (#/hr)		0	0		0	0						
Act Effect Green (s)	8.3	31.6	31.6	17.2	43.9	43.9	19.5	31.6	31.6		8.0	
Actuated g/C Ratio	0.08	0.30	0.30	0.17	0.42	0.42	0.19	0.30	0.30		0.08	
v/c Ratio	0.45	0.76	0.65	0.80	0.50	0.02	0.84	0.00	0.40		0.36	
Control Delay	58.8	38.0	6.6	54.5	25.7	0.1	54.4	24.5	5.2		52.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	
Total Delay	58.8	38.0	6.6	54.5	25.7	0.1	54.4	24.5	5.2		52.9	
LOS	E	D	A	D	C	A	D	C	A		D	
Approach Delay		28.8			33.8			37.9			52.9	
Approach LOS		C			C			D			D	

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 103.8
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 32.7
 Intersection Capacity Utilization 78.1%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service D

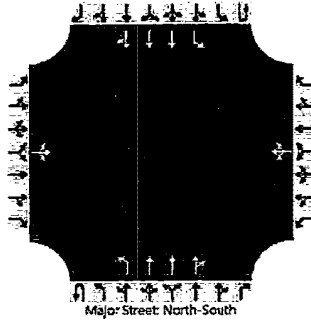
Splits and Phases: 1: Kettering Rd./Croom Rital Rd. & Cortez Blvd



HCS7 Two-Way Stop-Control Report

General Information				Site Information			
Analyst		Intersection		Agency/Co.		Jurisdiction	
Date Performed	9/23/2022	East/West Street	Ridge Manor Blvd	Analysis Year	2035	North/South Street	Cortez Blvd
Time Analyzed	PM Peak	Peak Hour Factor	0.97	Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Bck +Proj and req Bck Impr						

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound					
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R		
Movement																		
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6		
Number of Lanes		0	1	0		0	1	0		0	1	3	0		0	1	3	0
Configuration			LTR				LTR			L	T	TR		L	T	TR		
Volume (veh/h)		4	2	5		4	0	85		0	2	1297	7		0	155	1100	0
Percent Heavy Vehicles (%)		3	3	3		3	3	3		3	3				3	3		
Proportion Time Blocked																		
Percent Grade (%)		0				0												
Right Turn Channelized																		
Median Type | Storage		Left + Thru								1								

Critical and Follow-up Headways

























Base Critical Headway (sec)		6.4	6.5	7.1		6.4	6.5	7.1		5.3				5.3		
Critical Headway (sec)		6.46	6.56	7.16		6.46	6.56	7.16		5.36				5.36		
Base Follow-Up Headway (sec)		3.8	4.0	3.9		3.8	4.0	3.9		3.1				3.1		
Follow-Up Headway (sec)		3.83	4.03	3.93		3.83	4.03	3.93		3.13				3.13		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			11				92			2					160		
Capacity, c (veh/h)			56				285			334					264		
v/c Ratio			0.20				0.32			0.01					0.61		
95% Queue Length, Q ₉₅ (veh)			0.7				1.3			0.0					3.6		
Control Delay (s/veh)			84.8				23.5			15.8					37.7		
Level of Service (LOS)			F				C			C					E		
Approach Delay (s/veh)		84.8				23.5				0.0				4.7			
Approach LOS		F				C											

Lanes, Volumes, Timings
8: McKethan Rd & Cortez Blvd

12/14/2022

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	636	408	27	732	7	534	46	9	5	15	6
Future Volume (vph)	22	636	408	27	732	7	534	46	9	5	15	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		800	500		400	400		200	400		0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.95	0.95	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.959	
Flt Protected	0.950			0.950			0.950	0.960		0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1681	1699	1583	1770	1786	0
Flt Permitted	0.225			0.388			0.545	0.545		0.950		
Satd. Flow (perm)	419	5085	1583	723	5085	1583	964	964	1583	1770	1786	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			425			181			112		6	
Link Speed (mph)		45			30			30			30	
Link Distance (ft)		10277			1013			1273			1001	
Travel Time (s)		155.7			23.0			28.9			22.8	
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	23	663	425	28	763	7	556	48	9	5	16	6
Shared Lane Traffic (%)							46%					
Lane Group Flow (vph)	23	663	425	28	763	7	300	304	9	5	22	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	pm+ov	pm+pt	NA	pm+ov	Prot	NA	
Protected Phases	5	2		1	6	7	3	8	1	7	4	
Permitted Phases	2		2	6		6	8		8			

Lanes, Volumes, Timings
8: McKethan Rd & Cortez Blvd

12/14/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6	7	3	8	1	7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	20.0	27.7	27.7	13.2	26.2	26.2	27.7	25.7	13.2	26.2	26.2	26.2
Total Split (s)	20.0	50.8	50.8	14.0	44.8	26.2	35.0	39.0	14.0	26.2	30.2	
Total Split (%)	15.4%	39.1%	39.1%	10.8%	34.5%	20.2%	26.9%	30.0%	10.8%	20.2%	23.2%	
Maximum Green (s)	11.8	42.6	42.6	5.8	36.6	18.0	26.8	31.3	5.8	18.0	22.0	
Yellow Time (s)	5.5	5.5	5.5	4.0	4.0	4.0	5.5	5.5	4.0	4.0	4.0	
All-Red Time (s)	2.7	2.7	2.7	4.2	4.2	4.2	2.7	2.2	4.2	4.2	4.2	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	8.2	8.2	8.2	8.2	8.2	8.2	8.2	7.7	8.2	8.2	8.2	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max	Max	None	Max	Max	Max	None	None	Max	Max	
Act Effct Green (s)	55.3	48.2	48.2	42.3	36.6	62.8	57.0	57.5	44.7	18.0	22.0	
Actuated g/C Ratio	0.43	0.37	0.37	0.33	0.28	0.48	0.44	0.44	0.34	0.14	0.17	
v/c Ratio	0.08	0.35	0.50	0.10	0.53	0.01	0.53	0.52	0.01	0.02	0.07	
Control Delay	21.7	31.3	5.1	22.8	41.1	0.0	28.9	28.4	0.0	48.8	37.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	21.7	31.3	5.1	22.8	41.1	0.0	28.9	28.4	0.0	48.8	37.0	
LOS	C	C	A	C	D	A	C	C	A	D	D	
Approach Delay		21.1			40.1			28.2			39.2	
Approach LOS		C			D			C			D	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Natural Cycle: 105
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.53
 Intersection Signal Delay: 28.9
 Intersection Capacity Utilization 58.4%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 8: McKethan Rd & Cortez Blvd



Lanes, Volumes, Timings
18: US 301 & Cortez Blvd

10/28/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	87	296	72	72	333	19	78	263	53	14	184	92
Future Volume (vph)	87	296	72	72	333	19	78	263	53	14	184	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	300		0	200		300	300		300
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.992				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3511	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.489			0.551			0.429			0.486		
Satd. Flow (perm)	911	3539	1583	1026	3511	0	799	1863	1583	905	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			146		4				83			103
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		6987			1760			1365			907	
Travel Time (s)		105.9			26.7			20.7			13.7	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	98	333	81	81	374	21	88	296	60	16	207	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	333	81	81	395	0	88	296	60	16	207	103
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	pm+ov
Protected Phases	5	2		1	6		3	8	1	7	4	5
Permitted Phases	2		2	6			8		8	4		4

Lanes, Volumes, Timings
18: US 301 & Cortez Blvd

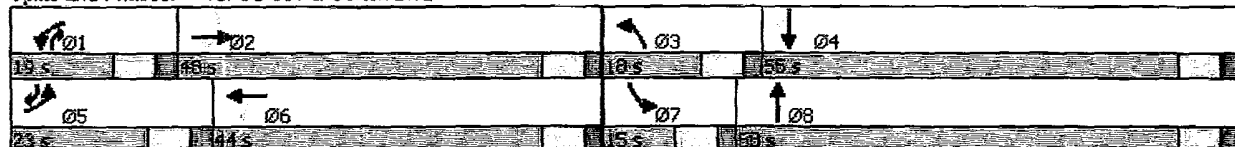
10/28/2022

	↖	→	↘	↙	←	↖	↙	↑	↘	↓	↙	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2	2	1	6		3	8	1	7	4	5
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	12.3	24.8	24.8	12.3	24.8		11.8	25.7	12.3	11.8	25.7	12.3
Total Split (s)	23.0	48.0	48.0	19.0	44.0		18.0	58.0	19.0	15.0	55.0	23.0
Total Split (%)	16.4%	34.3%	34.3%	13.6%	31.4%		12.9%	41.4%	13.6%	10.7%	39.3%	16.4%
Maximum Green (s)	15.7	41.2	41.2	11.7	37.2		11.2	50.3	11.7	8.2	47.3	15.7
Yellow Time (s)	4.8	4.8	4.8	4.8	4.8		4.8	4.8	4.8	4.8	4.8	4.8
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0		2.0	2.9	2.5	2.0	2.9	2.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.3	6.8	6.8	7.3	6.8		6.8	7.7	7.3	6.8	7.7	7.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max		None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0			7.0			7.0	
Flash Dont Walk (s)		11.0	11.0		11.0			11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0			0			0	
Act Effct Green (s)	49.9	41.8	41.8	48.7	41.3		30.8	26.0	41.8	24.2	18.4	34.8
Actuated g/C Ratio	0.48	0.41	0.41	0.47	0.40		0.30	0.25	0.41	0.24	0.18	0.34
v/c Ratio	0.19	0.23	0.11	0.15	0.28		0.27	0.63	0.09	0.06	0.62	0.17
Control Delay	14.8	22.9	0.3	14.7	23.6		26.7	41.7	2.5	24.1	48.8	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	22.9	0.3	14.7	23.6		26.7	41.7	2.5	24.1	48.8	5.4
LOS	B	C	A	B	C		C	D	A	C	D	A
Approach Delay		17.8			22.1			33.4			33.9	
Approach LOS		B			C			C			C	

Intersection Summary

Area Type: Other
 Cycle Length: 140
 Actuated Cycle Length: 102.9
 Natural Cycle: 75
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 25.9
 Intersection Capacity Utilization 56.5%
 Analysis Period (min) 15
 Intersection LOS: C
 ICU Level of Service B

Splits and Phases: 18: US 301 & Cortez Blvd



Lanes, Volumes, Timings
3: Cortez Blvd & Main Str

10/28/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	1271	15	3	1196	11	19	1	2	15	2	126
Future Volume (vph)	95	1271	15	3	1196	11	19	1	2	15	2	126
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		300	300		300	300		0	300		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frnt			0.850				0.850		0.900			0.852
Fit Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	1676	0	1770	1587	0
Fit Permitted	0.141			0.179			0.678			0.756		
Satd. Flow (perm)	263	3539	1583	333	3539	1583	1263	1676	0	1408	1587	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			109		2			133	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		862			2594			709			741	
Travel Time (s)		13.1			39.3			16.1			16.8	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	100	1338	16	3	1259	12	20	1	2	16	2	133
Shared Lane Traffic (%)												
Lane Group Flow (vph)	100	1338	16	3	1259	12	20	3	0	16	135	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6		6	2		2	4			8		

Lanes, Volumes, Timings
3: Cortez Blvd & Main Str

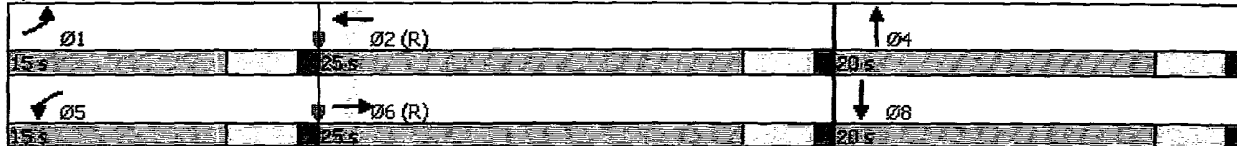
10/28/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	4	4		8	8	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	20.0	20.0		20.0	20.0	
Total Split (s)	15.0	25.0	25.0	15.0	25.0	25.0	20.0	20.0		20.0	20.0	
Total Split (%)	25.0%	41.7%	41.7%	25.0%	41.7%	41.7%	33.3%	33.3%		33.3%	33.3%	
Maximum Green (s)	10.5	20.5	20.5	10.5	20.5	20.5	15.5	15.5		15.5	15.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		None	None	
Act Effct Green (s)	45.6	44.9	44.9	41.4	37.9	37.9	7.0	7.0		7.0	7.0	
Actuated g/C Ratio	0.76	0.75	0.75	0.69	0.63	0.63	0.12	0.12		0.12	0.12	
v/c Ratio	0.27	0.51	0.01	0.01	0.56	0.01	0.14	0.02		0.10	0.45	
Control Delay	4.6	6.2	0.0	3.0	10.4	0.0	24.8	18.0		23.8	10.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	4.6	6.2	0.0	3.0	10.4	0.0	24.8	18.0		23.8	10.4	
LOS	A	A	A	A	B	A	C	B		C	B	
Approach Delay		6.0			10.3			23.9			11.9	
Approach LOS		A			B			C			B	

Intersection Summary

Area Type: Other
 Cycle Length: 60
 Actuated Cycle Length: 60
 Offset: 50 (83%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.56
 Intersection Signal Delay: 8.3
 Intersection Capacity Utilization 66.3%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service C

Splits and Phases: 3: Cortez Blvd & Main Str



HCS7 Two-Way Stop-Control Report

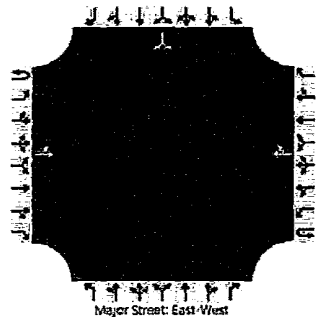
General Information

Analyst	
Agency/Co.	
Date Performed	9/23/2022
Analysis Year	2035
Time Analyzed	PM Peak
Intersection Orientation	East-West
Project Description	Bck +Prj and Req Bck Impr

Site Information

Intersection	
Jurisdiction	
East/West Street	Powerline Rd
North/South Street	Kettering Rd
Peak Hour Factor	0.50
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Priority																
Number of Lanes	0	0	1	0	0	0	1	0		0	0	0		0	1	0
Configuration	LT								TR				LR			
Volume (veh/h)	154 5				2 12								7 3 140			
Percent Heavy Vehicles (%)	3												3 3			
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

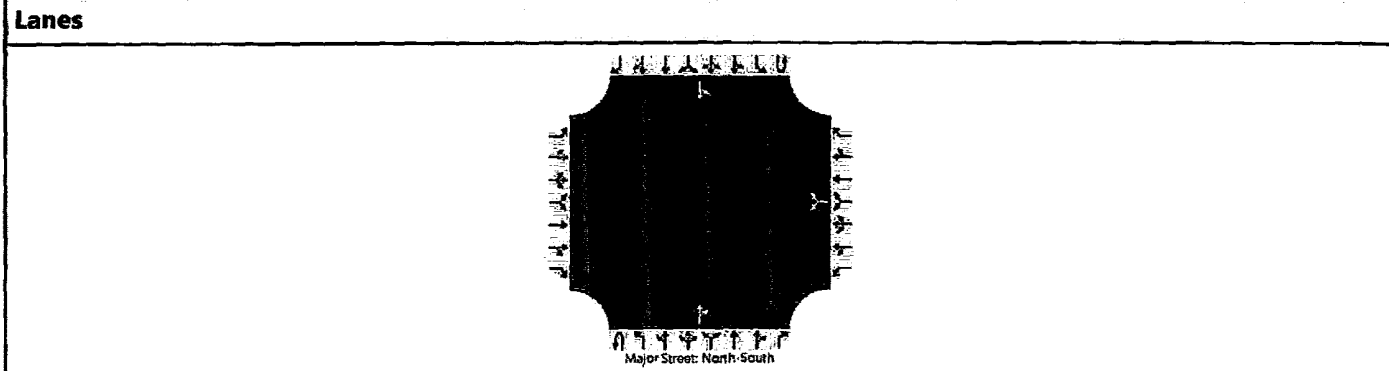
Base Critical Headway (sec)	4.1													7.1		6.2
Critical Headway (sec)	4.13													6.43		6.23
Base Follow-Up Headway (sec)	2.2													3.5		3.3
Follow-Up Headway (sec)	2.23													3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)	308															294
Capacity, c (veh/h)	1579															967
v/c Ratio	0.20															0.30
95% Queue Length, Q ₉₅ (veh)	0.7															1.3
Control Delay (s/veh)	7.8															10.3
Level of Service (LOS)	A															B
Approach Delay (s/veh)	7.6								10.3							
Approach LOS	A								B							

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst		Intersection	
Agency/Co.		Jurisdiction	
Date Performed	9/23/2022	East/West Street	Powerline Rd
Analysis Year	2035	North/South Street	Lockhart Rd
Time Analyzed	PM Peak	Peak Hour Factor	0.48
Intersection Orientation	North-South	Analysis Time Period (hrs)	0.25
Project Description	Bck Plus Proj and Req Bck Impr		



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Movement																
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0		0	1	0		0	1	0
Configuration							LR					TR			LT	
Volume (veh/h)						33		91			18	31			8	17
Percent Heavy Vehicles (%)						3		3							3	
Proportion Time Blocked																
Percent Grade (%)							0									
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2							4.1	
Critical Headway (sec)						6.43		6.23							4.13	
Base Follow-Up Headway (sec)						3.5		3.3							2.2	
Follow-Up Headway (sec)						3.53		3.33							2.23	

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						258									17	
Capacity, c (veh/h)						946									1484	
v/c Ratio						0.27									0.01	
95% Queue Length, Q ₉₅ (veh)						1.1									0.0	
Control Delay (s/veh)						10.2									7.5	
Level of Service (LOS)						B									A	
Approach Delay (s/veh)					10.2								2.4			
Approach LOS					B											

BACKGROUND PLUS PROJECT WITH REQUIRED IMPROVEMENTS FOR PROJECT



Lanes, Volumes, Timings
2: I-75 NB/I-75 SB & Cortez Blvd

12/09/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	1385	111	450	1563	304	147	0	959	483	0	362
Future Volume (vph)	182	1385	111	450	1563	304	147	0	959	483	0	362
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	435		0	620		0	0		545	0		650
Storage Lanes	2		0	1		0	3		3	3		2
Taper Length (ft)	50			100			25			25		
Lane Util. Factor	0.97	0.86	0.86	0.97	0.86	0.86	0.94	1.00	0.76	0.94	1.00	0.88
Frt		0.989			0.976				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	6337	0	3433	6254	0	4990	0	3610	4990	0	2787
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3433	6337	0	3433	6254	0	4990	0	3610	4990	0	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15			48				186			369
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		1000			840			750			850	
Travel Time (s)		15.2			12.7			17.0			19.3	
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	186	1413	113	459	1595	310	150	0	979	493	0	369
Shared Lane Traffic (%)												
Lane Group Flow (vph)	186	1526	0	459	1905	0	150	0	979	493	0	369
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			36			36	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1		1	1		1
Detector Template	Left	Thru		Left	Thru		Left		Right	Left		Right
Leading Detector (ft)	20	100		20	100		20		20	20		20
Trailing Detector (ft)	0	0		0	0		0		0	0		0
Detector 1 Position(ft)	0	0		0	0		0		0	0		0
Detector 1 Size(ft)	20	6		20	6		20		20	20		20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0		0.0
Detector 2 Position(ft)		94			94							
Detector 2 Size(ft)		6			6							
Detector 2 Type		Cl+Ex			Cl+Ex							
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0							
Turn Type	Prot	NA		Prot	NA		Prot		pm+ov	Prot		Perm
Protected Phases	5	2		1	6		3		1	7		
Permitted Phases									3			4

Lanes, Volumes, Timings
2: I-75 NB/I-75 SB & Cortez Blvd

12/09/2022



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	5	2		1	6		3		1	7		4
Switch Phase												
Minimum Initial (s)	7.0	15.0		7.0	15.0		10.0		7.0	10.0		10.0
Minimum Split (s)	17.9	28.9		17.9	28.9		20.9		17.9	20.9		20.9
Total Split (s)	19.5	38.7		29.2	48.4		21.0		29.2	42.1		21.1
Total Split (%)	17.7%	35.2%		26.5%	44.0%		19.1%		26.5%	38.3%		19.2%
Maximum Green (s)	8.6	27.8		18.3	37.5		10.1		18.3	31.2		10.2
Yellow Time (s)	4.9	4.9		4.9	4.9		4.9		4.9	4.9		4.9
All-Red Time (s)	6.0	6.0		6.0	6.0		6.0		6.0	6.0		6.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0		0.0	0.0		0.0
Total Lost Time (s)	10.9	10.9		10.9	10.9		10.9		10.9	10.9		10.9
Lead/Lag	Lead	Lag		Lead	Lag		Lead		Lead			Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes		Yes			Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0		3.0	3.0		3.0
Recall Mode	None	Min		None	Min		None		None	None		None
Act Effect Green (s)	8.5	28.0		18.0	37.5		10.0		28.1	31.0		10.0
Actuated g/C Ratio	0.08	0.26		0.16	0.34		0.09		0.26	0.28		0.09
v/c Ratio	0.70	0.94		0.81	0.88		0.33		0.92	0.35		0.63
Control Delay	63.8	51.7		56.8	38.8		48.9		36.6	32.2		10.1
Queue Delay	0.0	0.0		0.0	0.0		0.0		0.0	0.0		0.0
Total Delay	63.8	51.7		56.8	38.8		48.9		36.6	32.2		10.1
LOS	E	D		E	D		D		D	C		B
Approach Delay		53.0			42.3			38.2				22.7
Approach LOS		D			D			D				C

Intersection Summary

Area Type: Other
 Cycle Length: 110
 Actuated Cycle Length: 109.7
 Natural Cycle: 100
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.94
 Intersection Signal Delay: 41.8
 Intersection Capacity Utilization 75.0%
 Analysis Period (min) 15
 Intersection LOS: D
 ICU Level of Service D

Splits and Phases: 2: I-75 NB/I-75 SB & Cortez Blvd

23.2 s	38.7 s	21 s	21.1 s
18.5 s	48.4 s	42.1 s	

Queuing and Blocking Report
 Background Plus Project Traffic and Required Project Improvements

12/09/2022

Intersection: 2: I-75 NB/I-75 SB & Cortez Blvd

Movement	EB	EB	EB	EB	EB	EB	WB	WB	WB	WB	WB	WB
Directions Served	L	L	T	T	T	TR	L	L	T	T	T	TR
Maximum Queue (ft)	162	188	412	381	385	305	170	175	238	254	228	230
Average Queue (ft)	112	72	323	292	301	169	110	115	159	164	145	134
95th Queue (ft)	188	210	458	431	422	342	182	184	280	284	267	263
Link Distance (ft)			943	943	943	943		749	749	749	749	749
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	435	435					620					
Storage Blk Time (%)			2									
Queuing Penalty (veh)			5									

Intersection: 2: I-75 NB/I-75 SB & Cortez Blvd

Movement	NB	NB	NB	NB	NB	NB	SB	SB	SB	SB	SB
Directions Served	L	L	L	R	R	R	T	T	L	L	L
Maximum Queue (ft)	84	90	486	504	505	443	16	50	162	134	173
Average Queue (ft)	57	54	161	359	381	268	0	8	106	72	110
95th Queue (ft)	90	98	526	603	601	577	0	75	168	134	178
Link Distance (ft)	645	645	645				1572	1572	745	745	745
Upstream Blk Time (%)			2	1	0						
Queuing Penalty (veh)			0	0	0						
Storage Bay Dist (ft)				545	545	545					
Storage Blk Time (%)			0	7	5	0					
Queuing Penalty (veh)			1	3	3	0					

HCM Signalized Intersection Capacity Analysis
 2: I-75 NB/I-75 SB & Cortez Blvd

12/09/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	1385	111	450	1563	304	147	0	959	483	0	362
Future Volume (vph)	182	1385	111	450	1563	304	147	0	959	483	0	362
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	10.9	10.9		10.9	10.9		10.9		10.9	10.9		10.9
Lane Util. Factor	0.97	0.86		0.97	0.86		0.94		0.76	0.94		0.88
Fr't	1.00	0.99		1.00	0.98		1.00		0.85	1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95		1.00	0.95		1.00
Satd. Flow (prot)	3433	6337		3433	6251		4990		3610	4990		2787
Flt Permitted	0.95	1.00		0.95	1.00		0.95		1.00	0.95		1.00
Satd. Flow (perm)	3433	6337		3433	6251		4990		3610	4990		2787
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	186	1413	113	459	1595	310	150	0	979	493	0	369
RTOR Reduction (vph)	0	11	0	0	32	0	0	0	139	0	0	335
Lane Group Flow (vph)	186	1515	0	459	1873	0	150	0	840	493	0	34
Turn Type	Prot	NA		Prot	NA		Prot		pm+ov	Prot		Perm
Protected Phases	5	2		1	6		3		1	7		
Permitted Phases									3			4
Actuated Green, G (s)	8.5	28.0		18.0	37.5		10.0		28.0	31.0		10.1
Effective Green, g (s)	8.5	28.0		18.0	37.5		10.0		28.0	31.0		10.1
Actuated g/C Ratio	0.08	0.26		0.16	0.34		0.09		0.26	0.28		0.09
Clearance Time (s)	10.9	10.9		10.9	10.9		10.9		10.9	10.9		10.9
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0		3.0	3.0		3.0
Lane Grp Cap (vph)	266	1617		563	2136		454		921	1410		256
v/s Ratio Prot	0.05	0.24		0.13	0.30		0.03		0.15	0.10		
v/s Ratio Perm									0.08			0.01
v/c Ratio	0.70	0.94		0.82	0.88		0.33		0.91	0.35		0.13
Uniform Delay, d1	49.4	40.0		44.2	33.9		46.7		39.7	31.3		45.8
Progression Factor	1.00	1.00		1.00	1.00		1.00		1.00	1.00		1.00
Incremental Delay, d2	7.8	10.7		8.9	4.4		0.4		13.1	0.2		0.2
Delay (s)	57.1	50.6		53.1	38.3		47.1		52.8	31.5		46.0
Level of Service	E	D		D	D		D		D	C		D
Approach Delay (s)		51.4			41.2			52.0				37.7
Approach LOS		D			D			D				D

Intersection Summary			
HCM 2000 Control Delay	45.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	109.7	Sum of lost time (s)	43.6
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lanes, Volumes, Timings

23: Project Access A/Sherman Hills Realignment & Cortez Blvd

12/14/2022

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	284	1406	1061	295	1251	37	665	20	352	72	30	31
Future Volume (vph)	284	1406	1061	295	1251	37	665	20	352	72	30	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	500		500	600		485	300		200	200		0
Storage Lanes	1		1	2		1	2		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	0.97	0.91	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.924	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	3433	5085	1583	3433	1863	1583	1770	1721	0
Flt Permitted	0.950			0.950			0.950			0.744		
Satd. Flow (perm)	1770	5085	1583	3433	5085	1583	3433	1863	1583	1386	1721	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			878			217			319		33	
Link Speed (mph)		45			45			30			30	
Link Distance (ft)		635			2060			693			832	
Travel Time (s)		9.6			31.2			15.8			18.9	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	299	1480	1117	311	1317	39	700	21	371	76	32	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	299	1480	1117	311	1317	39	700	21	371	76	65	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Free	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases			Free			8			2	6		

Lanes, Volumes, Timings

23: Project Access A/Sherman Hills Realignment & Cortez Blvd

12/14/2022

	↖		→		↘		↙		←		↖		↘		↑		↙		↘		↓		↙		
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR													
Detector Phase	7	4		3	8	8	5	2	2	6	6														
Switch Phase																									
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0														
Minimum Split (s)	12.0	25.0		12.0	25.0	25.0	12.4	25.4	25.4	25.4	25.4														
Total Split (s)	29.0	48.0		21.0	40.0	40.0	34.8	61.0	61.0	26.2	26.2														
Total Split (%)	22.3%	36.9%		16.2%	30.8%	30.8%	26.8%	46.9%	46.9%	20.2%	20.2%														
Maximum Green (s)	22.0	41.0		14.0	33.0	33.0	27.4	53.6	53.6	18.8	18.8														
Yellow Time (s)	4.9	4.9		4.9	4.9	4.9	3.7	3.7	3.7	3.7	3.7														
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	3.7	3.7	3.7	3.7	3.7														
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0														
Total Lost Time (s)	7.0	7.0		7.0	7.0	7.0	7.4	7.4	7.4	7.4	7.4														
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead			Lag	Lag														
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes			Yes	Yes														
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0														
Recall Mode	None	None		None	None	None	None	Min	Min	Min	Min														
Walk Time (s)		7.0			7.0	7.0		7.0	7.0	7.0	7.0														
Flash Dont Walk (s)		11.0			11.0	11.0		11.0	11.0	11.0	11.0														
Pedestrian Calls (#/hr)		0			0	0		0	0	0	0														
Act Effct Green (s)	22.0	41.4	123.1	13.7	33.0	33.0	27.2	46.6	46.6	12.0	12.0														
Actuated g/C Ratio	0.18	0.34	1.00	0.11	0.27	0.27	0.22	0.38	0.38	0.10	0.10														
v/c Ratio	0.95	0.87	0.71	0.82	0.97	0.07	0.92	0.03	0.47	0.56	0.33														
Control Delay	89.1	45.3	2.7	71.4	62.3	0.2	66.2	23.6	6.7	68.9	33.2														
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0														
Total Delay	89.1	45.3	2.7	71.4	62.3	0.2	66.2	23.6	6.7	68.9	33.2														
LOS	F	D	A	E	E	A	E	C	A	E	C														
Approach Delay		33.4			62.5			45.2			52.4														
Approach LOS		C			E			D			D														

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 123.1

Natural Cycle: 120

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 44.4

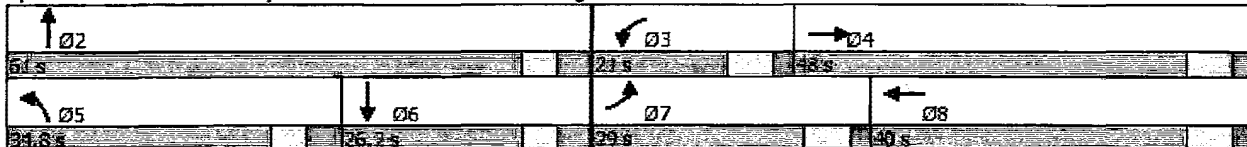
Intersection LOS: D

Intersection Capacity Utilization 83.4%

ICU Level of Service E

Analysis Period (min) 15

Splits and Phases: 23: Project Access A/Sherman Hills Realignment & Cortez Blvd



PERCENT CAPACITY CONSUMED



TABLE A-1
 INTERSECTION PROPORTIONATE SHARE DETERMINATION
 (PM PEAK HOUR)

<u>Intersection</u>	<u>Critical Movement</u>	LOS E <u>Lane Group Capacity (1)</u>	<u>New Project Trips</u>
Cortez Blvd and I-75 Ramps	WBT/R	2,136	744
	NBR	921	413
	SBL	<u>1,410</u>	<u>292</u>
		4,467	1,449
		% Consumed	32.44%

FDOT 2022 COST TABLES



Roadway Cost Per Centerline Mile
Revised June 2022

	Construction Cost From LRE	MOT*	Mobilization*	Subtotal	Scope Contingency (25%)	Total Construction Cost	PE Design (15%)	CEI (16%)	Total Project Cost**
Rural Areas									
New Construction (2-Lane Roadway) with 5' Paved Shoulders	\$6,516,370	\$651,837	\$716,801	\$7,884,808	\$1,971,202	\$9,856,010	\$1,478,401	\$1,478,401	\$12,812,813
New Construction (4-Lane Roadway) with 5' Paved Shoulders	\$10,734,295	\$1,073,430	\$1,180,772	\$12,988,497	\$3,247,124	\$16,235,621	\$2,435,343	\$2,435,343	\$21,135,306
New Construction (6-Lane Roadway) with 5' Paved Shoulders	\$13,678,044	\$1,367,804	\$1,504,585	\$16,550,433	\$4,137,608	\$20,688,041	\$3,103,206	\$3,103,206	\$24,894,453
Milling and Resurfacing (4-Lane Roadway) with 5' Paved Shoulders	\$1,671,182	\$167,118	\$183,830	\$2,022,130	\$505,533	\$2,527,663	\$379,149	\$379,149	\$3,285,962
Milling and Resurfacing (6-Lane Roadway) with 5' Paved Shoulders	\$2,384,092	\$238,409	\$260,050	\$2,880,551	\$715,138	\$3,575,689	\$536,353	\$536,353	\$4,648,395
Add Lanes (2 to 4 Lanes) with 5' Paved Shoulders (Includes milling and resurfacing of existing pavement)	\$7,623,562	\$762,356	\$838,592	\$9,224,510	\$2,306,127	\$11,530,637	\$1,728,596	\$1,728,596	\$14,988,829
Add Lanes (4 to 6 Lanes) with 5' Paved Shoulders (Includes milling and resurfacing of existing pavement)	\$8,044,797	\$804,480	\$884,928	\$9,734,204	\$2,433,551	\$12,167,755	\$1,825,163	\$1,825,163	\$15,818,081
Add Lanes (4 to 8 Lanes) with 5' Paved Shoulders (Includes milling and resurfacing of existing pavement)	\$11,222,926	\$1,122,293	\$1,234,522	\$13,579,740	\$3,394,935	\$16,974,675	\$2,546,201	\$2,546,201	\$22,067,076
Add Lanes (6 to 8 Lanes) with 5' Paved Shoulders (Includes milling and resurfacing of existing pavement)	\$10,207,327	\$1,020,733	\$1,122,806	\$12,350,865	\$3,087,716	\$16,438,582	\$2,315,787	\$2,315,787	\$20,070,165
Add 1 Through Lane on Inside (To Existing) with 5' Paved Shoulders	\$1,966,252	\$195,625	\$215,188	\$2,367,065	\$591,766	\$2,958,831	\$443,825	\$443,825	\$3,846,480
Add 1 Through Lane on Outside (To Existing) with 5' Paved Shoulders	\$2,961,463	\$296,146	\$325,761	\$3,583,370	\$895,842	\$4,479,212	\$671,882	\$671,882	\$5,822,875
Add 300' Exclusive Left Turn Lane	\$91,304	\$13,686	\$15,750	\$120,750	\$30,187	\$150,937	\$22,841	\$22,841	\$198,219
Add 300' Exclusive Right Turn Lane	\$237,181	\$35,577	\$40,914	\$313,671	\$78,418	\$392,089	\$58,813	\$58,813	\$509,716
Urban Areas									
New Construction (2-Lane Roadway) with 5' Sidewalk, and Curb & Gutter	\$10,019,456	\$1,001,946	\$1,102,140	\$12,123,542	\$3,030,885	\$15,154,427	\$2,273,164	\$2,273,164	\$18,700,755
New Construction (4-Lane Roadway) with 5' Sidewalk, and Curb & Gutter	\$14,097,157	\$1,409,716	\$1,550,887	\$17,057,559	\$4,264,390	\$21,321,949	\$3,198,292	\$3,198,292	\$27,718,534
New Construction (6-Lane Roadway) with 5' Sidewalk, and Curb & Gutter	\$17,146,353	\$1,714,635	\$1,886,099	\$20,747,087	\$5,186,772	\$25,933,859	\$3,890,079	\$3,890,079	\$33,714,017
Milling and Resurfacing (4-Lane Roadway) with 5' Sidewalk, and Curb & Gutter	\$1,739,197	\$173,920	\$191,812	\$2,104,929	\$526,107	\$2,630,536	\$394,580	\$394,580	\$3,419,696
Milling and Resurfacing (6-Lane Roadway) with 5' Sidewalk, and Curb & Gutter	\$2,467,617	\$246,762	\$271,438	\$2,985,818	\$746,454	\$3,732,270	\$559,841	\$559,841	\$4,851,952
Add Lanes (2 to 4 Lanes) with 5' Sidewalk, and Curb & Gutter (Includes milling and resurfacing existing pavement)	\$9,749,449	\$974,945	\$1,072,439	\$11,796,833	\$2,949,208	\$14,746,041	\$2,211,906	\$2,211,906	\$17,169,853
Add Lanes (4 to 6 Lanes) with 5' Sidewalk, and Curb & Gutter (Includes milling and resurfacing existing pavement)	\$10,569,670	\$1,058,967	\$1,164,864	\$12,813,501	\$3,203,375	\$16,016,876	\$2,402,531	\$2,402,531	\$20,821,938
Add Lanes (4 to 8 Lanes) with 5' Sidewalk, and Curb & Gutter (Includes milling and resurfacing existing pavement)	\$14,490,863	\$1,449,086	\$1,593,995	\$17,533,945	\$4,383,486	\$21,917,431	\$3,287,615	\$3,287,615	\$28,482,661
Add Lanes (6 to 8 Lanes) with 5' Sidewalk, and Curb & Gutter (Includes milling and resurfacing existing pavement)	\$12,430,064	\$1,243,006	\$1,367,307	\$15,040,378	\$3,760,094	\$18,800,472	\$2,820,071	\$2,820,071	\$24,440,613
Add 1 Through Lane on Inside (To Existing) with 5' Sidewalk, and Curb & Gutter	\$1,810,326	\$181,033	\$199,136	\$2,190,495	\$547,624	\$2,738,119	\$410,718	\$410,718	\$3,559,554
Add 1 Through Lane on Outside (To Existing) with 5' Sidewalk, and Curb & Gutter	\$5,039,068	\$503,907	\$554,287	\$6,097,272	\$1,524,318	\$7,621,590	\$1,143,238	\$1,143,238	\$9,409,057
Add 300' Exclusive Left Turn Lane	\$115,208	\$17,281	\$19,873	\$152,363	\$38,091	\$190,454	\$28,568	\$28,568	\$247,980
Add 300' Exclusive Right Turn Lane	\$284,344	\$42,652	\$49,049	\$376,045	\$94,011	\$470,056	\$70,508	\$70,508	\$611,073

* A 15% MOT and Mobilization factor was used for exclusive left and right turn lanes. A 10% factor was used for all other figures.

** Total cost shown is derived from a standard typical section. Costs will need to be adjusted to account for signals, bridges, or any additional item not deemed typical.

Note:

1. Estimates were derived from FDOT LRE system
2. These figures exclude costs for intersections/interchanges, improvements to cross streets, bridges over 20', right-of-way, landscaping, ITS, and traffic signals.
3. The figures are based on market costs for Hillsborough County.
4. Costs shown are present day costs.
5. The costs developed for this report are not project-specific and should be used for preliminary estimating purposes only.

Other Roadway Related Costs
Revised June 2022

	Construction Cost From LRE	MOT *	Mobilization (15%)	Subtotal	Scope Contingency (25%)	Total Construction Cost	PE Design (15%)	CEI (15%)	Total Project Cost
Intersection Traffic Signalization (Meal-Arm Assembly)**									
2-Lane Roadway Intersecting 2-Lane Roadway	\$272,124	\$40,819	\$46,941	\$359,884	\$89,971	\$449,855	\$67,478	\$67,478	\$584,812
4-Lane Roadway Intersecting 4-Lane Roadway	\$350,443	\$52,566	\$60,451	\$463,461	\$115,865	\$579,326	\$86,899	\$86,899	\$753,124
6-Lane Roadway Intersecting 6-Lane Roadway	\$403,461	\$60,519	\$83,597	\$533,578	\$133,394	\$666,972	\$100,046	\$100,046	\$867,064
Bicycle and Pedestrian Facilities									
Sidewalks Per Mile (5' Width - 1 Side)	\$162,624	\$8,131	\$25,613	\$196,368	\$49,092	\$245,460	\$36,819	\$36,819	\$291,098
Sidewalks Per Mile (6' Width - 1 Side)	\$195,149	\$9,757	\$30,736	\$235,642	\$58,911	\$294,553	\$44,183	\$44,183	\$332,919
Multi-Use Trail Per Mile (12' Width - 1 Side)	\$382,009	\$19,100	\$60,166	\$461,276	\$115,319	\$576,595	\$86,489	\$86,489	\$749,574
Stormwater Retention Facilities									
1 Acre Pond Site (6' Depth)	\$505,219	\$25,261	\$79,572	\$610,052	\$152,513	\$762,565	\$114,385	\$114,385	\$991,333
Median Retroll									
Convert 14' Center Turn Lane to 14' Raised Median (Per Mile)	\$467,130	\$70,069	\$80,580	\$617,779	\$154,445	\$772,224	\$115,834	\$115,834	\$1,003,891
Cross Street Improvements									
Widen 1-Leg of Existing Rural 2-Lane Cross Street to Accommodate 2 Receiving Lanes, Dual Left Turn lanes, and Exclusive Right Turn Lane (Approximate Length of 0.25 Miles)	\$2,336,325	\$350,448	\$403,016	\$3,089,790	\$772,447	\$3,862,237	\$579,336	\$579,336	\$5,020,309

* A 15% MOT factor was used for Traffic Signals, Median Retroll, and Cross Street Improvements. A 5% factor was used for all other figures.

**The cost of traffic signalization assumes the installation of mast arms on all four legs of an intersection. To obtain the cost of signalizing a four-lane roadway intersecting a two-lane roadway, divide the signal cost of a four-lane roadway by two and add this figure to the signal cost of the two-lane roadway divided by two.

Notes:

1. Estimates were derived from FDOT LRE system
2. The figures are based on market costs for Hillsborough County
3. Costs shown are present day costs
4. The costs developed for this report are not site-specific and should be used for preliminary estimating purposes only.

Interchange Cost
Revised June 2022

	Construction Cost From LRE	MOT (10%)	Mobilization (10%)	Subtotal	Scope Contingency (25%)	Total Construction Cost	PE Design (15%)	CEI (15%)	Subtotal Project Cost
Single Point Urban Interchange (SPUI)	\$ 34,143,642.80	\$3,414,364	\$3,755,801	\$41,313,808	\$10,328,452	\$51,642,260	\$7,746,339	\$7,746,339	\$59,388,599

Note:

1. Cost was derived from an LRE estimate to modify the existing diamond interchange at I-75/SR 54 to a single point urban interchange.
2. Cost shown is for construction only. Does not include Design, CEI, and right-of-way.

FDOT INFLATION FACTORS





FLORIDA DEPARTMENT OF TRANSPORTATION

TRANSPORTATION COSTS REPORTS

Work Program Highway Construction Cost Inflation Factors

Fiscal Year	Inflation Factor	PDC Multiplier
2022	Base	1.000
2023	2.7%	1.027
2024	2.8%	1.056
2025	2.9%	1.086
2026	3.0%	1.119
2027	3.1%	1.154
2028	3.2%	1.191
2029	3.3%	1.230
2030	3.3%	1.270
2031	3.3%	1.312
2032	3.3%	1.356
2033	3.3%	1.400
2034	3.3%	1.447
2035	3.3%	1.494
2036	3.3%	1.544
2037	3.3%	1.595
2038	3.3%	1.647
2039	3.3%	1.702
2040	3.3%	1.758
2041	3.3%	1.816
2042	3.3%	1.876
2043	3.3%	1.938
2044	3.3%	2.002
2045	3.3%	2.068
2046	3.3%	2.136
2047	3.3%	2.206
2048	3.3%	2.279
2049	3.3%	2.354
2050	3.3%	2.432
2051	3.3%	2.512
2052	3.3%	2.595
2053	3.3%	2.681
2054	3.3%	2.769
2055	3.3%	2.861
2056	3.3%	2.955
2057	3.3%	3.053
2058	3.3%	3.153
2059	3.3%	3.257

IMPROVEMENT COST



TABLE A-2
IMPROVEMENT COST

Cortez Blvd and I-75 Ramps

NBR

$$600' (a) / 300 \times \$509,716 = \$1,019,432$$

(a) Queue Storage: SimTraffic 603' Use 600'

Total Length: 600'

EBT

$$\$9,908,067 \times 850'(a)/5,280' = \$1,595,049$$

(a) length of the additional lane from SB on ramp to NB off ramp

WBT

$$\$9,908,067 \times 875'(a)/5,280' = \$1,641,962$$

(a) length of the additional lane from NB on ramp to SB off ramp

$$\text{Total Cost} = \$1,019,432 + 1,595,049 + 1,641,962 = \$4,256,443$$

Source: FDOT Roadway Cost per center mile, Revised June, 2022.

EXHIBIT F

Additional Roadway Pipeline Projects/Proportionate Share Improvements