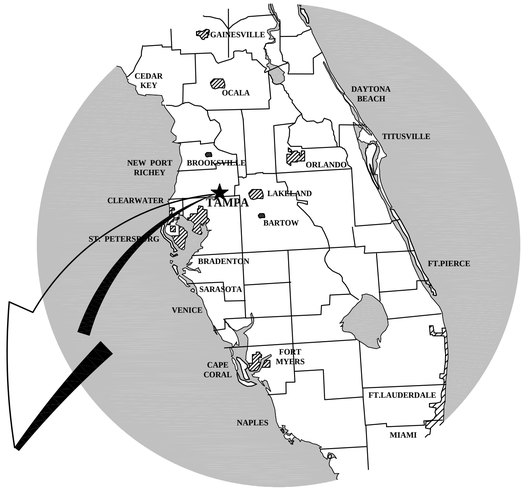
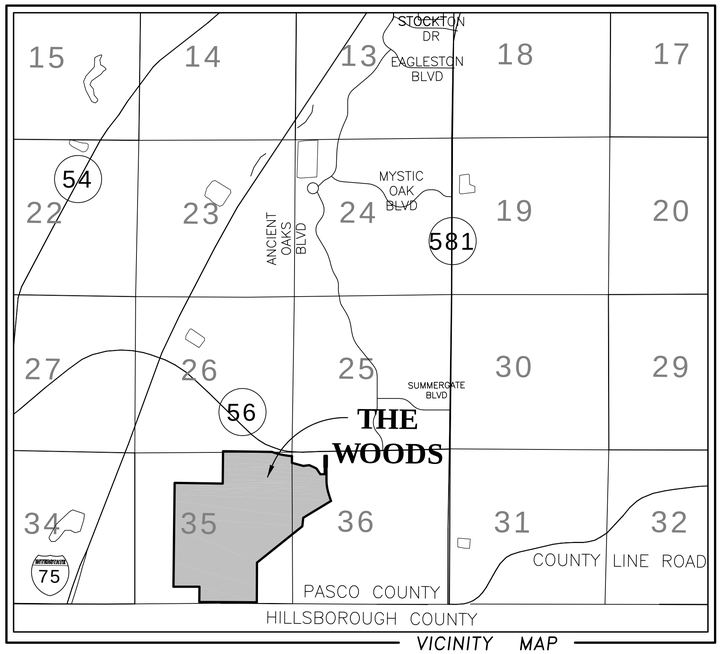


THE WOODS

PRELIMINARY PLAN/CONSTRUCTION PLANS



VICINITY MAP
PASCO COUNTY, FLORIDA
SECTIONS 35 & 36, TOWNSHIP 26 SOUTH, RANGE 19 EAST

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES
3	AERIAL SITE PLAN
4	PRELIMINARY PLAN
5	PRELIMINARY PLAN NOTES & DETAILS
6	TYPICAL ROADWAY SECTIONS
7	MASTER DRAINAGE PLAN
8-16	GRADING & DRAINAGE PLAN
17-18	DRAINAGE STRUCTURE DATA
19-20	DRAINAGE SECTIONS
21	SPILLWAY DETAILS
22-23	CONTROL STRUCTURE DETAILS
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26-35	ROADWAY PLAN AND PROFILES
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40-42	SIDEWALK, SIGNING & PAVEMENT MARKING DETAILS
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44-47	WATER, REUSE & SANITARY SEWER PLAN
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1 of 1	POST-DEVELOPMENT DRAINAGE AREA MAP
2 of 2	CONSTRUCTION SURFACE WATER MANAGEMENT PLAN
1 of 1	ADDRESS PLAN
1 of 1	WETLAND MITIGATION PLAN
3 of 3	GEOTECHNICAL PLAN
5 of 5	FINAL LANDSCAPE PLAN
9 of 9	FINAL IRRIGATION PLAN

PREPARED FOR:
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Office: 813-223-3919 Fax: 813-223-3975

PERMIT / FILE NOS.	
ADDRESS / CONTROL NO.	
WATER COMMITMENT	
SEWER COMMITMENT	
SWFWMD	040159
WATER DEP	
SEWER DEP	
PARCEL ID	35-26-19-0000-00100-0000, 35-26-19-0000-00100-0060, 36-26-19-0000-00100-0000, 36-26-19-0000-00100-0021, 36-26-19-0000-00100-0141

NOTE:
THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH THE CURRENT VERSION OF THE MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS, STATE OF FLORIDA AND ARE IN COMPLIANCE WITH THE STANDARDS THEREIN EXCEPT AS NOTED ON THE PLANS. ANY DEVIATIONS NOTED ON THE PLANS SUBSTANTIALLY COMPLY WITH THE INTENT OF THE STANDARDS.

DATE	SHEET NO.	BY
07-02-12	UPDATE PER 55' & 75' LOT WIDTH	JAS
11-01-11	2,5,7,8,9,10,12,18,CSWMP1	JAS
10-06-11	4,5,6,7,8,9,12,14,15,16,17,18,19,20 CSWMP1	JAS
07-18-11	4,5,6,7,8,9,11,12,13,16,17,18,19 DRAPRE,DRAPOST,CSWMP2	JAS

REVISIONS

THE WOODS

DATE: JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

DATE: 05-02-2011 JOB NO. TMH-NW-009

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

STREET & DRAINAGE	WATER & SANITARY SEWER
DESIGNED BY: SMIRCH	DESIGNED BY: MIDDLETON
DRAWN BY: SCHRADER	DRAWN BY: MIDDLETON

FILE: CV SHEET 1 OF 57

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STORM WATER POLLUTION PREVENTION PLAN

Contained on these plans and within the following notes is a Storm Water Pollution Prevention Plan (SWPPP) which has been developed by Clearview Land Design in accordance with the Florida Department of Environmental Protection's (FDEP) "National Pollutant Discharge Elimination System" (NPDES) Generic Permit for Stormwater Discharge from Large and Small Construction Activities.

The following entities are identified as team members of "SWPPP": Clearview Land Design, the Developer as identified in the title box of these plans, and the site contractor and his sub-contractors. Each team member has specific responsibilities and obligations. In general, all team members, with regard to their involvement and responsibilities on the project, are to implement all necessary storm water management controls to assure compliance with the NPDES Generic Permit for Storm Water Discharges from Construction Activities, the Southwest Florida Water Management District Permit, the applicable local governing agency (i.e. Hillsborough County, City of Tampa, etc) and the guidelines listed in the SWPPP. The duties and responsibilities of the team members as they pertain to the SWPPP are as follows:

Clearview Land Design, P.L.

A. Develop SWPPP including, but not limited to, retention/detention ponds, control structures, erosion control methods and locations and stabilization criteria. This design is included within these construction plans and the following notes and instructions.

B. Submit and obtain the necessary design related storm water permits from the Florida Department of Environmental Protection, the Southwest Florida Water Management District and other applicable governmental bodies.

C. Upon notification by the developer of his intent to commence construction, submit a Notice of Intent to the FDEP on behalf of the developer and copy the contractor including SWPPP certification and copy of the permit.

D. Submit to SWFWMD and the operator of the municipal separate storm water system, if applicable, a letter of construction commencement.

E. Complete and submit a Notice of Termination and certification for developer. The NOT's shall be submitted no more than 30 days after
(a) completion of the project and final stabilization of the site or
(b) when responsibility for the site has ended. Final stabilization as defined by EPA is when all soil disturbing activities at the site have been completed and a uniform (e.g. evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures. As an alternative, equivalent permanent stabilization measures (such as riprap, gabions, or geotextiles) may be employed. The client shall notify Clearview Land Design when one of these criteria has been met.

Contractor

A. Sign and return to Clearview a Contractors Certification Form certifying your understanding of and willingness to comply with the Storm Water Pollution Prevention Plan no later than 48 hours prior to commencement of construction. Also, each subcontractor affected by the SWPPP must certify to the contractor that they understand and shall comply with the NPDES permit and SWPPP. A record of these certifications shall be maintained by the contractor on site.

B. During construction, assure compliance with the designed Storm Water Pollution Prevention Plans prepared by Clearview Land Design and the NPDES Generic Permit for Storm Water Discharges from Large and Small Construction Activities.

C. Maintain a copy of the construction plans, which include the Storm Water Pollution Prevention Plan, the NOI, and all inspection reports and certifications on site.

D. Undertake all reasonable Best Management Practices (BMP's) to assure that silted or otherwise polluted storm water is not allowed to discharge from the site during all phases of construction. Stabilization BMP's that may be used include: temporary or permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees and preservation of mature vegetation. Structural erosion and sediment control BMP's that may be used include: straw bale dikes, silt fences, earth dikes, brush barriers, drainage swales, check dams, subsurface drain, pipe slope drain, level spreaders, storm drain inlet protection, outlet protection, sediment traps, and temporary sediment basins. Detention ponds may also be used as temporary sediment basins. Additional BMP's that may need to be implemented include: providing protected storage areas for chemicals, paints, solvents, fertilizers, and other potentially toxic materials. Providing waste receptacles at convenient locations and providing regular collection of wastes, including building material wastes. Minimizing off-site tracking of sediments. Making adequate preparations, including training and equipment to contain spills of oil and hazardous materials. Complying with applicable state or local waste disposal, sanitary sewer or septic system regulations and the use of appropriate pollution prevention measures for allowable non-storm water components of discharge.

E. Notify Clearview Land Design and the developer in writing of any non-storm water pollution sources which are being stored, or otherwise used during the construction of the project, i.e., fertilizers, fuels, pesticides, other chemicals. This notification should be accompanied with the contractor's design and methods to prevent pollution run-off from these sources.

F. Develop a maintenance and inspection plan which includes, but is not limited to the following:

A. The specific areas to be inspected and maintained that includes all the disturbed areas and material storage areas of the site.

B. The erosion and sediment controls identified in the SWPPP to be maintained and inspected and those additional controls that the contractor deems necessary.

C. Maintenance procedures.

D. The procedure to follow if additional work is required or whom to call.

E. Inspections and maintenance forms.

F. The personnel assigned to each task.

The following shall be inspected a minimum of once a week or within 24 hours after 0.50 inches of rainfall:

- Stabilization measures (once a month if fully stabilized).
- Structural controls.
- Discharge points.
- Construction entrances and exits.
- Areas used for storage of exposed materials.

An inspection form shall be completed for each inspection. Any permit violations should be noted and corrective measures shall be taken no later than 7 days after the inspection occurred. If revisions to the SWPPP are needed, a report form for changes in the SWPPP shall be completed and a copy sent to Clearview Land Design, P.L. The original shall be kept on-site as documentation of the change. If the inspection passes, a certification that the facility is in compliance with the SWPPP and the NPDES permit must be signed by a duly authorized representative of the principal executive official of the operator of the SWPPP with one of the following qualifications:

1. Has successfully completed the Florida Stormwater, Erosion and Sediment Control Inspector Training Program.
2. Successfully completed a similar training program.
3. Has enough practical on the job training to be qualified to perform the inspections.

Retain inspection reports and certifications for at least three years.

G. Site stabilization measures shall be initiated as soon as practical but in no case more than 7 days, in portions of the site where construction activities have temporarily or permanently ceased.

H. Releases in Excess of Reportable Quantities.

1. The discharge of hazardous substances or oil in the stormwater discharge(s) from a facility or activity shall be prevented or minimized in accordance with the applicable stormwater pollution prevention plan for the facility or activity. This permit does not relieve the operator of the reporting requirements of 40 CFR part 117 and 40 CFR part 302. Where a release containing a hazardous substance in an amount equal to or in excess of a reporting quantity established under either 40 CFR 117 or 40 CFR 302, occurs during a 24 hour period:

 a. The operator is required to notify the State Warning Point (800-210-0519 or 850-413-9911) as soon as he or she has knowledge of the discharge;

 b. The operator shall submit within 14 calendar days of knowledge of the release a written description of: the release (including the type and estimate of the amount of material released), the date that such release occurred, the circumstances leading to the release, and remedial steps to be taken, to the Florida Department of Environmental Protection, NPDES Stormwater Section, Mail Station 2500, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and

 c. The stormwater pollution prevention plan required under Part V of this permit must be modified within 14 calendar days of knowledge of the release to: provide a description of the release, the circumstances leading to the release, and the date of the release. In addition, the plan must be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan must be modified where appropriate.

2. This permit does not authorize the discharge of hazardous substances or oil resulting from an on-site spill.

Developer

A. Notify Clearview of your intent to commence construction. Sign the Notice of Intent form as operator of the storm water discharge facility and permittee and return to Clearview Land Design, P.L.

B. Sign a Certification of Storm Water Pollution Prevention Plan and return to Clearview Land Design, P.L.

C. Notify Clearview when it is time to submit a Notice of Termination as defined under Part E of the Clearview Land Design section of the SWPPP. Sign and return to Clearview Land Design, P.L. for submittal to FDEP a Notice of Termination form and certification.

PRE-DEVELOPED SITE INFORMATION:

1. Total site acreage: 413.58 Ac.±
2. Land use: VACANT PASTURE
3. Vegetation: PASTURE, HARDWOODS
4. Receiving waters or municipal separate storm water system: CYPRESS CREEK
5. 2 Year/24 Hour rainfall depth: 4.3"
6. Soil types: POMONA FINE SAND, FELDA FINE SAND, SPARR FINE SAND, SMYRNA FINE SAND, NARCOOSSEE FINE SAND, OKEELANTA-TERRA CEIA ASSOCIATION, CASSISA FINE SAND

PROJECT INFORMATION:

1. Project type (residential, commercial, etc.)
2. Anticipated construction sequence is as follows:
 1. Complete erosion control installation
 2. Clearing and grubbing
 3. Earthwork activities
 4. Storm water system construction
 5. Utility construction
 6. Base and pavement construction
 7. Final stabilization

 The BMP's listed in Part D of the Contractor section of the SWPPP shall be considered during all phases of construction.
3. Anticipated start date: 11/15/2012
4. Anticipated completion date: 11/15/2017
5. Total acres disturbed: 110 Ac. ±
6. Pre-developed "C" factor: 0.15
7. Post-developed "C" factor: 0.45
8. The storm water management system, upon completion of construction and appropriate certification and as-built submittals will be operated and maintained by THE WOODS PROPERTY OWNERS ASSOCIATION
9. The potential source of pollution from this project is on-site development and construction activity.

OWNER'S INSTRUCTIONS FOR MAINTENANCE AND INSPECTION OF STORMWATER FACILITIES

The entire stormwater system should be inspected on at least a semi-annual basis. This should include a visual inspection of the pond, pond banks, bleed-down orifices, other control structures, and discharge pipes. These should be kept free of debris and cleaned on a frequency as required to keep them functional, as designed. Mowing/clearing around the structures may be required to prevent vegetation from clogging them.

Wetland plants, if intentionally installed, should be monitored and maintained as required on the approved construction plans. Areas of littoral shelving, which are required to be vegetated but not intentionally planted, should not be cleared of the wetland plants. These areas should have as high a plant coverage as possible, for maximum water filtration.

Sediment sumps, if designed and installed, should have sediment removed as necessary to allow them to efficiently remove suspended particles. They should be re-dug to the original design specifications, if silted in.

For percolation treatment ponds/swales, the owner of the facility shall inspect the pond bottom periodically after heavy rainfall events to check for persistent ponding or pooling of water. All large debris shall be removed and disposed of elsewhere. If prolonged ponding persists, i.e., in excess of 72 hours, the owner shall rake or scarify the surface. If required, the soil in the area of ponding shall be removed and replaced with clean sandy, non-cohesive soils.

Please check the construction plans to see if written reports on monitoring or plant survival rates are required to be sent to any reviewing agencies. Written notes should always be kept which describe maintenance activities undertaken during each inspection.

Specific conditions of all permits may require additional maintenance activities above and beyond those outlined above. Please be aware of all permit conditions as issued by regulatory agencies to ensure permit compliance.

GENERAL EROSION AND TURBIDITY CONTROL NOTES

1. The Site Subcontractor shall be responsible for installation and maintenance of all erosion and turbidity controls and the quality and quantity of offsite or wetland discharges.
2. Prior to construction, the Site Subcontractor is responsible for having his dewatering plan and turbidity control plan approved by the applicable reviewing agencies. Refer to the project's permit approvals and permit conditions for agencies requiring such review and approval. Questions concerning appropriate techniques should be addressed to those agencies and/or discussed with the project engineer and owner.
3. The appropriate turbidity and erosion control methodologies selected by the Site Subcontractor for this project should be made following assessment of the plans and project site specific factors and after consultations as needed with the project engineer and appropriate agencies. The Site Subcontractor will be responsible for obtaining any and all necessary permits for such activity; several factors to consider are listed below:
 A. Clay content in excavated materials and/or permeabilities rates
 B. Depth of cut in ponds, trenches, or utility lines
 C. Ambient ground water levels
 D. Actual rainfall amounts and time of year relative to normal rainy season
 E. Proximity to wetlands, water bodies or offsite properties
 F. 'Class' designation of receiving water bodies (i.e., Outstanding Florida Waters, shellfish harvesting areas, etc.)
 G. Density, type, and proximity of upland vegetation to be retained during construction (for use as possible filtration areas)
 H. Fill height relative to natural grade and length and steepness of the proposed slopes
 I. Existing topography and directions of surface flow
 J. Type of equipment used
 K. Project type
 L. Duration of construction activities
 M. Separation distance of onsite ponds
 N. Ambient quality of surface and groundwater
 O. Temporary stockpile locations and heights
4. At the onset of construction, the Site Subcontractor, as the party responsible for implementation of the erosion and sediment control plan, shall assess the above described conditions and factors with respect to relative cost effectiveness and select the appropriate methods of protection. A fairly extensive list of techniques are presented below but it must be stressed that any or all of the following may be necessary to maintain water quality and quantity standards. The construction sequencing should be thought out in advance of initiation to provide adequate protection of water quality.
5. Discharges which exceed 29 N.T.U.'s over the background levels are in violation of state water quality standards. Discharges of water quantities which affect offsite properties or may damage wetlands are also prohibited by regulating agencies.
6. The erosion and turbidity control measures shown hereon are the minimum required for agency approval. Additional control and measures may be required due to the Site Subcontractor's construction sequence & unforeseen weather conditions. Any additional measures deemed necessary by the Site Subcontractor shall be included in the lump sum bid with no extras for materials and labor allowed.
7. Hay bales or silt screens shall be installed prior to land clearing to protect water quality and to identify areas to be protected from clearing activities and maintained for the duration of the project until all soil is stabilized.
8. Floating turbidity barriers shall be in place in flowing systems or in open water lake edges prior to initiation of earthwork and maintained for the duration of the project until all soil is stabilized.
9. No clay material shall be left exposed in any stormwater storage facility. If clay or sandy-clays are encountered during stormwater storage excavation, the Site Subcontractor shall notify the Engineer immediately before proceeding with further excavation. If the Engineer of Record has determined that such soils are non-confining and must be excavated to meet permit and design conditions, excavation may proceed after obtaining written authorization from the appropriate governing agency. If said soils are left exposed at the permitted and designed depth, the Site Subcontractor shall over-excavate the pond's bottom and side slopes by a minimum of twelve (12") inches and backfill with clean sands to help prevent suspension of fine particles in the water column.
10. The installation of temporary erosion control barriers shall be coordinated with the construction of the permanent erosion control features to the extent necessary to assure effective and continuous control of erosion and water pollution throughout the life of the construction phase.
11. The type of erosion control barriers used shall be governed by the nature of the construction operation and soil type that will be exposed. Silty and clayey material may require solid sediment barriers to prevent turbid water discharge, while sandy material may need only silt screens or hay bales to prevent erosion. Floating turbidity curtains should generally be used in open water situations. Diversion ditches or swales may be required to prevent turbid stormwater runoff from being discharged to wetlands or other water bodies. It may be necessary to employ a combination of barriers, ditches, and other erosion/turbidity control measures if conditions warrant.
12. Where pumps are to be used to remove turbid waters from construction areas, the water shall be treated prior to discharge to the wetlands. Treatment methods include, for example, turbid water being pumped into grassed swales or appropriate upland vegetated areas (other than upland preservation areas and wetland buffers), sediment basins, or confined by an appropriate enclosure such as turbidity barriers or low berms, and kept confined until turbidity levels meet State Water Quality Standards.
13. The Permittee shall schedule his operations such that the area of unprotected erodible earth exposed at any one time is not larger than the minimum area necessary for efficient construction operation, and the duration of exposed, uncompleted construction to the elements shall be as short as practicable. Clearing and grubbing shall be so scheduled and performed such that grading operations can follow immediately thereafter. Grading operations shall be so scheduled and performed that permanent erosion control features can follow immediately thereafter if conditions on the project permit.
14. Water derived from various dewatering methods should be passed through sufficiently wide areas of existing upland vegetation to filter out excess turbidity. If this is not sufficient, the water shall be retained in previously constructed permanent stormwater ponds or else retained in temporary sedimentation basins until the clarity is suitable to allow for its discharge. Plugging the outfalls from completed stormwater ponds may be needed to avoid discharge. However, such situations should be monitored closely to preclude berm failure if water levels rise too high.
15. Water can be transported around the site by the use of internal swales or by pumps and pipes.
16. Sheet flow of newly filled or scraped areas may be controlled or contained by the use of brush barriers, diversion swales, interceptor ditches or low berms. Flow should be directed toward areas where sediments can sufficiently settle out.
17. Exposed soils shall be stabilized as soon as possible, especially slopes leading to wetlands. Stabilization methods include solid sod, seeding and mulching or hydromulching to provide a temporary or permanent grass cover mulch blankets, filter fabrics, etc., can be employed to provide vegetative cover.
18. Energy dissipaters (such as rip rap, a gravel bed, hay bales, etc.) shall be installed at the discharge point of pipes or swales if scouring is observed.
19. Attempt to install roadway curb and gutters as soon as possible to reduce the surface area for erosion to occur.
20. Implement storm drain inlet protection (hay bales or gravel) to limit sedimentation within the stormwater system. Perform inspections and periodic cleaning of sediments which wash out into the streets until all soil is stabilized.
21. Water discharge velocities from impounded areas and temporary sedimentation basins shall be restricted to avoid scouring in receiving areas.
22. If water clarity does not reduce to state standards rapidly enough in holding ponds, it may be possible to use chemical agents such as alum to flocculate or coagulate the sediment particles.
23. Hay bales, silt screens, or gravel beds can be added around the pipe or swale discharge points to help clarify discharges. Spreader swales may help dissipate cloudy water prior to contact with wetlands.
24. All fuel storage areas or other hazardous storage areas shall conform to accepted state or federal criteria for such containment areas.
25. Vehicle or equipment washdown areas will be sufficiently removed from wetlands or offsite areas.
26. Fugitive dust controls (primarily by using water spray trucks) shall be employed as needed to control windborn emissions.
27. If the above controls remain ineffective in precluding release of turbid water, especially during pond or utility line dewatering, then the contractor may be compelled to use a vertical dewatering system such as well points or sock drains to withdraw groundwater which may already be clear enough to allow for direct discharge to wetlands.
28. Ongoing inspections and periodic maintenance by the Site Subcontractor shall occur daily (at a minimum) to insure the above methods are working suitably. Corrective action must be taken immediately to repair or replace any damaged BMP's to ensure the above methods are working properly.
29. Site Subcontractors are required to obtain and thoroughly review The Florida Development Manual: A Guide to Sound Land and Water Management, which was developed by the State of Florida Department of Environmental Protection in 1988. This provides fairly in-depth discussions of recommended techniques and also provides specific design and technical standards. A copy of this document is available for review at Clearview Land Design, P.L.

NOTE: CONTRACTOR SHALL INSPECT EROSION CONTROL DAILY (INCLUDING BUT NOT LIMITED TO TYPICAL OUTFALLS TO OFWs). CORRECTIVE ACTION SHALL BE TAKEN IMMEDIATELY TO REPAIR OR REPLACE AS NEEDED.

LEGAL DESCRIPTION: SEE PRELIMINARY PLAN

SOIL REUSE REQUIREMENTS

At least the following six (6) types of materials are present on-site that require proper handling/treatment by the Contractor, during the course of site development/construction activities, in accordance with the noted reuse requirements for each type. Although some soil material quality control testing will be randomly and periodically performed by the project Geotechnical Consultant, as required, working for the Owner, it is the Contractors sole responsibility to reuse onsite soil materials as described and specified below. All discovered or future filling or material reuse work onsite not in accordance or compliance with these notes, or any future adverse impacts or consequences resulting from the Contractors failure to properly reuse soil materials onsite as specifically described below, will be the Contractors sole responsibility for remedy and repair at his cost. If the Contractor has any questions regarding any of the soil materials onsite, the project Geotechnical reports (which he needs to obtain from the Owner or Geotechnical Consultant/ Engineer), or any questions associated with the notes below, it is presumed that the Contractor will satisfactorily resolve such questions/concerns prior to site demolition, clearing, grubbing, stripping and excavation operations begin.

Please note, local, state and federal rules, laws, and regulations prohibiting soil reuse as described below shall take precedence and shall be followed to the fullest extent.

1. Site Demolition Debris (Site demolition debris, not generally considered an environmental/ contamination hazard, includes such items as wood pieces, concrete pieces, plastic pipe pieces, certain metal/steel pieces, or similar. If any such debris or other demolition debris is considered an environmental/contamination hazard, or if burial onsite of such materials is prohibited by the governing environmental agency, then all such materials shall be hauled off site by the Contractor for proper disposal, in accordance with all applicable governing environmental agency requirements. In no case, shall any such debris materials remain, or be placed by the Contractor, beneath any type of structure, pavement, roadway, house, building, pipeline, slab, etc.)

All Site Demolition Debris shall be removed from the site development and disposed of properly in accordance with all applicable governing environmental agency requirements.

2. Clearing and Grubbing Debris (Site clearing and grubbing debris includes all larger organic materials, such items as trees, stumps, limbs, brush, vegetation, or similar; all such materials must be either "burned" or "mulched" by the Contractor prior to reuse or disposal onsite.)

If acceptable to the governing environmental agency, then all such "burned" or "mulched" site clearing/grubbing debris, if approved in writing first by the Owner/Geotechnical Consultant/ Engineer, could be:

a). placed as "mulch" material surface dressing in future landscape areas, stockpiling of such "mulched" materials (amounts/locations), if acceptable, will be directed by the Owner/Geotechnical Consultant//Landscape Architect/Engineer;

b). placed in temporarily excavated littoral shelf areas in selected stormwater ponds, or in temporarily excavated selected wetland mitigation ponds, in either case not in side banks and not below the permitted design depth of the pond, or such debris could be buried in temporarily excavated passive recreation/park areas (at least 30 feet from any structure) at approved depths/locations, but all these disposal areas will require adequate soil mixing (mix soil with the mulch) and then refilling (with compaction) to required design grades;

c). placed along the bottom of selected floodplain mitigation ponds (not in side banks), not below the permitted excavation depth of the pond, but will require adequate soil cover;

d). placed along the bottom of selected deeper stormwater ponds (not in side banks), not below the permitted design depth, but will require adequate soil cover.

In all instances, the minimum pond depth (including floodplain and wetland mitigation areas) shall be no less than required by the Engineer.

All organic debris burial areas in stormwater pond areas and floodplain mitigation pond areas will require adequate soil cover of 18 – 24 inches (with compaction) by the Contractor, meaning at least an adequate weight/thickness of soil material overtop the buried organic debris, such that there will be no future floating up of debris; and for all organic debris burial areas in littoral shelf areas, wetland mitigation pond areas, and passive recreation/park areas, adequate soil/mulch mixing (with compaction) will be necessary by the Contractor, such that no significant future unacceptable settlement of a littoral shelf area, created wetland area, or park/grassed area will occur.

If any of these procedures are contemplated by the Contractor, then the Contractor shall notify the Owner/Geotechnical Consultant/Engineer in writing, at the start of construction, with some specific information, including the estimated quantity and types of materials, to which stormwater ponds, floodplain mitigation ponds, wetland mitigation ponds, or passive recreation/park areas they propose to use for this type of organic debris disposal, and what approximate elevations will be the top and bottom of the organic debris.

3. Muck/Peat Organic Materials (Typically generated from wetland or lowland areas, or similar areas, permitted for impact or displacement, including excavation of unsuitable organic materials and refilling with suitable sandy soils to accommodate development; includes significant organic peat materials, organic sandy muck materials, and mucky or organic sand materials, designated either Pt or A-8, per the Unified and AASHTO Soil Classification Systems, respectively; those organic materials whose presence, or placement by the Contractor, is unacceptable beneath any type of structure, pavement, roadway, house, building, pipeline, slab, etc.)

If acceptable to the governing environmental agency, then all such muck/peat (significant) organic materials, if approved in writing first by the Owner/Geotechnical Consultant/Engineer, could be:

a). placed as "peat/muck/organic matter" surface layer in new or created wetland mitigation areas, stockpiling of such "significant organic" materials (amounts/locations), if acceptable, will be directed by the Owner/Wetland Consultant;

b). placed in temporarily excavated littoral shelf areas in selected stormwater ponds, or in temporarily excavated selected wetland mitigation ponds, in either case not in side banks and not below the permitted design depth of the pond, or such organic materials could be buried in temporarily excavated passive recreation/park areas (at least 30 feet from any structure) at approved depths/locations, but all these disposal areas will require adequate soil mixing (mix soil with the organic materials) and then refilling (with compaction) to required design grades;

c). placed along the bottom of selected floodplain mitigation ponds (not in side banks), not below the permitted excavation depth of the pond, but will require adequate soil cover;

d.) placed along the bottom of selected deeper stormwater ponds (not in side banks), not below the permitted design depth, but will require adequate soil cover.

All organic debris burial areas in stormwater pond areas and floodplain mitigation pond areas will require adequate soil cover (with compaction) by the Contractor, meaning at least an adequate weight/thickness of soil material overtop the buried organic debris, such that there will be no future floating up of debris; and for all organic debris burial areas in littoral shelf areas, wetland mitigation pond areas, and passive recreation/park areas, adequate soil/organics mixing (with compaction) will be necessary by the Contractor, such that no significant future unacceptable settlement of a littoral shelf area, created wetland area, or park/grassed area will occur.

If any of these procedures are contemplated by the Contractor, then the Contractor shall notify the Owner/Geotechnical Consultant/Engineer in writing, at the start of construction, with some specific information, including the estimated quantity and types of materials, to which stormwater ponds, floodplain mitigation ponds, wetland mitigation ponds, or passive recreation/park/landscape berm areas they propose to use for this type of organic material disposal, and what approximate elevations will be the top and bottom of the organic materials.

4. Topsoils/Site Strippings (Typically generated from upland areas, after demolition/clearing/ grubbing/discing operations; stripping of surficial organics/topsoils being a requirement over at least all structure, building, concrete slab and pavement areas prior to filling to accommodate development; includes topsoils and organic laden sands; those topsoils/organic sand materials whose presence, or placement by the Contractor, is unacceptable beneath any type of structure, pavement, roadway, house, building, pipeline, slab, etc.)

If acceptable to the governing environmental agency, all such topsoils/organic laden sand materials, if approved in writing first by the Owner/Geotechnical Consultant/Engineer, could be:

a). placed as fill in new (larger) landscape/grass common areas or landscape berm areas (with compaction), stockpiling of such "topsoils/organic laden sand materials" (amounts/locations), if acceptable, will be directed by the Owner/Landscape Consultant;

b). placed in temporarily excavated littoral shelf areas in selected stormwater ponds, or in temporarily excavated selected wetland mitigation ponds, in either case not in side banks and not below the permitted design depth of the pond, or such topsoils/organic laden sand materials could be buried in temporarily excavated passive recreation/park areas (at least 30 feet from any structure) at approved depths/locations, but all these disposal areas will require refilling (with compaction) to required design grades;

c). placed along the bottom of selected floodplain mitigation ponds (not in side banks), not below the permitted excavation depth of the pond;

d.) placed along the bottom of selected deeper stormwater ponds (not in side banks), not below the permitted design depth.

All topsoil/organic laden sand disposal areas in littoral shelf areas, wetland mitigation pond areas, passive recreation/park areas, or landscape/berm areas will require adequate compaction by the Contractor, such that no significant future unacceptable settlement of a littoral shelf area, created wetland area, park/grassed area, or landscape berm will occur.

If any of these procedures are contemplated by the Contractor, then the Contractor shall notify the Owner/Geotechnical Consultant/Engineer in writing, at the start of construction, with some specific information, including the estimated quantity and types of materials, to which stormwater ponds, floodplain mitigation ponds, wetland mitigation ponds, passive recreation/park areas, or landscape berm areas they propose to use for this type of organic debris disposal, and what approximate elevations will be the top and bottom of the organic debris.

5.) Non-Structural Clayey Sand/Clay Materials (Typically generated from pond/lake excavations or from utility pipeline/manhole excavations; such clayey sand/clay materials, with typically 40% fines or more passing the No. 200 sieve, designated either SC, CL, CH or A-4 to A-7, per the Unified and AASHTO Soil Classification Systems, respectively; such clayey sand/clay materials being unsuitable or unacceptable for reuse by the Contractor as building pad fill, structural fill, roadway embankment fill, and pipeline or manhole excavation backfill.)

If acceptable to the governing environmental agency, all such clayey sand/clay materials, if approved in writing first by the Owner/Geotechnical Consultant/Engineer, could be:

a). placed as fill in new (larger) landscape/grass common areas or landscape berm areas (with compaction), provide some surface drainage relief, use where infiltration and drainage is not an important issue, provide some surface sandy soils (min. of 18-inches) as directed by the Landscape Consultant for planting; stockpiling of such "clayey sand/clay materials" (amounts/locations), if acceptable, will be directed by the Owner/Landscape Consultant;

b). placed in temporarily excavated littoral shelf areas in selected stormwater ponds, or in temporarily excavated selected wetland mitigation ponds, in either case not in side banks and not below the permitted design depth of the pond, or such clayey sand/clay materials could be buried in temporarily excavated passive recreation/park areas (at least 30 feet from any structure) at approved depths/locations, but all these disposal areas will require refilling (with compaction) to required design grades, and the top 2 feet (min.) being sand materials (not clayey materials) for turbidity control and planting;

c). placed along the bottom of selected floodplain mitigation ponds (not in side banks), not below the permitted excavation depth of the pond; however, a 12-inch layer (min.) of sand material overtop the clayey materials will be necessary for turbidity control.
d.) placed along the bottom of selected deeper stormwater ponds (not in side banks), not below the permitted design depth, however, a 12-inch layer (min.) of sand material overtop the clayey materials will be necessary for turbidity control.

All clayey sand/clay disposal areas in littoral shelf areas, wetland mitigation pond areas, passive recreation/park areas, or landscape/berm areas will require adequate compaction by the Contractor, such that no significant future unacceptable settlement of a littoral shelf area, created wetland area, park/grassed area, or landscape berm will occur.

If any of these procedures are contemplated by the Contractor, then the Contractor shall notify the Owner/Geotechnical Consultant/Engineer in writing, at the start of construction, with some specific information, including the estimated quantity and types of materials, to which stormwater ponds, floodplain mitigation ponds, wetland mitigation ponds, passive recreation/park areas, or landscape berm areas they propose to use for this type of clayey sand/clay disposal, and what approximate elevations will be the top and bottom of the clayey materials.

6.) Structural Sand Fill Materials (Typically generated from pond/lake excavations, cut from higher elevation areas, or from utility pipeline/manhole excavations; such sand materials, with typically 35% fines or less passing the No. 200 sieve, designated either SP, SP-SM, SM or A-2-4, A-2-6 or A-3, per the Unified and AASHTO Soil Classification Systems, respectively; such sand materials being suitable or acceptable for reuse by the Contractor as building pad fill, structural fill, roadway embankment fill, and pipeline or manhole excavation backfill.)

All such sand materials shall be reused onsite by the Contractor, per the Geotechnical reports, as building pad fill, structural fill, roadway embankment fill, and pipeline or manhole excavation backfill; placed by the Contractor in loose lifts not exceeding 12-inches, compacted to at least 95% or 98% modified Proctor (per ASTM D-1557 or AASHTO T-180), whichever is applicable depending upon the future use of the filled area (see Geotechnical reports); with density testing of each fill lift for acceptance by the Geotechnical Consultant, upon Contractor request, prior to the next fill lift being placed.

Pond/Lake Excavation Note:
No excavation shall extend below the permitted design depths/elevations shown on the drawings, unless additional testing supports otherwise; and no lower semi-confining unit clayey soil material and/or no limestone materials shall be excavated, regardless if these materials are encountered within the permitted excavation depths/elevations. If any lower semi-confining unit clayey soil materials or limestone materials are encountered above the permitted depths/elevations, then excavation operations shall cease in the general area and the Engineer of Record shall be notified immediately.

GENERAL CONSTRUCTION NOTES:

1. Prior to construction, the Contractor shall obtain from the Engineer or Owner a copy of all pertinent permits related to this project. It is the Contractor's responsibility to assure that all construction activities are in compliance with the conditions of all permits and approvals. Contractor is also responsible for having his dewatering plan approved by SWFWMD.
2. All construction, materials and workmanship are to be in accordance with Pasco County Land Development Code and DOT Specifications, latest editions.
3. Grass and mulch, or solid sod, all areas in existing rights-of-way disturbed by construction. In the proposed rights-of-way a 16" wide area behind the back of curb shall be solid sodded. The remainder of the proposed rights-of-way to be seeded and mulched if the slope is greater than 6:1.
4. Contractor is to coordinate all work within, but not limited to Pasco County rights-of-way with utility companies in order to prevent damage to utility lines and making of adjustments to same, if required.
5. Suitable fill obtained through excavation of streets and detention ponds shall be placed on lots and adjacent land in accordance with the Master Drainage and Grading Plan as directed by the Engineer.
6. Sod/Seed & Mulch shall be placed in accordance with applicable City/County standards as well as in accordance with standard and specific conditions in the SWFWMD permit, if applicable. At a minimum this shall include sodding of all pond embankments of a slope 4:1 or greater to the NW line, as well as seeding and mulching of the balance of the pond tracts (including pond berms, excluding the area below NW), sodding at a minimum of 16" from the back of curb, and seeding and mulching of any project area with a slope of 4:1 or steeper.
7. Roadway underdrain has been located on these plans to ensure adequate base protection. Prior to curb construction, the Geotechnical Engineer shall review the predesign borings and, along with their field inspection, make a recommendation regarding additional underdrain requirements.
8. Site clearing shall be performed per the approved construction plans and in accordance with Pasco County Land Development Code. Installation and maintenance of the required barricading and erosion control shall be the responsibility of the site development contractor unless otherwise designated.
9. Prior to beginning construction, Contractor shall expose all existing utility inverts to which a tie-in is proposed and have Engineer verify the elevation and adequacy of these inverts.
10. All subsurface construction shall comply with the "Trench Safety Act." The Contractor shall ensure that the method of trench protection and construction is in compliance with the Occupational Safety and Health Administration (OSHA) regulations.
11. Siltation accumulations greater than the lesser of 12 inches or one-half the depth of the siltation barrier shall be immediately removed and placed in upland areas.
12. During land alteration and construction activities, it shall be unlawful to remove vegetation by grubbing or to place soil deposits, debris, solvents, construction material, machinery or other equipment of any kind within the dripline of a tree to remain on the site unless otherwise approved by the County.
13. All erosion control installation and installation coordination shall be the responsibility of the Contractor. Clearview Land Design, if contracted by the Owner, will stake the alignment of the proposed erosion control and shall limit its responsibility and coordination at that point. Be advised that the construction approval and maintenance of the erosion control shall be the sole responsibility of the Site Contractor.
14. Building downspouts to be directed to the on-site storm drainage system.
15. Future expansion areas, if disturbed, to be seeded and mulched or sodded to prevent erosion to existing pavement surfaces.

DATE	DESCRIPTION	BY
11-01-11	REVISE NOTES FOR DAILY INSPECTIONS	JAS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

GENERAL NOTES

JOB NO. TMH-NW-009
DESIGN SMIRCH
DRAWN SCHRADER
DATE 05-02-2011
FILE GN

THE WOODS

PREPARED FOR: TAYLOR MORRISON

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

SHEET 2 OF 57 SHEETS

THIS EXHIBIT WAS PREPARED FOR ILLUSTRATIVE PURPOSES ONLY. THE LATEST SUITABLE DIGITAL AERIAL IMAGES HAVE BEEN USED. HOWEVER, THIS MAY NOT ACCURATELY DEPICT CURRENT SITE CONDITIONS. ADDITIONAL ENGINEERING, ENVIRONMENTAL REVIEWS, FIELD SURVEYING AND DATA COLLECTION ARE NECESSARY TO CORRECTLY PORTRAY ACTUAL SITE CONDITIONS. THIS EXHIBIT IS SUBJECT TO CHANGE WITHOUT NOTICE BASED ON THE ABOVE.

DATE OF PHOTOGRAPH: 2010

DATE	DESCRIPTION	BY
07-02-12	UPDATE PER 55' x 75' LOT WIDTH	JAS

REVISIONS

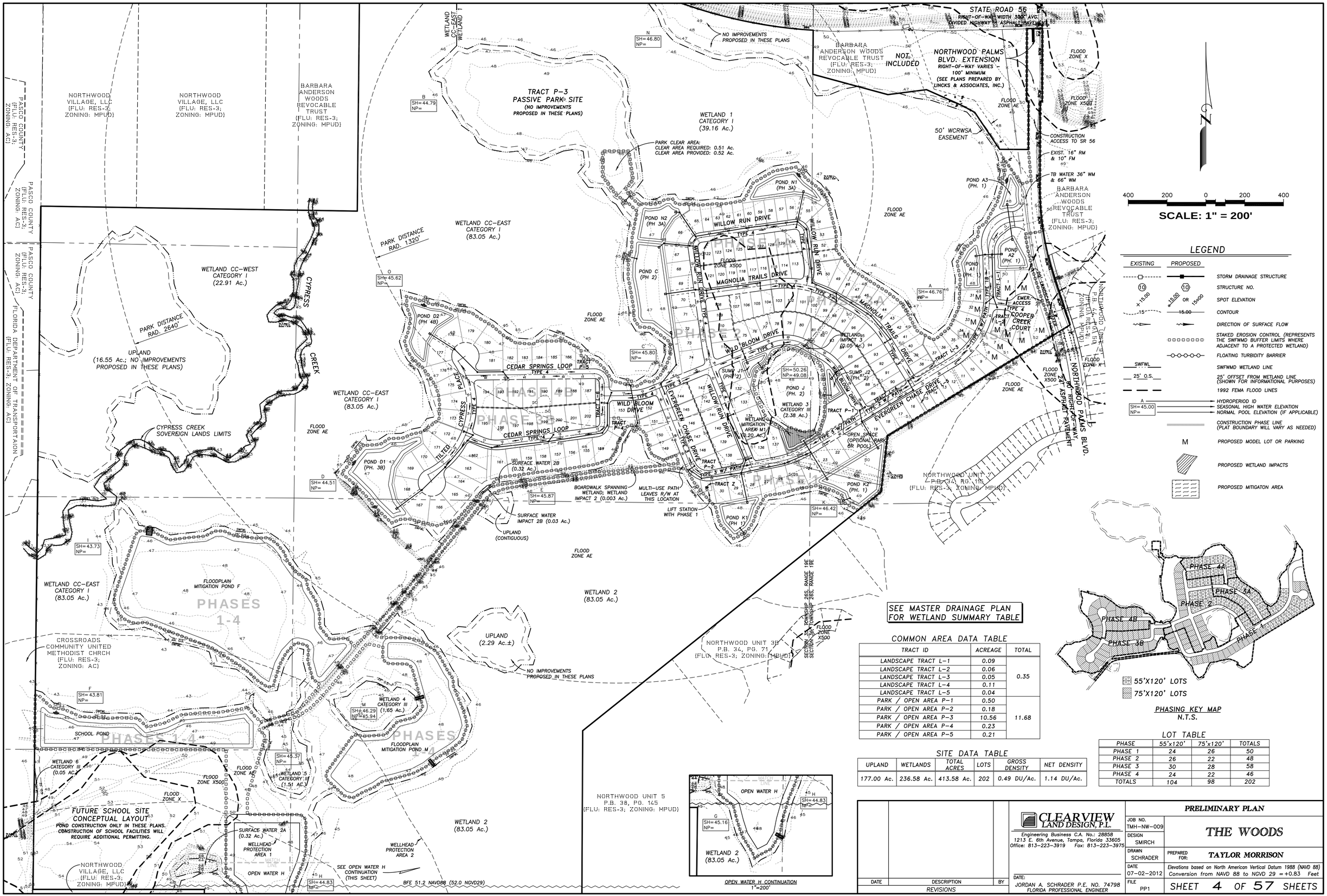
CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:

JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

AERIAL SITE PLAN

JOB NO. TMH-NW-009	THE WOODS
DESIGN SMIRCH	
DRAWN SCHRADER	PREPARED FOR: TAYLOR MORRISON
DATE 05-02-2011	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE ASP	SHEET 3 OF 57 SHEETS



COMMON AREA DATA TABLE

TRACT ID	ACREAGE	TOTAL
LANDSCAPE TRACT L-1	0.09	0.35
LANDSCAPE TRACT L-2	0.06	
LANDSCAPE TRACT L-3	0.05	
LANDSCAPE TRACT L-4	0.11	
LANDSCAPE TRACT L-5	0.04	
PARK / OPEN AREA P-1	0.50	11.68
PARK / OPEN AREA P-2	0.18	
PARK / OPEN AREA P-3	10.56	
PARK / OPEN AREA P-4	0.23	
PARK / OPEN AREA P-5	0.21	

SITE DATA TABLE

UPLAND	WETLANDS	TOTAL ACRES	LOTS	GROSS DENSITY	NET DENSITY
177.00 Ac.	236.58 Ac.	413.58 Ac.	202	0.49 DU/Ac.	1.14 DU/Ac.

LOT TABLE

PHASE	55'x120'	75'x120'	TOTALS
PHASE 1	24	26	50
PHASE 2	26	22	48
PHASE 3	30	28	58
PHASE 4	24	22	46
TOTALS	104	98	202

DATE	DESCRIPTION	BY
REVISIONS		

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975
DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

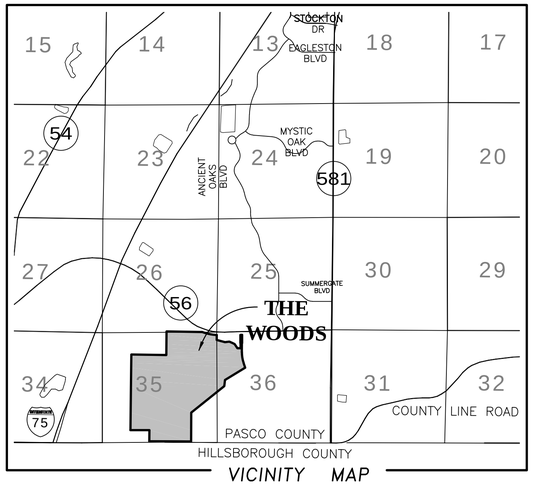
PRELIMINARY PLAN

THE WOODS

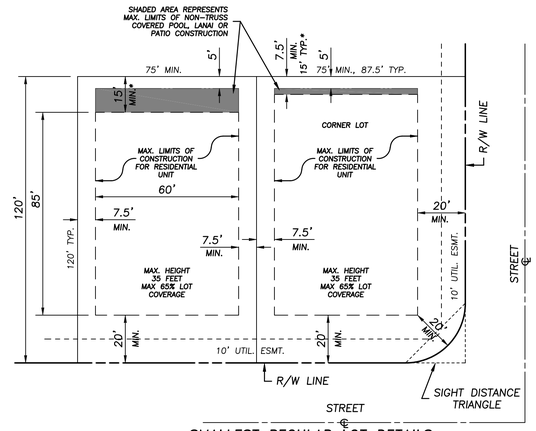
TAYLOR MORRISON

JOB NO.	TMH-NW-009
DESIGN	SMIRCH
DRAWN	SCHRADER
PREPARED FOR:	TAYLOR MORRISON
DATE	07-02-2012
FILE	PP1

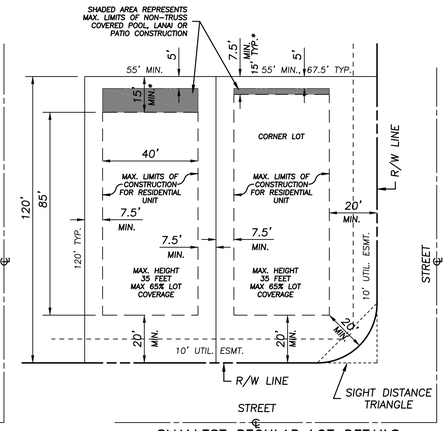
Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



VICINITY MAP
PASCO COUNTY, FLORIDA
SECTIONS 35 & 36, TOWNSHIP 26 SOUTH, RANGE 19 EAST



SMALLEST REGULAR LOT DETAILS
TYPICAL 75'x120' LOT
– NOT TO SCALE –



SMALLEST REGULAR LOT DETAILS
TYPICAL 55'x120' LOT
– NOT TO SCALE –

PRELIMINARY PLAN NOTES:

1. Owner: The Woods Family
P.O. Box 220 (c/o Lem P. Woods, Jr.)
Boca Grande, FL 33921

2. Developer: Taylor Morrison of Florida, Inc.
501 Cattlemen Road, Suite 100
Sarasota, Florida 34232
(941) 371–3008

3. Engineer; Clearview Land Design, P.L.
1213 E. 6th Ave.
Tampa, Florida 33605
(813) 223–3919

4. Surveyor: GeoPoint Surveying, Inc.
1403 E. 5th Ave.
Tampa, Florida 33605
(813) 248–8888

5. Existing Zoning: MPUD Petition No. 6878 (Current Approval 03–06–2012)
6. Existing Land Use: Vacant/Agricultural
7. Future Land Use Classification: RES–3
8. Water service to be provided by Pasco County Utilities.
9. Sewage disposal service to be provided by Pasco County Utilities.
10. Electrical power to be provided by TECO.
11. Telephone service to be provided by Verizon.
12. Street lighting to be provided by TECO.
13. Fire protection to be provided by the existing Pasco County Fire Station No. 26. Station No. 26 is located on Arrowwood Boulevard approximately 1.5 miles from the project entrance. Fire Hydrants will be provided on–site.
14. The uplands are actively grazed bahia pasture. The wetlands are cypress heads and grass marshes.
15. Predominant soil types on–site consist of Pomona Fine Sand, Felda Fine Sand, Sparr Fine Sand, Smyrna Fine Sand, Narcoossee Fine Sand, Okeelanta–Terra Ceia Association, Cassisa Fine Sand.
16. Minimum square footage of dwelling units is 1,000 s.f.
17. Recreation areas, conservation areas, and detention ponds will be owned and maintained by the Homeowner's Association. Landscape areas will be dedicated to the Homeowner's Association for maintenance.
18. Detention ponds to be within drainage easements dedicated to the Homeowner's Association for maintenance.
19. Contours shown are based on North American Vertical Datum of 1988.
20. Proposed rights–of–way for local streets shall be a minimum of fifty (50) feet.
21. All roadway standards to comply with the Manual of Uniform Minimum Standards, State of Florida.
22. All water and wastewater facilities to be installed in compliance with Pasco County Standards for design and construction of water and wastewater facilities.
23. All utility lines shall be installed underground.
24. Entire project lies within Flood Zones "AE", "X500", and "X" as shown on FEMA F.I.R.M. Community Panel No's. 120230 0425 E and 120230 0450 E, both revised September 30, 1992. 100 year base flood elevation 51.9 NAVD 88 (52.7 NGVD 29). Flood Zone determination based on data digitally translated from Q3 FLOOD DATA supplied by FEMA NATIONAL FLOOD INSURANCE PROGRAM, dated 1996.
25. STUDY UNDERWAY: Minimum finished floor elevations for all residential building structures shall be greater than 12" above the 100 year base flood elevation per LDC Section 701.9.B. Finished floor elevations depicted within these plans have been designed in conformance with this LDC requirement according to the 100 year base flood elevation 49.0 NAVD 88 (49.8 NGVD 29) established by detailed study of Cypress Creek prepared by Parsons, Inc. and current at the time of plans production (May 2011).
26. A minimum of 16" of sod strip will be provided along all roadways per Pasco County requirements.
27. Corner lots will be a minimum of ten (10) feet greater in width than standard lots.
28. Setbacks from post–developed wetlands shall be as follows: 25–foot minimum around all Category I Wetlands; Buffers around Category II and Category III Wetlands shall be as required by SWFWMD. Allowable uses and restrictions for buffers shall be in accordance with Section 702 of the Pasco County Land Development Code.
29. All non–collector roadways within parcels to be privately owned and maintained with a security gate.
30. Sidewalks will be provided on both sides of all roads including non–lot areas. Unless otherwise shown, all sidewalks shall be five (5) feet wide, 4" thick concrete, and 3000 p.s.i.
31. Buffering for all retention/detention areas along road right–of–ways to have trees selected from tree list at the rate of one tree per 50 L.F.
32. All landscape and sodded areas along collector road will be irrigated.
33. This project will comply with the Pasco County Tree Protection and Restoration Ordinance.
34. All construction work, including road, drainage and utilities, shall be constructed in accordance with Pasco County design standards and tested in compliance with the Pasco County Engineering Service Department Testing Specifications for construction of roads, storm drainage and utilities.
35. All residential lots shall have a minimum access width of 25 feet along street.
36. If prehistoric artifacts such as pottery or ceramics, stone tools or metal implements, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time, the project should cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. The applicant, or designee, should contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section at 850.245.6333, as well as the appropriate funding agency office. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources.
37. In the event that unmarked human remains are encountered during permitted activities, all work must stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statue.
38. Northwood Palms Boulevards is a proposed county–maintained road. Beyond the entries, internal streets are proposed to be privately owned and maintained as private streets. The minimum throat distance for private streets as measured from any proposed gates to the adjacent public right–of–way line shall be 75 feet.
39. Gated entry ways shall have a minimum ingress/egress width of 16 feet from face of curb to face of curb, free from equipment and other obstructions, and shall be equipped with the Siren Operation System (SOS) or 3M Opticom System for emergency vehicle access.
40. If prehistoric artifacts such as pottery or ceramics, stone tools or metal implements, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time, the project should cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. The applicant, or designee, should contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section at 850.245.6333, as well as the appropriate funding agency office. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources.
41. In the event that unmarked human remains are encountered during permitted activities, all work must stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statue.
42. All proposed signs must be applied for, approved, and permitted on an individual basis apart from any ultimately–approved site plan. Approval of this site plan does not constitute approval of any signage.
43. All clear–site areas shall be kept free of any signage plantings, trees, etc. in excess of three–and–a–half (3–1/2) feet in height.
44. No irrigation system or landscaping shall be installed in any County or State right–of–way without issuance of appropriate Right–of–way Use Permit.
45. Fugitive dust emissions shall be controlled by sprinkling as necessary.
46. On–site burning shall not be employed without approval from the Fire Marshall.
47. The soil erosion and sediment control devices shall be installed prior to construction, maintained throughout construction and until the site is permanently stabilized.

LEGAL DESCRIPTION:

DESCRIPTION (Taken from Chicago Title Insurance Company, Commitment for Title Insurance, Order No.: 3108249, dated April 16, 2001):

A portion of Sections 35 and 36, Township 26 South, Range 19 East, Pasco County, Florida, being more particularly described as follows:

Commence at the Northwest corner of the Northeast 1/4 of said Section 35; thence S.89°06'07"E., along the North boundary line of said Northeast 1/4, a distance of 306.24 feet to the POINT OF BEGINNING of the herein described parcel; thence continue along said North boundary line, S.89°06'07"E., a distance of 1652.02 feet to a point on the Southwesterly right–of–way line of State Road 56; thence 906.19 feet along the arc of a curve to the left having a radius of 2431.83 feet, a central angle of 21°21'02" and a chord of 900.95 feet which bears S.80°41'21"E., to a point of tangency; thence continuing along the Southerly right–of–way line of said State Road 56 the following (3) three courses; (1) N.88°38'08"E., a distance of 305.66 feet; (2) S.85°39'14"E., a distance of 100.50 feet; (3) N.88°38'08"E., a distance of 572.67 feet to a point on the Easterly boundary line of that certain Utility Easement as recorded in Official Records Book 3404, Page 995, of the Public Records of Pasco County, Florida; thence along said Easterly boundary line the following 4 (four) courses; (1) S.00°14'31"W., a distance of 377.46 feet; (2) N.89°45'29"W., a distance of 10.00 feet; (3) S.00°14'31"W., a distance of 425.41 feet to the beginning of a curve to the left; (4) thence southerly 372.81 feet along the arc of said curve, having a radius of 1572.74 feet, a central angle of 13°34'54", and a chord of 371.94 feet bearing South 06°32'56" East to the southwesterly extension of the north boundary of NORTHWOOD UNIT 9 according to the map of plat thereof as recorded in Plat Book 44, Pages 50–53 of the Public Records of Pasco County , Florida; thence North 66°37'47" East, along said southwesterly extension of the north boundary of NORTHWOOD UNIT 9, a distance of 5.08 feet to the northwest corner of said NORTHWOOD UNIT 9; thence along the boundary of said NORTHWOOD UNIT 9 the following four (4) courses; (1) southeasterly 139.52 feet along the arc of a non–tangent curve to the left, having a radius of 1567.74 feet, a central angle of 05°05'58", and a chord of 139.47 feet bearing S.15°51'25"E. ; (2) thence S.18°24'23"E., a distance of 218.96 feet to the beginning of a curve to the right; (3) thence 15.29 feet along the arc of said curve having a radius of 1707.26 feet, a central angle of 00°30'48" and a chord of 15.29 feet bearing S.18°08'59"E.; (4) thence S.58°40'06"W., 60.91 feet to the northeast corner of NORTHWOOD UNIT 7, according to the map or plat thereof as recorded in Plat Book 34, Pages 115–119 of the Public Records of Pasco County, Florida, thence S.58°40'06"W., along the Northwesterly boundary line of said NORTHWOOD UNIT 7, a distance of 1038.52 feet; thence continuing along said Northwesterly boundary line, S.06°38'19"W., a distance of 290.04 feet; thence S.51°19'42"W., along the northwesterly line of NORTHWOOD UNIT 3B according to the map of plat thereof as recorded in Plat Book 34, Page 71–74 of the Public Records of Pasco County, Florida, and the northwesterly boundary line of NORTHWOOD UNIT 5 according to the map of plat thereof recorded in Plat Book 38, Pages 147–149 of the Public Records of Pasco County, Florida, a distance of 1969.61 feet to the Northwest corner of said NORTHWOOD UNIT 5; thence S.00°16'48"W., along the West boundary line of said NORTHWOOD UNIT 5, a distance of 1345.73 feet to the Southwest corner of said NORTHWOOD UNIT 5; thence N.89°43'12"W., along a line 60.00 feet North of and parallel to the South boundary line of the Southeast 1/4 of said Section 35, also being the North right–of–way line of County Line Road, a distance of 1508.88 feet; thence continuing along said North right–of–way line, N.89°58'10"W., along a line 60.00 feet North of and parallel to the South boundary line of the Southwest 1/4 of said Section 35, a distance of 439.74 feet to the Southeast corner of that certain parcel described as Parcel 7 in Official Records Book 3551, page 612 of the Public Records of Pasco County, Florida; thence N.00°39'33"E., along the East boundary line of said Parcel 7, a distance of 520.03 feet to the Northeast corner of said Parcel 7; thence N.89°58'10"W., along the North boundary line of said Parcel 7, a distance of 882.93 feet to the Northwest corner of said Parcel 7; thence N.00°39'33"E. along the East boundary line if the West 1/4 of said Section 35, a distance of 3522.16 feet to the Southwest corner of that certain parcel described as Parcel 2 in Official Records Book 3551, page 612, of the Public Records of Pasco County, Florida; thence S.89°06'22"E., along the South boundary line of Parcels 2, 4 and 6, as described in Official Records Book 3551, page 612, of the Public Records of Pasco County, Florida, a distance of 1323.33 feet to a point on the East line of the West 1/2 of said Section 35; thence S.89°05'47"E. a distance of 306.44 feet to the Southeast corner of said Parcel 6; thence N.00°39'33"E., along the East boundary line of said Parcel 6, a distance of 1100.03 feet to the POINT OF BEGINNING.

Said parcel contains 423.106 acres, more or less.

LESS AND EXCEPT THE FOLLOWING PARCEL:

A parcel of land lying in the Northwest 1/4 of Section 36, Township 26 South, Range 19 East, Pasco County, Florida, being particularly described as follows:

Commence at the Northwest corner of said Section 36; thence South 00°24'20" West, along the West line of the Northwest 1/4 of said Section 36, 131.34 feet to the POINT OF BEGINNING on the South right–of–way line of State Road 56; thence 203.27 feet along said right–of–way line and along the arc of a non–tangent curve to the left having a radius of 2,431.83 feet, a central angle of 04°47'21", and a chord of 203.21 feet bearing South 88°58'11" East; thence North 88°38'08" East, continuing along said right–of–way line, 305.67 feet; thence South 85°39'14" East, continuing along said right–of–way line, 100.50 feet; thence North 88°38'08" East, continuing along said right–of–way line, 492.63 feet to the West boundary of a Utility Easement as recorded in Official Record 3404, Page 995 of the public records of Pasco County, Florida; thence South 00°14'31" West, along said West utility easement boundary, 375.23 feet; thence South 89°45'29" East, continuing along said West utility easement boundary, 10.00 feet; thence South 00°14'31" West, continuing along said West utility easement boundary, 247.52 feet; thence North 89°45'29" West, 148.05 feet; thence North 33°53'23" West, 230.01 feet; thence North 62°00'11" West, 80.64 feet; thence North 66°02'00" West, 194.46 feet; thence South 82°42'01" West, 200.44 feet; thence North 74°50'06" West, 400.35 feet; thence North 00°24'20" East, along the West boundary of the Northwest 1/4 of said Section 36, 227.38 feet to the POINT OF BEGINNING.

Said parcel contains 9.565 acres, more or less.

Net area of surveyed parcel = 423.106 – 9.565 = 413.583 acres, more or less.

MINIMUM LOT STANDARDS (TAKEN FROM MPUD 6878):

1. Minimum Lot Width of 45 feet
2. Minimum Lot Depth of 100 feet
3. Minimum Front–Yard Setback of 20 feet
4. Minimum Side–Yard Setback of 7.5 feet
5. Minimum Rear–Yard Setback of 15 feet (Principal Structure)
   (a) In order to accommodate the 8–foot wide Bicycle/Pedestrian Path required by the DRI Development Order, the rear–yard setback may be reduced to 12 feet for houses/lots located along conservation areas/stormwater ponds. Prospective homeowner buyers shall be informed of any swimming pool limitations/restrictions as a result of such reduced setback. Additionally, any deed restrictions shall include such swimming pool limitation/restriction.
6. Minimum Lot Area of 4,500 square feet
7. Maximum Lot Coverage of 65 Percent

NEIGHBORHOOD PARK REQUIREMENTS:

1. TOTAL AREA:
   1.1. Required: 1.0 Ac. + (1/100) x 102 Lots = 2.02 Ac.
   1.2. Provided: 11.68 Ac. (See common tract data table on preliminary plan)

2. CLEAR OPEN PLAY AREA:
   2.1. Required: 0.25 X 2.02 Ac. = 0.51 Ac.
   2.2. Provided: 0.52 Ac. (This reflects only the clear area in Tract P–3. Additional clear areas are provided throughout the community)

RESIDENT & VISITOR PARKING REQUIREMENTS:

1. REQUIRED:
   1.1. Resident: 3 spaces x 202 units = 606 Spaces
   1.2. Visitor: 0.25 spaces X 202 units = 51 Spaces
   1.3. Total Required = 657 Required

2. PROVIDED:
   2.1. (2–car garage plus 2–car driveway) x 202 units = 808 Provided

**These calculations represent a conservative scenario where all houses are 4 bedroom or greater with only a 2–car garage. However, 2 and 3 bedroom houses will be offered in this community. In addition, 3–car garage options will also be offered in this community. All houses in this community will have at least a 2–car garage.

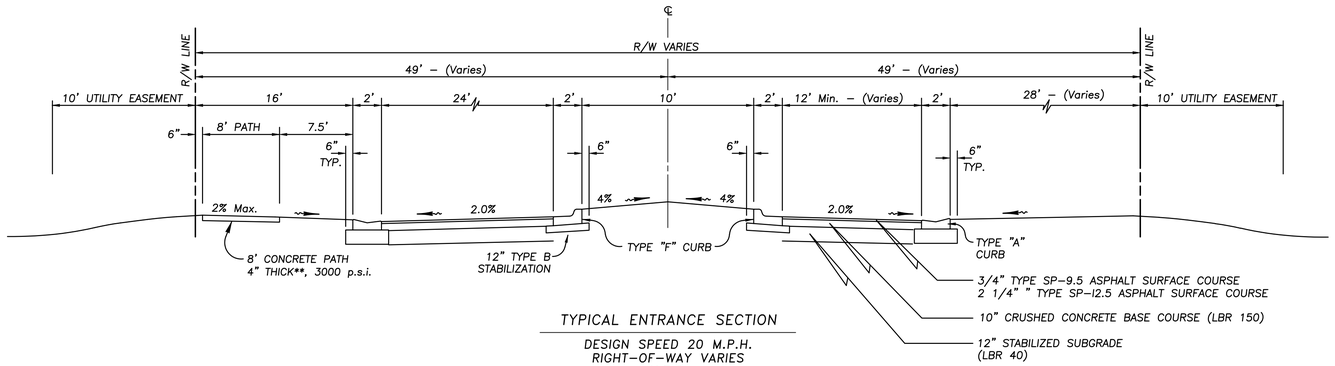
DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813–223–3919 Fax: 813–223–3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

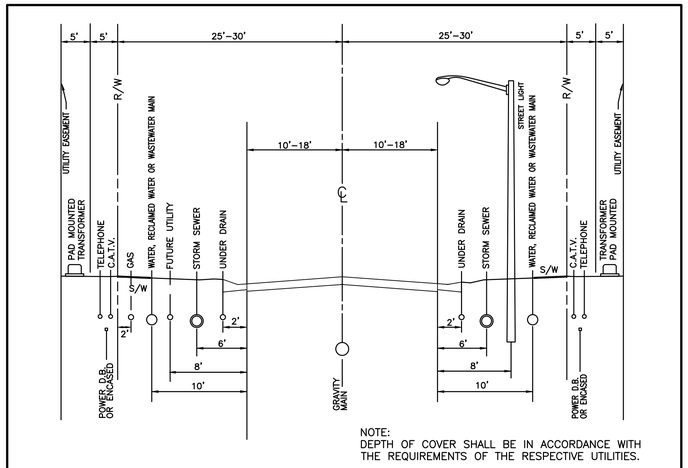
PRELIMINARY PLAN NOTES & DETAILS

JOB NO. TMH–NW–009	THE WOODS
DESIGN SCHRADER	
DRAWN SCHRADER	PREPARED FOR: TAYLOR MORRISON
DATE 07–02–2012	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE PP2	SHEET 5 OF 57 SHEETS



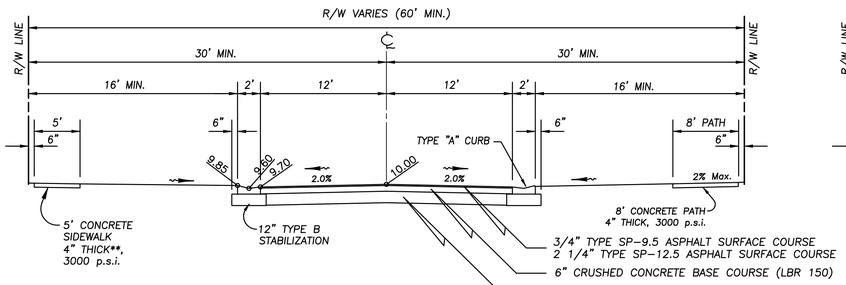
TYPICAL ENTRANCE SECTION

DESIGN SPEED 20 M.P.H.
RIGHT-OF-WAY VARIES
N.T.S.



NOTE:
DEPTH OF COVER SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE RESPECTIVE UTILITIES.

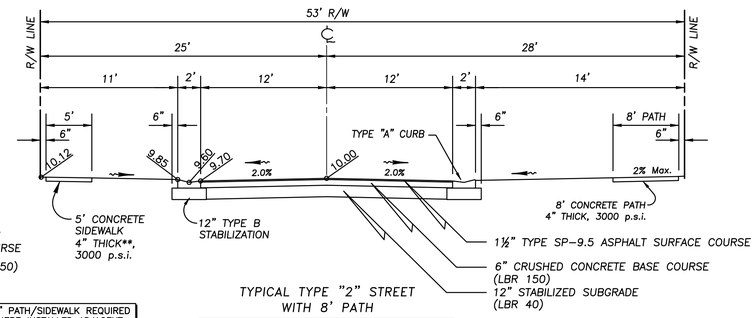
RECOMMENDED UTILITY LOCATIONS
SCALE: N.T.S.



**6" PATH/SIDEWALK REQUIRED WHERE INSTALLED ADJACENT TO PONDS. SEE SIDEWALK PLAN

TYPICAL TYPE "1B" STREET WITH 8' PATH

24' PAVEMENT
DESIGN SPEED 20 M.P.H.
N.T.S.



**6" PATH/SIDEWALK REQUIRED WHERE INSTALLED ADJACENT TO PONDS. SEE SIDEWALK PLAN

TYPICAL TYPE "2" STREET WITH 8' PATH

24' PAVEMENT
DESIGN SPEED 20 M.P.H.
N.T.S.

PASCO COUNTY
PAVEMENT DESIGN CRITERIA

MINIMUM SN*	ROADWAY CLASSIFICATION
2.34	LOCAL
3.50	TYPE 1
3.70	COLLECTOR
4.00	ARTERIAL

* FROM PASCO COUNTY LDC SECTION 901

Contractor may propose alternate pavement designs. Contractor shall submit any pavement alternatives to Engineer for approval prior to final subgrade preparations.

Proposed Roadway Design (Type 1 Streets):

Layer Coefficients	Thickness
0.44 – Type SP-9.5 Asphalt Surface	3/4"
0.44 – Type SP-12.5 Asphalt Surface	2 1/4"
0.15 – Crushed Concrete Base (LBR 150 min.)	10"
0.08 – Stabilized Subgrade (LBR 40 min.)	12"

SN = (0.44) (3/4") + (0.44) (2 1/4") + (0.15) (10") + (0.08) (12") = 3.78

SN $\overline{SN}_o$
3.78 >/= 3.50 (REQUIRED FOR SUBDIVISION COLLECTORS)

Use: 10" Crushed Concrete Base with 3/4" Type Sp-9.5 Asphalt Surface and 2 1/4" Asphalt Surface and 12" Stabilized Subgrade (LBR 40 Min)

Proposed Roadway Design (Type 2, 3 & 4 Streets):

Layer Coefficients	Thickness
0.44 – Type SP-9.5 Asphalt Surface	1 1/2"
0.15 – Crushed Concrete Base (LBR 150 min.)	6"
0.08 – Stabilized Subgrade (LBR 40 min.)	12"

SN = (0.44) (1.50) + (0.15) (6) + (0.08) (12) = 2.52

SN $\overline{SN}_o$
2.52 >/= 2.34 (REQUIRED FOR LOCAL STREETS)

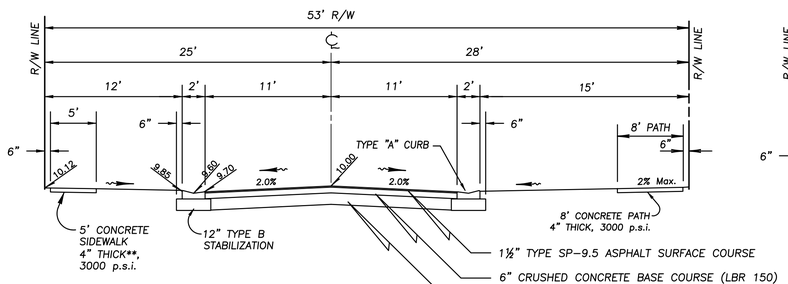
Use: 6" Crushed Concrete Base with 1 1/2" Type SP-9.5 Asphalt Surface and 12" Stabilized Subgrade (LBR 40 Min)

PASCO COUNTY (ONLY) SUBDIVISION
PAVEMENT CONSTRUCTION NOTES (CRUSHED CONCRETE)

1. *Pavement wearing surface shall be asphaltic concrete of type and thickness shown in detail and shall meet current Florida Department of Transportation (FDOT) Specifications.*
2. *Pavement base shall be crushed concrete, as designated in plans, and shall be compacted to a minimum thickness as shown.*
3. *Crushed concrete road base material shall meet the following conditions:*
   a. *Conform with the gradation chart from Section 204 of the FDOT Standard Specifications for Road and Bridge Construction: Graded Aggregate Base.*
   b. *Should have a minimum Limerock Bearing Ratio (LBR) of 150.*
   c. *Single course lifts should not exceed 6-inches (loose).*
   d. *Should be of uniform quality, free of all organics, steel rebar, asphalt debris, and any other deleterious material.*
   e. *Should be compacted to a minimum of ninety-eight percent (100%) of the maximum dry density as determined by AASHTO T-180.*
   f. *Type "B" subgrade stabilization is required in accordance with Section 160 of the FDOT Standard Specifications for Road and Bridge Construction: Stabilizing.*
   g. *A minimum Limerock Bearing Ration (LBR) of 40 or greater is required. Subgrade shall be compacted to ninety-eight percent (98%) of the maximum dry density as determined by AASHTO T-180 to the minimum thickness shown.*
   h. *All testing referenced above shall be conducted at a frequency required by the jurisdictional governing agency or according to FDOT standards in the absence of local testing requirements.*
5. *Subgrade shall be prepared in accordance with FDOT Index No. 505, latest edition. Embankment fills or natural sands to 24-inches below the bottom of the pavement base (if no stabilized subgrade), or to 24-inches below the bottom of stabilized subgrade, shall be sandy soils (A-3 or SP/SP-SM) with typically 15% fines or less passing the No. 200 sieve.*
6. *A Type "B" stabilized subgrade with a minimum LBR of 40 and tested at a frequency required by FDOT is required beneath crushed concrete base courses.*
7. *Subgrade under a crushed concrete base shall be proof-rolled to grade, as directed and approved by the Engineer with suitable compaction equipment to achieve a minimum density of ninety-eight (98) percent of the maximum dry density as determined by AASHTO T-180 for a minimum depth of twelve (12) inches.*
8. *The subgrade shall be inspected and approved by the Engineer prior to placement of any base material.*
9. *The base course shall be inspected and approved by the Engineer prior to placement of any asphalt material.*
10. *Crushed concrete surface shall be inspected and approved by the Engineer prior to any paving operation.*
11. *All curbs and gutters shall be placed on a foundation of Type "B" stabilized subgrade with a minimum LBR of 40 and which has been compacted to a minimum density of ninety-eight (98) percent of the maximum dry density as determined by AASHTO T 180 for a minimum depth of twelve (12) inches.*
12. *Roadway underdrain has been located on these plans to meet the minimum standards of Pasco County.Prior to curb construction, the Geotechnical Engineer shall review the predesign borings and, along with their field inspection, make a recommendation regarding additional underdrain requirements.*
13. *Should no underdrain be specified on the plans the Contractor is to include 1,000 linear feet of underdrain at unit prices for bid purposes.*
14. *All Portland Cement Concrete shall have a minimum compressive strength of 3,000 p.s.i. unless otherwise specified.*

ALTERNATE PAVEMENT CONSTRUCTION NOTES (SOIL CEMENT)

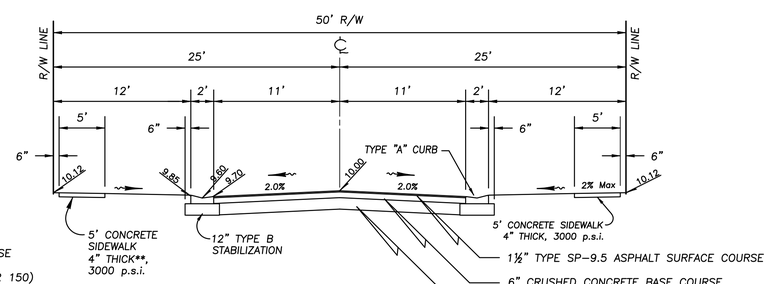
1. *Subgrade under a soil-cement base shall be proof-rolled to grade, as directed by the Engineer and approved by the Engineer with suitable compaction equipment to achieve a density of ninety-eight (98%) percent Modified Proctor for a depth of twelve (12) inches prior to placing soil-cement base.*
2. *Soil-cement mix design shall be provided a minimum 30 days in advance of placement of base material for approval by the Engineer. The soil-cement product shall be in accordance with PCA standards. 300 p.s.i. minimum.*
3. *Soil-cement surface shall be inspected and approved by the Engineer prior to any paving operation.*



**6" PATH/SIDEWALK REQUIRED WHERE INSTALLED ADJACENT TO PONDS. SEE SIDEWALK PLAN

TYPICAL TYPE "3" STREET WITH 8' PATH

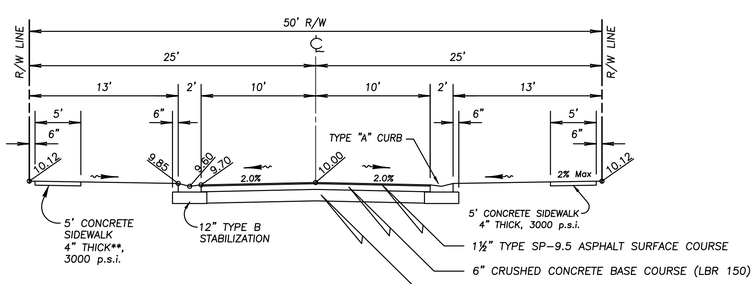
22' PAVEMENT
DESIGN SPEED 20 M.P.H.
N.T.S.



**6" PATH/SIDEWALK REQUIRED WHERE INSTALLED ADJACENT TO PONDS. SEE SIDEWALK PLAN

TYPICAL TYPE "3" STREET

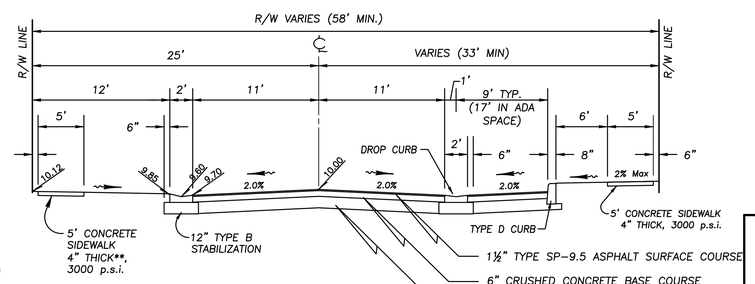
22' PAVEMENT
DESIGN SPEED 20 M.P.H.
N.T.S.



**6" PATH/SIDEWALK REQUIRED WHERE INSTALLED ADJACENT TO PONDS. SEE SIDEWALK PLAN

TYPICAL TYPE "4" STREET

20' PAVEMENT
DESIGN SPEED 20 M.P.H.
N.T.S.



**6" PATH/SIDEWALK REQUIRED WHERE INSTALLED ADJACENT TO PONDS. SEE SIDEWALK PLAN

TYPICAL TYPE "3" STREET WITH SINGLE-SIDED PARKING

22' PAVEMENT
DESIGN SPEED 20 M.P.H.
N.T.S.

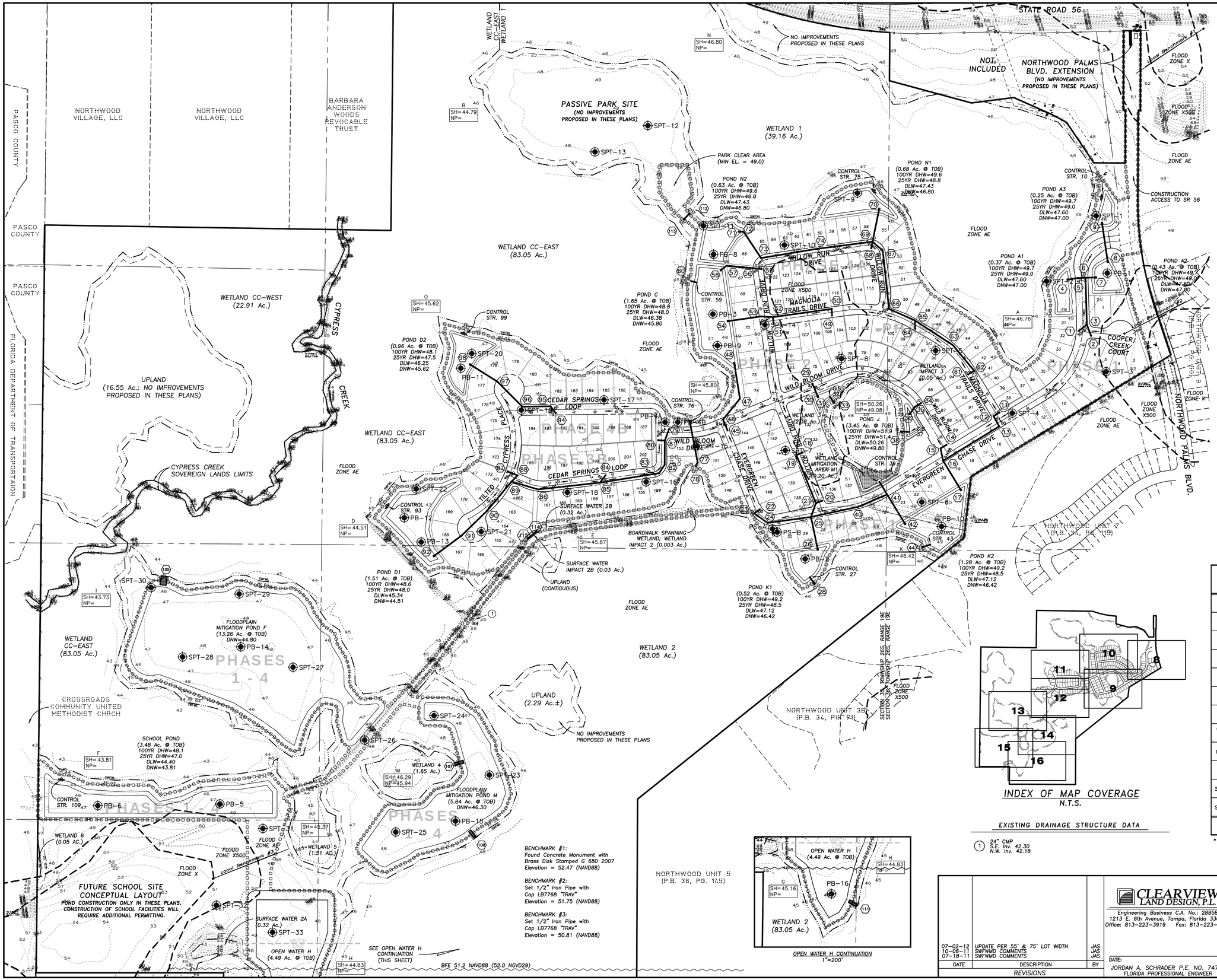
DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

TYPICAL ROADWAY SECTIONS

JOB NO. TMH-NW-009	**THE WOODS**
DESIGN SMIRCH	
DRAWN SCHRADER	PREPARED FOR: **TAYLOR MORRISON**
DATE 07-02-2012	*Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet*
FILE RS	SHEET 6 OF 57 SHEETS



THE WOODS SWFWMD WETLAND SUMMARY TABLE

WETLAND I.D. (HYDROPERIOD)	ACRES ON SITE	WETLAND IMPACT ID–ACRES	PASCO COUNTY WETLAND CATEGORY
WETLAND 1 (A,N)	39.16	0	I
WETLAND 2 (E,G,H,K)	83.05	2–0.003 (BOARDWALK)	I
WETLAND 3 (J)	2.38	3–0.05	III
WETLAND 4 (M)	1.65	0	III
WETLAND 5 (L)	1.51	0	III
WETLAND 6	0.05	0	III
WETLAND CC–EAST (B,C,D,F,I,O)	83.05	0	I
WETLAND CC–WEST	22.91	0	I
*CYPRESS CREEK SOVEREIGN LANDS	2.18	0	I
SURFACE WATER 2A	0.32	0	III
SURFACE WATER 2B	0.32	2B–0.03	III
TOTAL ACRES	236.58	0.083	

* SOVEREIGN LANDS FOR CYPRESS CREEK NOT INCLUDED IN SWFWMD PROJECT LIMITS.

NOTE: SEE SEPARATE SHEET FOR MITIGATION AREA M1 DETAILS.

DATE	DESCRIPTION	BY
07–02–12	UPDATE PER 55' & 75' LOT WIDTH	JAS
10–06–11	SWFWMD COMMENTS	JAS
07–18–11	SWFWMD COMMENTS	JAS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813–223–3919 Fax: 813–223–3975
DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

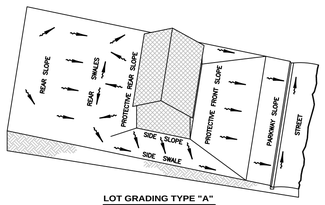
MASTER DRAINAGE PLAN

THE WOODS

PREPARED FOR: TAYLOR MORRISON

JOB NO.	TMH–NW–009
DESIGN	SMIRCH
DRAWN	SCHRADER
DATE	05–02–2011
FILE	MD1

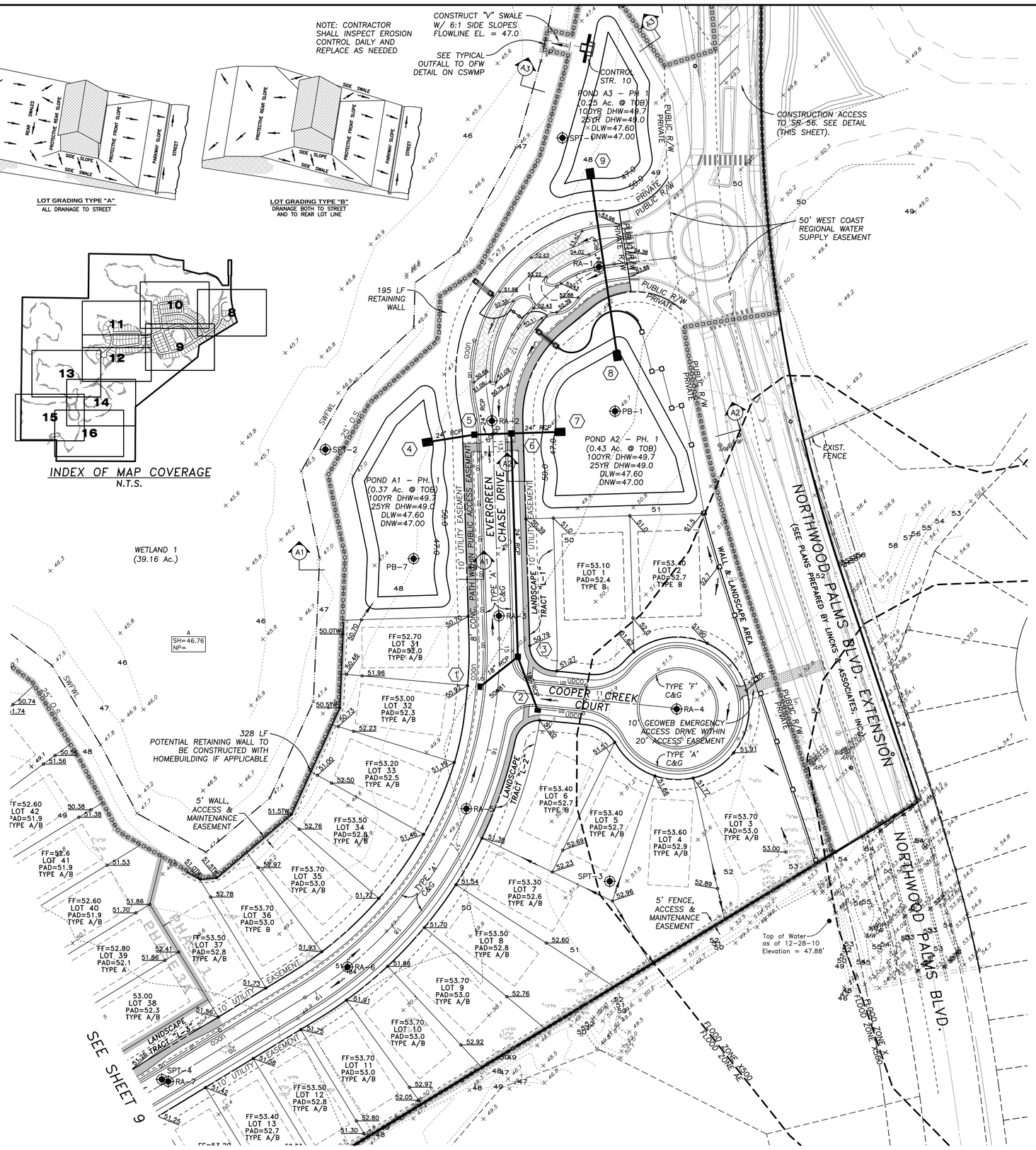
Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

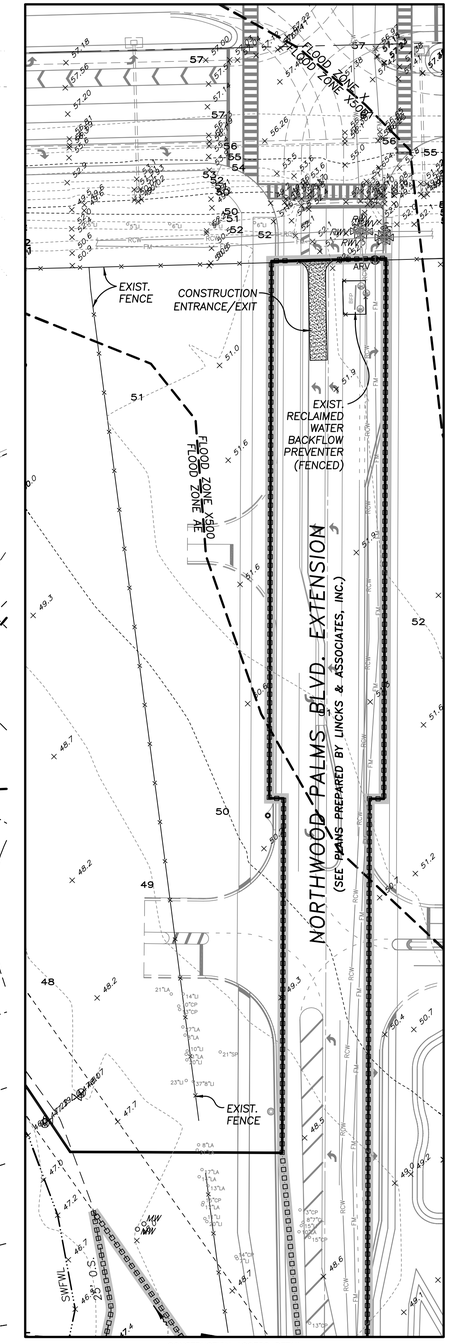


LOT GRADING TYPE "A"
ALL DRAINAGE TO STREET

LOT GRADING TYPE "B"
DRAINAGE BOTH TO STREET AND TO REAR LOT LINE

INDEX OF MAP COVERAGE
N.T.S.





CONSTRUCTION ACCESS DETAIL
1"=200'

N

100 50 0 50 100

SCALE: 1" = 50'

LEGEND

EXISTING	PROPOSED	
		STORM DRAINAGE STRUCTURE
	10	STRUCTURE NO.
+80.00	80.00	ELEVATION
80	80	CONTOUR
		DIRECTION OF SLOPE
UD	UDCO	UNDERDRAIN WITH CLEANOUT
	AB#	SOIL BORING LOCATION
		FLOATING TURBIDITY BARRIER
		STAKED EROSION CONTROL (LIMITS OF FILLING AND CLEARING; REPRESENTS THE SWFWMD BUFFER LIMITS WHERE ADJACENT TO A PROTECTED WETLAND)
SWFWL		SWFWMD WETLAND LINE
25' O.S.		25' OFFSET FROM WETLAND LINE SHOWN FOR INFORMATIONAL PURPOSE
		1992 FEMA FLOOD LINES
A		HYDROPERIOD ID
SH=45.00		SEASONAL HIGH WATER ELEVATION
NP=		NORMAL POOL ELEVATION (IF APPLICABLE)
FF=67.50 / LOT 4 / PAD=66.80 / TYPE A		FINISH FLOOR ELEVATION / LOT NUMBER / PAD ELEVATION / LOT GRADING TYPE
		CONSTRUCTION PHASE LINE (PLAT BOUNDARY WILL VARY AS NEEDED)

ALL LOTS require processing per FHA Data Sheet No. 79-G if FHA financing is to be provided. Similar testing is recommended as a quality control program in the absence of FHA required testing.

NEIGHBORHOOD GRADING PLAN NOTES:

1. Pad grades shown are minimum grades. Elevations of adjoining lots, existing trees, and other field conditions may warrant leaving lots which are higher in their natural state. The Contractor should consult with the Developer/Builder and the Engineer prior to grading activities when these conditions exist.
2. For all lots abutting wetlands no grading shall take place beyond the erosion control line unless specifically shown on the approved construction plans.
3. Side yard swales shall be constructed simultaneously with house construction. During the site grading activities, the contractor shall grade the side yards to an elevation no lower than 0.2 ft. below the adjoining house pad grades.
4. For Type "A" lot grading receiving runoff from abutting Type "B" lots, all runoff shall be directed to side yard swales.
5. For Type "B" lot grading not abutting detention facilities, the builder shall make every practical effort to direct roof runoff to the side yard swales unless otherwise directed by the Engineer of Record.
6. For Type 'A' lot grading, the builder shall make every practical effort to direct roof runoff to the side–yard swales unless directed otherwise by the Engineer of Record.
7. Minimum side yard swale slopes shall be 1.0%.
8. Entire project lies within Flood Zones "AE", "X500", and "X" as shown on FEMA F.I.R.M. Community Panel No's. 120230 0425 E and 120230 0450 E, both revised September 30, 1992. 100 year base flood elevation 51.9 NAVD 88 (52.7 NGVD 29). Flood Zone determination based on data digitally translated from Q3 FLOOD DATA supplied by FEMA NATIONAL FLOOD INSURANCE PROGRAM, dated 1996.
9. STUDY UNDERWAY: Minimum finished floor elevations for all residential building structures shall be greater than 12" above the 100 year base flood elevation per LDC Section 701.9.B. Finished floor elevations depicted within these plans have been designed in conformance with this LDC requirement according to the 100 year base flood elevation 49.0 NAVD 88 (49.8 NGVD 29) established by detailed study of Cypress Creek prepared by Parsons, Inc. and current at the time of plans production (May 2011).
10. If prehistoric artifacts such as pottery or ceramics, stone tools or metal implements, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time, the project should cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. The applicant, or designee, should contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section at 850.245.6333, as well as the appropriate funding agency office. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources.
11. In the event that unmarked human remains are encountered during permitted activities, all work must stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statue.

DATE	DESCRIPTION	BY
07–02–12	UPDATE PER 55' & 75' LOT WIDTH	JAS
11–01–11	ADD NOTE – TYPICAL OUTFALL TO OFW	JAS
10–06–11	REVISE STR. 10 PER SWFWMD COMMENTS	JAS
07–18–11	REVISE NOTES PER SWFWMD COMMENTS	MFS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813–223–3919 Fax: 813–223–3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

GRADING & DRAINAGE PLAN

JOB NO. TMH–NW–009
DESIGN SMIRCH
DRAWN SCHRADER

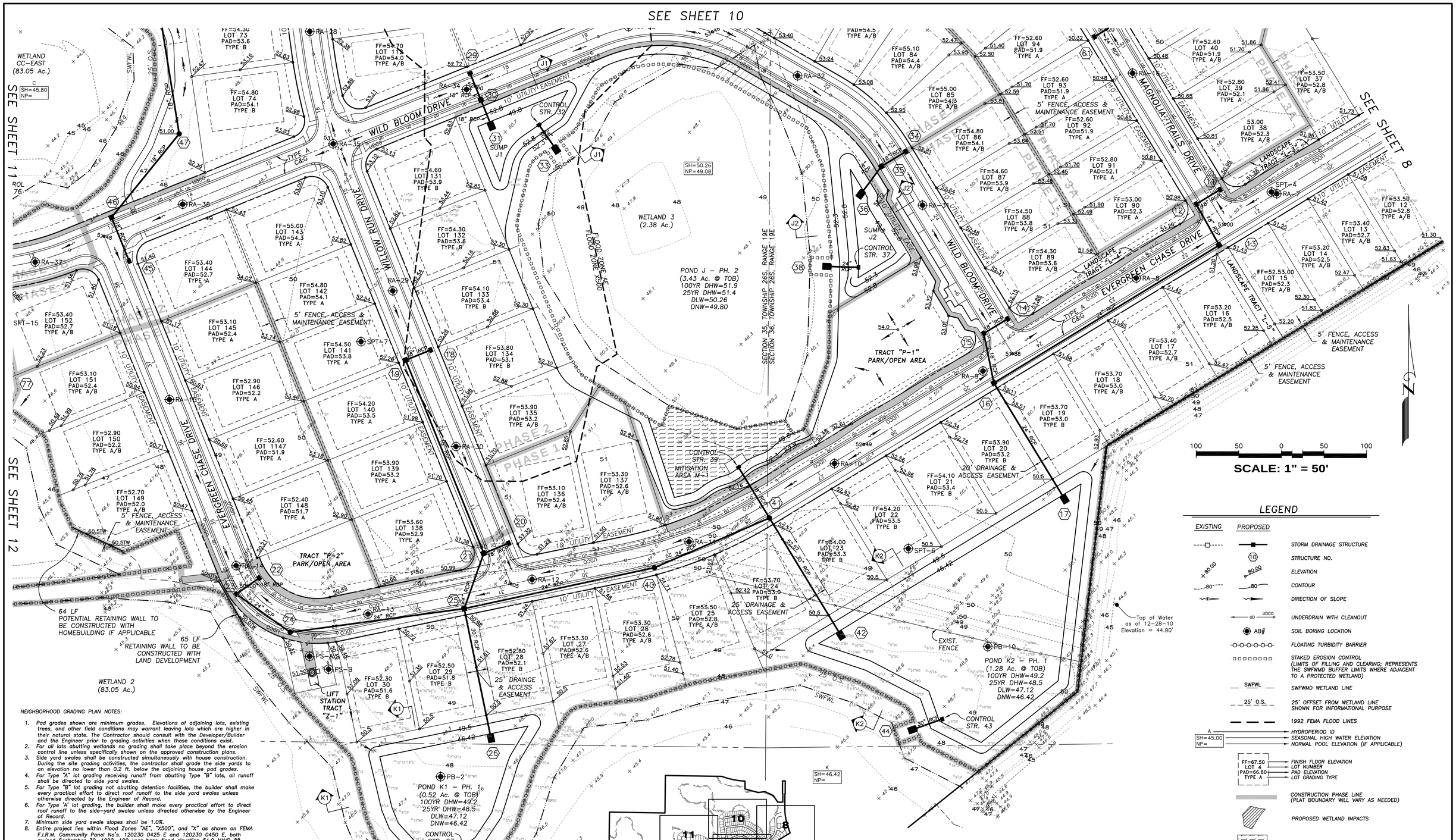
THE WOODS

PREPARED FOR: TAYLOR MORRISON

DATE 05–02–2011

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

FILE MD2



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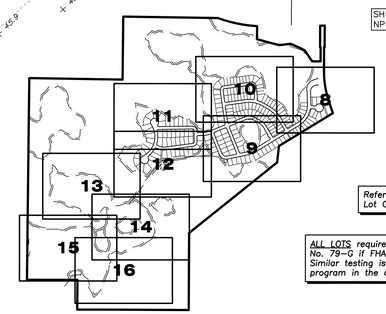
11. In the event that unmarked human remains are encountered during permitted activities, all work must stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statue.

LEGEND

EXISTING	PROPOSED	
		STORM DRAINAGE STRUCTURE
	10	STRUCTURE NO.
+80.00	80.00	ELEVATION
80	80	CONTOUR
		DIRECTION OF SLOPE
UD	UDCO	UNDERDRAIN WITH CLEANOUT
	AB#	SOIL BORING LOCATION
		FLOATING TURBIDITY BARRIER
		STAKED EROSION CONTROL (LIMITS OF FILLING AND CLEARING; REPRESENTS THE SWFWMD BUFFER LIMITS WHERE ADJACENT TO A PROTECTED WETLAND)
SWFWL		SWFWMD WETLAND LINE
25' O.S.		25' OFFSET FROM WETLAND LINE SHOWN FOR INFORMATIONAL PURPOSE
		1992 FEMA FLOOD LINES
A		HYDROPERIOD ID
SH=45.00		SEASONAL HIGH WATER ELEVATION
NP=		NORMAL POOL ELEVATION (IF APPLICABLE)
FF=67.50		FINISH FLOOR ELEVATION
LOT 4		LOT NUMBER
PAD=66.80		PAD ELEVATION
TYPE A		LOT GRADING TYPE
		CONSTRUCTION PHASE LINE (PLAT BOUNDARY WILL VARY AS NEEDED)
		PROPOSED WETLAND IMPACTS
		PROPOSED MITIGATON AREA



INDEX OF MAP COVERAGE
N.T.S.

Refer to Sheet 5 for Typical Lot Grading Details.

ALL LOTS require processing per FHA Data Sheet No. 79-G if FHA financing is to be provided. Similar testing is recommended as a quality control program in the absence of FHA required testing.

DATE	DESCRIPTION	BY
07-02-12	UPDATE PER 55' & 75' LOT WIDTH	JAS
10-06-11	REVISE POND J PER SWFWMD COMMENTS	JAS
07-18-11	REVISE NOTES PER SWFWMD COMMENTS	MFS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

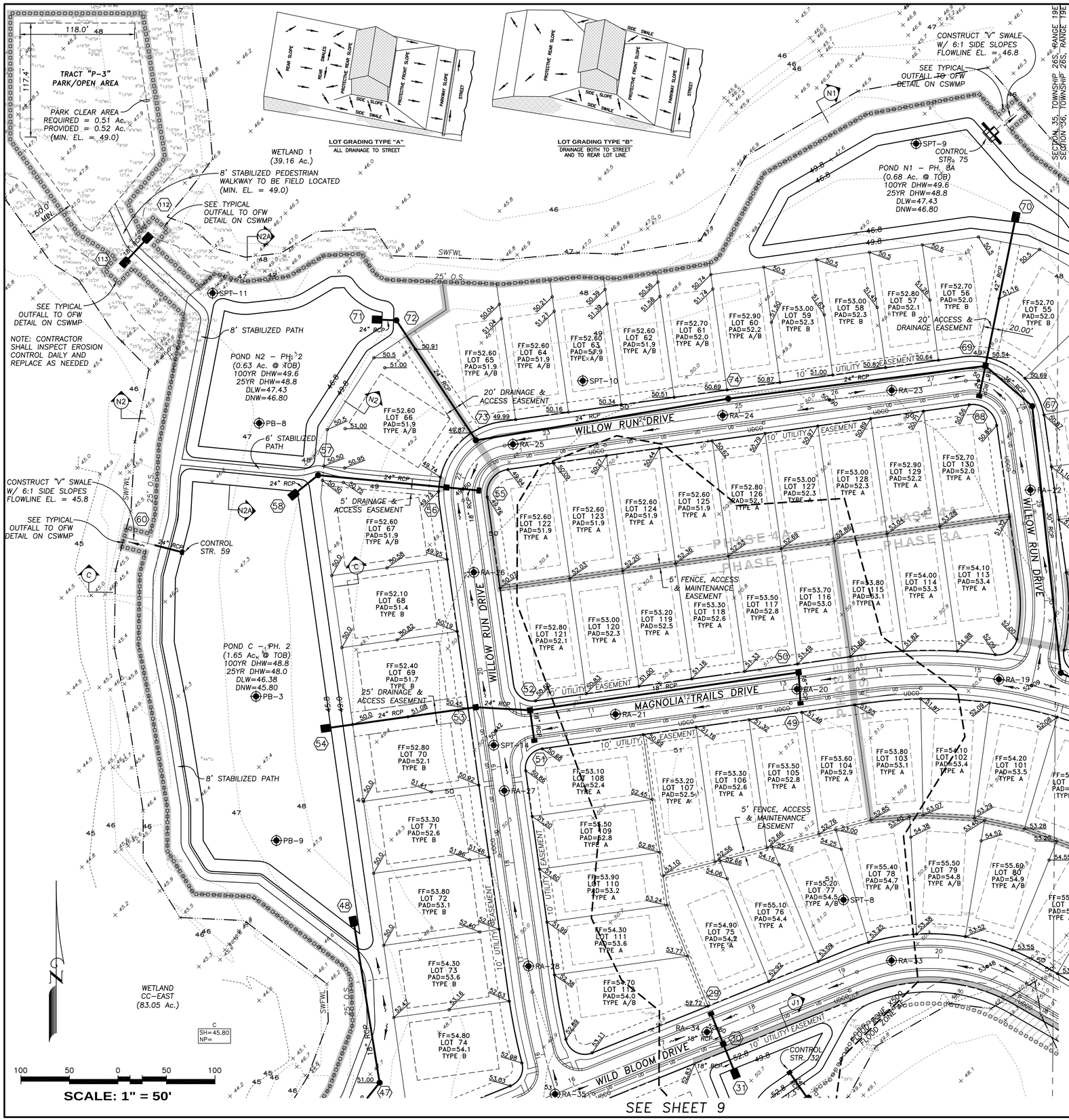
DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

GRADING & DRAINAGE PLAN

THE WOODS

JOB NO.	TMH-NW-009
DESIGN	SMIRCH
DRAWN	SCHRADER
DATE	05-02-2011
FILE	MD3
PREPARED FOR:	TAYLOR MORRISON

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



LEGEND

EXISTING	PROPOSED	
		STORM DRAINAGE STRUCTURE
	10	STRUCTURE NO.
+60.00	60.00	ELEVATION
80	80	CONTOUR
		DIRECTION OF SLOPE
UD	UDCO	UNDERDRAIN WITH CLEANOUT
	AB#	SOIL BORING LOCATION
		FLOATING TURBIDITY BARRIER
		STAKED EROSION CONTROL (LIMITS OF FILLING AND CLEARING; REPRESENTS THE SWFWMD BUFFER LIMITS WHERE ADJACENT TO A PROTECTED WETLAND)
SWFWL		SWFWMD WETLAND LINE
25' O.S.		25' OFFSET FROM WETLAND LINE SHOWN FOR INFORMATIONAL PURPOSE
		1992 FEMA FLOOD LINES
A / SH=45.00 / NP=		HYDROPERIOD ID / SEASONAL HIGH WATER ELEVATION / NORMAL POOL ELEVATION (IF APPLICABLE)
FF=67.50 / LOT 4 / PAD=66.80 / TYPE A		FINISH FLOOR ELEVATION / LOT NUMBER / PAD ELEVATION / LOT GRADING TYPE
		CONSTRUCTION PHASE LINE (PLAT BOUNDARY WILL VARY AS NEEDED)
		PROPOSED WETLAND IMPACTS

ALL LOTS require processing per FHA Data Sheet No. 79-G if FHA financing is to be provided. Similar testing is recommended as a quality control program in the absence of FHA required testing.

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INDEX OF MAP COVERAGE
N.T.S.

DATE	DESCRIPTION	BY
07-02-12	UPDATE PER 55' & 75' LOT WIDTH	JAS
11-01-11	ADD NOTE – TYPICAL OUTFALL TO OFW	JAS
10-06-11	STRS. 62 & 77 PER SWFWMD COMMENTS	JAS
07-18-11	SWFWMD COMMENTS	MFS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

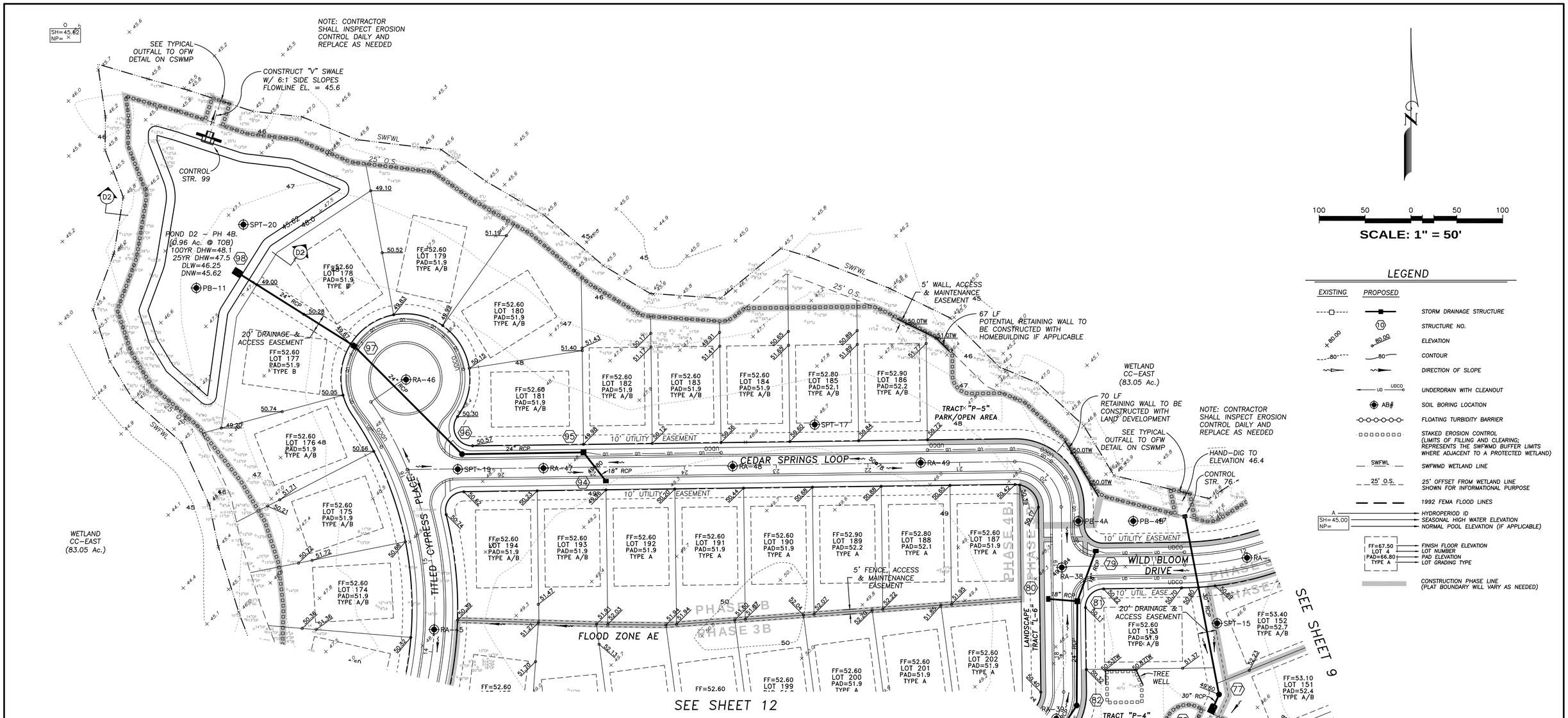
GRADING & DRAINAGE PLAN

THE WOODS

PREPARED FOR: TAYLOR MORRISON

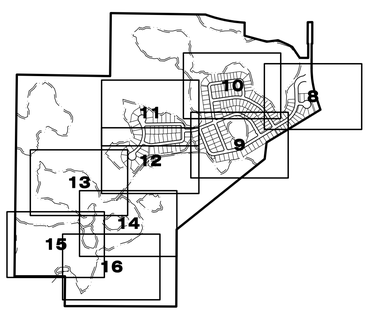
JOB NO.	TMH-NW-009
DESIGN	SMIRCH
DRAWN	SCHRADER
DATE	05-02-2011
FILE	MD4

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



LEGEND

EXISTING	PROPOSED	
		STORM DRAINAGE STRUCTURE
	(10)	STRUCTURE NO.
+80.00	80.00	ELEVATION
80	80	CONTOUR
		DIRECTION OF SLOPE
	UD UDCO	UNDERDRAIN WITH CLEANOUT
	AB#	SOIL BORING LOCATION
		FLOATING TURBIDITY BARRIER
		STAKED EROSION CONTROL (LIMITS OF FILLING AND CLEARING; REPRESENTS THE SWFWMD BUFFER LIMITS WHERE ADJACENT TO A PROTECTED WETLAND)
SWFWL		SWFWMD WETLAND LINE
25' O.S.		25' OFFSET FROM WETLAND LINE SHOWN FOR INFORMATIONAL PURPOSE
		1992 FEMA FLOOD LINES
A		HYDROPERIOD ID
SH=45.00 NP=		SEASONAL HIGH WATER ELEVATION / NORMAL POOL ELEVATION (IF APPLICABLE)
FF=67.50 LOT 4 PAD=66.80 TYPE A		FINISH FLOOR ELEVATION / LOT NUMBER / PAD ELEVATION / LOT GRADING TYPE
		CONSTRUCTION PHASE LINE (PLAT BOUNDARY WILL VARY AS NEEDED)



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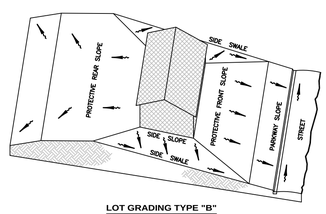
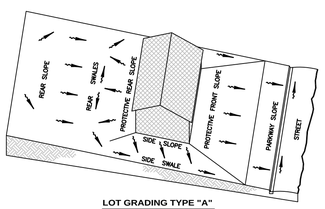


LOT GRADING TYPE "B"
DRAINAGE BOTH TO STREET AND TO REAR LOT LINE



LOT GRADING TYPE "A"
ALL DRAINAGE TO STREET

NEIGHBORHOOD GRADING PLAN NOTES:

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DATE	DESCRIPTION	BY
07–02–12	UPDATE PER 55' & 75' LAYOUT	JAS
11–01–11	ADD NOTE – TYPICAL OUTFALL TO OFW	JAS
10–06–11	STR. 103 PER SWFWMD COMMENTS	JAS
07–18–11	REVISE NOTES PER SWFWMD COMMENTS	MFS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
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Office: 813–223–3919 Fax: 813–223–3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

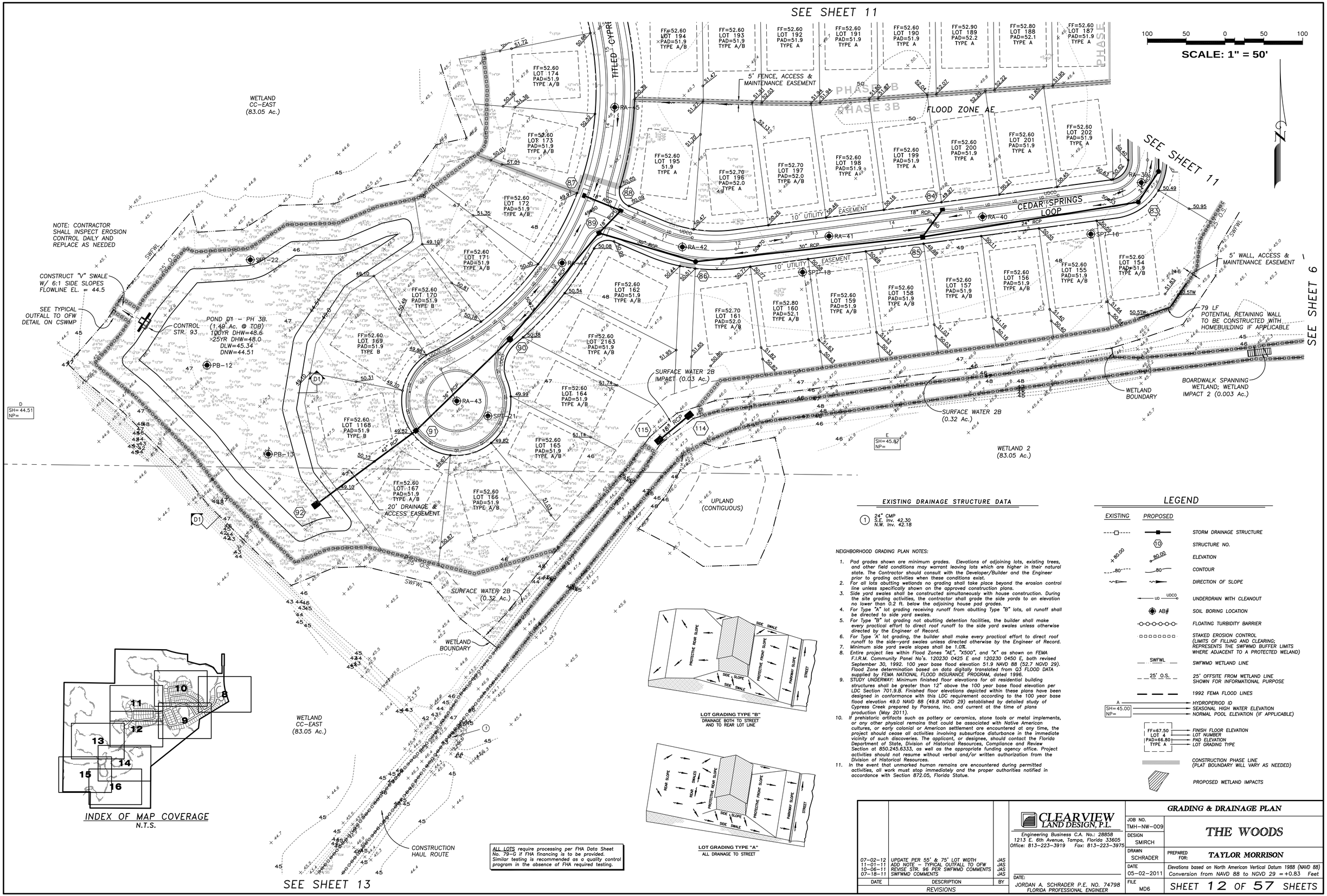
GRADING & DRAINAGE PLAN

THE WOODS

PREPARED FOR: **TAYLOR MORRISON**

JOB NO.	TMH–NW–009
DESIGN	SMIRCH
DRAWN	SCHRADER
DATE	05–02–2011
FILE	MD5

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



EXISTING DRAINAGE STRUCTURE DATA

(1) 24" CMP
S.E. Inv. 42.30
N.W. Inv. 42.18

NEIGHBORHOOD GRADING PLAN NOTES:

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5. For Type "B" lot grading not abutting detention facilities, the builder shall make every practical effort to direct roof runoff to the side yard swales unless otherwise directed by the Engineer of Record.
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LEGEND

EXISTING	PROPOSED	
		STORM DRAINAGE STRUCTURE
	(10)	STRUCTURE NO.
+80.00	80.00	ELEVATION
80	80	CONTOUR
		DIRECTION OF SLOPE
UD	UDCO	UNDERDRAIN WITH CLEANOUT
	AB#	SOIL BORING LOCATION
		FLOATING TURBIDITY BARRIER
		STAKED EROSION CONTROL (LIMITS OF FILLING AND CLEARING; REPRESENTS THE SWFWMD BUFFER LIMITS WHERE ADJACENT TO A PROTECTED WELAND)
SWFWL		SWFWMD WETLAND LINE
25' O.S.		25' OFFSITE FROM WETLAND LINE SHOWN FOR INFORMATIONAL PURPOSE
		1992 FEMA FLOOD LINES
A		HYDROPERIOD ID
SH=45.00		SEASONAL HIGH WATER ELEVATION
NP=		NORMAL POOL ELEVATION (IF APPLICABLE)
FF=67.50		FINISH FLOOR ELEVATION
LOT 4		LOT NUMBER
PAD=66.80		PAD ELEVATION
TYPE A		LOT GRADING TYPE
		CONSTRUCTION PHASE LINE (PLAT BOUNDARY WILL VARY AS NEEDED)
		PROPOSED WETLAND IMPACTS

DATE	DESCRIPTION	BY
07-02-12	UPDATE PER 55' & 75' LOT WIDTH	JAS
11-01-11	ADD NOTE - TYPICAL OUTFALL TO OFW	JAS
10-06-11	REVISE STR. 96 PER SWFWMD COMMENTS	JAS
07-18-11	SWFWMD COMMENTS	JAS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

GRADING & DRAINAGE PLAN

THE WOODS

PREPARED FOR: **TAYLOR MORRISON**

JOB NO.	TMH-NW-009
DESIGN	SMIRCH
DRAWN	SCHRADER
DATE	05-02-2011
FILE	MD6

Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

NOTE: CONTRACTOR SHALL INSPECT EROSION CONTROL DAILY AND REPLACE AS NEEDED

WETLAND CC–EAST (83.05 Ac.)

See Sheet 21 for Spillway Details.

SEE TYPICAL OUTFALL TO OFW DETAIL ON CSWMP

SPT–30

SPT–29

SPT–28

SPT–27

SPT–26

PB–14

EX. GRADE

SWFWL

25' O.S.

FLOOD ZONE AE

FLOODPLAIN MITIGATION POND F (13.26 Ac. @ TOB) DNW=44.80

PHASES 1 - 4

CONSTRUCTION HAUL ROUTE

SEE SHEET 12

SEE SHEET 14

SEE SHEET 15

SH=43.73
NP=

SCALE: 1" = 50'

LEGEND

EXISTING	PROPOSED	
		STORM DRAINAGE STRUCTURE
	10	STRUCTURE NO.
+80.00	80.00	ELEVATION
80	80	CONTOUR
		DIRECTION OF SLOPE
UD	UDCO	UNDERDRAIN WITH CLEANOUT
	AB#	SOIL BORING LOCATION
		FLOATING TURBIDITY BARRIER
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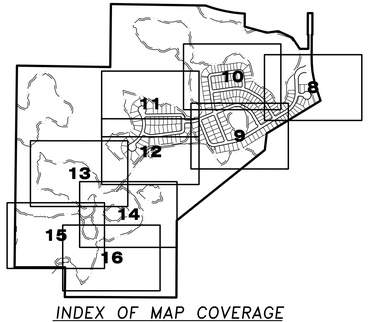
WETLAND CC–EAST (83.05 Ac.)



INDEX OF MAP COVERAGE
N.T.S.

DATE	DESCRIPTION	BY
11–01–11	ADD NOTE – TYPICAL OUTFALL TO OFW	JAS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813–223–3919 Fax: 813–223–3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

GRADING & DRAINAGE PLAN

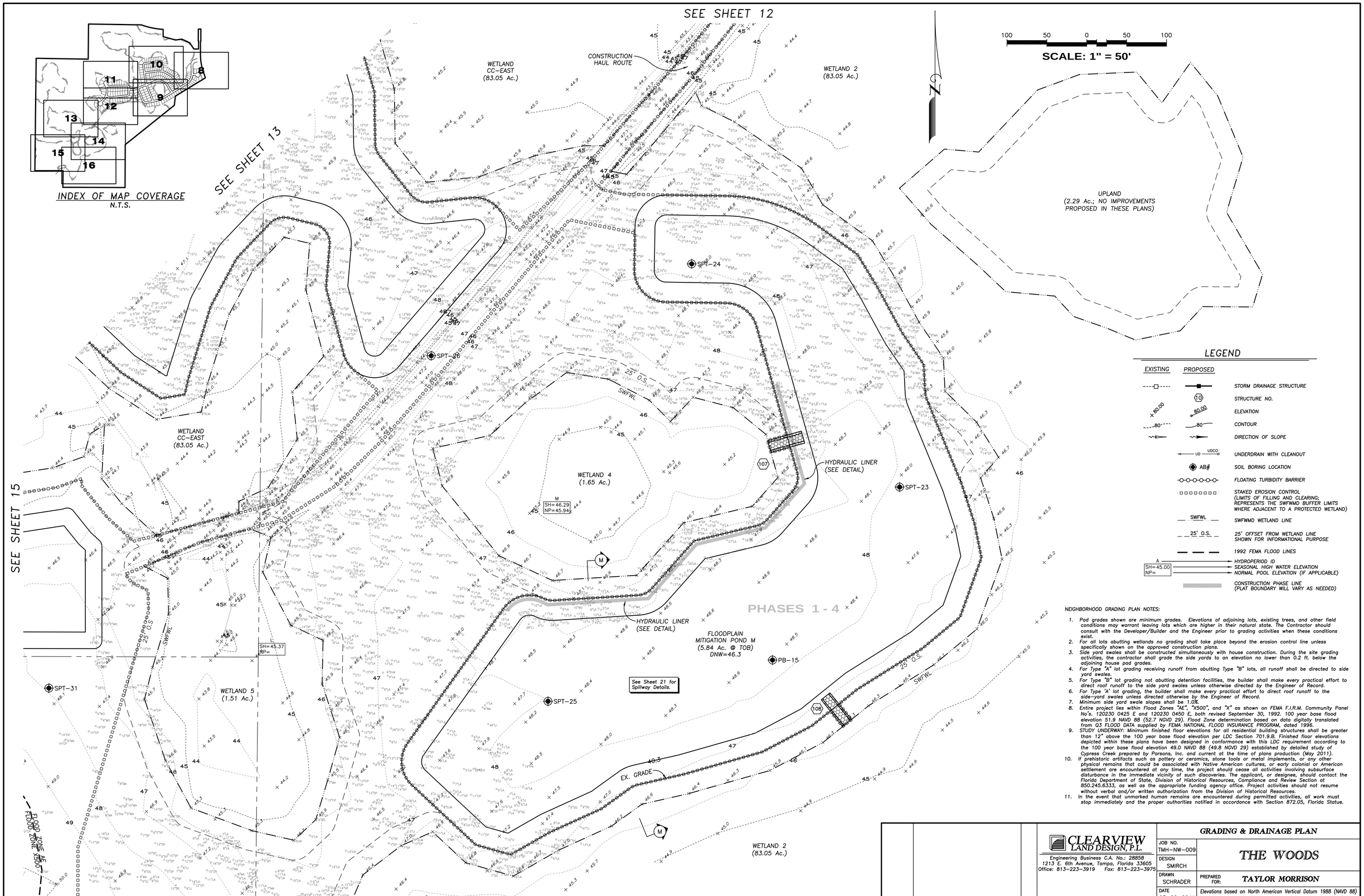
THE WOODS

TAYLOR MORRISON

JOB NO.	TMH–NW–009
DESIGN	SMIRCH
DRAWN	SCHRADER
DATE	05–02–2011
FILE	MD7

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

SHEET 13 OF 57 SHEETS



LEGEND

EXISTING	PROPOSED	
		STORM DRAINAGE STRUCTURE
	10	STRUCTURE NO.
+80.00	80.00	ELEVATION
80	80	CONTOUR
		DIRECTION OF SLOPE
UD	UDCO	UNDERDRAIN WITH CLEANOUT
AB#		SOIL BORING LOCATION
		FLOATING TURBIDITY BARRIER
		STAKED EROSION CONTROL (LIMITS OF FILLING AND CLEARING; REPRESENTS THE SWFWMD BUFFER LIMITS WHERE ADJACENT TO A PROTECTED WETLAND)
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		1992 FEMA FLOOD LINES
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8. Entire project lies within Flood Zones "AE", "X500", and "X" as shown on FEMA F.I.R.M. Community Panel No's. 120230 0425 E and 120230 0450 E, both revised September 30, 1992. 100 year base flood elevation 51.9 NAVD 88 (52.7 NGVD 29). Flood Zone determination based on data digitally translated from 03 FLOOD DATA supplied by FEMA NATIONAL FLOOD INSURANCE PROGRAM, dated 1996.
9. STUDY UNDERWAY: Minimum finished floor elevations for all residential building structures shall be greater than 12" above the 100 year base flood elevation per LDC Section 701.9.B. Finished floor elevations depicted within these plans have been designed in conformance with this LDC requirement according to the 100 year base flood elevation 49.0 NAVD 88 (49.8 NGVD 29) established by detailed study of Cypress Creek prepared by Parsons, Inc. and current at the time of plans production (May 2011).
10. If prehistoric artifacts such as pottery or ceramics, stone tools or metal implements, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time, the project should cease all activities involving subsurface disturbance in the immediate vicinity of such discoveries. The applicant, or designee, should contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section at 850.245.6333, as well as the appropriate funding agency office. Project activities should not resume without verbal and/or written authorization from the Division of Historical Resources.
11. In the event that unmarked human remains are encountered during permitted activities, all work must stop immediately and the proper authorities notified in accordance with Section 872.05, Florida Statue.

DATE	DESCRIPTION	BY
07-18-11	POND M LIMITS PER SWFWMD COMMENTS	JAS

REVISIONS

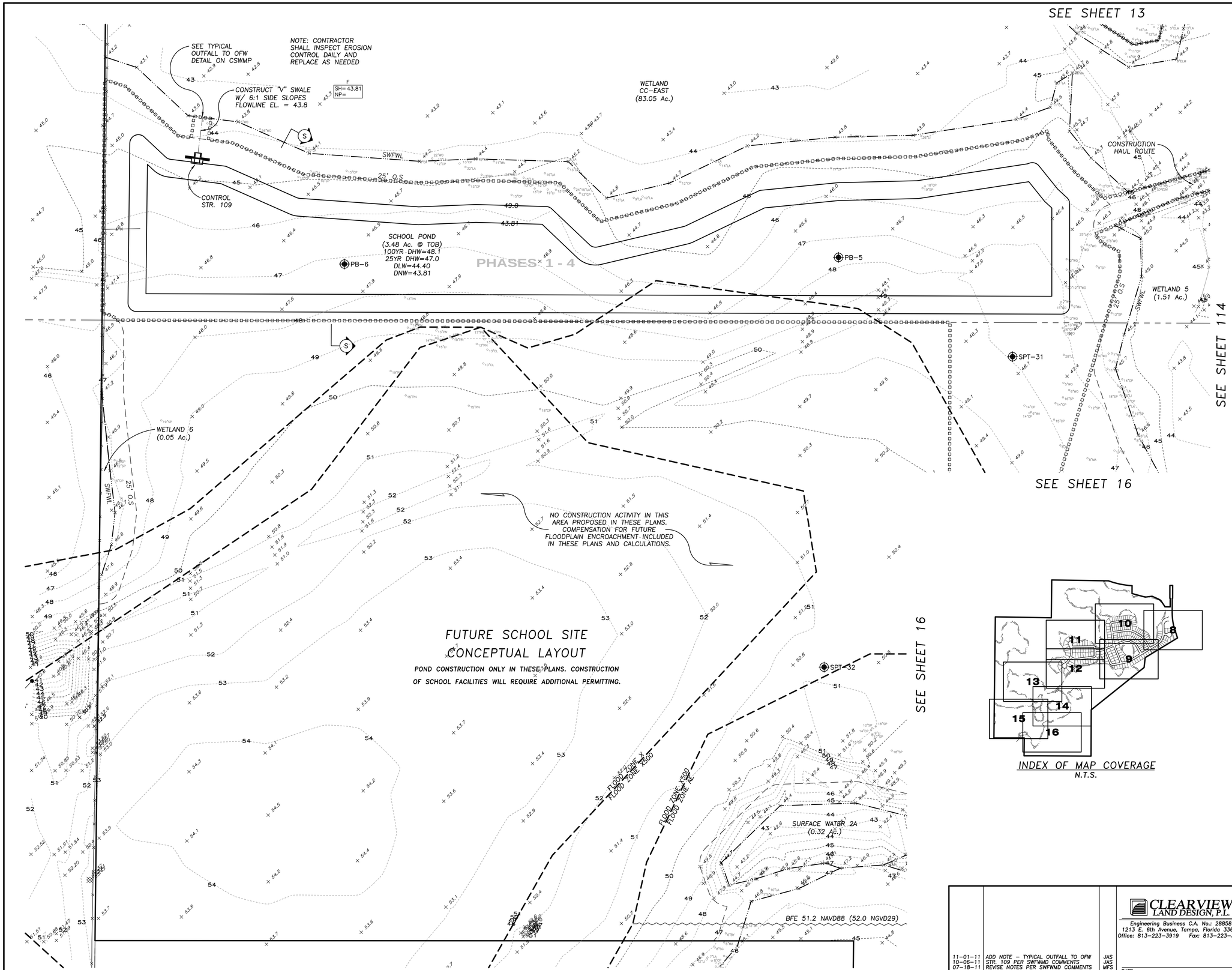
CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975
DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

GRADING & DRAINAGE PLAN

THE WOODS

TAYLOR MORRISON

JOB NO.	TMH-NW-009
DESIGN	SMIRCH
DRAWN	SCHRADER
PREPARED FOR:	TAYLOR MORRISON
DATE	05-02-2011
	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE	MD8



N

100 50 0 50 100

SCALE: 1" = 50'

LEGEND

EXISTING	PROPOSED	
		STORM DRAINAGE STRUCTURE
	10	STRUCTURE NO.
80.00	80.00	ELEVATION
80	80	CONTOUR
		DIRECTION OF SLOPE
UD	UDCO	UNDERDRAIN WITH CLEANOUT
	AB#	SOIL BORING LOCATION
		FLOATING TURBIDITY BARRIER
		STAKED EROSION CONTROL (LIMITS OF FILLING AND CLEARING; REPRESENTS THE SWFWMD BUFFER LIMITS WHERE ADJACENT TO A PROTECTED WETLAND)
SWFWL		SWFWMD WETLAND LINE
25' O.S.		25' OFFSET FROM WETLAND LINE SHOWN FOR INFORMATIONAL PURPOSE
		1992 FEMA FLOOD LINES
A		HYDROPERIOD ID
SH=45.00		SEASONAL HIGH WATER ELEVATION
NP=		NORMAL POOL ELEVATION (IF APPLICABLE)
		CONSTRUCTION PHASE LINE (PLAT BOUNDARY WILL VARY AS NEEDED)

NEIGHBORHOOD GRADING PLAN NOTES:

1. Pad grades shown are minimum grades. Elevations of adjoining lots, existing trees, and other field conditions may warrant leaving lots which are higher in their natural state. The Contractor should consult with the Developer/Builder and the Engineer prior to grading activities when these conditions exist.
2. For all lots abutting wetlands no grading shall take place beyond the erosion control line unless specifically shown on the approved construction plans.
3. Side yard swales shall be constructed simultaneously with house construction. During the site grading activities, the contractor shall grade the side yards to an elevation no lower than 0.2 ft. below the adjoining house pad grades.
4. For Type "A" lot grading receiving runoff from abutting Type "B" lots, all runoff shall be directed to side yard swales.
5. For Type "B" lot grading not abutting detention facilities, the builder shall make every practical effort to direct roof runoff to the side yard swales unless otherwise directed by the Engineer of Record.
6. For Type 'A' lot grading, the builder shall make every practical effort to direct roof runoff to the side-yard swales unless directed otherwise by the Engineer of Record.
7. Minimum side yard swale slopes shall be 1.0%.
8. Entire project lies within Flood Zones "AE", "X500", and "X" as shown on FEMA F.I.R.M. Community Panel No's. 120230 0425 E and 120230 0450 E, both revised September 30, 1992. 100 year base flood elevation 51.9 NAVD 88 (52.7 NGVD 29). Flood Zone determination based on data digitally translated from Q3 FLOOD DATA supplied by FEMA NATIONAL FLOOD INSURANCE PROGRAM, dated 1996.
9. STUDY UNDERWAY: Minimum finished floor elevations for all residential building structures shall be greater than 12" above the 100 year base flood elevation per LDC Section 701.9.B. Finished floor elevations depicted within these plans have been designed in conformance with this LDC requirement according to the 100 year base flood elevation 49.0 NAVD 88 (49.8 NGVD 29) established by detailed study of Cypress Creek prepared by Parsons, Inc. and current at the time of plans production (May 2011).
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INDEX OF MAP COVERAGE
N.T.S.

DATE	DESCRIPTION	BY
11-01-11	ADD NOTE – TYPICAL OUTFALL TO OFW	JAS
10-06-11	STR. 109 PER SWFWMD COMMENTS	JAS
07-18-11	REVISE NOTES PER SWFWMD COMMENTS	MFS

REVISIONS

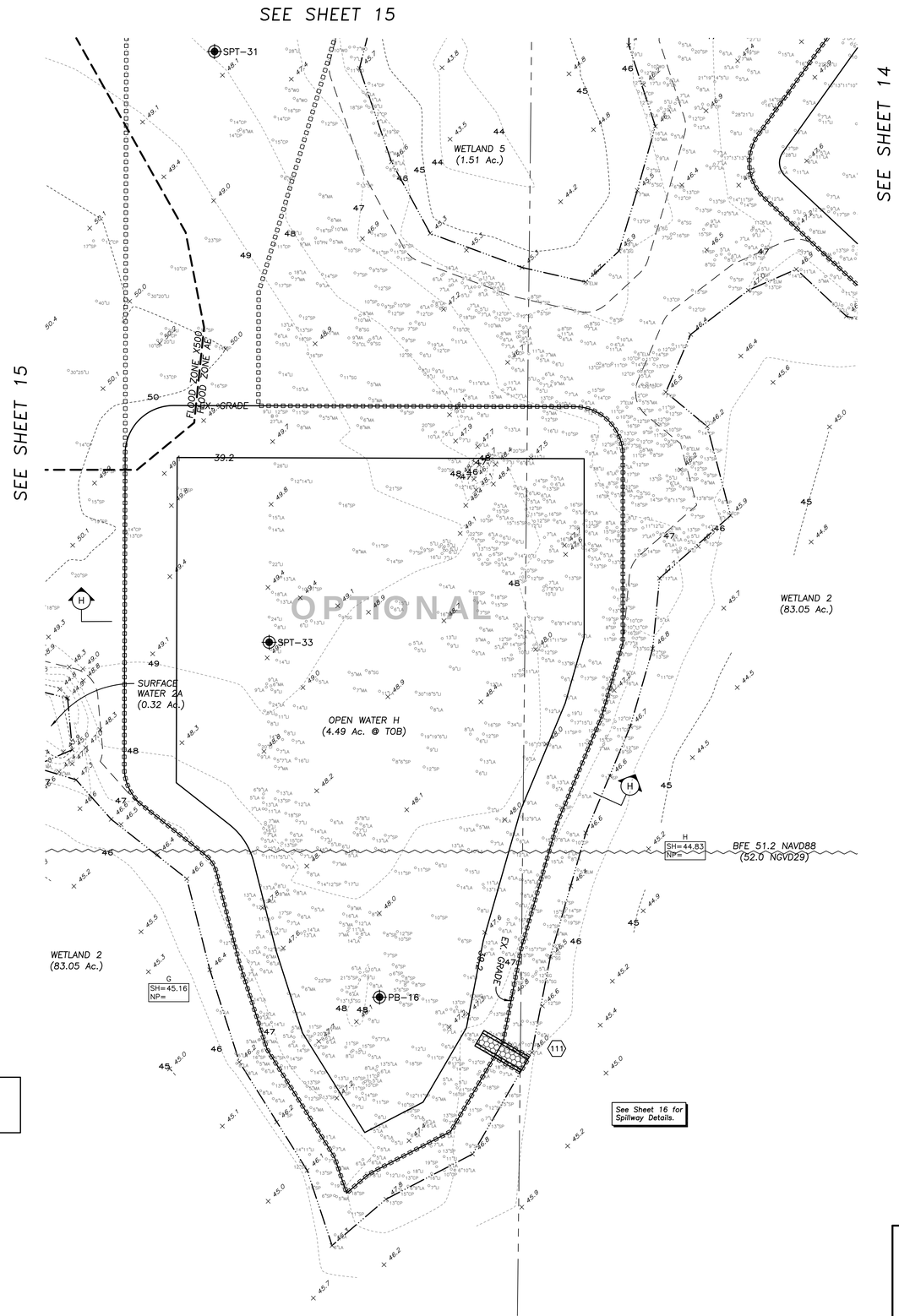
CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975
DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

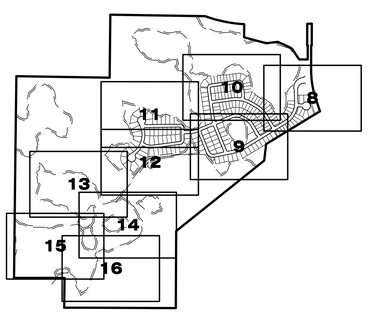
GRADING & DRAINAGE PLAN

THE WOODS

JOB NO.	TMH-NW-009
DESIGN	SMIRCH
DRAWN	SCHRADER
PREPARED FOR:	TAYLOR MORRISON
DATE	05-02-2011
FILE	MD9

Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet





INDEX OF MAP COVERAGE
N.T.S.

100 50 0 50 100

SCALE: 1" = 50'

LEGEND

EXISTING	PROPOSED	
		STORM DRAINAGE STRUCTURE
	10	STRUCTURE NO.
+80.00	80.00	ELEVATION
80	80	CONTOUR
		DIRECTION OF SLOPE
UD	UDCO	UNDERDRAIN WITH CLEANOUT
	AB#	SOIL BORING LOCATION
		FLOATING TURBIDITY BARRIER
		STAKED EROSION CONTROL (LIMITS OF FILLING AND CLEARING; REPRESENTS THE SWFWMD BUFFER LIMITS WHERE ADJACENT TO A PROTECTED WETLAND)
SWFWL		SWFWMD WETLAND LINE
25' O.S.		25' OFFSET FROM WETLAND LINE SHOWN FOR INFORMATIONAL PURPOSE
		1992 FEMA FLOOD LINES
A		HYDROPERIOD ID
SH=45.00		SEASONAL HIGH WATER ELEVATION
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DATE	DESCRIPTION	BY
07-18-11	O.W. H LIMITS PER SWFWMD COMMENTS	JAS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:

JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

GRADING & DRAINAGE PLAN

THE WOODS

PREPARED FOR: **TAYLOR MORRISON**

JOB NO.	TMH-NW-009
DESIGN	SMIRCH
DRAWN	SCHRADER
DATE	05-02-2011
FILE	MD10

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

STORM STRUCTURE DATA

	STRUCTURE			LINE							STRUCTURE LOCATION & REMARKS
	NO.	TYPE & SIZE	TOP ELEV.	TYPE	DIAM. IN.	LENGTH FEET	SLOPE %	INVERT ELEV. UPPER END	INVERT ELEV. LOWER END	FALL IN FEET	
PHASE 1	1	1 CURB INLET	50.68	RCP	18	47	0.40	46.08	45.89	0.19	
	3										
	2	3 CURB INLET	50.94	RCP	18	56	0.50	43.30	43.02	0.28	
	3	1 CURB INLET	50.58	RCP	24	220	0.30	42.52	41.86	0.66	
	6										
	4	MES		RCP	24	41	0.24	43.00	42.90	0.10	
	5	1 CURB INLET	49.88	RCP	24	36	0.24	42.90	42.81	0.09	
	6	1 CURB INLET	49.88	RCP	24	43	0.40	41.86	41.69	0.17	
	7	MES									
	8	MES		RCP	24	172	0.45	43.00	42.23	0.77	
	9	MES									
	10	CONTROL STR.									REFER TO CONTROL STRUCTURE DETAILS
	11	1 CURB INLET	50.77	RCP	18	32	0.20	46.17	46.11	0.06	
	12	1 CURB INLET	50.77	RCP	18	55	0.30	46.11	45.94	0.17	
	13	3 CURB INLET	50.94	RCP	24	310	0.20	45.44	44.82	0.62	
	16										
	14	1 CURB INLET	51.87	RCP	18	32	0.40	47.27	47.14	0.13	
	15	1 CURB INLET	51.87	RCP	18	59	0.40	47.14	46.91	0.24	
	16	1 CURB INLET	51.87	RCP	24	154	0.30	44.82	44.36	0.46	
	17	MES									
PH 2	18	1 CURB INLET	52.02	RCP	18	31	0.40	47.42	47.30	0.12	
	19	1 CURB INLET	52.02	RCP	18	244	0.40	47.30	46.32	0.98	
	21										
PHASE 1	20	1 CURB INLET	51.41	RCP	18	31	0.40	46.81	46.69	0.12	
	21	1 CURB INLET	51.36	RCP	24	68	0.20	45.82	45.68	0.14	
	25										
	22	3 CURB INLET	49.88	RCP	18	32	0.40	45.28	45.15	0.13	
	23	3 CURB INLET	49.88	RCP	24	77	0.20	44.65	44.50	0.15	
	24	MANHOLE	50.17	RCP	24	206	0.20	44.50	44.09	0.41	
	25	2 CURB INLET	50.74	RCP	30	150	0.30	43.59	43.13	0.45	
	26	MES									
	25	2 CURB INLET	50.47	RCP	24	228	0.00	44.09	44.09	0.00	
	40										

STORM STRUCTURE DATA

	STRUCTURE			LINE							STRUCTURE LOCATION & REMARKS
	NO.	TYPE & SIZE	TOP ELEV.	TYPE	DIAM. IN.	LENGTH FEET	SLOPE %	INVERT ELEV. UPPER END	INVERT ELEV. LOWER END	FALL IN FEET	
PH 1	27	CONTROL STR.	49.50	RCP	30	32	0.20	45.90	45.84	0.06	REFER TO CONTROL STRUCTURE DETAILS
	28	MES									
PHASE 1	29	3 CURB INLET	52.48	RCP	18	33	0.40	47.88	47.75	0.13	
	30	1 CURB INLET	52.48	RCP	18	27	0.40	46.40	46.29	0.11	
	31	MES									
	32	CONTROL STR.	52.30	RCP	24	30	0.30	49.00	48.91	0.09	REFER TO CONTROL STRUCTURE DETAILS
	33	MES									
	34	1 CURB INLET	52.57	RCP	18	32	0.40	47.97	47.84	0.13	
	35	1 CURB INLET	52.57	RCP	18	35	0.40	46.40	46.26	0.14	
	36	MES									
	37	CONTROL STR.	52.30	RCP	24	32	0.30	49.00	48.90	0.10	REFER TO CONTROL STRUCTURE DETAILS
	38	MES									
PH 1	39	CONTROL STR.	52.10	RCP	18	69	0.40	44.87	44.59	0.28	(1) REFER TO CONTROL STRUCTURE DETAILS. (2) PLUG OUTFALL PIPE WITHIN STRUCTURE 39 UNTIL PHASE 2
	41	MES									
PHASE 1	40	MANHOLE	51.54	RCP	24	147	0.00	44.09	44.09	0.00	
	41	4 CURB INLET	52.00	RCP	30	156	0.20	43.59	43.27	0.31	
	42	MES									
	43	CONTROL STR.	49.50	RCP	30	32	0.20	45.90	45.84	0.06	REFER TO CONTROL STRUCTURE DETAILS
	44	MES									
PHASE 2	45	1 CURB INLET	51.18	RCP	18	55	0.40	46.58	46.36	0.22	
	46	1 CURB INLET	51.45	RCP	18	135	0.40	46.36	45.82	0.54	
	47	1 CURB INLET	51.00	RCP	18	170	0.40	44.98	44.30	0.68	
	48	MES									
	49	1 CURB INLET	51.25	RCP	18	31	0.40	46.65	46.53	0.12	
	50	1 CURB INLET	51.25	RCP	18	279	0.30	46.53	45.69	0.84	
	52										
	51	3 CURB INLET	50.41	RCP	18	31	0.40	45.81	45.69	0.12	
	52	1 CURB INLET	50.41	RCP	24	56	0.30	45.19	45.02	0.17	
	53	1 CURB INLET	50.21	RCP	24	150	0.40	44.40	43.80	0.60	
	54										
	55	3 CURB INLET	49.48	RCP	18	33	0.40	44.88	44.75	0.13	
	56	3 CURB INLET	49.48	RCP	24	132	0.30	44.25	43.85	0.40	
	57	MANHOLE	50.40	RCP	24	27	0.30	41.80	41.72	0.08	
	58	MES									

STORM STRUCTURE DATA

	STRUCTURE			LINE							STRUCTURE LOCATION & REMARKS
	NO.	TYPE & SIZE	TOP ELEV.	TYPE	DIAM. IN.	LENGTH FEET	SLOPE %	INVERT ELEV. UPPER END	INVERT ELEV. LOWER END	FALL IN FEET	
PH 2	59	CONTROL STR.	48.80	RCP	30	32	0.20	44.80	44.74	0.06	REFER TO CONTROL STRUCTURE DETAILS
	60	END WALL									
PHASE 3A	61	3 CURB INLET	50.08	RCP	24	33	0.20	44.98	44.91	0.07	
	62	3 CURB INLET	50.08	RCP	30	156	0.20	44.41	44.10	0.31	
	63	MANHOLE	50.70	RCP	30	213	0.20	44.10	43.68	0.43	
	65										
	64	1 CURB INLET	51.32	RCP	18	39	0.40	46.72	46.56	0.16	
	65	1 CURB INLET	51.40	RCP	30	133	0.18	43.68	43.44	0.24	
	66	MANHOLE	52.00	RCP	30	276	0.18	43.44	42.94	0.50	
	67	MANHOLE 6' DIA	50.67	RCP	36	63	0.10	42.44	42.38	0.07	TYPE 'J' STRUCTURE BOTTOM
	69										
	68	1 CURB INLET	50.30	RCP	18	31	0.40	45.70	45.58	0.12	
	69	1 CURB INLET	50.29	RCP	42	151	0.10	41.88	41.73	0.15	TYPE 'J' STRUCTURE BOTTOM
	70	MES									
PH 2	71	MES	44.80	RCP	24	14	(9.15)	43.80	45.80	(2.00)	
	72	MANHOLE	50.70	RCP	24	148	0.00	45.08	45.08	0.00	
	73	MANHOLE	49.70	RCP	24	263	0.00	45.08	45.08	0.00	BUILD STRUCTURE 73 WITH PHASE 2. INSTALL PIPE BETWEEN STRUCTURES 73 AND 74 WITH PHASE 3A.
	74	MANHOLE	50.52	RCP	24	263	0.00	45.08	45.08	0.00	
PH 3A	69										
	75	CONTROL STR.									REFER TO CONTROL STRUCTURE DETAILS
PH 3B	76	CONTROL STR.	48.00	RCP	30	197	0.20	44.00	43.61	0.39	REFER TO CONTROL STRUCTURE DETAILS
	77	1 CURB INLET	49.60	RCP	30	12	0.20	43.61	43.58	0.02	
	78	MES									
	79	1 CURB INLET	49.93	RCP	18	58	0.20	45.33	45.21	0.12	
	81										
	80	1 CURB INLET	49.83	RCP	18	31	0.20	45.23	45.17	0.06	
	81	1 CURB INLET	49.84	RCP	24	113	0.18	44.67	44.46	0.20	
	82	MANHOLE	50.32	RCP	24	47	0.18	44.46	44.38	0.08	
	83	MANHOLE	50.42	RCP	24	281	0.18	44.38	43.87	0.51	
	85										
	84	3 CURB INLET	49.73	RCP	18	43	0.40	45.13	44.96	0.17	
	85	3 CURB INLET	49.75	RCP	30	294	0.18	43.38	42.85	0.53	
	86	MANHOLE	50.34	RCP	30	129	0.18	42.85	42.61	0.23	
	88										

DATE	DESCRIPTION	BY
06-29-12	UPDATE PER 55' & 75' LOT WIDTH	JAS
10-06-11	REVISE PER SWFWMD COMMENTS	JAS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:

JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

DRAINAGE STRUCTURE DATA

JOB NO. TMH-NW-009

DESIGN SMIRCH

DRAWN SCHRADER

DATE 05-02-2011

FILE ST01

THE WOODS

PREPARED FOR: **TAYLOR MORRISON**

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

STORM STRUCTURE DATA

	STRUCTURE			LINE							STRUCTURE LOCATION & REMARKS
	NO.	TYPE & SIZE	TOP ELEV.	TYPE	DIAM. IN.	LENGTH FEET	SLOPE %	INVERT ELEV. UPPER END	INVERT ELEV. LOWER END	FALL IN FEET	
PHASE 3B	87	1 CURB INLET	49.73	RCP	18	51	0.40	45.13	44.93	0.20	
	88	1 CURB INLET	49.82	RCP	18	40	0.40	44.93	44.77	0.16	
	89	1 CURB INLET	49.74	RCP	36	178	0.18	42.11	41.79	0.32	TYPE 'J' STRUCTURE BOTTOM
	90	MANHOLE 6' DIA	50.20	RCP	36	168	0.18	41.79	41.49	0.30	TYPE 'J' STRUCTURE BOTTOM
	91	3 CURB INLET	49.38	RCP	42	154	0.10	40.99	44.34	0.15	THPE 'J' STRUCTURE BOTTOM
	92										
	93	CONTROL STR.									REFER TO CONTROL STRUCTURE DETAILS
PHASE 4B	94	3 CURB INLET	49.72	RCP	18	39	0.30	45.12	45.00	0.12	
	95	1 CURB INLET	49.74	RCP	24	132	0.20	44.50	44.24	0.26	
	96	MANHOLE	50.46	RCP	24	166	0.20	44.24	43.91	0.33	
	97	3 CURB INLET	49.51	RCP	24	144	0.30	43.91	43.48	0.43	
	98	MES									
	99	CONTROL STR.									REFER TO CONTROL STRUCTURE DETAILS
	100	NOT USED									
	101	NOT USED									
	102	NOT USED									
	103	NOT USED									
	104	NOT USED									
	105	SPILLWAY									REFER TO SPILLWAY DETAILS
	106	NOT USED									NOT USED
	107	SPILLWAY									REFER TO SPILLWAY DETAILS
	108	SPILLWAY									REFER TO SPILLWAY DETAILS
	109	CONTROL STR.									REFER TO CONTROL STRUCTURE DETAILS
	110	NOT USED									
	111	SPILLWAY									REFER TO SPILLWAY DETAILS
	112	MES		RCP	18	24	0.40	46.80	46.70	0.10	
	113	MES									
	114	MES		RCP	18	40	0.50	46.00	45.80	0.20	
	115	MES									

DATE	DESCRIPTION	BY
06-29-12	UPDATE PER 55' & 75' LOT WIDTH	JAS
10-06-11	REVISE PER SWFWMD COMMENTS	JAS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

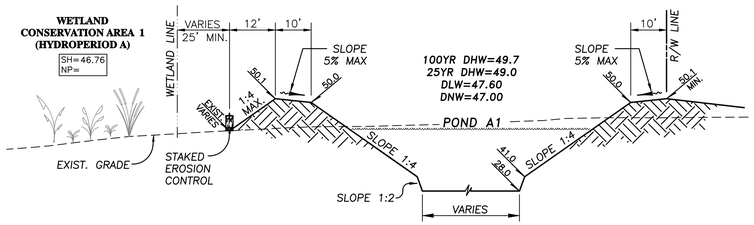
DRAINAGE STRUCTURE DATA

JOB NO. TMH-NW-009
DESIGN SMIRCH
DRAWN SCHRADER
DATE 05-02-2011
FILE ST02

THE WOODS

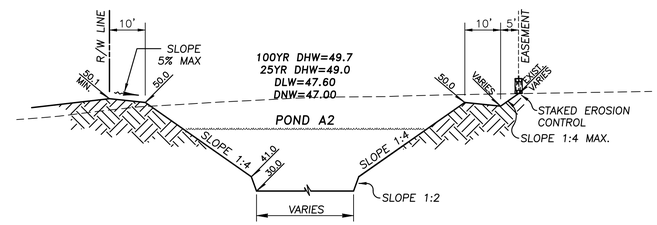
PREPARED FOR: **TAYLOR MORRISON**

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



SECTION A1–A1

NOT TO SCALE



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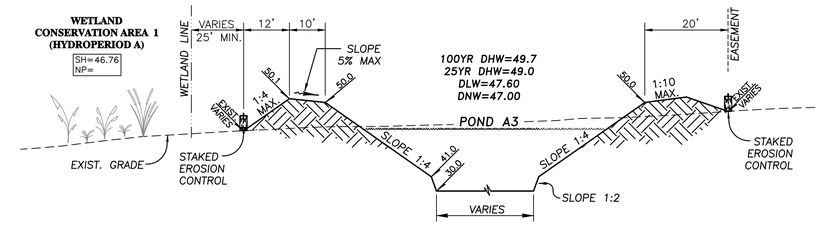

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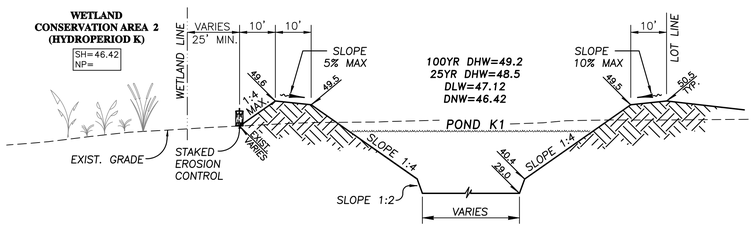

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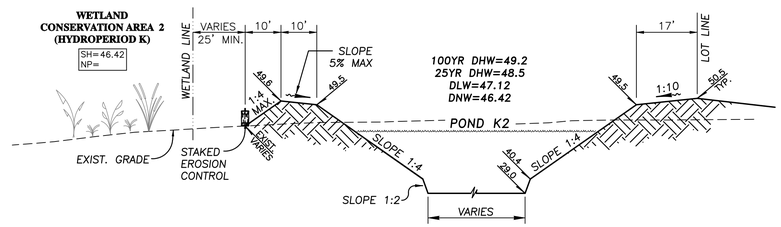

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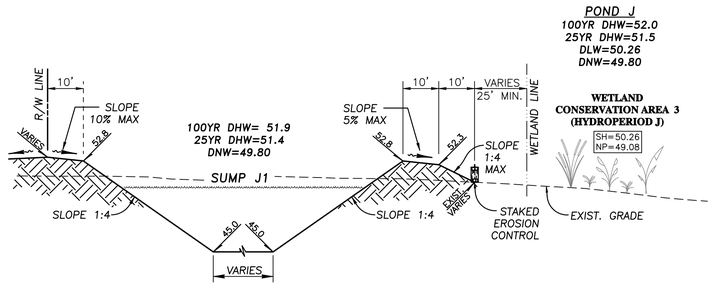
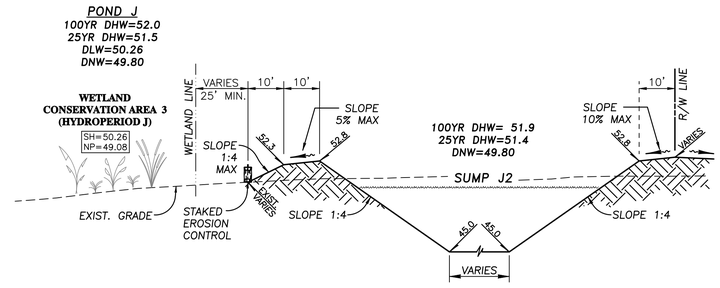


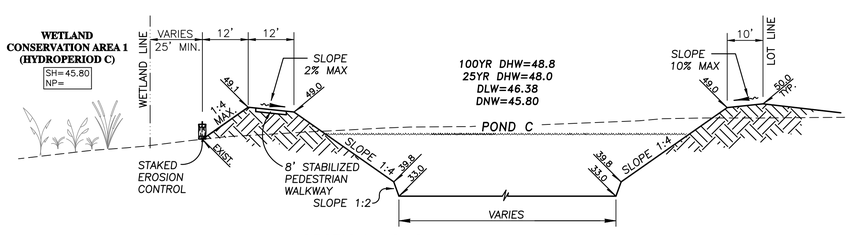
SECTION J1–J1

NOT TO SCALE



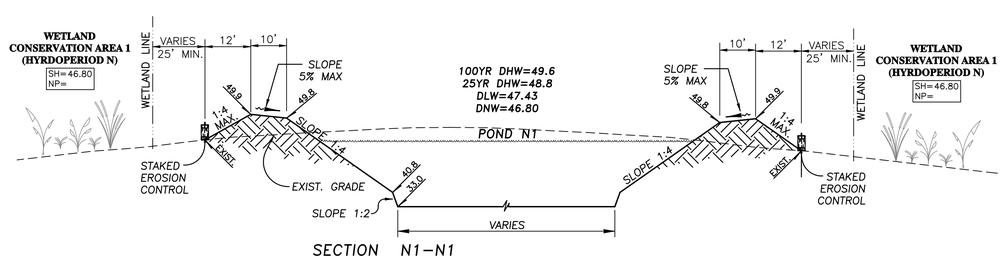
SECTION J2–J2

NOT TO SCALE



SECTION C–C

NOT TO SCALE



SECTION N1–N1

NOT TO SCALE

Pond/Lake Excavation Notes:

1. *No excavation shall extend below the permitted design depths/elevations shown on the drawings, unless additional testing supports otherwise; and no lower semi-confining unit clayey soil material and/or no limestone materials shall be excavated, regardless if these materials are encountered within the permitted excavation depths/elevations. If any lower semi-confining unit clayey soil materials or limestone materials are encountered above the permitted depths/elevations, then excavation operations shall cease in the general area and the Engineer of Record shall be notified immediately.*
2. *Detention ponds shall be excavated to at least 8' below normal water unless otherwise approved by the Engineer of Record.*

DATE	DESCRIPTION	BY
07–02–12	UPDATE PER 55' & 75' LOT WIDTH	JAS
09–20–11	ADD J1 & J2 SECTIONS	JAS
07–18–11	ADD DESIGN ELEVATIONS	JAS

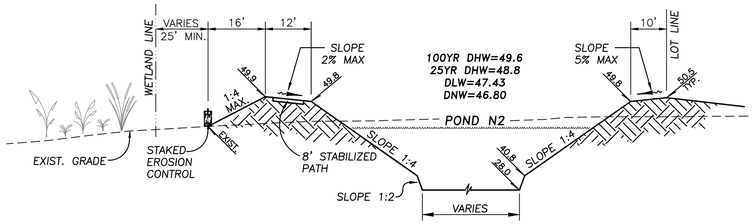
REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813–223–3919 Fax: 813–223–3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

DRAINAGE SECTIONS

JOB NO. TMH–NW–009	THE WOODS
DESIGN SMIRCH	
DRAWN SCHRADER	PREPARED FOR: TAYLOR MORRISON
DATE 05–02–2011	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE SEC1	SHEET 19 OF 57 SHEETS



SECTION N2–N2

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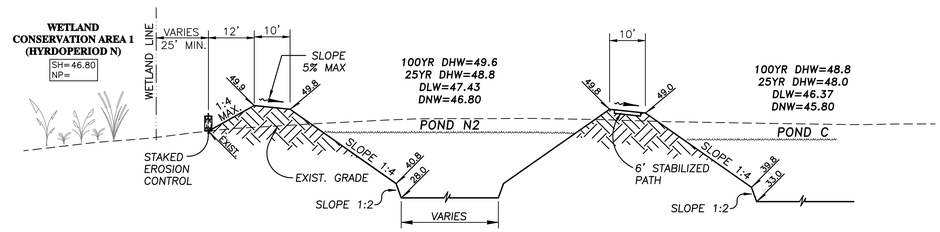

SECTION N2A–N2A

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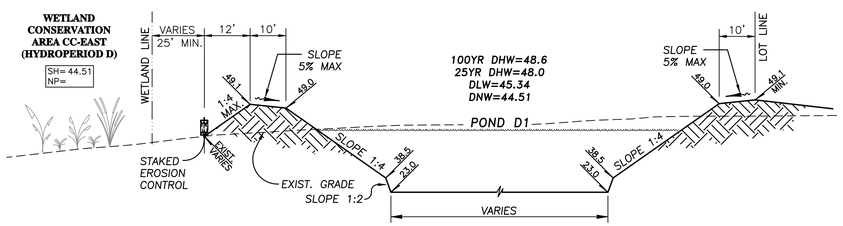
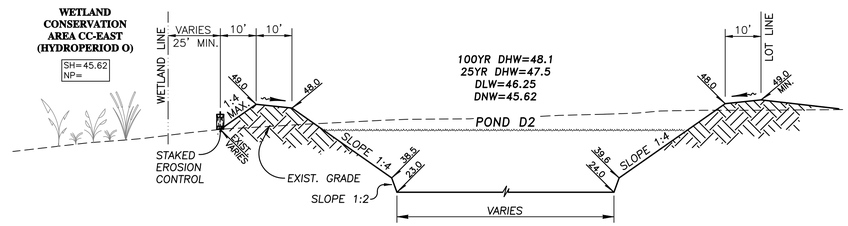


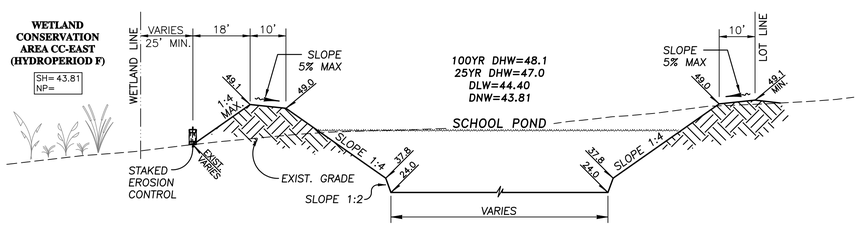
SECTION D1–D1

NOT TO SCALE



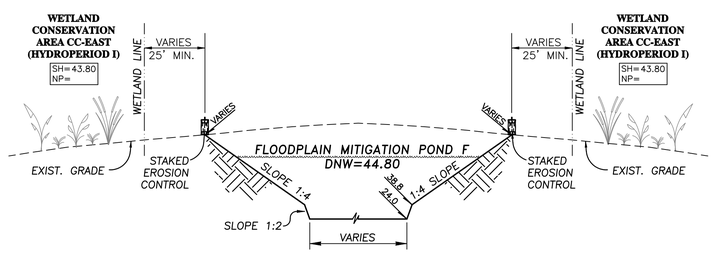
SECTION D2–D2

NOT TO SCALE



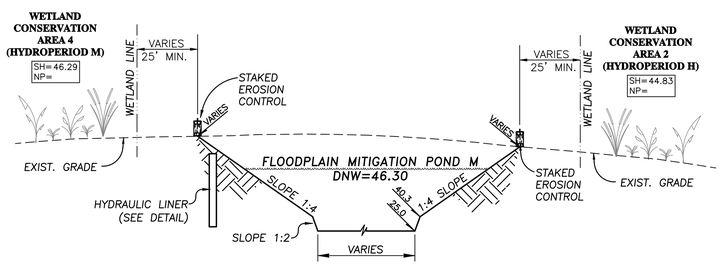
SECTION S–S

NOT TO SCALE



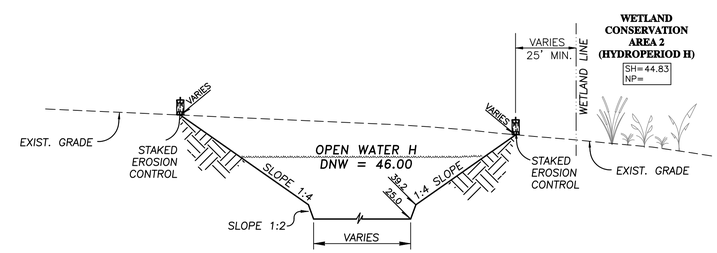
SECTION F–F

NOT TO SCALE



SECTION M–M

NOT TO SCALE



SECTION H–H

NOT TO SCALE

Pond/Lake Excavation Notes:

1. *No excavation shall extend below the permitted design depths/elevations shown on the drawings, unless additional testing supports otherwise; and no lower semi–confining unit clayey soil material and/or no limestone materials shall be excavated, regardless if these materials are encountered within the permitted excavation depths/elevations. If any lower semi–confining unit clayey soil materials or limestone materials are encountered above the permitted depths/elevations, then excavation operations shall cease in the general area and the Engineer of Record shall be notified immediately.*
2. *Detention ponds shall be excavated to at least 8' below normal water unless otherwise approved by the Engineer of Record.*

DATE	DESCRIPTION	BY
07–02–12	UPDATE PER 55' & 75' LOT WIDTH	JAS
09–20–11	ADJUST SECTIONS PER ADDING J1 & J2	JAS
07–18–11	ADD DESIGN ELEVATIONS	JAS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
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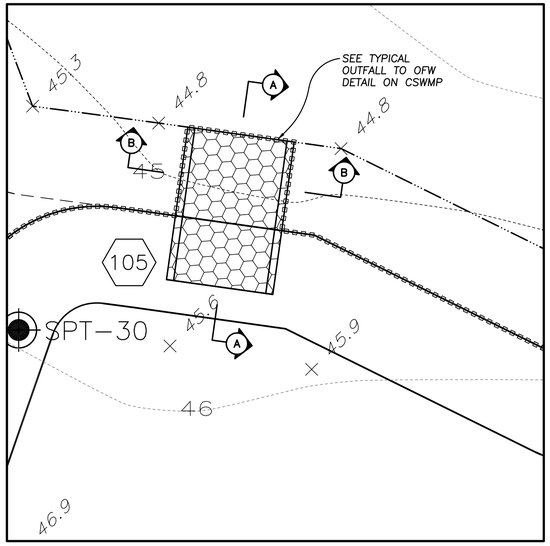
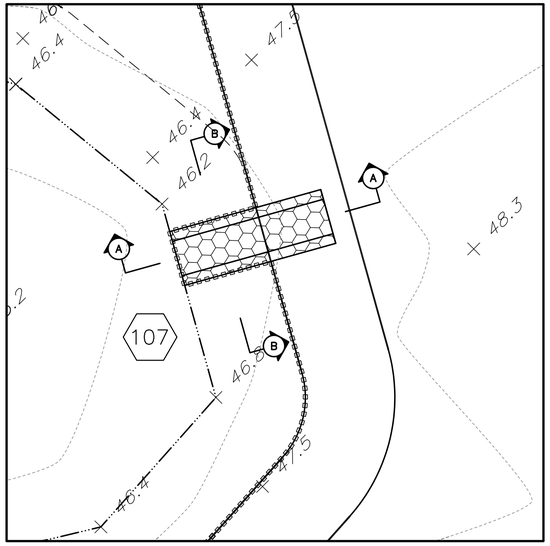
Office: 813–223–3919 Fax: 813–223–3975

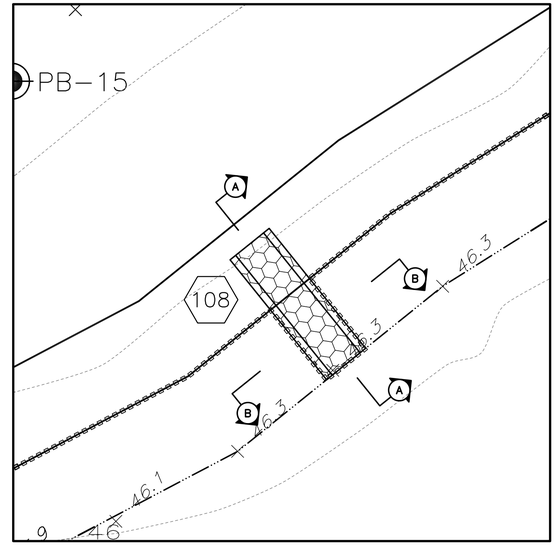
DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

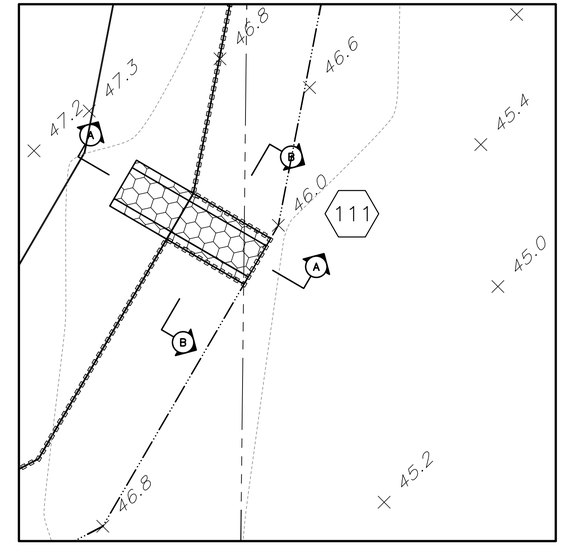
DRAINAGE SECTIONS

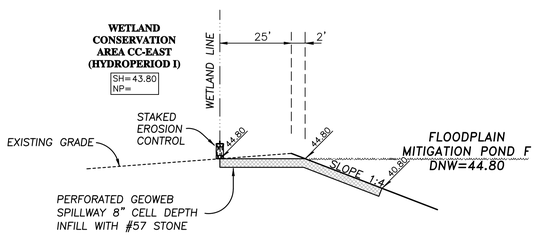
JOB NO. TMH–NW–009	THE WOODS
DESIGN SMIRCH	
DRAWN SCHRADER	PREPARED FOR: TAYLOR MORRISON
DATE 05–02–2011	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE SEC2	SHEET 20 OF 57 SHEETS



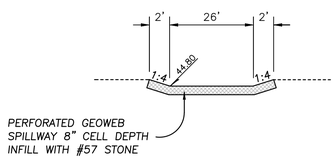






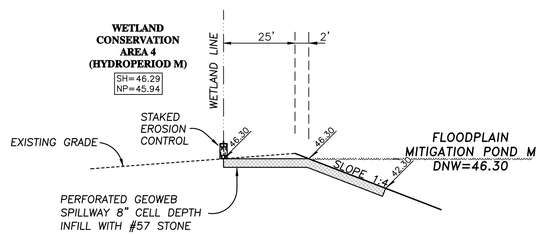


SECTION "A-A"



SECTION "B-B"

SPILLWAY "105"



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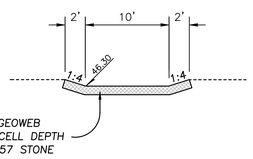
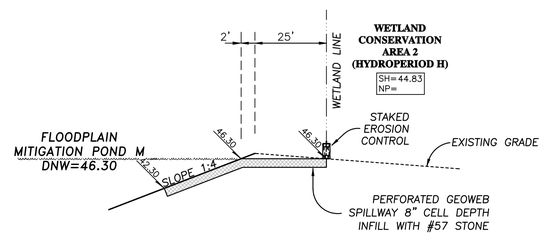
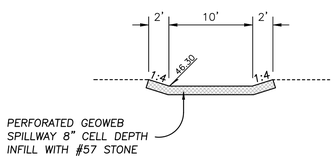


SECTION "B-B"

SPILLWAY "107"

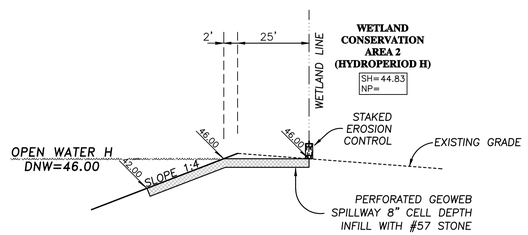


SECTION "A-A"



SECTION "B-B"

SPILLWAY "108"



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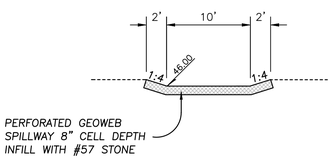


SECTION "B-B"

SPILLWAY "111"

40 20 0 20 40

SCALE: 1" = 20'

DATE	DESCRIPTION	BY
11-01-11	ADD NOTE – TYPICAL OUTFALL TO OFW	JAS
07-18-11	REMOVE SPILLWAY 106	JAS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:

JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

SPILLWAY DETAILS

JOB NO. TMH-NW-009

DESIGN SMIRCH

DRAWN SCHRADER

DATE 05-02-2011

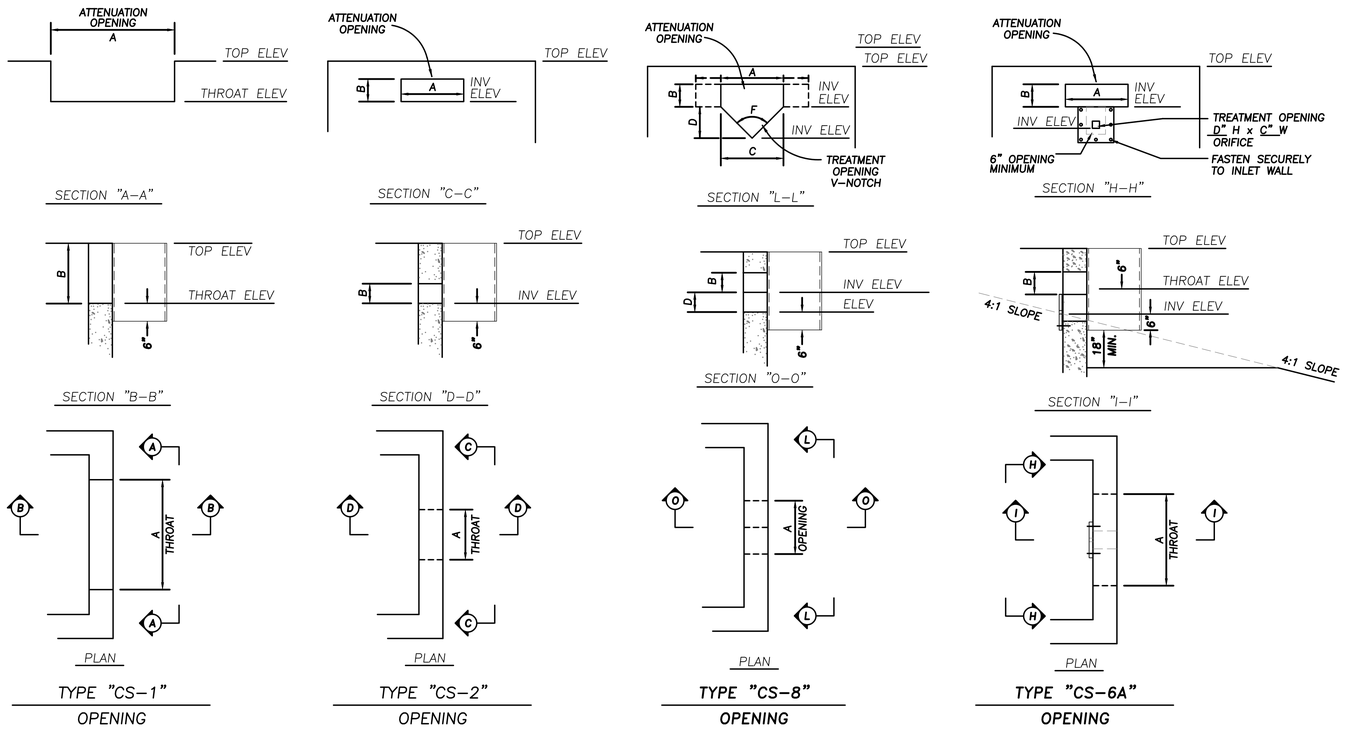
FILE SPILLWAY

THE WOODS

PREPARED FOR: TAYLOR MORRISON

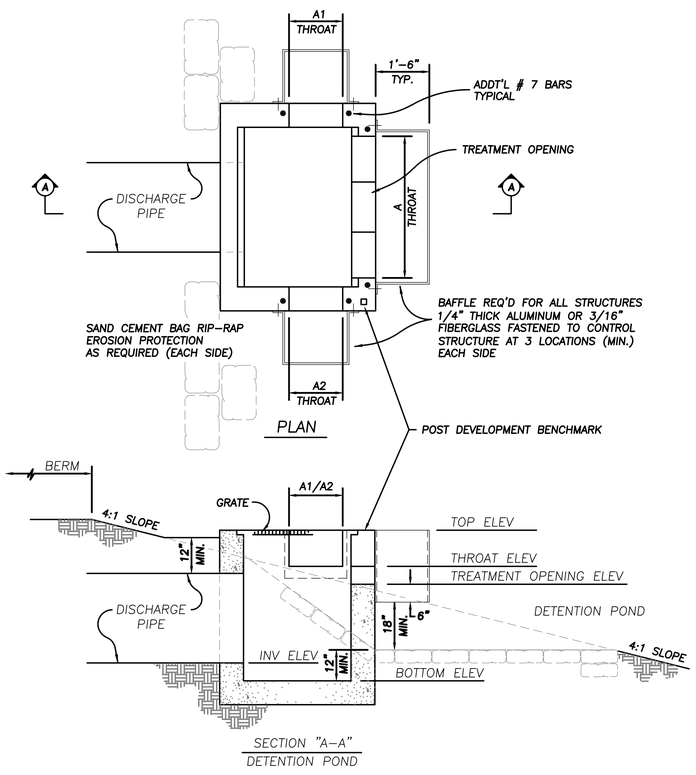
Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

SHEET 21 OF 57 SHEETS

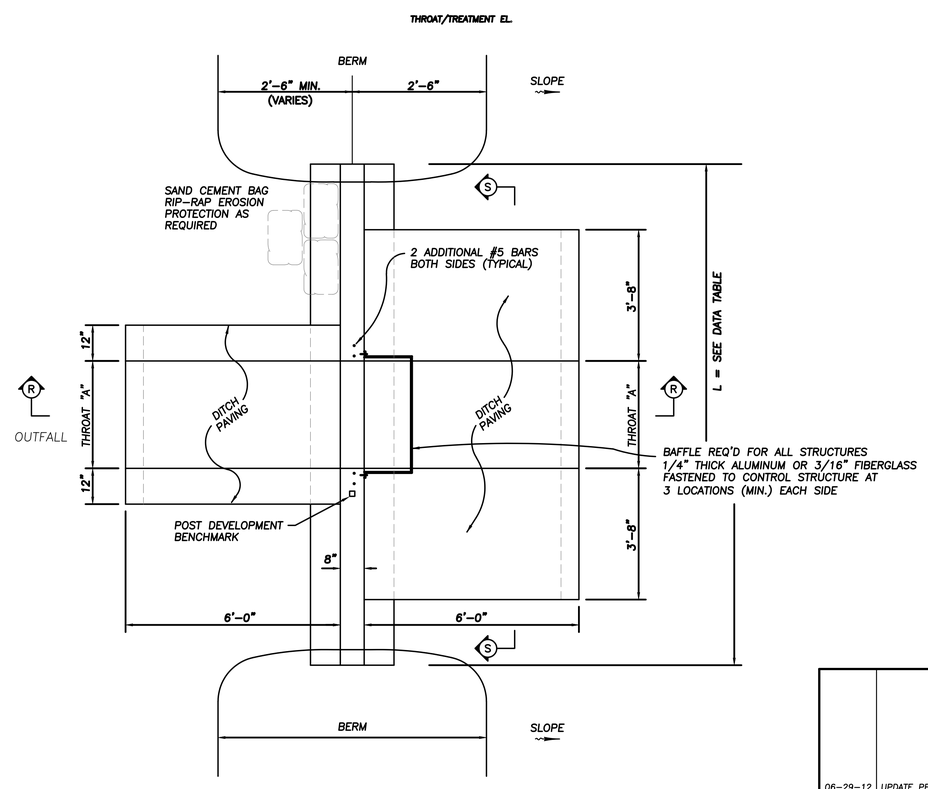


CONTROL STRUCTURE DATA

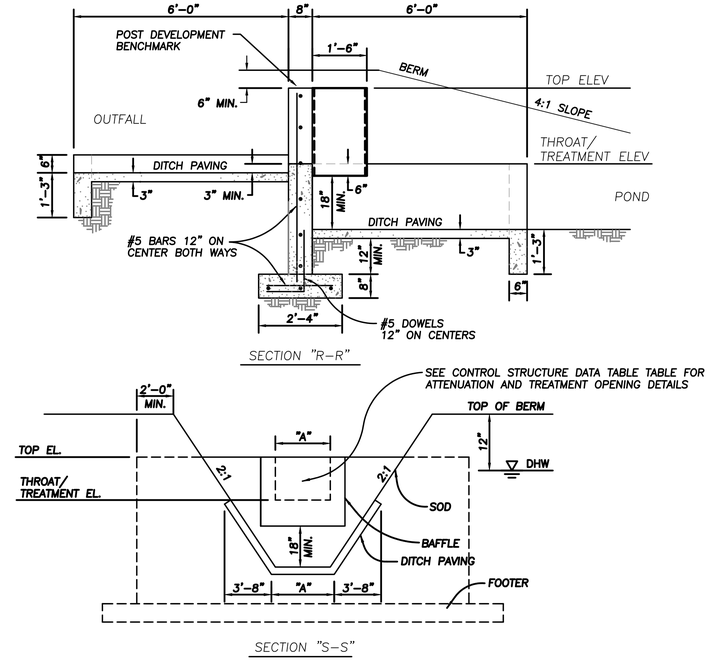
STR. NO.	FDOT BOX TYPE	TOP EL. (FT.)	BOTT. EL. (FT.)	DISCHARGE PIPE TYPE	DISCHARGE PIPE SIZE (IN.)	DISCHARGE PIPE INV. EL. (FT.)	ATTENUATION AND TREATMENT CONTROLS STR. TYPE	ATTENUATION OPENING A	ATTENUATION OPENING B	EL. (FT.)	TREATMENT OPENING C	TREATMENT OPENING D	TREATMENT OPENING F	EL. (FT.)	REMARKS
10	WALL	49.80	–	–	–	–	CS–8	A=3'–4"	6"	47.60	1'–2 3/8"	7 1/4"	90	47.00	POND A1–A3; L=26'–9"
27	E	49.50	44.90	RCP	30	45.90	CS–8	A=4'–0"	6"	47.12	1'–4 3/4"	8 3/8"	90	46.42	POND K1–K2 (TRTMT. & ATTEN.)
							CS–2	A1=3'–0"	6"	47.12	–	–	–	–	
							CS–2	A2=3'–0"	6"	47.12					
32	C	52.30	48.00	RCP	24	49.00	CS–1	3'–0"	2'–6"	49.80	–	–	–	–	SUMP J1
37	C	52.30	48.00	RCP	24	49.00	CS–1	3'–0"	2'–6"	49.80	–	–	–	–	SUMP J2
39	C	52.10	42.80	RCP	18	43.80	CS–6A	7"	6"	50.26	3 1/4"	3 1/4"	–	49.80	POND J
43	E	49.50	44.90	RCP	30	45.90	CS–2	A=4'–0"	6"	47.12	–	–	–	–	POND K1–K2 (ATTENUATION ONLY)
							CS–2	A1=3'–0"	6"	47.12	–	–	–	–	
							CS–2	A2=3'–0"	6"	47.12					
59	E	48.80	43.80	RCP	30	44.80	CS–8	A=4'–3"	6"	46.37	1'–1 7/8"	7"	90	45.80	POND C
							CS–2	A1=2'–3"	6"	46.37	–	–	–	–	
							CS–2	A2=2'–3"	6"	46.37					
75	WALL	49.80	–	–	–	–	CS–8	A=5'–6"	6"	47.43	1'–3 1/8"	7 5/8"	90	46.80	POND N1–N2; L=29'–0"
76	E	48.00	43.00	RCP	30	44.00	CS–1	4'–0"	1'–7¼"	46.40	–	–	–	–	ROAD CROSSING @ PH 3B ENTRANCE
93	WALL	48.30	–	–	–	–	CS–8	1'–4"	6"	45.34	1'–8"	10"	90	44.51	POND D1; L=30'–10"
99	WALL	48.00	–	–	–	–	CS–8	A=3'–6"	6"	46.25	1'–3 1/4"	7 5/8"	90	45.62	POND D2; L=26'–4"
109	WALL	48.30	–	–	–	–	CS–8	A=2'–8"	6"	44.40	1'–2 1/4"	7 1/8"	90	43.81	SCHOOL POND; L=34'–10"



TYPICAL CONTROL STRUCTURE



PLAN VIEW – WALL STRUCTURE



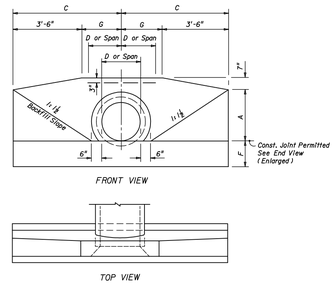
DATE	DESCRIPTION	BY
06–29–12	UPDATE PER 55' & 75' LOT WIDTH	JAS
10–06–11	MULT STRS TO WALLS	JAS
07–18–11	REVISE CSTR 46	JAS

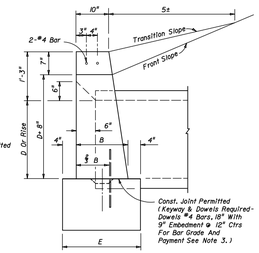
REVISIONS

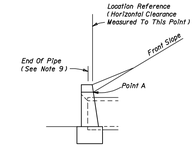
CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813–223–3919 Fax: 813–223–3975
DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

CONTROL STRUCTURE DETAILS

JOB NO. TMH–NW–009	THE WOODS
DESIGN SMIRCH	
DRAWN SCHRADER	PREPARED FOR: TAYLOR MORRISON
DATE 05–02–2011	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE CSTR	SHEET 22 OF 57 SHEETS



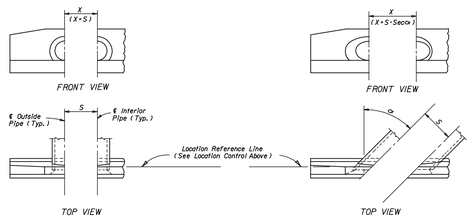




STANDARD LOCATION CONTROL

1. Position is set by the intersection of the front slope and Point A where this intersection falls outside the clear zone.
2. Where the front slope and Point A intersects inside the clear zone, the endwall is positioned so the location reference point is at the clear zone limit. The front slope is transitioned to the endwall as shown in Index No. 280.

ENDWALL DIMENSIONS (EXCLUSIVE OF MULTIPLE PIPE SPACING)



NORMAL PIPE

SKEWED PIPE

LEGEND

- α Pipe Skew
- S Center To Center Pipe Spacing
- X Centerline To Centerline Dimension At Face Of Headwall

ENDWALL POSITIONS FOR SINGLE AND MULTIPLE PIPE AND SPACING FOR MULTIPLE PIPE

GENERAL NOTES

1. Endwall dimensions, locations and positions are for round and elliptical concrete pipe and for round and pipe-arch corrugated metal pipe. Round concrete pipe shown.
2. Front slope and ditch transitions shall be in accordance with Index No. 280.
3. Endwalls may be cast in place or precast concrete. Reinforcing steel shall be Grades 40 or 60. Additional reinforcement necessary for handling precast units shall be determined by the Contractor or the supplier. Cost of reinforcement shall be included in the contract unit price for concrete, (endwalls).
4. All exposed corners and edges of concrete are to be chamfered ¾".
5. Concrete meeting the requirements of ASTM C478 (4000 psi) may be used in lieu of Class I concrete in precast items manufactured in plants which are under the Standard Operating Procedures for the Inspection of precast drainage products.
6. On outfall ditches with side slopes flatter than 1:1½ provide 20' transitions from the endwall to the flatter side slopes, right of way permitting.
7. For sodding around endwalls see Index No. 281.
8. Payment for concrete quantities for endwalls skewed to the pipe shall be made on the following basis:

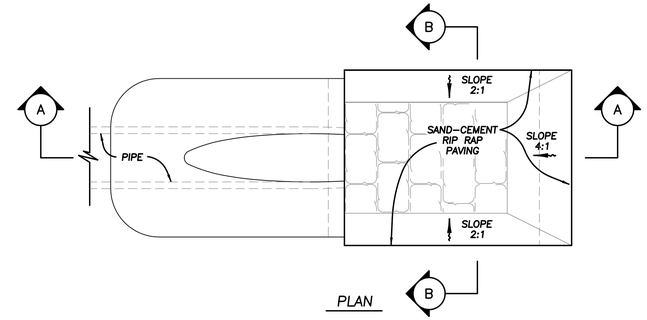
Endwall Skew To Pipe	Use Tabulated Value
0° to 5°	0°
6° to 15°	15°
16° to 30°	30°
31° or over	45°

9. Pipe length plan quantities shall be based on the pipe end locations shown in the standard location control end view, or lengths based on special endwall locations called for in the plans.
10. Payment for pipe in pipe culverts shall be based on plan quantities, adjusted for endwall locations subsequently established by the Engineer.
11. Endwalls to be paid for under the contract unit price for Class I Concrete (Endwalls), CY.

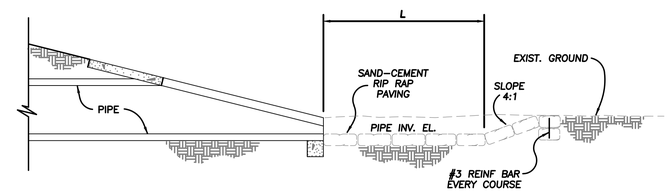
DATA AND ESTIMATED QUANTITIES FOR ONE ENDWALL

ROUND CONCRETE AND CORRUGATED METAL PIPE

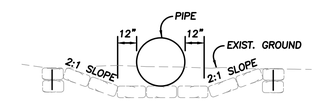
D	Opening Area (SF)				Dimensions												Class I Concrete (CY)																														D
																	Number And Type Of Pipe And Skew Angle Of Pipe																														
																	Single		Double						Triple								Quadruple														
	Number Of Pipes												X				Concrete	Metal	Concrete			Metal			Concrete			Metal				Concrete			Metal			Concrete			Metal					
	1	2	3	4	A	B	C	E	F	G	S	0°	15°	30°	45°		0°	0°	0°	15°	30°	45°	0°	15°	30°	45°	0°	15°	30°	45°	0°	15°	30°	45°	0°	15°	30°	45°	0°	15°	30°	45°	0°	15°	30°	45°	
15"	1.23	2.46	3.69	4.92	1'-11"	1'-2"	4'-0"	1'-10"	1'-2"	0'-6"	2'-7"	2'-7"	2'-8"	3'-0"	3'-8"		1.23	1.24	1.59	1.60	1.65	1.74	1.62	1.63	1.68	1.78	1.94	1.96	2.05	2.23	1.99	2.02	2.11	2.30	2.30	2.34	2.47	2.74	2.37	2.41	2.75	2.84	15"
18"	1.77	3.54	5.31	7.08	2'-2"	1'-3"	4'-6"	1'-11"	1'-3"	1'-0"	2'-10"	2'-10"	2'-11"	3'-3"	4'-0"		1.56	1.59	1.99	2.01	2.06	2.17	2.04	2.06	2.11	2.23	2.43	2.46	2.56	2.79	2.51	2.54	2.65	2.89	2.86	2.91	3.06	3.40	2.96	3.01	3.17	3.53	18"
21"	2.41	4.82	7.23	9.64	2'-5"	1'-4"	5'-0"	2'-0"	1'-4"	1'-6"	3'-2"	3'-2"	3'-3"	3'-8"	4'-6"		1.91																														21"
24"	3.14	6.28	9.42	12.56	2'-8"	1'-4"	5'-6"	2'-0"	1'-4"	2'-0"	3'-5"	3'-5"	3'-6"	3'-11"	4'-10"		2.24	2.29	2.82	2.84	2.91	3.06	2.91	2.93	3.01	3.17	3.39	3.43	3.57	3.87	3.52	3.56	3.71	4.03	3.97	4.03	4.24	4.69	4.14	4.20	4.43	4.91	24"
27"	3.98	7.96	11.94	15.92	2'-11"	1'-5"	6'-0"	2'-1"	1'-5"	2'-6"	3'-10"	3'-10"	4'-0"	4'-5"	5'-5"		2.73																														27"
30"	4.91	9.82	14.73	19.64	3'-2"	1'-6"	6'-6"	2'-2"	1'-6"	3'-0"	4'-3"	4'-3"	4'-5"	4'-11"	6'-0"		3.36	3.34	4.13	4.16	4.26	4.49	4.28	4.31	4.43	4.67	4.98	5.04	5.25	5.69	5.20	5.27	5.49	5.97	5.84	5.93	6.24	6.9	6.13	6.23	6.56	7.29	30"
36"	7.07	14.14	21.21	28.28	3'-8"	1'-8"	7'-6"	2'-4"	1'-8"	4'-0"	5'-1"	5'-1"	5'-3"	5'-10"	7'-2"		4.53	4.64	5.73	5.77	5.92	6.23	5.95	6.00	6.15	6.49	6.92	7.00	7.29	7.9	7.25	7.34	7.65	8.33	8.13	8.26	8.69	9.62	8.57	8.71	9.18	10.20	36"
42"	9.62	19.24	28.86	38.48	4'-2"	1'-10"	8'-6"	2'-6"	2'-0"	5'-0"	6'-0"	6'-0"	6'-3"	6'-11"	8'-6"		6.33	6.49	8.11	8.17	8.39	8.85	8.43	8.50	8.73	9.23	9.90	10.02	10.45	11.39	10.38	10.52	10.98	11.99	11.68	11.87	12.5	13.89	12.32	12.52	13.22	14.73	42"
48"	12.57	25.14	37.71	50.28	4'-8"	2'-1"	9'-6"	2'-9"	2'-0"	6'-0"	6'-9"	6'-9"	7'-0"	7'-10"	9'-7"		8.25	8.38	10.40	10.48	10.75	11.33	10.85	10.94	11.23	11.87	12.64	12.80	13.34	14.50	13.34	13.5	14.1	15.39	14.89	15.13	15.93	17.68	15.82	16.08	16.97	18.90	48"
54"	15.90	31.80	47.70	63.60	5'-2"	2'-6"	10'-6"	3'-2"	2'-3"	7'-0"	7'-8"	7'-8"	7'-11"	8'-10"	10'-10"		11.71	11.77	15.23	15.35	15.78	16.69	15.35	15.48	15.96	16.83	18.77	19.02	19.86	21.69	18.93	19.18	20.04	21.89	22.29	22.66	23.93	26.67	22.5	22.89	24.17	26.96	54"



PLAN



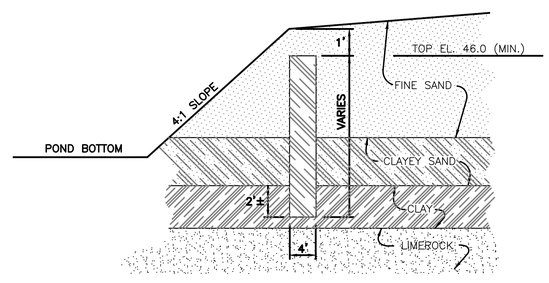
SECTION "A-A"



SECTION "B-B"

TYPICAL OUTFALL SUMP DETAIL

SAND-CEMENT BAG



HYDRAULIC LINER - CLAY BARRIER

NTS

SPECIFICATIONS FOR VERTICAL CLAYEY SOIL FILLED TRENCH WALL:

THE TRENCH SHOULD BE EXCAVATED AND BACKFILLED IN A RELATIVELY DEWATERED STATE, TO PERMIT MATERIAL REPLACEMENT AND TO MINIMIZE SIDE WALL SLOUGHING

THE TRENCH SHOULD BE CAREFULLY BACKFILLED IN 1-FOOT LIFTS FROM THE BOTTOM UP TO THE TOP OF TRENCH ELEVATION (± 0.1 FT.) SHOWN ON THE PLANS

THE TRENCH SHOULD BE FILLED WITH APPROVED CLAYEY SOIL MATERIAL (CLASSIFIED AS SC, CL OR CH ACCORDING TO THE UNIFIED SOIL CLASSIFICATION SYSTEM) PLACED AND COMPACTED IN 1-FOOT LIFTS (GREATER THAN 35% FINES)

COMPACTION TO A PERMEABILITY OF 0.10 FEET PER DAY OR LESS; COMPACTED TO 95% OF ASTM D-1557 (OR UNLESS OTHERWISE ACCEPTED BY GEOTECHNICAL CONSULTANT)

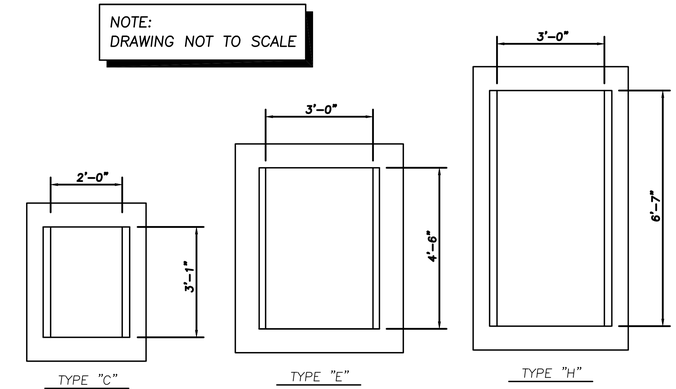
A SYNTHETIC LINER MAY BE USED IN LIEU OF CLAY UPON ENGINEERS APPROVAL

ALL WORK SHOULD BE MONITORED FULL-TIME AND APPROVED BY A QUALIFIED FIELD TECHNICIAN REPRESENTING THE GEOTECHNICAL CONSULTANT

THE GEOTECHNICAL FIELD TECHNICIAN WILL DETERMINE AND DIRECT IN THE FIELD THE VERTICAL DEPTH OF THE TRENCH AS THE WALL IS CONSTRUCTED; IN GENERAL, THE WALL WILL EXTEND 15 FEET (±) BELOW EXISTING SITE GRADES

NOTE:
CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTING CONTROL STRUCTURES

NOTE:
DRAWING NOT TO SCALE



TYPE "C"

TYPE "E"

TYPE "H"

DATE	DESCRIPTION	BY
10-06-11	ADD SHEET FOR WALL DETAIL	JAS

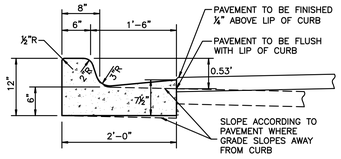
REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

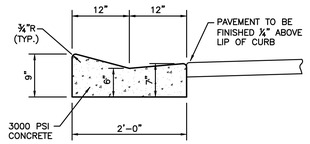
DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

CONTROL STRUCTURE DETAILS

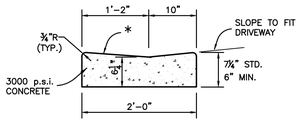
JOB NO. TMH-NW-009	THE WOODS
DESIGN SMIRCH	
DRAWN SCHRADER	PREPARED FOR: TAYLOR MORRISON
DATE 05-02-2011	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE CSTR2	SHEET 23 OF 57 SHEETS



TYPE "F" CURB AND GUTTER

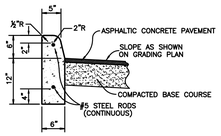


TYPE "A" CURB AND GUTTER

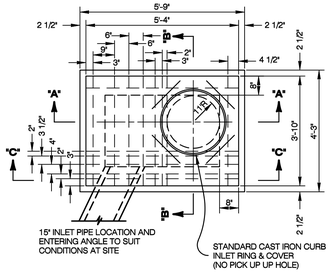


* WHEN USED ON HIGH SIDE OF ROADWAYS, THE CROSS SLOPE OF THE GUTTER SHALL MATCH THE CROSS SLOPE OF THE ADJACENT PAVEMENT. THE THICKNESS OF THE LIP SHALL BE 6", UNLESS OTHERWISE SHOWN.

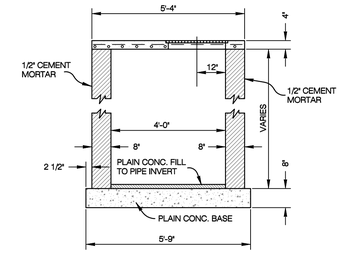
DROP CURB



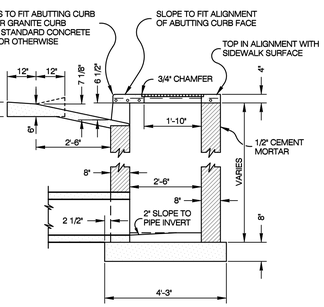
6" UPRIGHT CURB



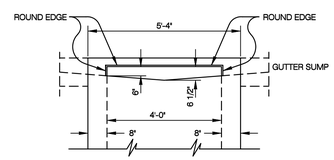
PLAN



SECTION "A-A"



SECTION "B-B"

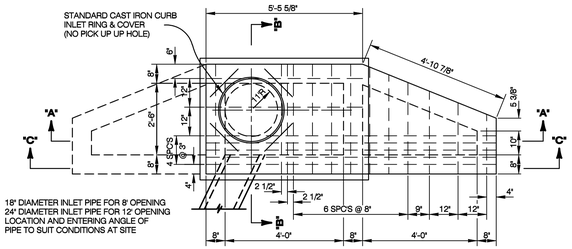


SECTION "C-C"

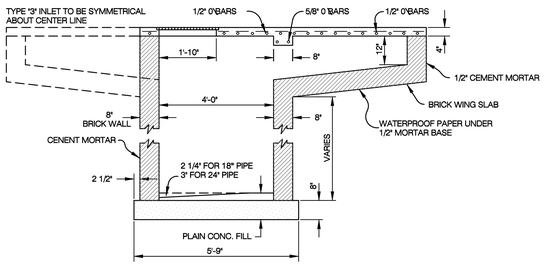
STANDARD STORM WATER CURB INLET TYPE 1

NOTES:
1) STRUCTURES LARGER THAN 4'x6' (INSIDE) SHALL BE PRECAST OR CAST-IN-PLACE.
2) ALL INSIDE BRICK WALLS TO BE PLASTERED WITH 1/2" MIN. OF 1:2 CEMENT MORTAR.

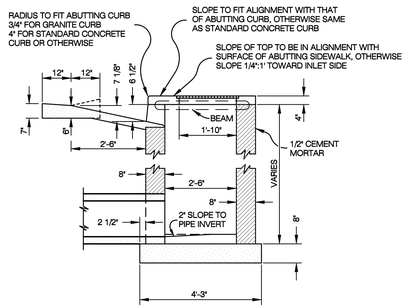
BAR SCHEDULE FOR TOP SLAB			
NO.	SIZE	LOCATION	LENGTH
8	1/2" Ø.	TRANSVERSE BARS	3'-6"
6	1/2" Ø.	LONGITUDINAL BARS	5'-1"
1	1/2" Ø.	LONGITUDINAL BARS	2'-8"
5	5/8" Ø.	TRAFFIC BEARING ONLY	2'-4"



PLAN



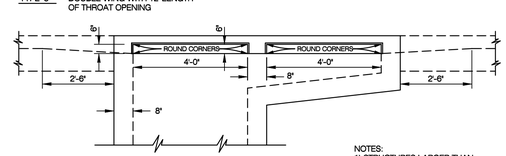
SECTION "A-A"



SECTION "B-B"

TYPE '2' - SINGLE WING WITH 8' LENGTH OF THROAT OPENING

TYPE '3' - DOUBLE WING WITH 12' LENGTH OF THROAT OPENING

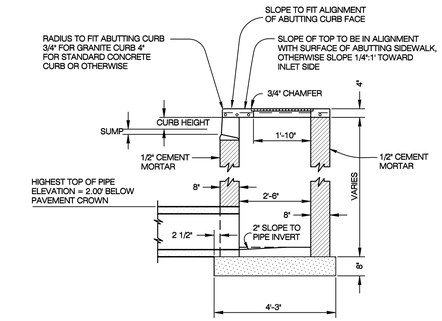


SECTION "C-C"

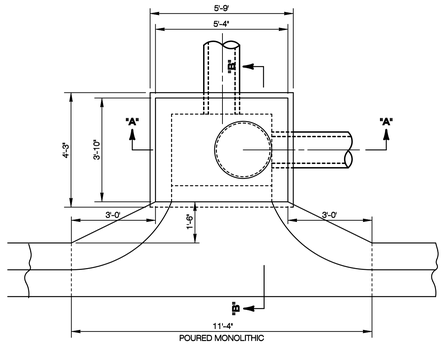
STANDARD STORM WATER CURB INLET TYPE 2 & 3

NOTES:
1) STRUCTURES LARGER THAN 4'x6' (INSIDE) SHALL BE PRECAST OR CAST-IN-PLACE.
2) PAVE WITH BRICK AND MORTAR UP TO SPRING LINE WHEREVER TWO OR MORE PIPES ENTER ONE INLET TO PROVIDE A CHANNEL FOR FLOW OF WATER THROUGH INLET.

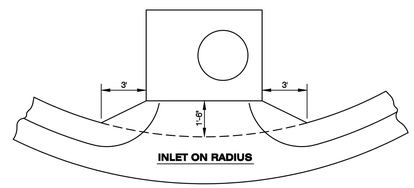
BAR SCHEDULE FOR TOP SLAB			
NO.	SIZE	LOCATION	LENGTH
8	1/2" Ø.	TRANSVERSE BARS - STRAIGHT	3'-6"
1	1/2" Ø.	TRANSVERSE BARS - STRAIGHT	3'-4"
1	1/2" Ø.	TRANSVERSE BARS - STRAIGHT	3'-0"
1	1/2" Ø.	TRANSVERSE BARS - STRAIGHT	2'-9"
1	1/2" Ø.	TRANSVERSE BARS - STRAIGHT	2'-5"
1	1/2" Ø.	TRANSVERSE BARS - STRAIGHT	2'-0"
2	5/8" Ø.	TRANSVERSE BARS - W/ HOOKED ENDS	3'-6"
5	1/2" Ø.	LONGITUDINAL BARS - STRAIGHT	9'-9"
1	1/2" Ø.	LONGITUDINAL BARS - STRAIGHT	6'-3"
1	1/2" Ø.	LONGITUDINAL BARS - STRAIGHT	5'-9"



SECTION "B-B"
TYPE "F" CURB ONLY

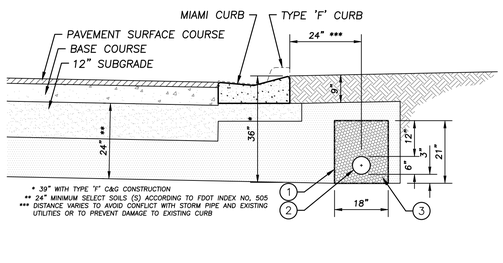


PLAN



INLET ON RADIUS

STANDARD INLET FOR MIAMI GUTTER

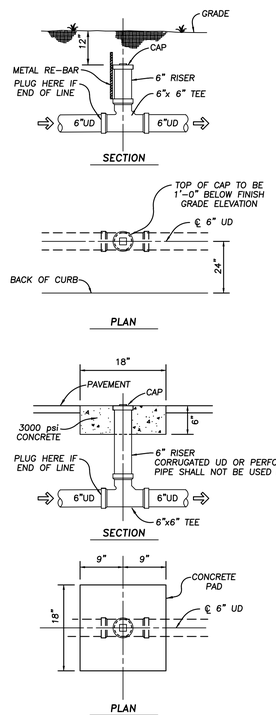


* 39" WITH TYPE 'F' C&G CONSTRUCTION
** 24" MINIMUM SELECT SOILS (S) ACCORDING TO FDOT INDEX NO. 505
*** DISTANCE VARIES TO AVOID CONFLICT WITH STORM PIPE AND EXISTING UTILITIES OR TO PREVENT DAMAGE TO EXISTING CURB

1. TYPE D-3 FILTER FABRIC ENVELOPE – FDOT INDEX NO. 199
2. 6" ø MINIMUM CORRUGATED HDPE OR PVC PIPE WITH FILTER FABRIC SOCK – SEE NOTES 3 & 4
3. FINE AGGREGATE FDOT STANDARD SPECS SECTION 902-4 – SEE NOTE 6

1. Underdrain shalll meet the requirements of FDOT Standard Specifications for Road and Bridge Construction, Section 440.
2. Minimum grade on underdrain pipe shall be 0.2%
3. All pipe shall meet the requirements of FDOT Standard Specifications for Road and Bridge Construction, Section 948-1.5 (PVC Pipe) and FDOT 948-2 (Corrugated Polyethylene Pipe).
4. A filter fabric sock meeting the requirements of FDOT Standard Specifications for Road and Bridge Construction, Section 948-3 is required for all perforated underdrain pipe.
5. Non-perforated pipe shall be used for all roadway crossings. Perforated pipe shall not be placed under street pavement.
6. Fine aggregate shall be quartz sand meeting the requirements of FDOT Standard Specifications for Road and Bridge Construction, Section 902-4.
7. Filter material shall be completely wrapped in filter fabric with a 12-inch minimum overlap.
8. Filter fabric shall meet the requirements of FDOT Index 199, Type D-3.
9. Embankment material shall consist of Select Soil (S) according to FDOT Index 505 and shall extend a minimum of 36-inches (3 feet) behind back of curb except as noted above.
10. FDOT and local governing agencies may have minimum standards which may exceed those referenced above. Contractor shall install underdrain in accordance with FDOT and local governing districts' minimum standards and regulations.
11. No irrigation pipelines, plant materials, tree materials or plantings, conduits, etc. should be designed or installed within 3 feet (±) of the back of curb.

FINE AGGREGATE UNDERDRAIN DETAIL



UNDERDRAIN CLEANOUT DETAIL

NOTE:
LOCATION OF CLEANOUT TO BE MARKED ON CURB.

DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975
DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

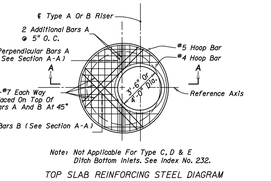
DRAINAGE DETAILS

JOB NO. TMH-NW-009
DESIGN SMIRCH
DRAWN SCHRADER
DATE 07-02-2012
FILE DD1

THE WOODS

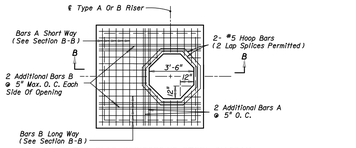
PREPARED FOR: TAYLOR MORRISON

Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

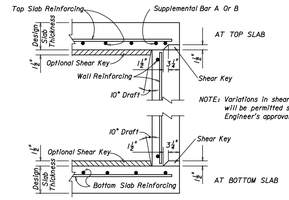


Note: Not Applicable For Type C, D & E Ditch Bottom Inlets. See Index No. 232.

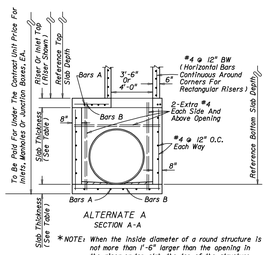
TOP SLAB REINFORCING STEEL DIAGRAM



TOP SLAB REINFORCING STEEL DIAGRAM

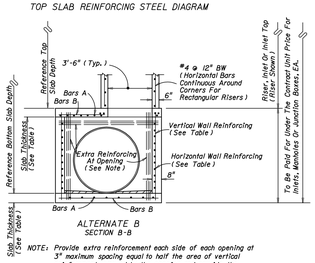


SLAB TO WALL DETAILS FOR PRECAST ALTERNATE WITH 8" WALLS



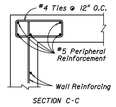
ALTERNATE A
SECTION A-A

*NOTE: When the inside diameter of a round structure is not more than 1'-6" larger than the opening in the riser or top slab, the top of the structure or riser shall be constructed according to the "Special Top Slab" details on this sheet.

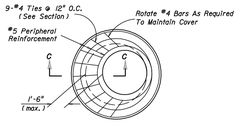


ALTERNATE B
SECTION B-B

NOTE: Provide extra reinforcement each side of each opening at 3" maximum spacing equal to half the area of vertical reinforcement removed by the opening and provide the same area of reinforcement above each opening at 3" maximum spacing as removed by the opening.



SECTION C-C



SPECIAL TOP SLAB *

GENERAL NOTES

1. Standard structure bottoms 4'-0" diameter and smaller (Alt. A) and 3'-6" square (Alt. B) are designated Type P. Larger standard structure bottoms are designated Type J. Risers are permitted for all structures.
2. Walls of circular structures (Alternate A) constructed in place may be of non-reinforced concrete or brick or reinforced concrete. Precast and rectangular structures (Alternate B) shall be constructed of reinforced concrete only.
3. Wall thickness and reinforcement are for either reinforced cast-in-place or precast concrete units except that precast circular units may be furnished with walls in accordance with either ASTM C478 (up to 96" diameter) or ASTM C76, Class III, B Wall, modified where the elliptical steel cage area is placed in the center one-third of the wall.
4. Top and floor slab thickness and reinforcement are for precast and cast in place construction. Top and floor slabs shall be of Class II concrete. Concrete as specified in ASTM C478 (4000 psi) may be used in lieu of Class I and Class II concrete in precast items manufactured in plants which are under the "Standard Operating Procedures" for the inspection of precast drainage products.
5. All reinforcement shown is A615/A615M Grade 60 steel, either smooth or deformed. Equivalent area Grade 40 steel or Grade 65KSI welded wire fabric may be substituted according to Index No. 201.
6. Structure bottoms may be used in conjunction with curb inlet tops Types 1, 2, 3, 4, 5, 6, 9, and 10, and any manhole or junction box unless otherwise shown in the plans or other standard drawings. Alt. B structure bottoms may be used in conjunction with curb inlet Types 7 & 8, or any ditch bottom inlet unless otherwise shown in the plans or other standard drawings.
7. Rectangular structures may be rotated as directed by the Engineer in order to facilitate connections between the structure walls and storm sewer pipes.
8. Except when ACI hooks are specifically required, reinforcement top and slab shall be straight embedment.
9. All steel bars shall have $1\frac{1}{2}$" minimum cover unless otherwise shown, except for precast circular units manufactured under ASTM C76 or ASTM C478. Horizontal steel in rectangular structures shall be lapped a minimum of 24 bar diameters at corners.
10. The corner fillets shown are necessary for rectangular structures used with circular risers and inlet throats and used on skew with rectangular risers, inlet and inlet throats. Fillets will be required in lieu of the bottom slab of the Alt. B riser when used with the Alt. A box. Each fillet shall be reinforced with 2-#5 bars.
11. Inlet throats, riser or manhole tops shall be secured to structures as shown on Index No. 201.
12. Structures with depths over 14' are to be checked for flotation by designer of project drainage.
13. Units larger than specified standard may be substituted at the contractor's option when these units will not cause or increase the severity of utility conflicts. Such larger units shall be furnished at no additional cost to the Department. Larger Alternate A units cannot replace Alternate B units without approval of the Engineer. This note applies to this index only.
14. For manhole and junction box tops, for frames and covers, and, for supplementary details see Index No. 201.

STRUCTURE BOTTOMS
TYPE J AND P

1 of 2

SLAB DESIGNS - SQUARE AND RECTANGULAR STRUCTURES

(ALL SLABS 8" THICK - REINFORCING PARALLEL TO SHORT WAY AND LONG WAY)

SHORT-WAY SLAB DEPTH	SHORT-WAY SCHEDULE	LONG-WAY SLAB DEPTH	LONG-WAY SCHEDULE
SIZE: 3'-6" x UNLIMITED			
≥0.5'<29'	B	≥0.5'-40'	B
29'-40'	C		
SIZE: 4'-0" x UNLIMITED			
≥0.5'<19'	B	≥0.5'<34'	B
19'<29'	C	34'-40'	C
29'-40'	D		
SIZE: 5' x 5'			
≥0.5'<3'	C	≥0.5'<3'	C
3'<16'	B	3'<19'	B
16'<28'	C	19'<28'	C
28'<38'	D	28'<38'	D
38'-40'	F	38'-40'	F
SIZE: 5' x 6'			
≥0.5'<3'	C	≥0.5'<3'	C
3'<16'	B	3'<20'	B
16'<24'	C	20'<29'	C
24'<34'	D	29'-40'	D
34'-40'	F		
SIZE: 5' x 7'			
≥0.5'<3'	C	≥0.5'<3'	C
3'<14'	B	3'<22'	B
14'<21'	C	22'<33'	C
21'<39'	D	33'-40'	D
39'-40'	F		
SIZE: 5' x 8'			
≥0.5'<3'	C	≥0.5'<39'	B
3'<8'	B	39'-40'	C
8'<17'	C		
17'<23'	D		
23'-40'	F		
SIZE: 5' x 9'			
≥0.5'<3'	C	≥0.5'<32'	B
3'<8'	B	32'-40'	C
8'<17'	C		
17'<23'	D		
23'-40'	F		

SHORT-WAY SLAB DEPTH	SHORT-WAY SCHEDULE	LONG-WAY SLAB DEPTH	LONG-WAY SCHEDULE
SIZE: 6' x 6'			
≥0.5'<3'	D	≥0.5'<3'	D
3'<4'	C	3'<4'	C
4'<14'	B	4'<14'	B
14'<21'	C	14'<21'	C
21'<28'	D	21'<28'	D
28'-40'	F	28'-40'	F
SIZE: 6' x 7'			
≥0.5'<3'	D	≥0.5'<3'	D
3'<4'	C	3'<4'	C
4'<12'	B	4'<15'	B
12'<19'	C	15'<21'	C
19'<26'	D	21'<30'	D
26'-40'	F	30'-40'	F
SIZE: 6' x 8'			
≥0.5'<3'	D	≥0.5'<3'	D
3'<4'	C	3'<4'	C
4'<7'	B	4'<16'	B
7'<16'	C	16'<23'	C
16'<23'	D	23'<32'	D
23'-40'	F	32'-40'	F
SIZE: 6' x 9'			
≥0.5'<3'	D	≥0.5'<3'	D
3'<15'	C	3'<4'	C
15'<21'	D	4'<18'	B
21'<27'	E	18'<27'	C
27'-40'	G	27'<37'	D
		37'-40'	E
SIZE: 7' x 7'			
≥0.5'<3'	E	≥0.5'<3'	E
3'<4'	D	3'<4'	D
4'<16'	C	4'<16'	C
16'<22'	D	16'<22'	D
22'<28'	E	22'<28'	E
28'-40'	G	28'-40'	G
SIZE: 7' x 8'			
≥0.5'<3'	E	≥0.5'<3'	E
3'<4'	D	3'<4'	D
4'<15'	C	4'<17'	C
15'<21'	D	17'<23'	D
21'<27'	E	23'<29'	E
27'-40'	G	29'-40'	G
SIZE: 7' x 9'			
≥0.5'<3'	E	≥0.5'<3'	E
3'<4'	D	3'<4'	D
4'<12'	C	4'<18'	C
12'<18'	D	18'<24'	D
18'<24'	E	24'<32'	E
24'-40'	G	32'-40'	G

SHORT-WAY SLAB DEPTH	SHORT-WAY SCHEDULE	LONG-WAY SLAB DEPTH	LONG-WAY SCHEDULE
SIZE: 8' x 8'			
≥ 0.5'<3'	D	≥ 0.5'<3'	D
3'<4'	C	3'<4'	C
4'<9'	B	4'<9'	B
9'<17'	C	9'<17'	C
17'<31'	D	17'<31'	D
31'-40'	G	31'-40'	G
SIZE: 8' x 9'			
≥ 0.5'<3'	D	≥ 0.5'<3'	E
3'<4'	C	3'<4'	D
4'<16'	B	4'<18'	C
16'<22'	C	18'<25'	D
22'<29'	D	25'<32'	F
29'-40'	F	32'-40'	G
SIZE: 9' x 9'			
≥ 0.5'<3'	F	≥ 0.5'<3'	F
3'<14'	C	3'<14'	C
14'<20'	D	14'<20'	D
20'<26'	E	20'<26'	E
26'-40'	G	26'-40'	G

WALL DESIGNS - RECTANGULAR STRUCTURES

VERTICAL REINFORCING WALL DEPTH	VERTICAL REINFORCING SCHEDULE	HORIZONTAL REINFORCING WALL DEPTH	HORIZONTAL REINFORCING SCHEDULE
SIZE: 3'-6" * SEE NOTE BELOW			
≥1.17'-40'	A	≥1.17'-40'	B
SIZE: 4'-0"			
≥1.17'-40'	A	≥1.17'-40'	B
SIZE: 5'-0"			
≥1.17'-40'	A	≥1.17' <33'	B
		33'-40'	C
SIZE: 6'-0"			
≥1.17'-40'	A	≥1.17' <22'	B
		22'-40'	C
SIZE: 7'-0"			
≥1.17'-40'	A	≥1.17' <15'	B
		15' <25'	C
		25'-40'	D
SIZE: 8'-0"			
≥1.17'-40'	A	≥1.17' <11'	B
		11' <19'	C
		19' <29'	D
		29'-40'	F
SIZE: 9'-0"			
≥1.17'-40'	A	≥1.17' <15'	C
		15' <22'	D
		22'-40'	F

* Precast structures 3'-6" x 3'-6" maybe cast with 6" walls to depths of 15'. See Index No. 201.

GENERAL NOTES

1. Size is the inside dimension(s) of a structure.
2. Slab reinforcement is appropriate for top, intermediate, and bottom slabs.
3. Slab depth is measured from finished grade to top of slab.
4. Wall design depth is measured to the top of the bottom slab for boxes and to the top of the intermediate slab for risers.
5. Wall height is the distance between top of lower slab to bottom of upper slab.
6. Wall sizes exceeding 9'-0" require a special design.

REINFORCING SCHEDULE

SCHEDULE	GRADE 60 STEEL OR 65 KSI (WIRE FABRIC) in^2/ft
A	0.20
B	0.24
C	0.37
D	0.53
E	0.73
F	1.06
G	1.45

SLAB DESIGNS - ROUND STRUCTURES

SLAB DEPTH	SLAB THICKNESS	REINFORCING (2 WAYS) SCHEDULE
SIZE: 3'-6"		
≥0.5'-40'	8"	C
SIZE: 4'-0"		
≥0.5'-40'	8"	C
SIZE: 5'-0"		
≥0.5'<30'	8"	C
30'-40'	8"	D
SIZE: 6'-0"		
≥0.5'<8'	8"	B
8'<18'	8"	C
18'<30'	8"	D
30'<37'	8"	E
37'-40'	8"	G
SIZE: 8'-0"		
≥0.5'<9'	10"	C
9'<15'	10"	D
15'<23'	10"	E
23'<33'	10"	E
33'-40'	12"	G
SIZE: 10'-0"		
≥0.5'<6'	10"	C
6'<11'	10"	D
11'<17'	10"	E
17'<23'	12"	E
23'-40'	12"	G
SIZE: 12'-0"		
≥0.5'<6'	12"	C
6'<11'	12"	D
11'<16'	12"	E
16'<20'	14"	E
20'-40'	14"	G

STRUCTURE BOTTOMS
TYPE J AND P

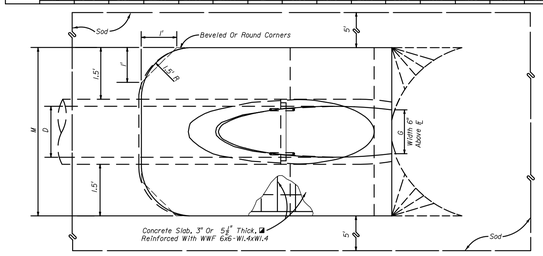
2 of 2

DIMENSIONS AND QUANTITIES

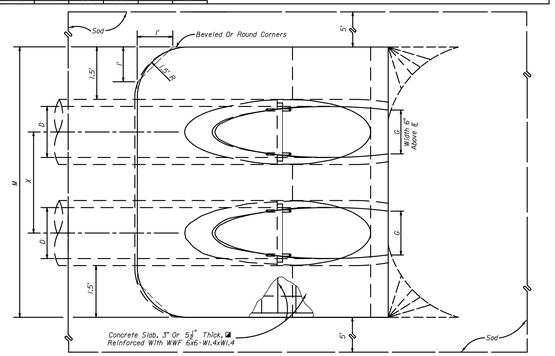
	D	X	A	B	C	E	F	G	M Single Pipe	M Double Pipe	M Triple Pipe	M Quad. Pipe	N	5½" CONCRETE SLAB (CY) ◪ Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe	SODDING (SQ. YDS.) Single Pipe	Double Pipe	Triple Pipe	Quad. Pipe
2:1 Slope	15"	9'-7"	1.58'	2.18'	4.40'	2.06'	5'	1.22'	4.63'	7.61'	9.79'	12.31'	1.39'	0.38	0.58	0.77	0.96	21	24	27	30
	18"	9'-10"	1.50'	2.14'	4.71'	2.56'	6'	1.41'	4.92'	7.75'	10.58'	13.42'	1.61'	0.44	0.65	0.87	1.09	22	25	28	31
	24"	3'-5"	2.06'	3.80'	5.91'	3.56'	7'	1.73'	5.50'	8.90'	12.33'	15.75'	1.25'	0.54	0.83	1.12	1.42	24	28	32	35
	30"	4'-3"	2.15'	4.95'	7.10'	4.56'	8'	2.00'	6.08'	10.33'	14.58'	18.83'	1.29'	0.66	1.09	1.50	1.91	26	31	35	40
	36"	5'-1"	2.26'	6.08'	8.33'	5.56'	9'	2.24'	6.67'	11.75'	16.83'	21.90'	1.33'	0.81	1.38	1.95	2.52	28	34	39	45
	42"	6'-0"	2.34'	7.21'	9.55'	6.56'	10'	2.45'	7.25'	13.25'	19.25'	25.25'	1.38'	0.97	1.70	2.45	3.19	30	37	43	50
	48"	6'-9"	2.43'	8.33'	10.76'	7.56'	11'	2.65'	7.83'	14.58'	21.33'	28.08'	1.42'	1.13	2.04	2.93	3.84	32	39	47	54
	54"	7'-8"	2.52'	9.44'	11.96'	8.56'	12'	2.83'	8.42'	15.08'	23.75'	31.42'	1.46'	1.31	2.44	3.58	4.72	34	42	51	59
	60"	8'-6"	2.60'	10.50'	13.18'	9.56'	14'	3.00'	9.00'	17.50'	26.00'	34.50'	1.50'	1.51	2.89	4.28	5.68	36	45	55	64
	66"	9'-2"	2.77'	11.68'	14.39'	10.56'	15'	3.18'	9.58'	18.75'	27.92'	37.08'	1.54'	1.68	3.25	4.84	6.43	38	48	58	68
	72"	10'-0"	2.80'	12.80'	15.60'	11.56'	16'	3.30'	10.16	20.16	30.16	40.16	1.58'	1.89	3.74	5.59	7.45	40	51	62	73
4:1 Slope	15"	9'-7"	2.92'	4.09'	6.36'	4.03'	8'	1.22'	4.63'	7.61'	9.79'	12.31'	1.39'	0.57	0.87	1.15	1.44	23	26	29	32
	18"	9'-10"	2.96'	5.12'	7.46'	5.03'	9'	1.41'	4.92'	7.75'	10.58'	13.42'	1.61'	0.66	0.99	1.31	1.65	26	29	33	35
	24"	3'-5"	2.53'	7.18' Δ	9.71'	7.03' Δ	11'	1.73'	5.50'	8.90'	12.33'	15.75'	1.25'	0.85	1.30	1.75	2.20	28	33	38	40
	30"	4'-3"	2.70'	9.25'	11.95'	9.03'	13'	2.00'	6.08'	10.33'	14.58'	18.83'	1.29'	1.10	1.74	2.39	3.05	31	36	41	46
	36"	5'-1"	2.87'	11.31' ◇	14.08'	11.03'◇◇	15'	2.24'	6.67'	11.75'	16.83'	21.90'	1.33'	1.32	2.21	3.08	3.96	34	40	46	52
	42"	6'-0"	3.05'	13.37'	16.42'	13.03'	17'	2.45'	7.25'	13.25'	19.25'	25.25'	1.38'	1.58	2.76	3.91	5.09	38	44	51	58
	48"	6'-9"	3.22'	15.43'	18.65'	15.03'	19'	2.65'	7.83'	14.58'	21.33'	28.08'	1.42'	1.85	3.30	4.73	6.17	41	48	56	63
	54"	7'-8"	3.39'	17.49'	20.88'	17.03'	21'	2.83'	8.42'	15.08'	23.75'	31.42'	1.46'	2.14	3.95	5.77	7.58	44	52	61	69
	60"	8'-6"	3.56'	19.50'	23.27'	19.03'	23'	3.00'	9.00'	17.50'	26.00'	34.50'	1.50'	2.45	4.66	6.87	9.07	47	56	66	75
	66"	9'-2"	3.73'	21.62'	25.55'	21.03'	25'	3.18'	9.58'	18.75'	27.92'	37.08'	1.54'	2.88	5.54	8.18	10.84	49	59	69	80
	72"	10'-0"	3.96'	22.68'	26.59'	23.03'	27'	3.30'	10.16	20.16	30.16	40.16	1.58'	3.54	6.61	9.87	13.13	52	63	74	85

◪ See General Note No. 3.
See Sheet 5 Of 6 For 3" Slab Quantities

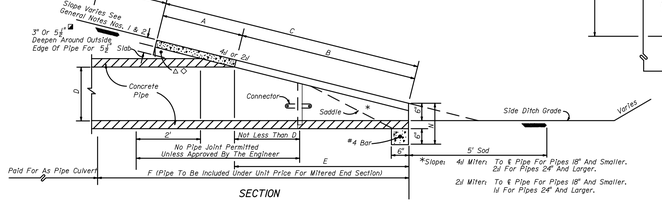
B E
Δ 6.42' Δ 6.25 Dimensions permitted to allow use of 8' standard pipe lengths.
◇ 10.40 ◇10.10' Dimensions permitted to allow use of 12' standard pipe lengths.
Δ◇ Concrete slab shall be deepened to form bridge across crown of pipe. See section below.



TOP VIEW-SINGLE PIPE



TOP VIEW-MULTIPLE PIPE



SECTION

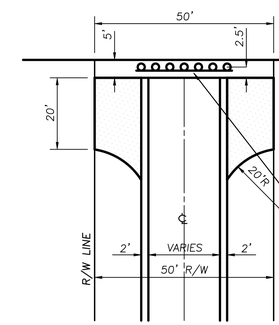
*Slope: 4:1 Miters To & Pipe For Pipes 18" And Smaller.
2:1 For Pipes 24" And Larger.
2:1 Miters To & Pipe For Pipes 18" And Smaller.
4:1 For Pipes 24" And Larger.

NOTE: See sheet 6 for details and notes.

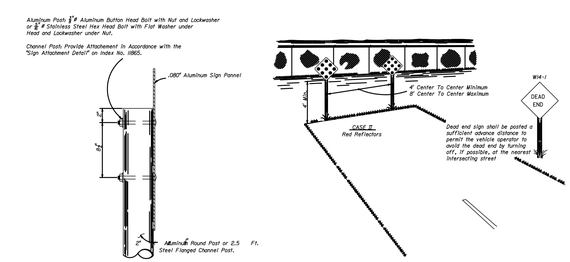
CROSS DRAIN
MITERED END SECTION
SINGLE AND MULTIPLE ROUND CONCRETE PIPE
FDOT INDEX #272

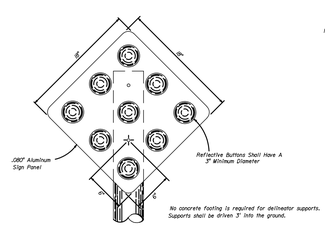
GENERAL NOTES

1. Mitered end sections for pipe sizes 15", 18" and 24" round or equivalent pipe arch or elliptical pipe are permitted within the clear zone. When the slope intersection permits, the mitered end section may be located with the culvert opening as close as 8' beyond the outside edge of the shoulder.
2. Slope and ditch transitions shall be used when the normal roadway slope must be flattened to place end section outside clear zone. See detail left.
3. The reinforced concrete slab shall be constructed for all sizes of cross drain pipe and cast in place with Class I concrete. Slabs shall be $5\frac{1}{2}$" thick unless 3" thickness called for in plans.
4. Concrete pipe used in the assembly of mitered end sections shall be selective lengths to avoid excessive connections.
5. Corrugated metal pipe galvanizing that is damaged during beveling and perforating for mitered end section shall be repaired.
6. That portion of corrugated metal pipe in direct contact with the concrete slab shall be bituminous coated prior to placing of the concrete.
7. Unless otherwise designated in the plans, concrete pipe mitered end sections may be used with any type of cross drain pipe; corrugated steel pipe mitered end sections may be used with any type of cross drain pipe except aluminum pipe; and, corrugated aluminum mitered end sections may be used with any type of cross drain pipe except steel pipe. When bituminous coated metal pipe is specified for cross drain pipe, mitered end sections shall be constructed with like pipe or concrete pipe.
8. When the mitered end section pipe is dissimilar to the cross drain pipe, a concrete jacket shall be constructed in accordance with Standard Index 280.
9. When existing multiple cross drain pipes are spaced other than the dimensions shown in this detail, or have non-parallel axes, or have non-uniform sections, the mitered end sections will be constructed either separately as single pipe mitered end sections or collectively as multiple pipe end sections as directed by the Engineer; however, mitered end sections will be paid for each based on each independent pipe end.
10. The cost of all pipe(s), fasteners, reinforcing, connectors, anchors, concrete, sealants, jackets, and coupling bands shall be included in the cost for the mitered end section. Sodding shall be paid for separately under the contract unit price of Sodding, SY.
11. Mitered end sections shall be paid for under the contract unit price for Mitered End Section (CD), Each, based on each independent pipe end. Mitered end sections use for detention/retention basin outlets are to be paid for under the contract unit price for Mitered End Section, (BD), Each.



TEMPORARY "T" TYPE TURNAROUND





NOTES:

1. THIS INDEX APPLICABLE TO RESIDENTIAL AND MINOR STREETS ONLY MAJOR STREETS TO BE EVALUATED ON A CASE BY CASE BASIS.
2. T"-INTERSECTION - TWO-WAY ARROWS AND REFLECTORS ARE OPTIONAL. THE NEED SHOULD BE BASED ON A REVIEW OF EACH LOCATION.
3. FOR ADDITIONAL DETAILS ON ALUMINUM ROUND POST, STEEL FLANGED CHANNEL POST, SIGN PANNEL MATERIAL AND BOLTS, NUTS AND WASHERS SEE INDEX NOS. 11860 AND 11865.
4. CASE I INSTALLATION - THE ARROW PANELS AND OBJECT MARKERS SHALL BE LOCATED APPROXIMATELY 20 FEET, BUT NOT LESS THAN 12 FEET FROM THE EDGE OF THE TRAVEL LANE.

TRAFFIC CONTROLS FOR
STREET TERMINATIONS
FDOT INDEX #17349

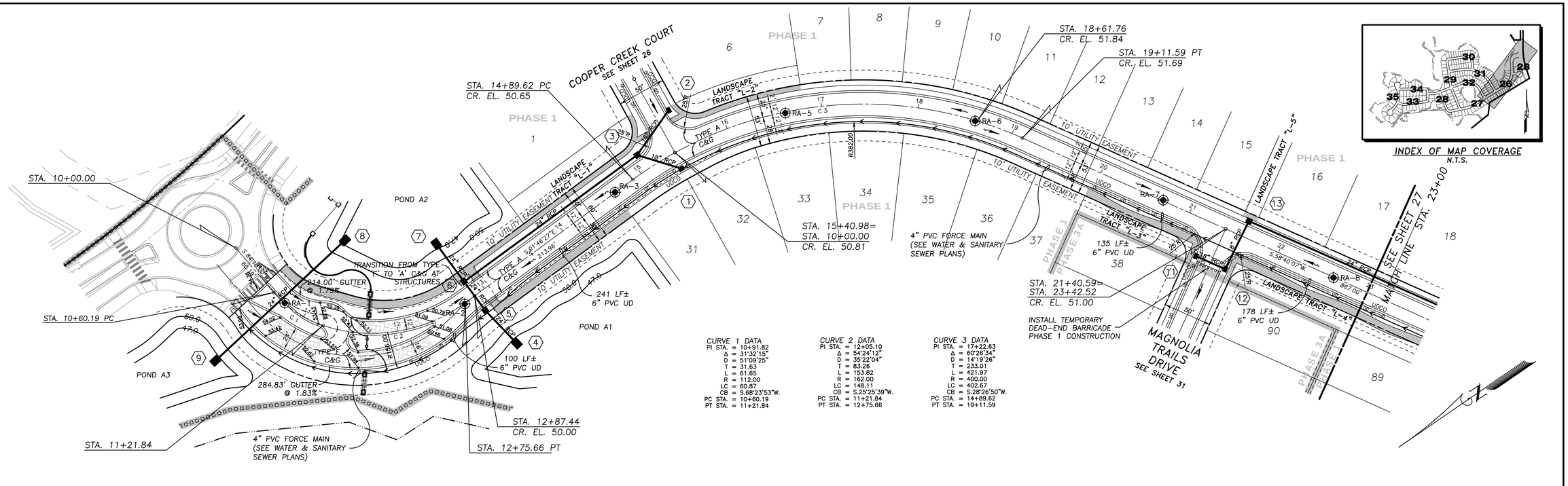
DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

DRAINAGE DETAILS

JOB NO. TMH-NW-009	THE WOODS
DESIGN SMIRCH	
DRAWN SCHRADER	PREPARED FOR: TAYLOR MORRISON
DATE 07-02-2012	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE DD2	SHEET 25 OF 57 SHEETS



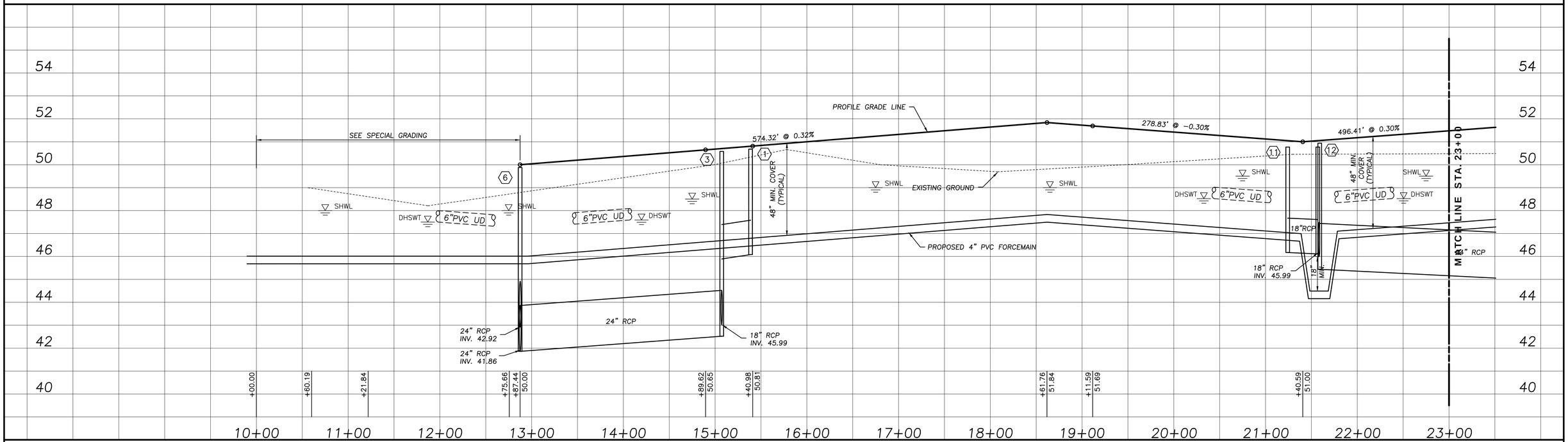
CURVE 1 DATA	CURVE 2 DATA	CURVE 3 DATA
PI STA. = 10+91.82	PI STA. = 12+05.10	PI STA. = 17+22.63
Δ = 31°32'15"	Δ = 54°24'12"	Δ = 60°26'34"
D = 51°09'25"	D = 35°22'04"	D = 14°19'26"
T = 31.63	T = 83.26	T = 233.01
L = 61.65	L = 153.82	L = 421.97
R = 112.00	R = 162.00	R = 400.00
LC = 60.87	LC = 148.11	LC = 402.67
CB = S.68°23'53"W.	CB = S.25°25'39"W.	CB = S.28°26'50"W.
PC STA. = 10+60.19	PC STA. = 11+21.84	PC STA. = 14+89.62
PT STA. = 11+21.84	PT STA. = 12+75.66	PT STA. = 19+11.59

NOTE:
SHADED SIDEWALKS TO BE CONSTRUCTED BY SITE CONTRACTOR.

EVERGREEN CHASE DRIVE

TYPE "1B" & "2" STREET ON THIS SHEET

SCALE: 1" = 2' VERTICAL
1" = 50' HORIZONTAL



DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
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DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

ROADWAY PLAN & PROFILE

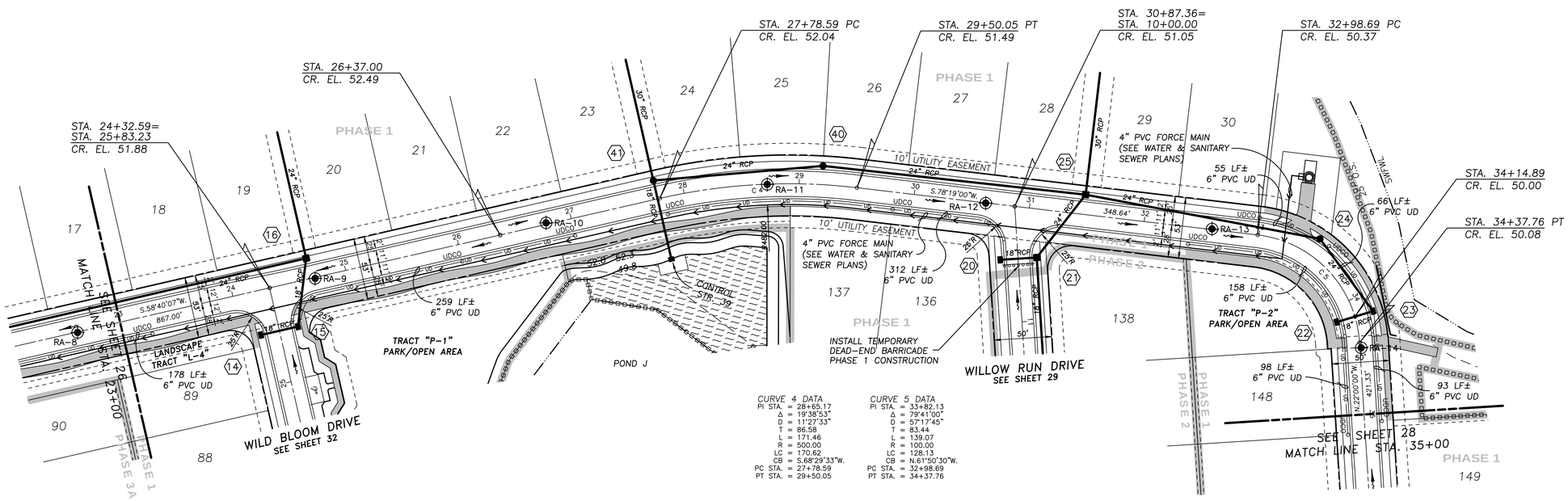
JOB NO. TMH-NW-009
DESIGN SMIRCH
DRAWN MIDDLETON
DATE 07-02-2012
FILE RP01

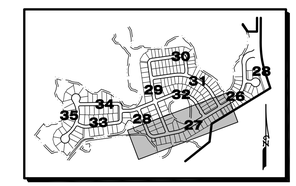
THE WOODS

PREPARED FOR: TAYLOR MORRISON

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

SHEET 26 OF 57 SHEETS





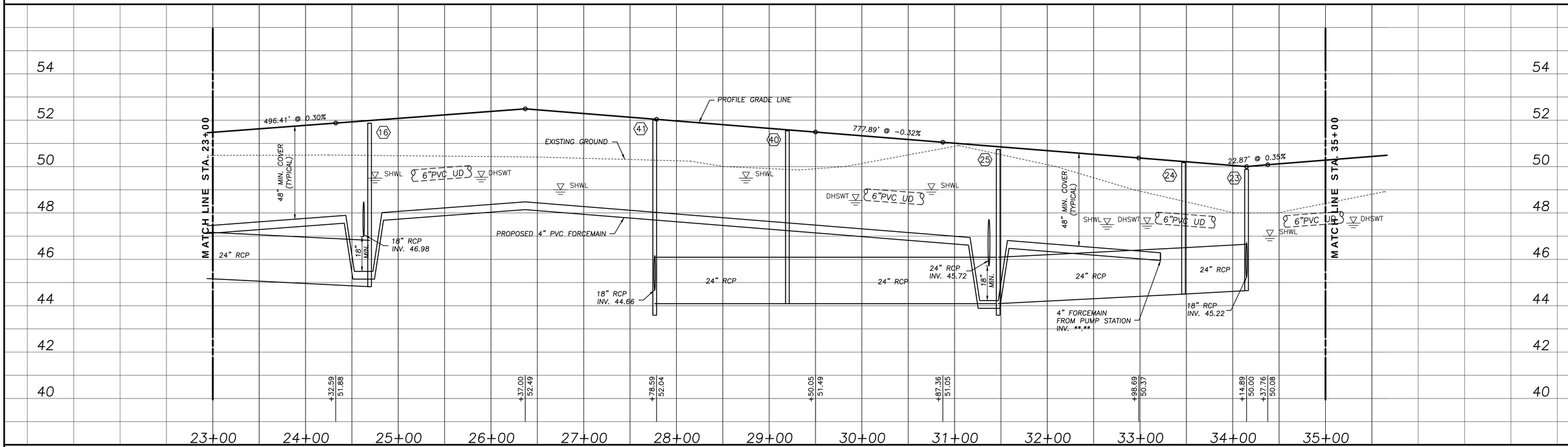
INDEX OF MAP COVERAGE
N.T.S.

NOTE:
SHADED SIDEWALKS TO BE CONSTRUCTED BY SITE CONTRACTOR.

EVERGREEN CHASE DRIVE

TYPE "2" & "3" STREET ON THIS SHEET

SCALE: 1" = 2' VERTICAL
1" = 50' HORIZONTAL



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	REVISIONS	

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DATE:
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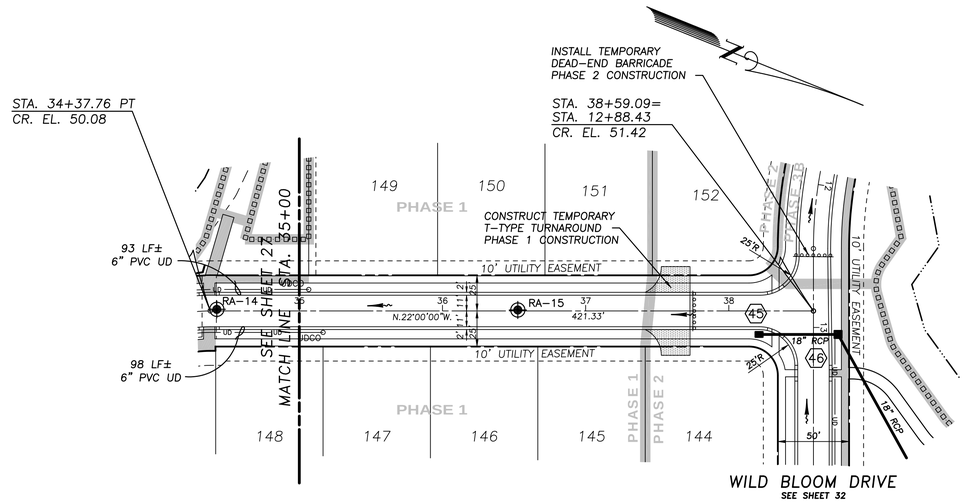
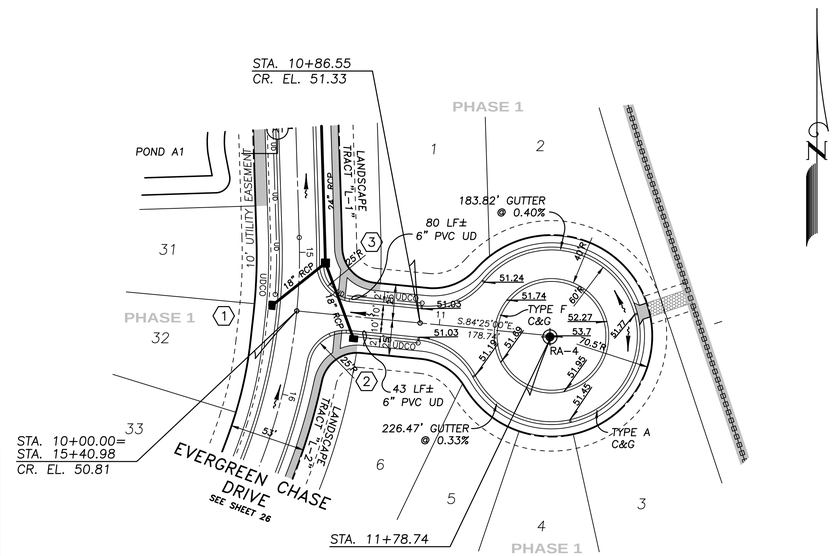
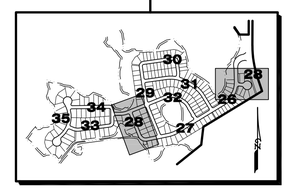
FLORIDA PROFESSIONAL ENGINEER

ROADWAY PLAN & PROFILE

JOB NO. TMH-NW-009	THE WOODS
DESIGN SMIRCH	
DRAWN MIDDLETON	PREPARED FOR: TAYLOR MORRISON
DATE 07-02-2012	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE RP02	SHEET 27 OF 57 SHEETS







INDEX OF MAP COVERAGE
N.T.S.

EVERGREEN CHASE DRIVE

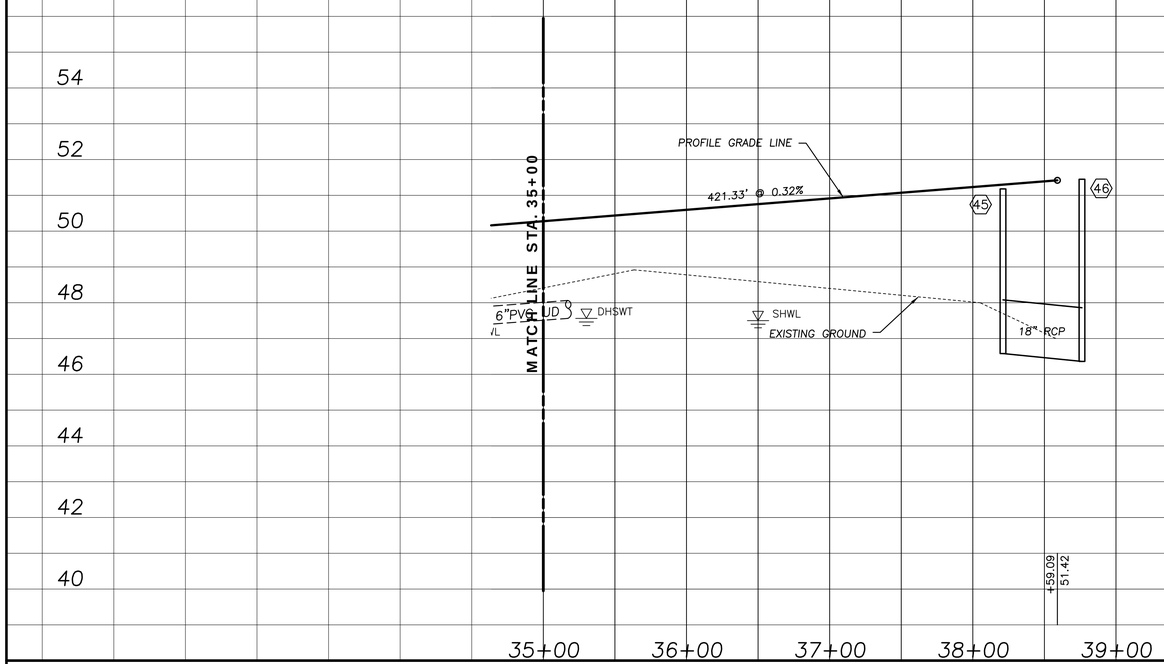
TYPE "3" STREET ON THIS SHEET

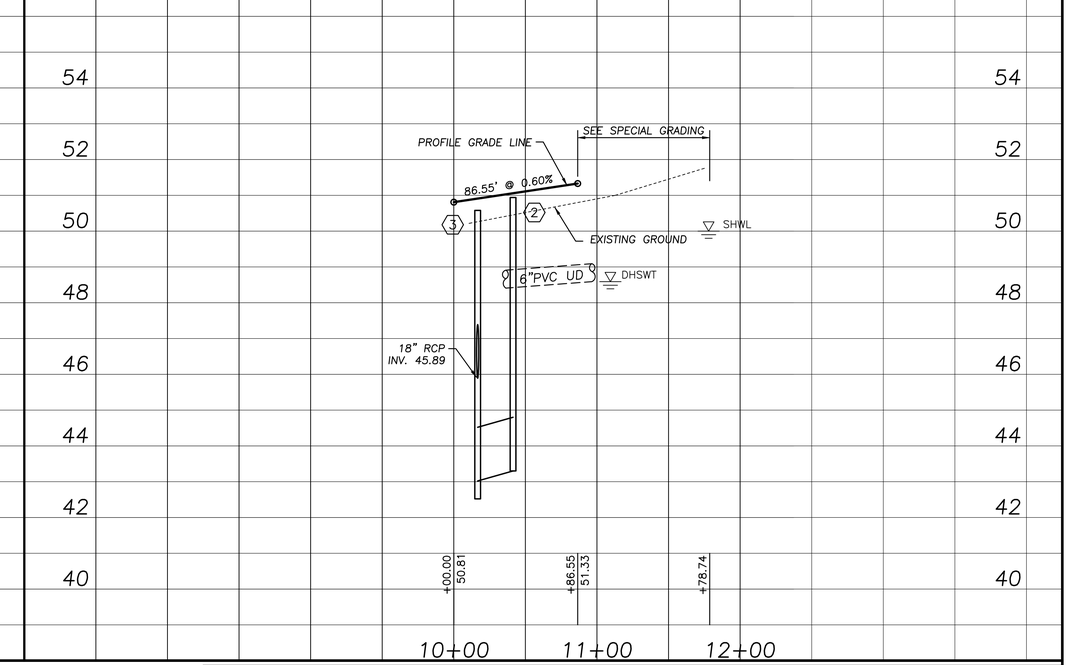
NOTE:
SHADED SIDEWALKS TO BE CONSTRUCTED BY SITE CONTRACTOR.

COOPER CREEK COURT

TYPE "4" STREET ON THIS SHEET

SCALE: 1" = 2' VERTICAL
1" = 50' HORIZONTAL





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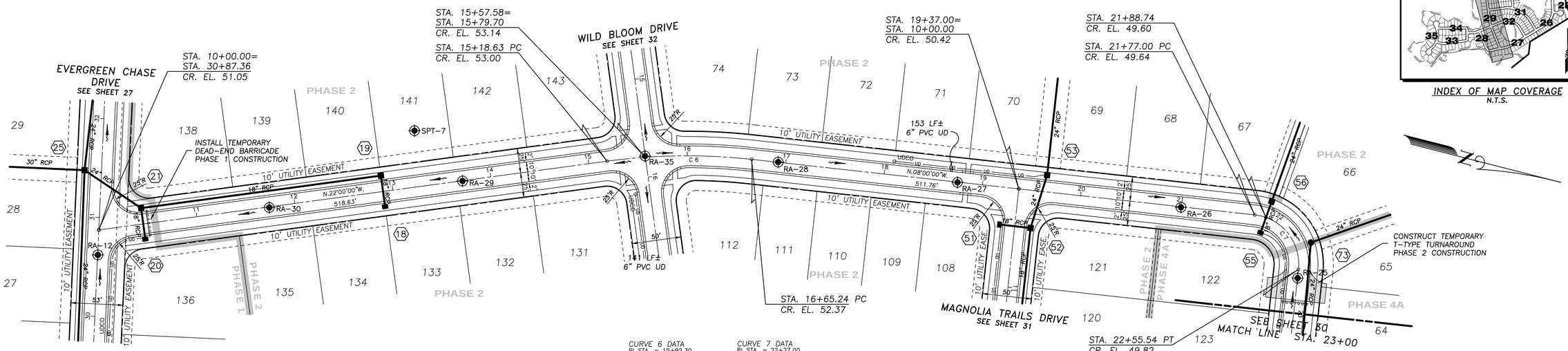
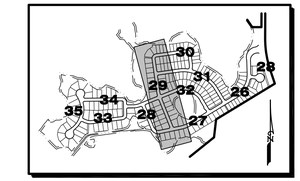
FLORIDA PROFESSIONAL ENGINEER

ROADWAY PLAN & PROFILE

THE WOODS

JOB NO. TMH-NW-009	
DESIGN SMIRCH	
DRAWN MIDDLETON	PREPARED FOR: TAYLOR MORRISON
DATE 07-02-2012	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE RP03	SHEET 28 OF 57 SHEETS





INDEX OF MAP COVERAGE
N.T.S.

CURVE 6 DATA
PI STA. = 15+92.30
Δ = 14°00'00"
D = 09°32'57"
T = 73.67
L = 146.61
R = 600.00
LC = 146.24
CB = N.15°00'00"W.
PC STA. = 15+18.63
PT STA. = 16+65.24

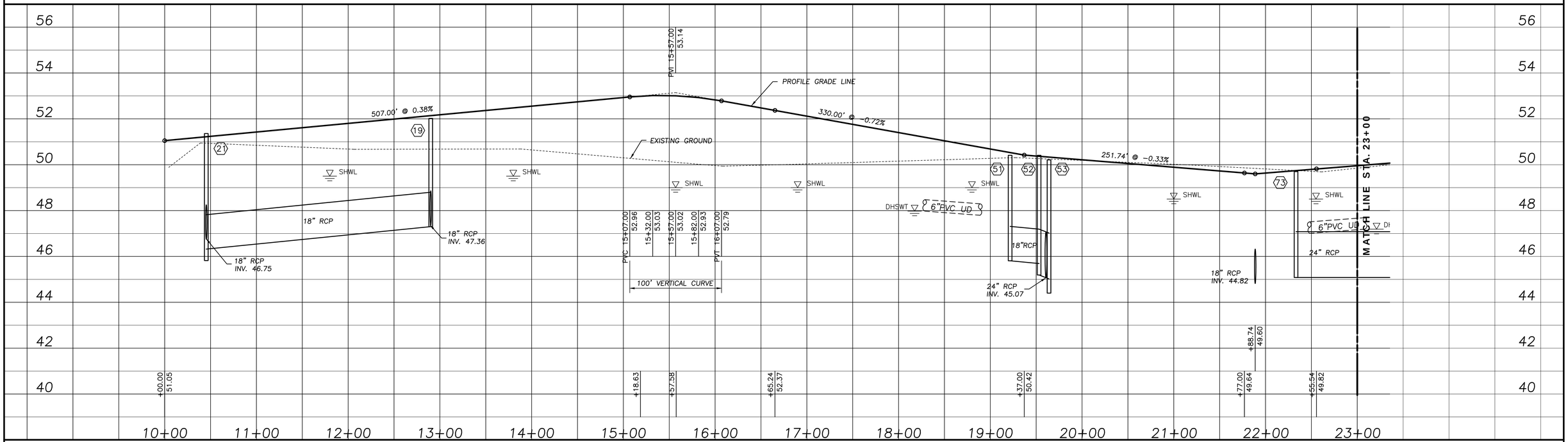
CURVE 7 DATA
PI STA. = 22+27.00
Δ = 90°00'00"
D = 114°35'30"
T = 50.00
L = 78.54
R = 50.00
LC = 70.71
CB = N.37°00'00"E.
PC STA. = 21+77.00
PT STA. = 22+55.54

NOTE:
SHADED SIDEWALKS TO BE CONSTRUCTED BY SITE CONTRACTOR.

WILLOW RUN DRIVE

TYPE "4" STREET ON THIS SHEET

SCALE: 1" = 2' VERTICAL
1" = 50' HORIZONTAL



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1213 E. 6th Avenue, Tampa, Florida 33605
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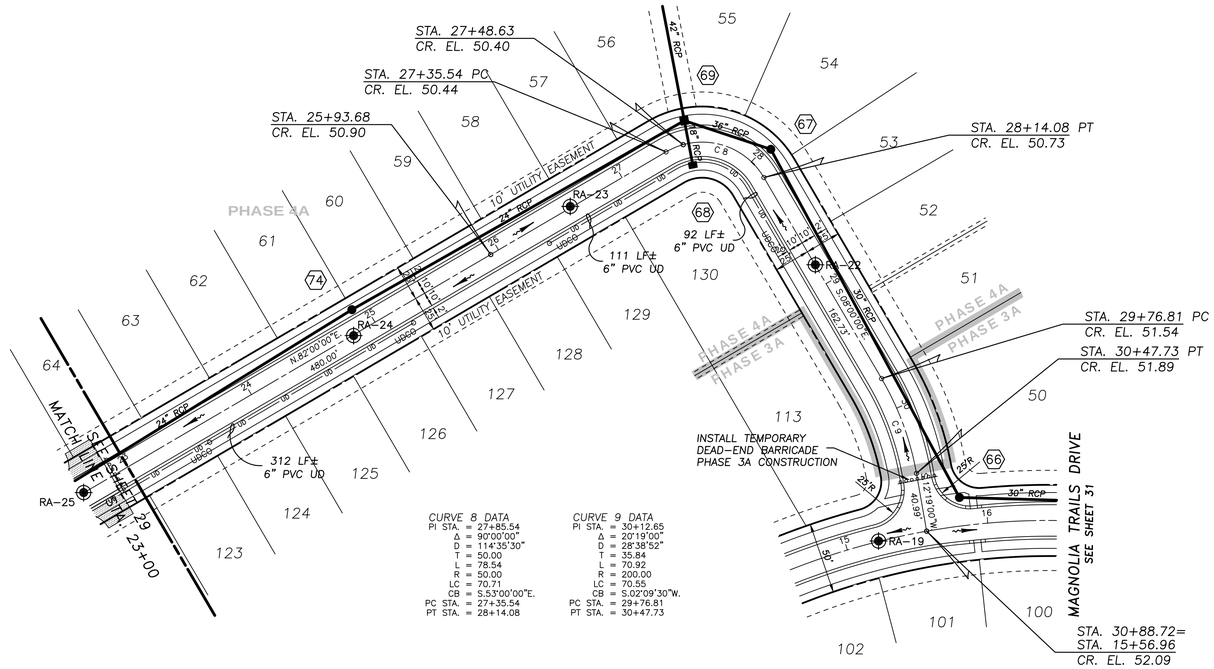
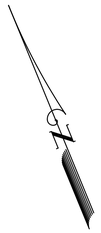
FLORIDA PROFESSIONAL ENGINEER

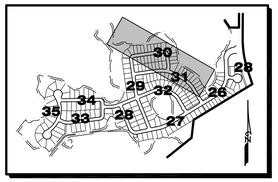
ROADWAY PLAN & PROFILE

THE WOODS

JOB NO. TMH-NW-009	
DESIGN SMIRCH	
DRAWN MIDDLETON	PREPARED FOR: TAYLOR MORRISON
DATE 07-02-2012	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE RP04	SHEET 29 OF 57 SHEETS







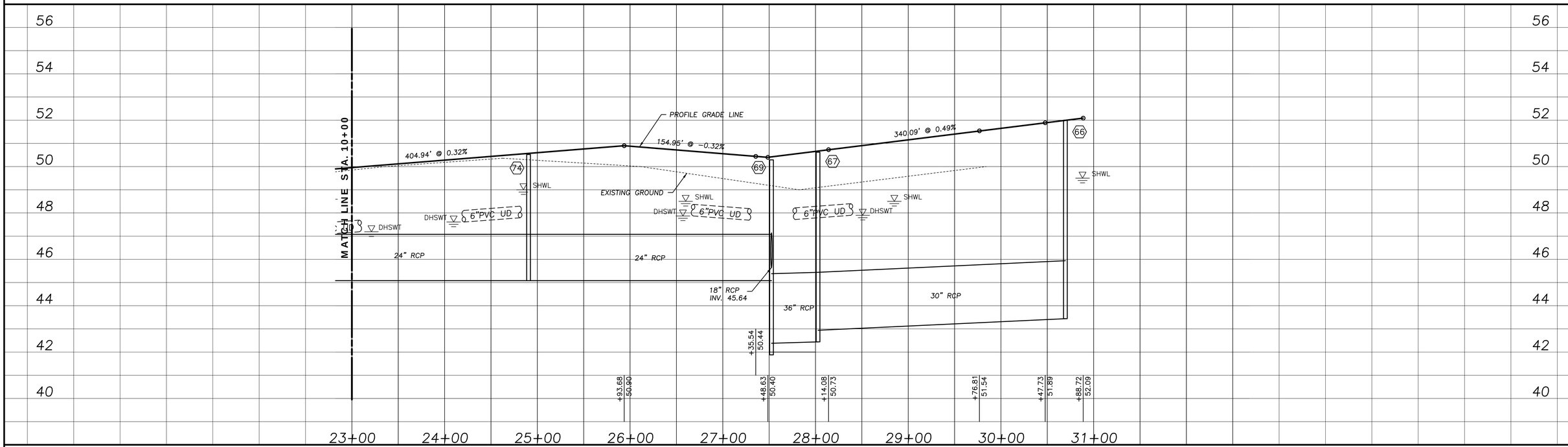
INDEX OF MAP COVERAGE
N.T.S.

NOTE:
SHADED SIDEWALKS TO BE CONSTRUCTED BY SITE CONTRACTOR.

WILLOW RUN DRIVE

TYPE "4" STREET ON THIS SHEET

SCALE: 1" = 2' VERTICAL
1" = 50' HORIZONTAL



DATE	DESCRIPTION	BY
	REVISIONS	

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DATE:
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FLORIDA PROFESSIONAL ENGINEER

ROADWAY PLAN & PROFILE

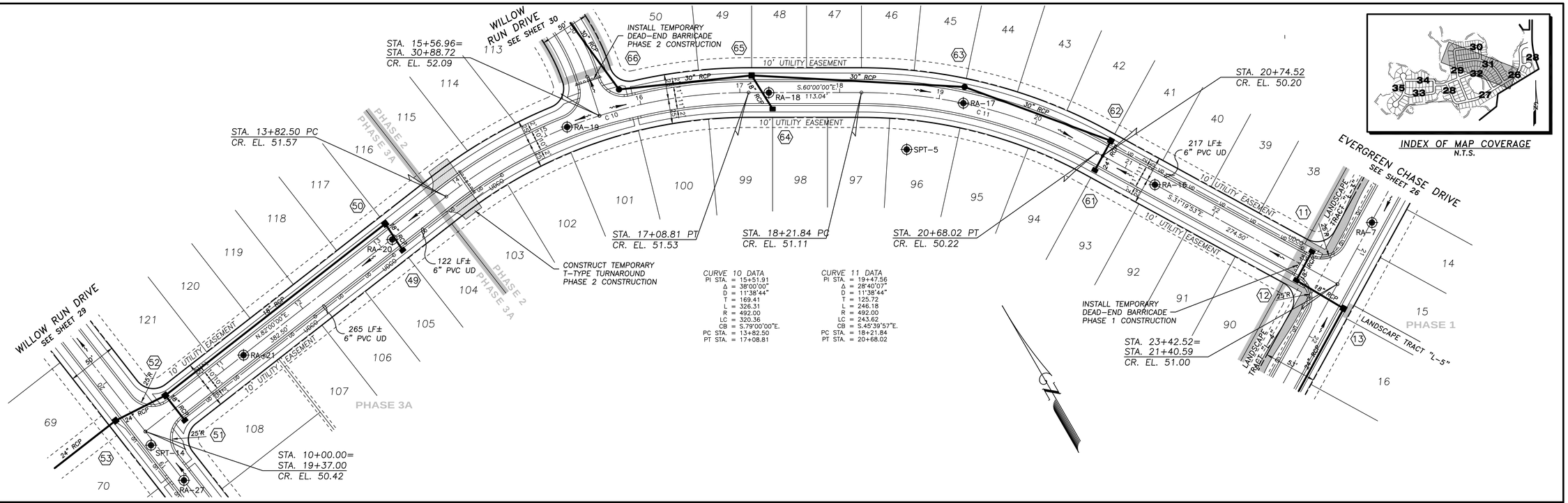
THE WOODS

TAYLOR MORRISON

JOB NO.	TMH-NW-009
DESIGN	SMIRCH
DRAWN	MIDDLETON
DATE	07-02-2012
FILE	RP05

PREPARED FOR:

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



CURVE 10 DATA
PI STA. = 15+51.91
Δ = 38°00'00"
D = 11°38'44"
T = 169.41
L = 326.31
R = 492.00
LC = 320.36
CB = S.79°00'00"E.
PC STA. = 13+82.50
PT STA. = 17+08.81

CURVE 11 DATA
PI STA. = 19+47.56
Δ = 28°40'07"
D = 11°38'44"
T = 125.72
L = 246.18
R = 492.00
LC = 243.62
CB = S.45°39'57"E.
PC STA. = 18+21.84
PT STA. = 20+68.02

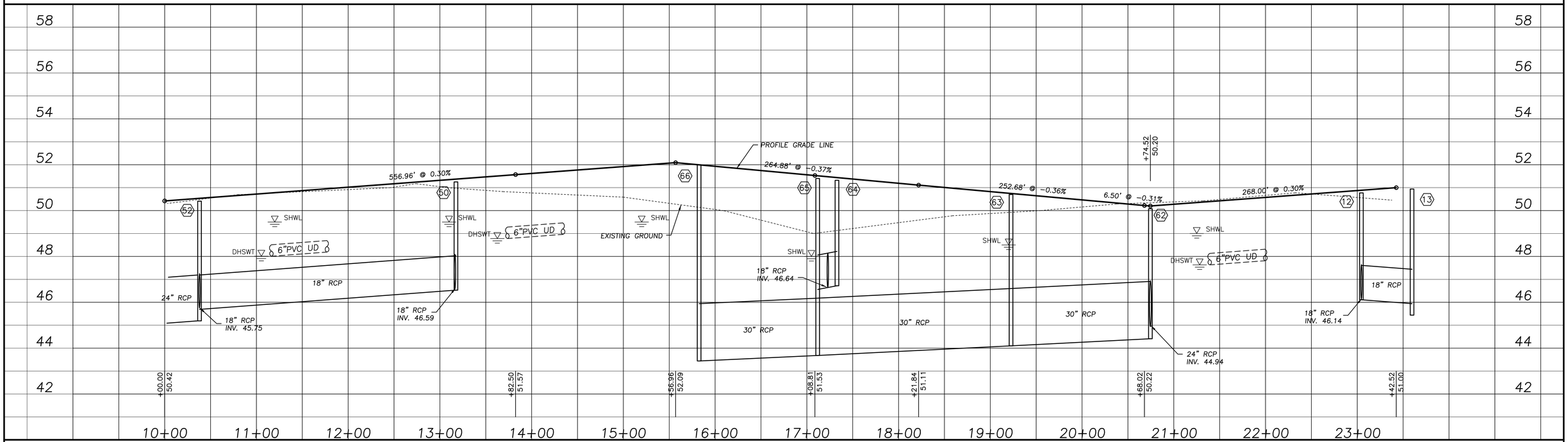
INDEX OF MAP COVERAGE
N.T.S.

NOTE:
SHADED SIDEWALKS TO BE CONSTRUCTED BY SITE CONTRACTOR.

MAGNOLIA TRAILS DRIVE

TYPE "3" & "4" STREET ON THIS SHEET

SCALE: 1" = 2' VERTICAL
1" = 50' HORIZONTAL



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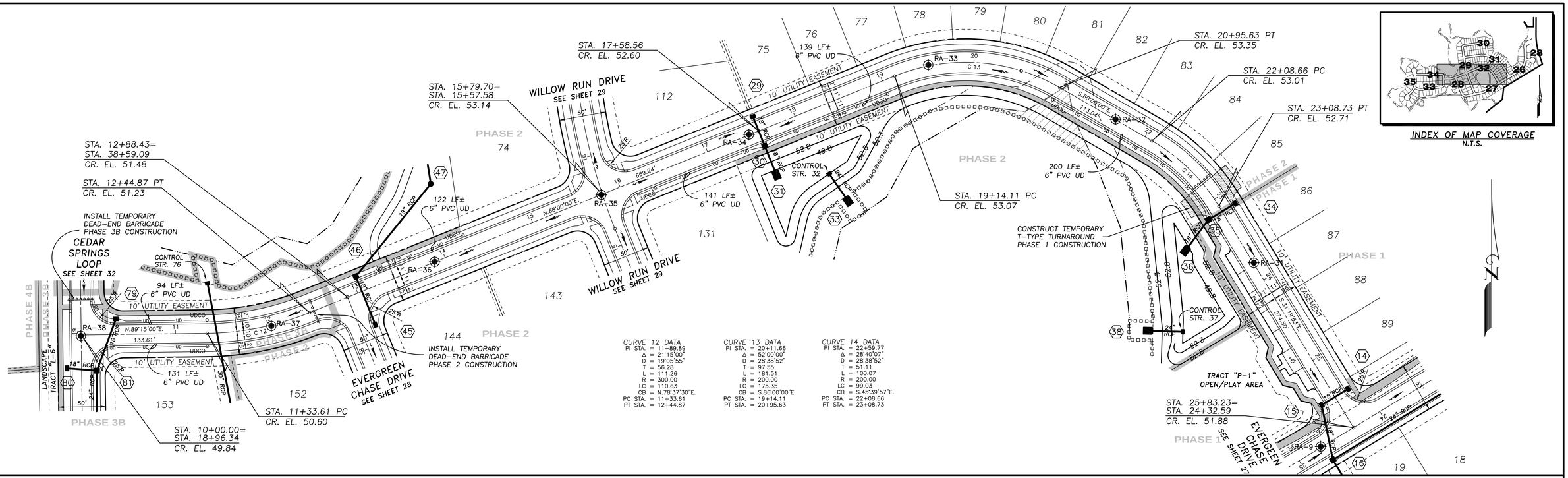
FLORIDA PROFESSIONAL ENGINEER

ROADWAY PLAN & PROFILE

JOB NO. TMH-NW-009	THE WOODS
DESIGN SMIRCH	
DRAWN MIDDLETON	PREPARED FOR: TAYLOR MORRISON
DATE 07-02-2012	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE RP06	SHEET 31 OF 57 SHEETS



CURVE 12 DATA
PI STA. = 11+89.89
Δ = 21°15'00"
D = 19°05'55"
T = 56.28
L = 111.26
R = 300.00
LC = 110.63
CB = N.78°37'30"E.
PC STA. = 11+33.61
PT STA. = 12+44.87

CURVE 13 DATA
PI STA. = 20+11.66
Δ = 52°00'00"
D = 28°38'52"
T = 97.55
L = 181.51
R = 200.00
LC = 175.35
CB = S.86°00'00"E.
PC STA. = 19+14.11
PT STA. = 20+95.63

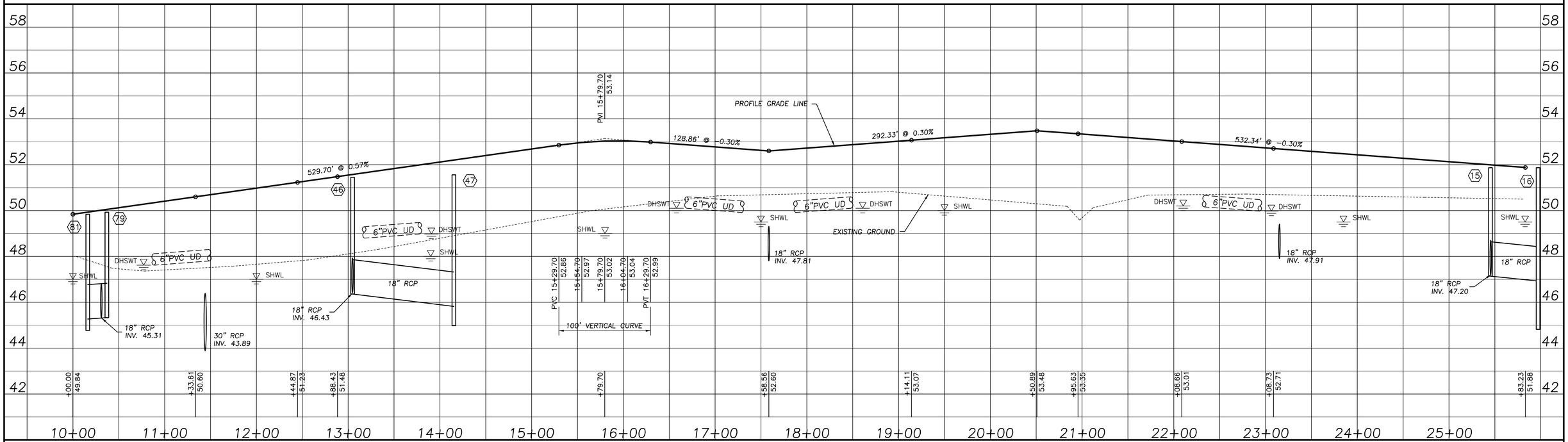
CURVE 14 DATA
PI STA. = 22+59.77
Δ = 28°40'07"
D = 28°38'52"
T = 51.11
L = 100.07
R = 200.00
LC = 99.03
CB = S.45°39'57"E.
PC STA. = 22+08.66
PT STA. = 23+08.73

NOTE:
SHADED SIDEWALKS TO BE CONSTRUCTED BY SITE CONTRACTOR.

WILD BLOOM DRIVE

TYPE "3" & "4" STREET ON THIS SHEET

SCALE: 1" = 2' VERTICAL
1" = 50' HORIZONTAL



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ROADWAY PLAN & PROFILE

THE WOODS

TAYLOR MORRISON

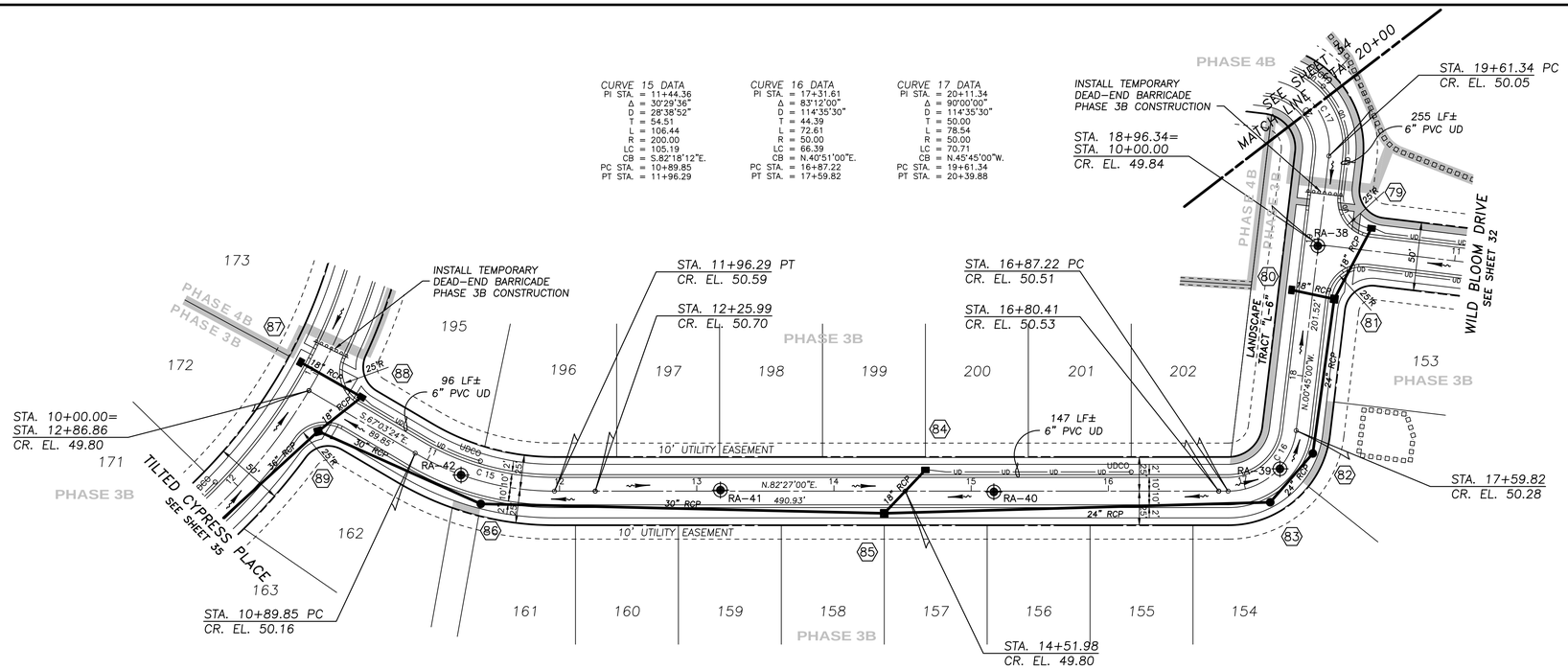
JOB NO.	TMH-NW-009
DESIGN	SMIRCH
DRAWN	MIDDLETON
DATE	07-02-2012
FILE	RP07
PREPARED FOR:	TAYLOR MORRISON

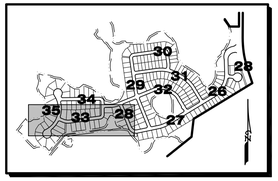
Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

CURVE 15 DATA
PI STA. = 11+44.36
Δ = 30°29'36"
D = 28°38'52"
T = 54.51
L = 106.44
R = 200.00
LC = 105.19
CB = S.82°18'12"E.
PC STA. = 10+89.85
PT STA. = 11+96.29

CURVE 16 DATA
PI STA. = 17+31.61
Δ = 83°12'00"
D = 114°35'30"
T = 44.39
L = 72.61
R = 50.00
LC = 66.39
CB = N.40°51'00"E.
PC STA. = 16+87.22
PT STA. = 17+59.82

CURVE 17 DATA
PI STA. = 20+11.34
Δ = 90°00'00"
D = 114°35'30"
T = 50.00
L = 78.54
R = 50.00
LC = 70.71
CB = N.45°45'00"W.
PC STA. = 19+61.34
PT STA. = 20+39.88





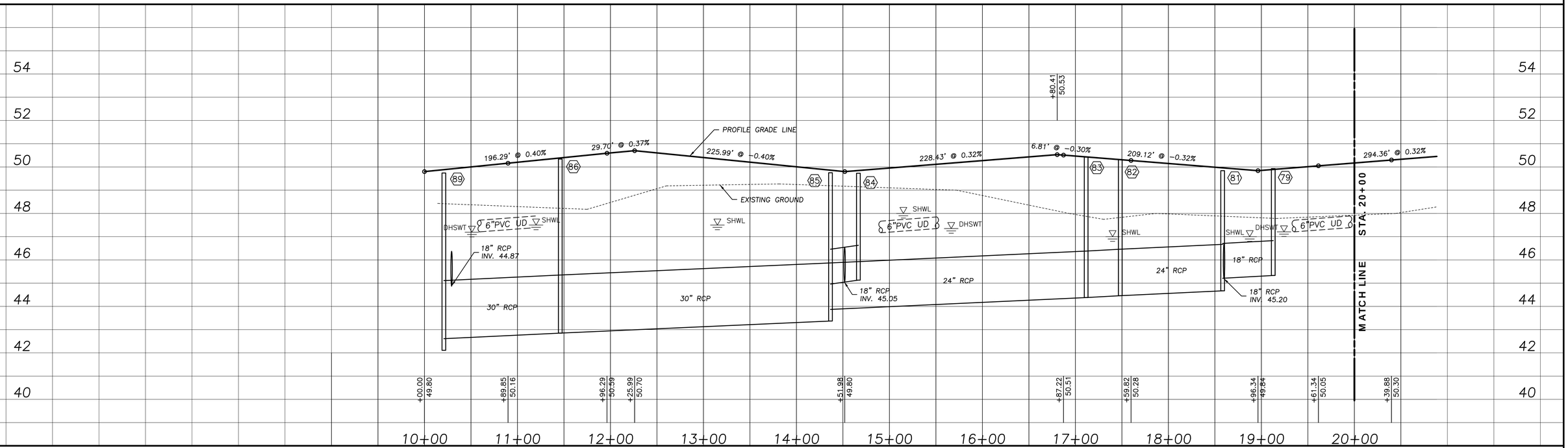
INDEX OF MAP COVERAGE
N.T.S.

NOTE:
SHADED SIDEWALKS TO BE CONSTRUCTED BY SITE CONTRACTOR.

CEDAR SPRINGS LOOP

TYPE "4" STREET ON THIS SHEET

SCALE: 1" = 2' VERTICAL
1" = 50' HORIZONTAL



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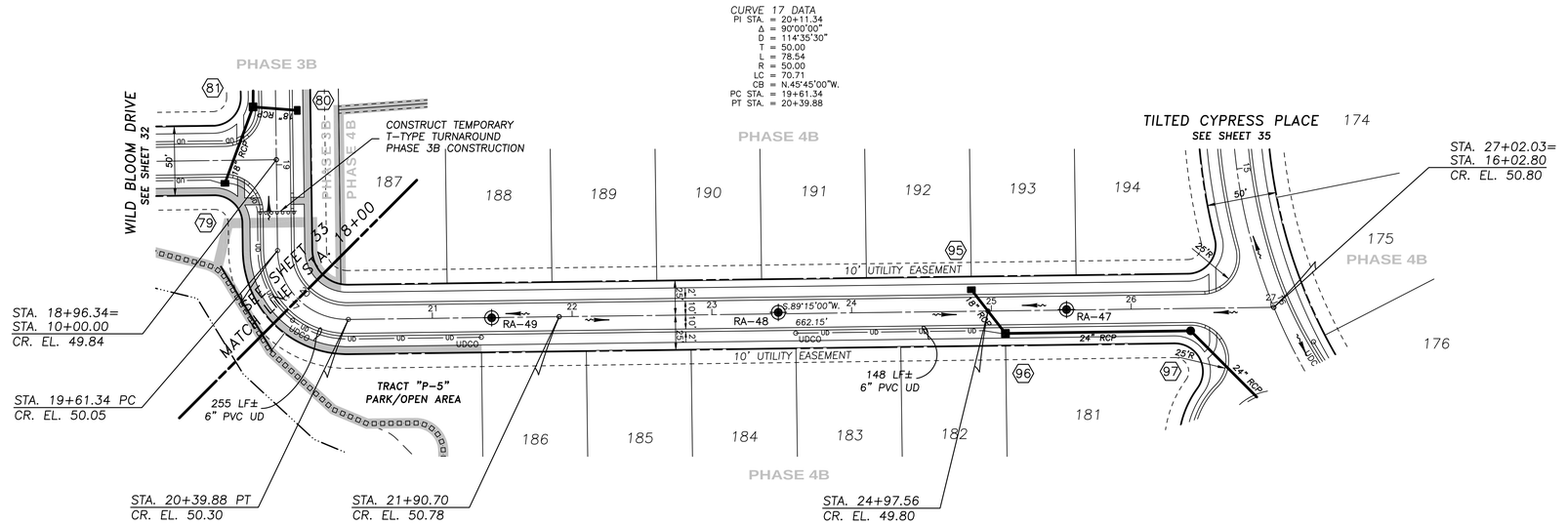
ROADWAY PLAN & PROFILE

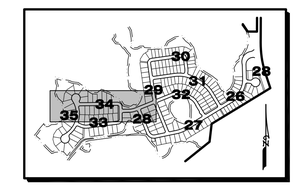
JOB NO. TMH-NW-009
DESIGN SMIRCH
DRAWN MIDDLETON
DATE 07-02-2012
FILE RP08

THE WOODS

PREPARED FOR: TAYLOR MORRISON

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet





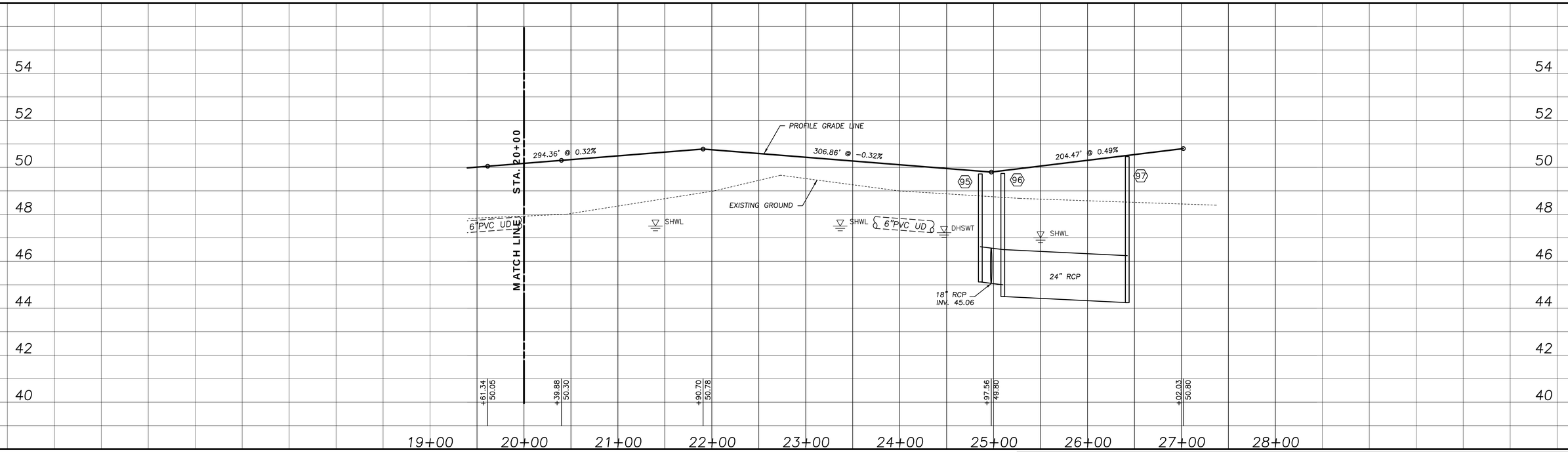
INDEX OF MAP COVERAGE
N.T.S.

NOTE:
SHADED SIDEWALKS TO BE CONSTRUCTED BY SITE CONTRACTOR.

CEDAR SPRINGS LOOP

TYPE "4" STREET ON THIS SHEET

SCALE: 1" = 2' VERTICAL
1" = 50' HORIZONTAL



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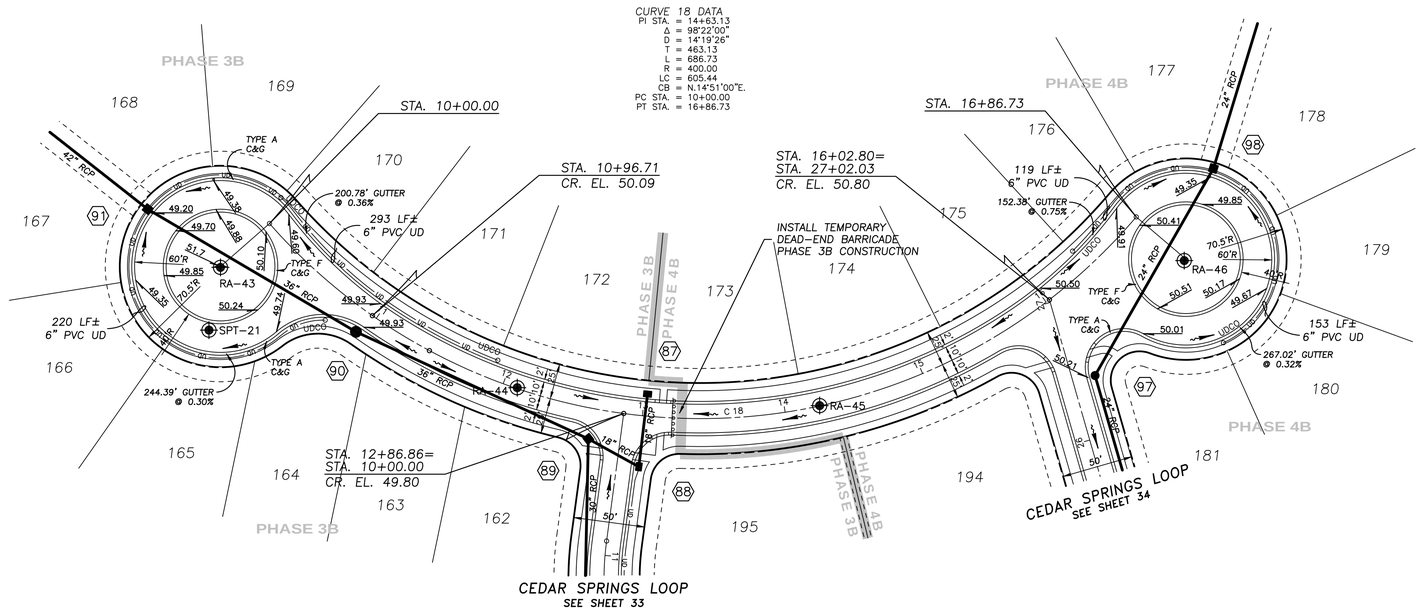
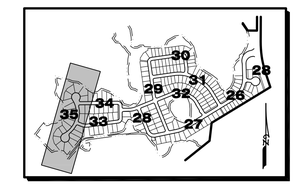
ROADWAY PLAN & PROFILE

THE WOODS

JOB NO. TMH-NW-009	
DESIGN SMIRCH	
DRAWN MIDDLETON	PREPARED FOR: TAYLOR MORRISON
DATE 07-02-2012	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE RP09	SHEET 34 OF 57 SHEETS





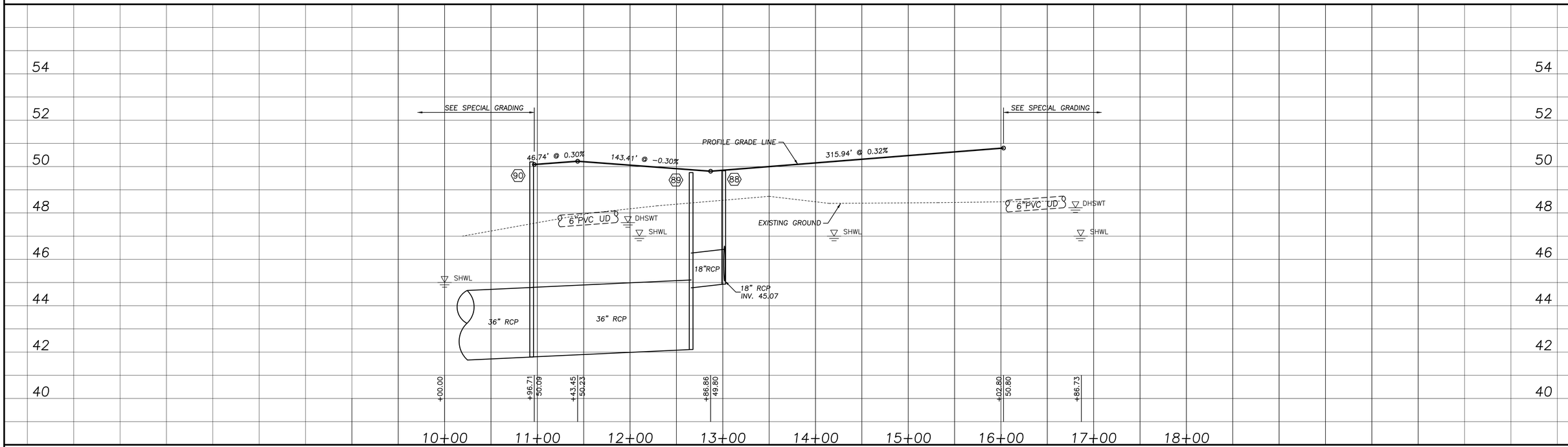
INDEX OF MAP COVERAGE
N.T.S.

NOTE:
SHADED SIDEWALKS TO BE CONSTRUCTED BY SITE CONTRACTOR.

TILTED CYPRESS PLACE

TYPE "4" STREET ON THIS SHEET

SCALE: 1" = 2' VERTICAL
1" = 50' HORIZONTAL



DATE	DESCRIPTION	BY
	REVISIONS	

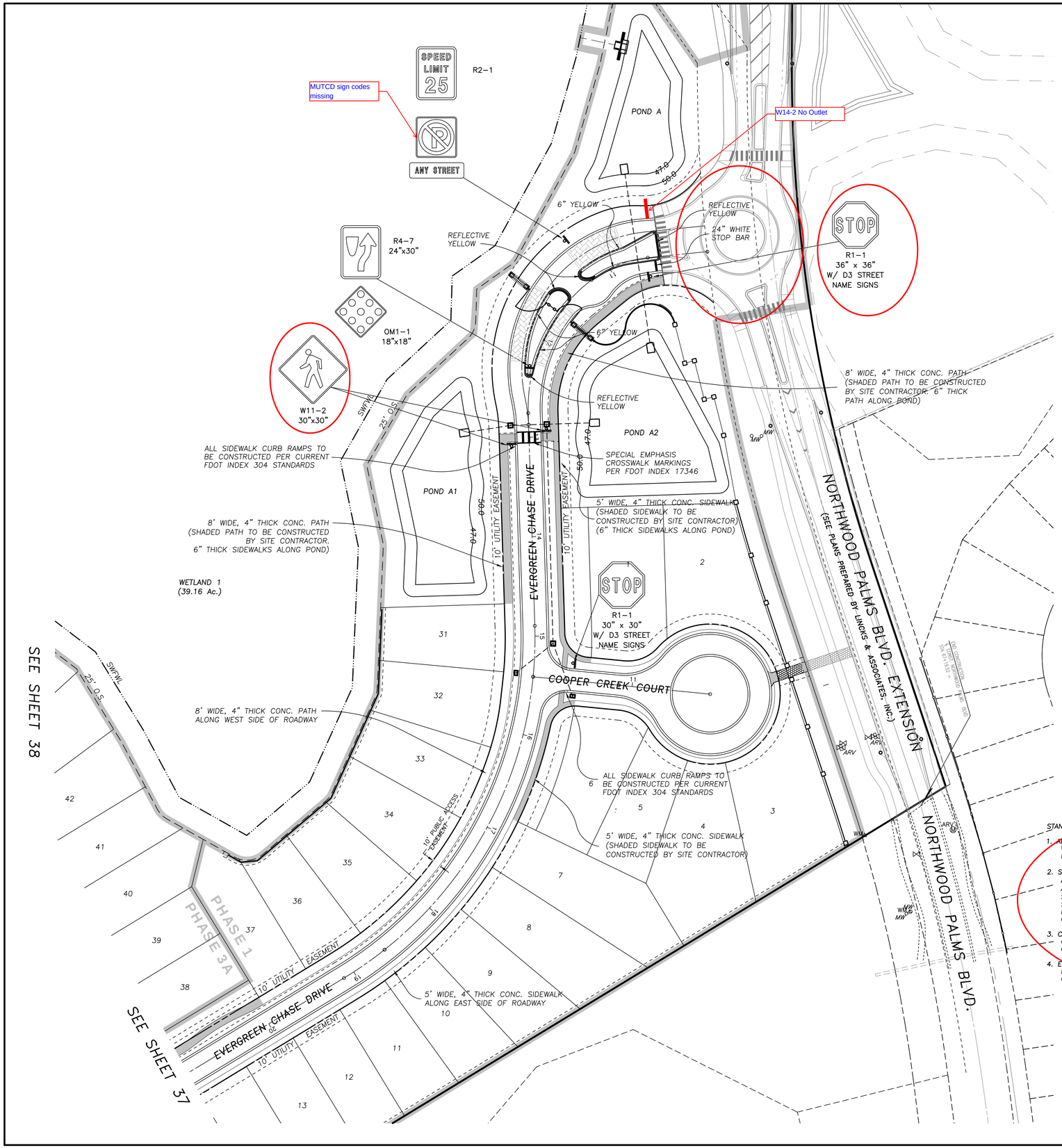
CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

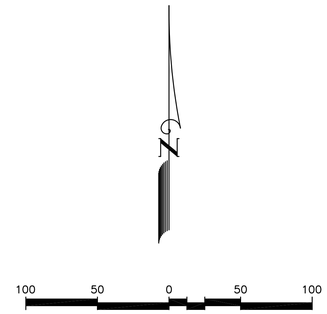
DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

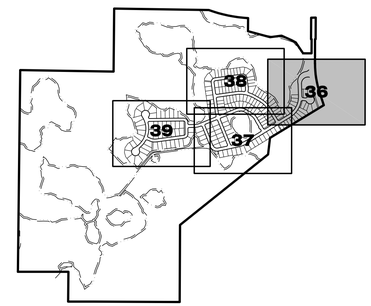
ROADWAY PLAN & PROFILE

THE WOODS

JOB NO. TMH-NW-009	
DESIGN SMIRCH	
DRAWN MIDDELTON	PREPARED FOR: TAYLOR MORRISON
DATE 07-02-2012	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE RP10	SHEET 35 OF 57 SHEETS







INDEX OF MAP COVERAGE
N.T.S.

SIGNS TABLE

SIGN IDENTIFICATION	SIGN SIZE	SIGN QUANTITY
R1-1	36"x 36"	1
R1-1	30"x 30"	12
R2-1	24"x 30"	1
R4-7	24"x 30"	1
W1-1R	30"x 30"	5
W1-1L	30"x 30"	5
W11-2	30"x 30"	6
W13-1	18"x 18"	10
OM1-1	18"x 18"	1
D3	PRIVATE=6"	26

STANDARD NOTES (PRIVATE ROADWAYS):

1. ALL TRAFFIC CONTROL DEVICES SHALL BE INSTALLED IN CONFORMANCE WITH THE FEDERAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND FLORIDA DEPARTMENT OF TRANSPORTATION STANDARDS.
2. STREET NAME SIGNS SHALL BE 6" ON LOCAL ROADS AND 9" ON COLLECTOR AND ARTERIAL ROADS. SIX-INCH SIGNS SHALL HAVE 4" SERIES C LETTERS AND 9" SIGNS SIGNS SHALL HAVE 6" SERIES B LETTERS. ALL STREET NAME SIGNS ON PRIVATE STREETS (NON-COUNTY MAINTAINED) SHALL BE STANDARD D3 STREET NAMES WITH THE COLORS REVERSED, WHITE BACKGROUND WITH GREEN LETTERS AND BORDER. AT INTERSECTIONS WITH COUNTY MAINTAINED ROADS, THE COUNTY MAINTAINED ROAD SHALL BE GREEN BACKGROUND WITH WHITE LETTERS.
3. CONTRACTOR MUST CONTACT ENGINEER OF RECORD PRIOR TO ORDERING STREET NAME SIGNS. APPROVED STREET NAMES CAN NOT BE DETERMINED UNTIL RECORDING OF THE PLAT.
4. EXISTING STRIPING AND OTHER PAVEMENT MARKINGS TO BE REMOVED SHALL BE DONE AS NECESSARY BY HYDROBLASTING. GRINDING IS NOT PERMITTED.

SPECIFICATIONS FOR DESIGN AND INSTALLATION OF TRAFFIC CONTROL DEVICES ON COUNTY ROADS

1) Purpose:

These specifications have been developed to provide developers with a uniform system for installation of traffic control devices on the County road system. A uniform system provides for reduced maintenance costs and a high standard of visibility for drivers. All required traffic control devices shall be installed by the developer of the project.

2) Florida State Statute 316.0745:

2.1) Any and all traffic control devices installed on the County road system shall conform to Florida State Statute 316.0745, Uniform Signals and Devices.

2.2) This statute requires that all devices conform to Florida Department of Transportation (FDOT) Specifications. The FDOT has adopted the Federal Manual on Uniform Traffic Control Devices as the standards to be used in the State of Florida.

3) Pavement Markings:

3.1) All pavement markings shall be thermoplastic or preformed tapes; raised pavement markers shall be class "B".

3.2) Pavement markings and raised pavement markers shall be installed on all roads classified other than residential with an ADT greater than 500 vehicles, or if other conditions exist that require pavement markings, (see M.U.T.C.D. Section 3B-1).

4) Traffic Control Signs:

4.1) All sign blanks shall be of a type currently certified by the FDOT for use in the State of Florida.

4.2) All sign faces shall be High Intensity grade and of a type currently certified by the FDOT for use in the State of Florida.

4.3) All signs shall be no less than the standard size as specified by the Federal Manual on Uniform Traffic Control Devices. No minimum size signing shall be accepted. Larger signs shall be used when required by design speed, etc.

4.4) Street name signs shall be 6" on local roads, and 9" on collector and arterial roads. Six inch signs shall have 4" series C letters and 9" signs shall have 6" series B letters. All street name signs on private roads shall be standard D3 street name signs with the colors reversed. White background with green letters and border. At intersections with county maintained roads, the county maintained road shall be green background with white letters and border. Street name sign brackets for 6" signs 30" long or less, or 9" signs 24" long or less, shall have a 5 inch blade or cross. All other street name signs shall be mounted with brackets with a 12 inch blade or 8 inch cross. All street name sign brackets shall be supplied with bolts, set screws will not be accepted.

4.5) On roads to be maintained by Pasco County, all signs other than street names shall be date coded with a yellow reflective label affixed to the back of the sign. It will be punched to show month, day and year of installation (See Sample Label). Alternate label designs providing the date code information may be used if a sample is submitted and approved by Pasco County prior to installation.

Sample Label: size 2" x 4"

WARNING

REMOVAL OF, OR DEFACING ANY TRAFFIC CONTROL DEVICE IS PUNISHABLE BY FINE AND/OR IMPRISONMENT
REPORT DAMAGE BY CALLING (727) 847-2411

INSTALLED

J	F	M	A	M	J	J	A	S	O	N	D
10's	20's	30's	–	1	2	3	4	5	6	7	8	9
01	02	03	04	05	06	07	08	09			

4.6) All post systems, mounting brackets and hardware shall be of a type currently in use by the Pasco County Public Works Department and currently certified by the Florida Department of Transportation for use in the State of Florida. Alternative systems, etc., shall only be used if approved by the County Engineer.

5) Certification of materials:

5.1) All traffic control devices and materials shall be on the current FDOT APPROVED PRODUCTS LIST. Proof of certification is required for all traffic control devices.

5.2) A Traffic Control Devices Submittal Data Form shall be submitted for approval prior to installation of any traffic control device. No traffic control device shall be installed until the certification submittal has been approved by the Traffic Operations Division. These forms are available from the Traffic Operations Division. Copies of the approved Traffic Control Devices Submittal Data Form shall be sent to the contractor and the Engineering Inspections Division.

6) Traffic Control Devices Plan:

6.1) A detailed set of plans for required traffic control devices shall be submitted for all road construction, site development, subdivision, and Right-of-Way Use Permits. These plans shall be in conformance with FDOT design standards. All plans shall be signed and sealed by a registered professional engineer in the State of Florida.

6.2) With the submittal of final plans to the Development Review Division, two additional sets of the traffic control plan portion of the entire plan shall be submitted. These two sets will be forwarded to the Traffic Operations Division.

7) Cost Estimate:

An engineer's cost estimate shall be required for all proposed traffic control devices. The estimate shall be provided in conjunction with the Traffic Control Devices Submittal Data Form (See Section 5.2).

8) Inspection and Acceptance:

8.1) Upon completion of the installation of the traffic control devices, the contractor shall call the Engineering Inspections Division for an inspection at (727) 847-8154.

8.2) The inspection shall be made by the Engineering Inspection Division within 48 hours (two working days) of the request.

8.3) An inspection report shall be made by the Engineering Inspections Division. Copies of the report shall be sent to the Engineer and the developer.

8.4) No roadway shall be open to the public until all traffic control devices have been inspected and accepted by Pasco County.

DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

SIDEWALK, SIGNING & PAVEMENT MARKING PLAN

JOB NO. TMH-NW-009	THE WOODS
DESIGN MIDDLETON	
DRAWN MIDDLETON	PREPARED FOR: TAYLOR MORRISON
DATE 07-02-2012	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE SPM1	SHEET 36 OF 57 SHEETS

SEE SHEET 38

SEE SHEET 39

SEE SHEET 36

SEE SHEET 39

WETLAND CC-EAST (83.05 Ac.)

WETLAND 2 (83.05 Ac.)

WETLAND 3 (2.38 Ac.)

POND J

POND K1

POND K2

MITIGATION AREA M-1

WILD BLOOM DRIVE

WILLOW RUN DRIVE

EVERGREEN CHASE DRIVE

MAGNOLIA TRAILS DRIVE

PHASE 1

PHASE 2

PHASE 3A

PHASE 3B

Add R2-1 25MPH

R1-1 30" x 30" W/ D3 STREET NAME SIGNS

W11-2 30"x30"

W1-1L 30"x30"

W1-1R 30"x30"

W13-1 18"x18"

15 M.P.H.

ALL SIDEWALK CURB RAMPS TO BE CONSTRUCTED PER CURRENT FDOT INDEX 304 STANDARDS

5' WIDE, 4" THICK CONC. SIDEWALK (TYPICAL)

5' WIDE, 4" THICK CONC. SIDEWALK (SHADED SIDEWALK TO BE CONSTRUCTED BY SITE CONTRACTOR. 6" THICK SIDEWALKS ALONG WETLAND)

5' WIDE, 4" THICK CONC. SIDEWALK (SHADED SIDEWALK TO BE CONSTRUCTED BY SITE CONTRACTOR. 6" THICK SIDEWALKS ALONG POND)

8' WIDE, 4" THICK CONC. PATH (SHADED SIDEWALK TO BE CONSTRUCTED BY SITE CONTRACTOR. 6" THICK SIDEWALKS ALONG POND)

8' WIDE, 4" THICK CONC. PATH (SHADED PATH TO BE CONSTRUCTED BY SITE CONTRACTOR. 6" THICK SIDEWALKS ALONG WETLAND)

5' WIDE, 4" THICK CONC. SIDEWALK (SHADED SIDEWALK TO BE CONSTRUCTED BY SITE CONTRACTOR) (6" THICK SIDEWALKS ALONG WETLAND)

8' STABILIZED PATH

SPECIAL EMPHASIS CROSSWALK MARKINGS PER FDOT INDEX 17346

8' WIDE, 4" THICK CONC. PATH ALONG WEST SIDE OF ROADWAY

5' WIDE, 4" THICK CONC. SIDEWALK ALONG EAST SIDE OF ROADWAY

10' UTILITY EASEMENT

15' PUBLIC ACCESS EASEMENT

10' PUBLIC ACCESS EASEMENT

25' O.S.

SWFWL

SUMP J1

SUMP J2

ROL 76

SCALE: 1" = 50'

INDEX OF MAP COVERAGE
N.T.S.

DATE	DESCRIPTION	BY
	REVISIONS	

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DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

SIDEWALK, SIGNING & PAVEMENT MARKING PLAN

JOB NO. TMH-NW-009

DESIGN MIDDLETON

DRAWN MIDDLETON

DATE 07-02-2012

FILE SPM2

THE WOODS

PREPARED FOR: **TAYLOR MORRISON**

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

SHEET 37 OF 57 SHEETS

PARK CLEAR AREA
REQUIRED = 0.51 Ac.
PROVIDED = 0.52 Ac.
(MIN. EL. = 49.0)

WETLAND 1
(39.16 Ac.)

50.0' MIN.

W1-1L
30"x30"

W1-1R
30"x30"

15 M.P.H.
W13-1
18"x18"

POND N1

POND N

POND C

8' STABILIZED PATH

6' STABILIZED PATH

SWFWL

25' O.S.

5' WIDE, 4" THICK CONC. SIDEWALK (TYPICAL)

10' UTILITY EASEMENT

WILLOW RUN DRIVE

MAGNOLIA TRAILS DRIVE

WILD BLOOM DRIVE

PHASE 4A
PHASE 2

PHASE 4A
PHASE 3

PHASE 2

STOP

R1-1
30" x 30"
W/ D3 STREET NAME SIGNS

ALL SIDEWALK CURB RAMPS TO BE CONSTRUCTED PER CURRENT FDOT INDEX 304 STANDARDS

5' WIDE, 4" THICK CONC. SIDEWALK (SHADED SIDEWALK TO BE CONSTRUCTED BY SITE CONTRACTOR. 6" THICK SIDEWALKS ALONG WETLAND)

WETLAND 1
(39.16 Ac.)

WETLAND
CC-EAST
(83.05 Ac.)

SEE SHEET 37

SEE SHEET 36

N

100 50 0 50 100

SCALE: 1" = 50'

INDEX OF MAP COVERAGE
N.T.S.

38 36 39 37

DATE	DESCRIPTION	BY
	REVISIONS	

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DATE:
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FLORIDA PROFESSIONAL ENGINEER

SIDEWALK, SIGNING & PAVEMENT MARKING PLAN

JOB NO. TMH-NW-009

DESIGN MIDDLETON

DRAWN MIDDLETON

DATE 07-02-2012

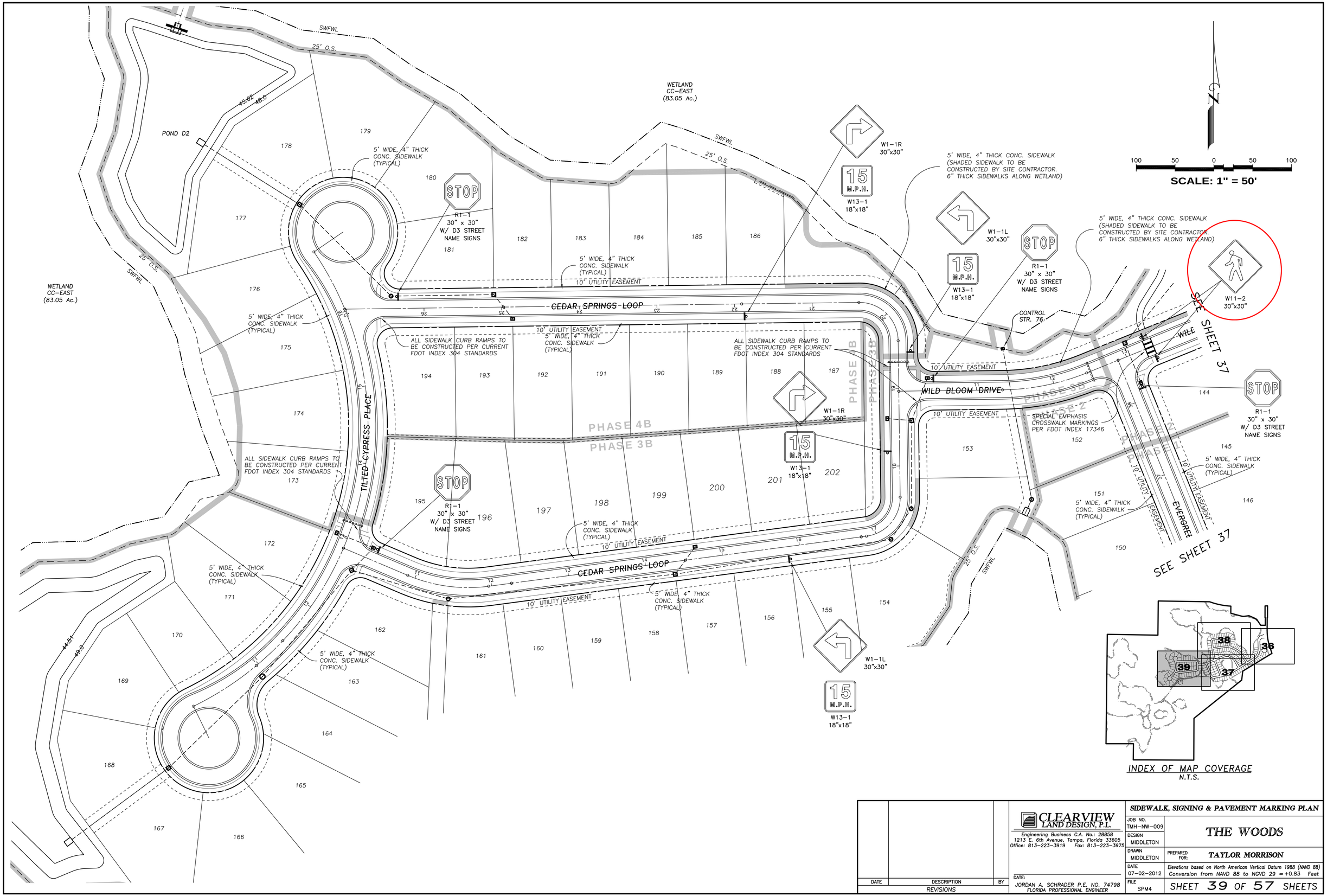
FILE SPM3

THE WOODS

PREPARED FOR: **TAYLOR MORRISON**

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

SHEET 38 OF 57 SHEETS



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SIDEWALK, SIGNING & PAVEMENT MARKING PLAN

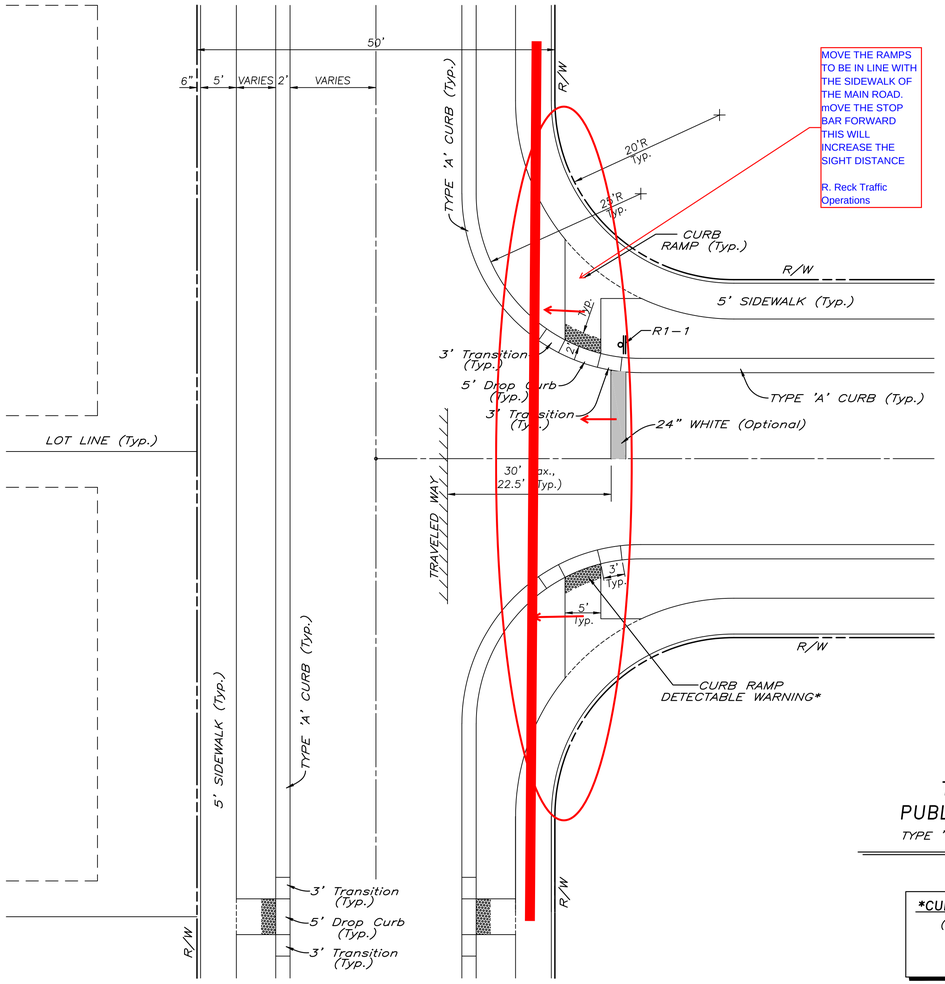
JOB NO. TMH-NW-009
DESIGN MIDDLETON
DRAWN MIDDLETON
DATE 07-02-2012
FILE SPM4

THE WOODS

PREPARED FOR: **TAYLOR MORRISON**

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

SHEET 39 OF 57 SHEETS



MOVE THE RAMPS TO BE IN LINE WITH THE SIDEWALK OF THE MAIN ROAD. mOVE THE STOP BAR FORWARD THIS WILL INCREASE THE SIGHT DISTANCE

R. Reck Traffic Operations

"T" INTERSECTION

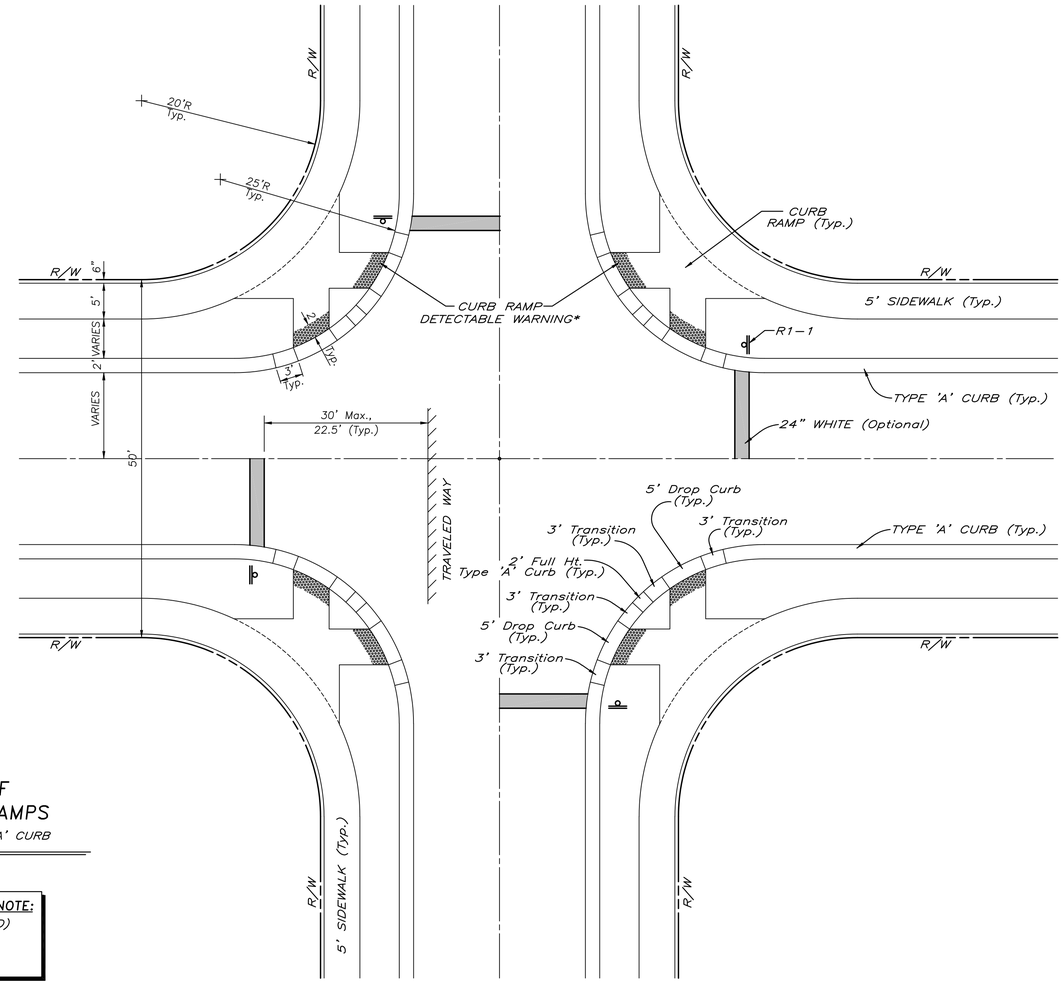
TYPICAL PLACEMENT OF PUBLIC SIDEWALK CURB RAMPS

TYPE "2", "3" & "4" STREETS – TYPE 'A' CURB

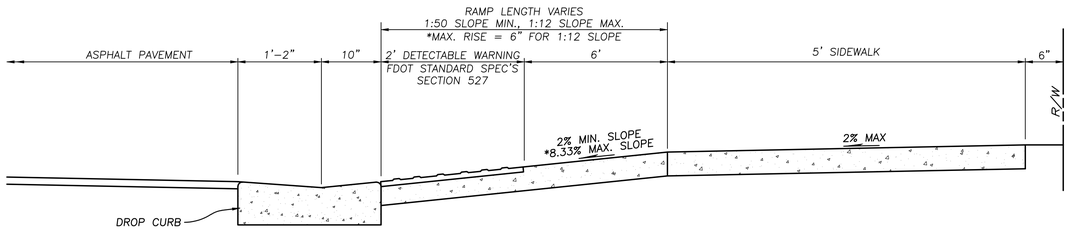
N.T.S.

***CURB RAMP DETECTABLE WARNING NOTE:**

(REFER TO LOCAL COLOR STANDARD)
BLACK – FDOT & PASCO
YELLOW – CITY OF TAMPA
RED – HILLSBOROUGH COUNTY



"CROSS" INTERSECTION



SIDEWALK RAMP PROFILE

NOT TO SCALE

DATE	DESCRIPTION	BY
10-06-11	REVISE PER SWFWMD COMMENTS	JAS

REVISIONS

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1213 E. 6th Avenue, Tampa, Florida 33605
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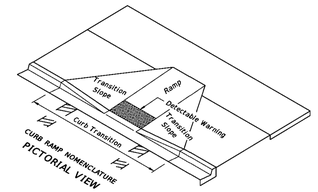
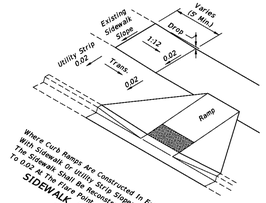
DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

SIDEWALK, SIGNING & PAVEMENT MARKING DETAILS

JOB NO. TMH-NW-009	THE WOODS
DESIGN SCHRADER	
DRAWN SCHRADER	PREPARED FOR: TAYLOR MORRISON
DATE 07-02-2012	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE SWD1	SHEET 40 OF 57 SHEETS

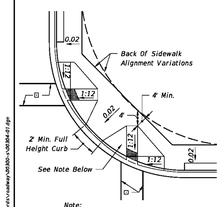


CURB RAMP NOMENCLATURE
PICTORIAL VIEW



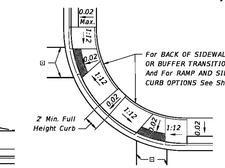
Where Curb Ramps Are Constructed In Existing Sidewalks With Sidewalk Or Utility Strip Slopes Greater Than 0.02, The Sidewalk Shall Be Reconstructed To Reduce The Slopes To 0.02 At The Ramp Points.

SIDEWALK / UTILITY STRIP TRANSITION



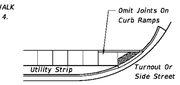
Note:
When crosswalk markings are required, ramp runs must fall within crosswalk limits and where practical, be parallel with the projected crosswalk alignment. The bottom of the ramp beyond the curb line shall have a clear space 48" minimum within the markings of a marked crosswalk. If no crosswalk markings are present, the bottom of the ramp beyond the curb ramp shall have a clear space 48" minimum outside active traffic lanes.

⊟ Crosswalk widths and configuration vary; must conform to Index No. 17344 and 17346.



For BACK OF SIDEWALK CURB OR BUFFER TRANSITIONS And For RAMP AND SIDEWALK CURB OPTIONS See Sheet 4.

Note: A portion of one or both ramps may extend outside the return.



LINEAR SIDEWALK RAMPS

GENERAL NOTES

1. Public sidewalk curb ramps shall be constructed in the public right of way at locations that will provide continuous unobstructed pedestrian circulation paths to pedestrian areas, elements and facilities in the public right of way and to accessible pedestrian routes on adjacent sites. Curbed facilities with sidewalks and those without sidewalks are to have curb ramps constructed at all street intersections and at turnouts that have curbed returns. Partial curb returns shall extend to the limit prescribed by Index No. 515 to accommodate curb ramps. Ramps constructed at locations without sidewalks shall have a landing constructed at the top of each ramp, see Sheet 5.
2. The location and orientation of curb ramps shall be as shown in the plans.
3. Curb ramp running slopes at unrestrained sites shall not be steeper than 1:12 and cross slope shall be 0.02 or flatter. Transition slopes shall not be steeper than 1:12.

   When altering existing pedestrian facilities where existing site development precludes the accommodation of a ramp slope of 1:12, a running slope between 1:12 and 1:10 is permitted for a rise of 6" maximum and a running slope of between 1:10 and 1:8 is permitted for a rise of 3" maximum. Where compliance with the requirements for cross slope cannot be fully met, the minimum feasible cross slope shall be provided.

   Ramp running slope is not required to exceed 8' in length, except at sites where the plans specify a greater length.
4. If a curb ramp is located where pedestrians must walk across the ramp, then the walk shall have transition slopes to the ramp; the maximum slope of the transitions shall be 1:12. Ramps with curb returns may be used at locations where other improvements provide guidance away from that portion of curb perpendicular to the sidewalk; improvements for guidance are not required at curb ramps for linear pedestrian traffic.
5. Curb ramp detectable warning surfaces shall extend the full width of the ramp and 24" deep. Detectable warning surfaces shall be constructed in accordance with Specification 527. See Sheet 6 for detectable warning layouts. Transition slopes are not to have detectable warnings. Detectable warnings are required on sidewalks at intersecting roads, streets and railroads. For requirements for detectable warnings on sidewalks at intersecting driveways, see Index 310.
6. Where a curb ramp is constructed within existing curb, curb and gutter and/or sidewalk, the existing curb or curb and gutter shall be removed to the nearest joint beyond the curb transitions or to the extent that no remaining section of curb or curb and gutter is less than 5' long. The existing sidewalk shall be removed to the nearest joint beyond the transition slope or walk around or to the extent that no remaining section of sidewalk is less than 5' long. For details of Concrete Sidewalk See Index 310.
7. Alpha-numeric identifications are for reference (plans, permits, etc.).
8. Public sidewalk curb ramps are to be paid for as follows:

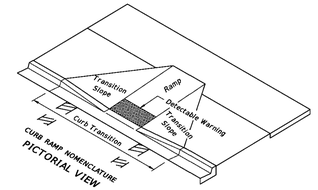
   Ramps, reconstructed sidewalks, walk around sidewalks, sidewalk landings and sidewalk curbs are to be paid for under the contract unit price for Sidewalk Concrete, (__" Thick), SY. Curb transitions and reconstructed curbs are to be paid for under the contract unit price for the parent curb, i.e., Concrete Curb (Type __), LF or Concrete Curb and Gutter (Type __), LF.

   When a separate pay item for the removal and disposal of existing curb, curb and gutter, and/or sidewalk is not provided in the plans, the cost of removal and disposal of these features shall be included in the contract unit price for new curb, curb and gutter and/or sidewalk respectively.
9. Acceptance Criteria for Detectable Warnings:

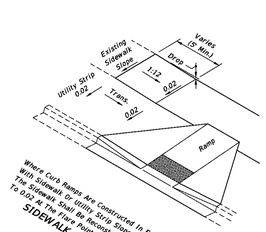
   a. The ramp detectable warning surface shall be complete and uniform in color and texture
   b. 90% of the individual truncated domes must comply with the design criteria
   c. There may be no more than 4 non-complying domes in any one square foot of surface
   d. No two adjacent domes may be non-compliant
   e. Surface may not deviate more than 0.10" from a true plane
10. All sidewalk surfaces, ramp surfaces, and landings with a cross slope shown in this Index to be 0.02 shall be 0.02 maximum. All ramp surfaces and ramp transition slopes with a slope shown in this Index to be 1:12 shall be 1:12 maximum.

TYPICAL PLACEMENT OF PUBLIC SIDEWALK CURB RAMPS AT CURBED RETURNS

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
01/01/11			FDOT DESIGN STANDARDS FY 2012/2013	PUBLIC SIDEWALK CURB RAMPS	304	1

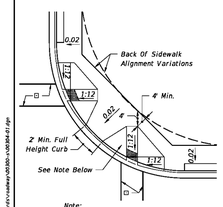


CURB RAMP NOMENCLATURE
PICTORIAL VIEW



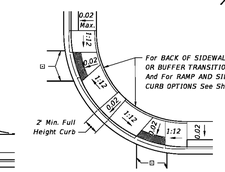
Where Curb Ramps Are Constructed In Existing Sidewalks With Sidewalk Or Utility Strip Slopes Greater Than 0.02, The Sidewalk Shall Be Reconstructed To Reduce The Slopes To 0.02 At The Ramp Points.

SIDEWALK / UTILITY STRIP TRANSITION



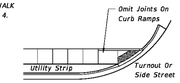
Note:
When crosswalk markings are required, ramp runs must fall within crosswalk limits and where practical, be parallel with the projected crosswalk alignment. The bottom of the ramp beyond the curb line shall have a clear space 48" minimum within the markings of a marked crosswalk. If no crosswalk markings are present, the bottom of the ramp beyond the curb ramp shall have a clear space 48" minimum outside active traffic lanes.

⊟ Crosswalk widths and configuration vary; must conform to Index No. 17344 and 17346.



For BACK OF SIDEWALK CURB OR BUFFER TRANSITIONS And For RAMP AND SIDEWALK CURB OPTIONS See Sheet 4.

Note: A portion of one or both ramps may extend outside the return.



LINEAR SIDEWALK RAMPS

GENERAL NOTES

1. Public sidewalk curb ramps shall be constructed in the public right of way at locations that will provide continuous unobstructed pedestrian circulation paths to pedestrian areas, elements and facilities in the public right of way and to accessible pedestrian routes on adjacent sites. Curbed facilities with sidewalks and those without sidewalks are to have curb ramps constructed at all street intersections and at turnouts that have curbed returns. Partial curb returns shall extend to the limit prescribed by Index No. 515 to accommodate curb ramps. Ramps constructed at locations without sidewalks shall have a landing constructed at the top of each ramp, see Sheet 5.
2. The location and orientation of curb ramps shall be as shown in the plans.
3. Curb ramp running slopes at unrestrained sites shall not be steeper than 1:12 and cross slope shall be 0.02 or flatter. Transition slopes shall not be steeper than 1:12.

   When altering existing pedestrian facilities where existing site development precludes the accommodation of a ramp slope of 1:12, a running slope between 1:12 and 1:10 is permitted for a rise of 6" maximum and a running slope of between 1:10 and 1:8 is permitted for a rise of 3" maximum. Where compliance with the requirements for cross slope cannot be fully met, the minimum feasible cross slope shall be provided.

   Ramp running slope is not required to exceed 8' in length, except at sites where the plans specify a greater length.
4. If a curb ramp is located where pedestrians must walk across the ramp, then the walk shall have transition slopes to the ramp; the maximum slope of the transitions shall be 1:12. Ramps with curb returns may be used at locations where other improvements provide guidance away from that portion of curb perpendicular to the sidewalk; improvements for guidance are not required at curb ramps for linear pedestrian traffic.
5. Curb ramp detectable warning surfaces shall extend the full width of the ramp and 24" deep. Detectable warning surfaces shall be constructed in accordance with Specification 527. See Sheet 6 for detectable warning layouts. Transition slopes are not to have detectable warnings. Detectable warnings are required on sidewalks at intersecting roads, streets and railroads. For requirements for detectable warnings on sidewalks at intersecting driveways, see Index 310.
6. Where a curb ramp is constructed within existing curb, curb and gutter and/or sidewalk, the existing curb or curb and gutter shall be removed to the nearest joint beyond the curb transitions or to the extent that no remaining section of curb or curb and gutter is less than 5' long. The existing sidewalk shall be removed to the nearest joint beyond the transition slope or walk around or to the extent that no remaining section of sidewalk is less than 5' long. For details of Concrete Sidewalk See Index 310.
7. Alpha-numeric identifications are for reference (plans, permits, etc.).
8. Public sidewalk curb ramps are to be paid for as follows:

   Ramps, reconstructed sidewalks, walk around sidewalks, sidewalk landings and sidewalk curbs are to be paid for under the contract unit price for Sidewalk Concrete, (__" Thick), SY. Curb transitions and reconstructed curbs are to be paid for under the contract unit price for the parent curb, i.e., Concrete Curb (Type __), LF or Concrete Curb and Gutter (Type __), LF.

   When a separate pay item for the removal and disposal of existing curb, curb and gutter, and/or sidewalk is not provided in the plans, the cost of removal and disposal of these features shall be included in the contract unit price for new curb, curb and gutter and/or sidewalk respectively.
9. Acceptance Criteria for Detectable Warnings:

   a. The ramp detectable warning surface shall be complete and uniform in color and texture
   b. 90% of the individual truncated domes must comply with the design criteria
   c. There may be no more than 4 non-complying domes in any one square foot of surface
   d. No two adjacent domes may be non-compliant
   e. Surface may not deviate more than 0.10" from a true plane
10. All sidewalk surfaces, ramp surfaces, and landings with a cross slope shown in this Index to be 0.02 shall be 0.02 maximum. All ramp surfaces and ramp transition slopes with a slope shown in this Index to be 1:12 shall be 1:12 maximum.

TYPICAL PLACEMENT OF PUBLIC SIDEWALK CURB RAMPS AT CURBED RETURNS

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
01/01/11			FDOT DESIGN STANDARDS FY 2012/2013	PUBLIC SIDEWALK CURB RAMPS	304	1

DATE	DESCRIPTION	BY
10-06-11	REVISE PER SWFWMD COMMENTS	JAS

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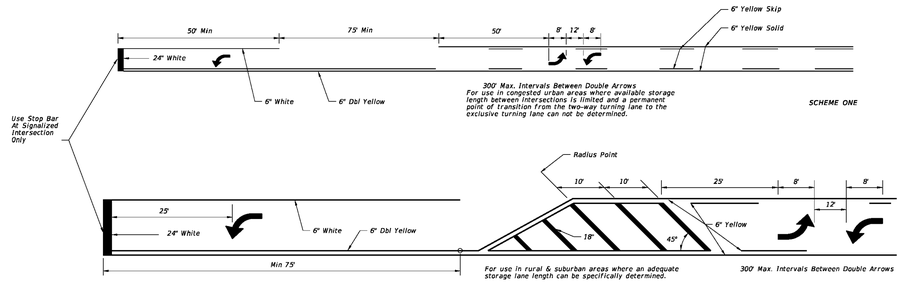
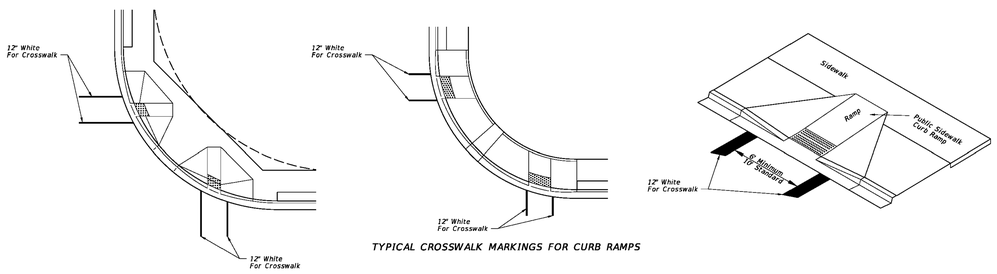
SIDEWALK, SIGNING & PAVEMENT MARKING DETAILS

JOB NO. TMH-NW-009	THE WOODS
DESIGN SCHRADER	
DRAWN SCHRADER	PREPARED FOR: TAYLOR MORRISON
DATE 07-02-2012	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE SWD2	SHEET 41 OF 57 SHEETS

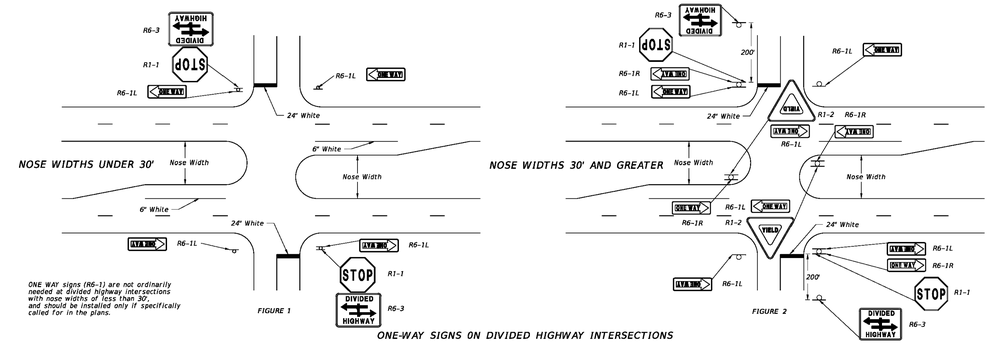


(WITH SINGLE LANE LEFT TURN CHANNELIZATION)
TWO WAY LEFT TURN LANE

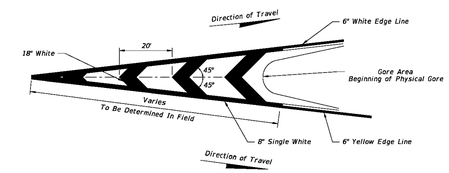


TYPICAL CROSSWALK MARKINGS FOR CURB RAMPS

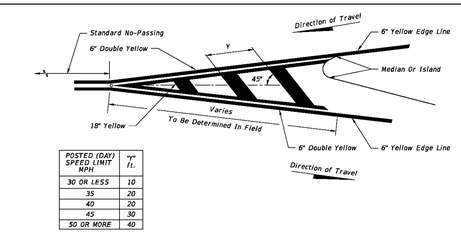
LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/09			FDOT DESIGN STANDARDS FY 2012/2013	SPECIAL MARKING AREAS	17346	3



ONE-WAY SIGNS ON DIVIDED HIGHWAY INTERSECTIONS



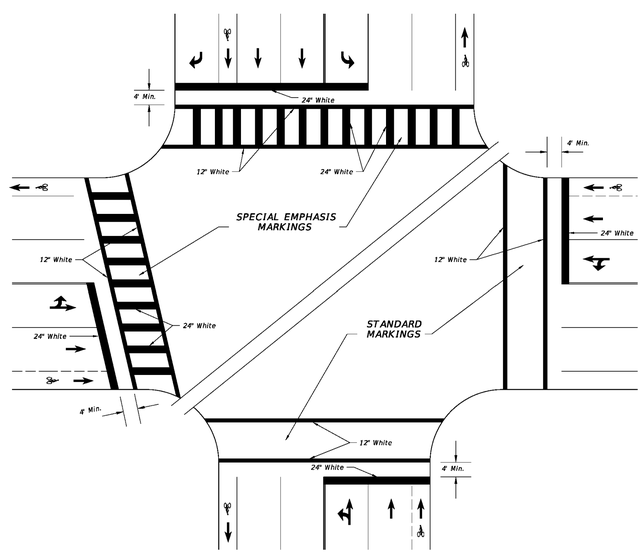
PAVEMENT MARKINGS FOR TRAFFIC CHANNELIZATION AT GORE
(TRAFFIC FLOWS IN SAME DIRECTION)



POSTED (DAY) SPEED LIMIT MPH	Y FT.
30 OR LESS	10
35	20
40	20
45	30
50 OR MORE	40

PAVEMENT MARKING FOR TRAFFIC SEPARATION
(TRAFFIC FLOWS IN OPPOSING DIRECTIONS)

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/09			FDOT DESIGN STANDARDS FY 2012/2013	SPECIAL MARKING AREAS	17346	5

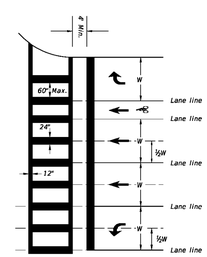


SPECIAL EMPHASIS AND STANDARD CROSSWALKS
SIGNALIZED OR STOP SIGN CONTROLLED INTERSECTION

GENERAL NOTES

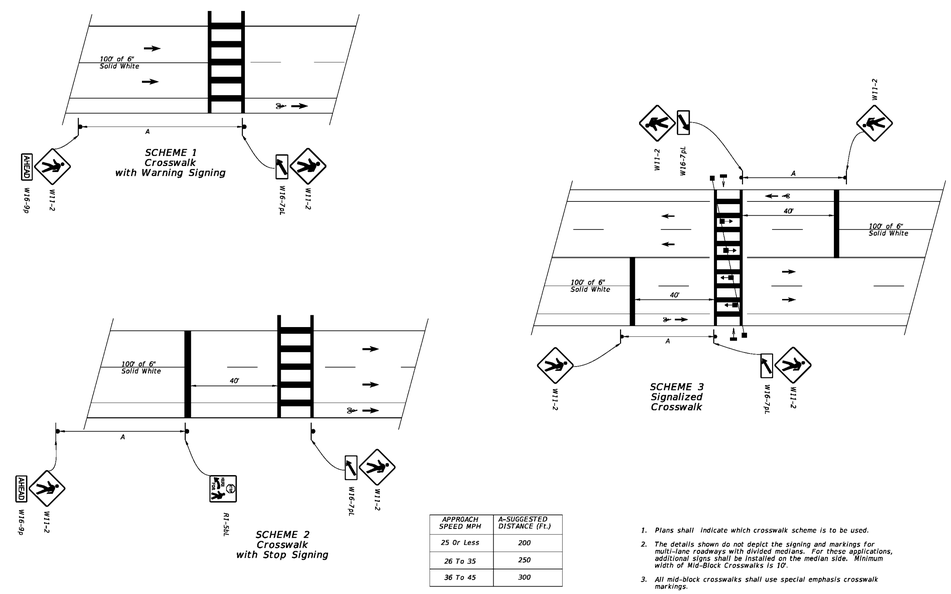
1. For traffic and pedestrian signal installation, refer to Index No. 17721 through 17890.
2. For public sidewalk curb ramps, refer to Index No. 304.
3. For pavement marking and sign installation, refer to Indexes 11200 through 17356.
4. Crosswalk minimum widths: Intersection Crosswalk 6'. Midblock Crosswalk 10'.
5. All crosswalk marking shall be white.
6. Longitudinal lines in Special Emphasis Crosswalk shall be 24" wide and spaced to avoid the wheel path of vehicles as shown in detail. The maximum space between markings shall not exceed 60". A longitudinal marking shall be centered at each lane line. Additional longitudinal markings shall be placed at the center of each lane (1/2W).

   Where the Crosswalk is skewed to the lane lane lines, the Special Emphasis longitudal lines should be parallel to the lane line.



SPECIAL EMPHASIS CROSSWALK MARKING DETAIL

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
07/01/09			FDOT DESIGN STANDARDS FY 2012/2013	SPECIAL MARKING AREAS	17346	9



APPROACH SPEED MPH	A-SUGGESTED DISTANCE (Ft.)
25 Or Less	200
26 To 35	250
36 To 45	300

1. Plans shall indicate which crosswalk scheme is to be used.
2. The details shown do not depict the signing and markings for multi-lane roadways with divided medians. For these applications, additional signs shall be installed on the median side. Minimum width of Mid-Block Crosswalks is 10'.
3. All mid-block crosswalks shall use special emphasis crosswalk markings.
4. Crosswalk marking should utilize preformed marking materials.

LAST REVISION	REVISION	DESCRIPTION:			INDEX NO.	SHEET NO.
01/01/12			FDOT DESIGN STANDARDS FY 2012/2013	SPECIAL MARKING AREAS	17346	10

DATE	DESCRIPTION	BY
10-06-11	REVISE PER SWFWMD COMMENTS	JAS

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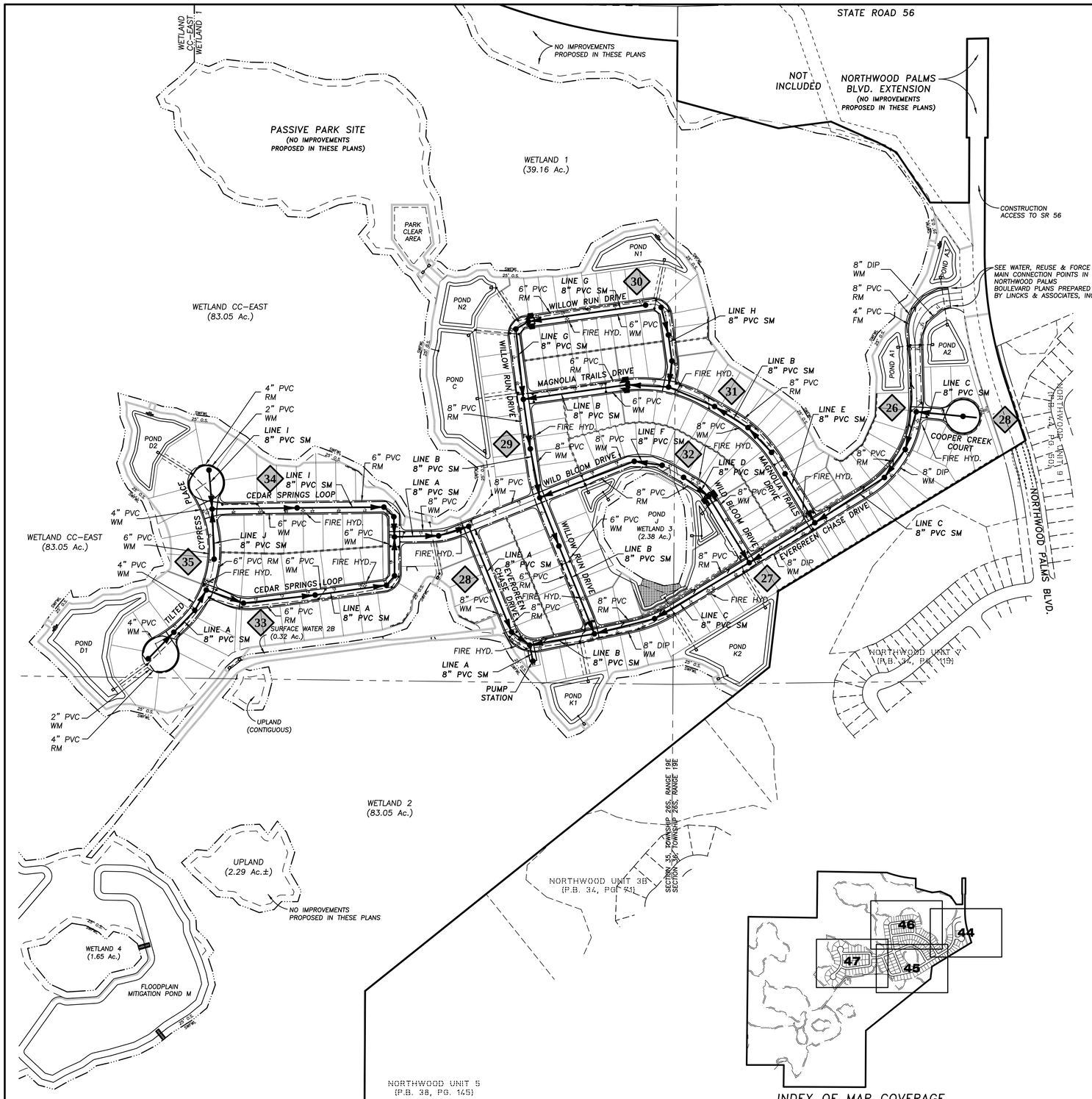
SIDEWALK, SIGNING & PAVEMENT MARKING DETAILS

JOB NO. TMH-NW-009	THE WOODS
DESIGN SCHRADER	
DRAWN SCHRADER	PREPARED FOR: TAYLOR MORRISON
DATE 07-02-2012	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE SWD3	SHEET 42 OF 57 SHEETS



WATER, REUSE, & SANITARY SEWER CONSTRUCTION NOTES:

1. Prior to construction, the Contractor shall obtain from the Engineer or Owner a copy of all pertinent permits related to this project. It is the Contractor's responsibility to assure that all construction activities are in compliance with the conditions of all permits and approvals.
2. Grass and mulch, or solid sod, all areas in existing rights-of-way disturbed by construction.
3. Contractor is to coordinate all work within, but not limited to, Pasco County rights-of-way with utility companies in order to prevent damage to utility lines and the making of adjustments to same, if required.
4. All utility materials and workmanship must comply with Standards for Design and Construction of Water, Wastewater and Reclaimed Water Facilities Specs., June 1995 Edition.
5. Contractor shall be responsible for obtaining any and all road crossing or utility permits.
6. The existing underground utility lines shown hereon were taken from documents furnished by others and not field verified, therefore the Engineer cannot guarantee the accuracy of same nor that all are shown. The Contractor shall expose all underground utility lines in coordination with the Owners to his satisfaction and make adjustments to same in the event there are conflicts with new construction.
7. Contractor shall verify locations and depths of existing water and sewer lines prior to beginning construction.
8. The locations and elevation of all service lines are to be determined in the field by Owner and/or Contractor prior to construction of same.
9. Fire hydrant, gate valve and blow-off valve assemblies shall consist of all pipe, valves, tees, fittings, and any and all other appurtenances comprising a complete, working unit.
10. All fire hydrants shall be flow tested and color coded based on flow results.
11. Per NFPA-1, 16.4.3.1.3: where underground water mains and hydrants are to be provided, thay shall be installed, completed, and in service prior to construction work.
12. Fire hydrants shall be installed and in service prior to the accumulation of combustibles.
13. All 4"-12" PVC water main pipe shall be C-900 DR 18, conforming to the requirements found in AWWA Standard, latest edition at the time of plan approval. 16" water main shall be C-905 DR 25 PVC. All service pipe less than 4" in diameter shall be PVC Pressure Pipe; Pressure Rate 200; DR 21 per ASTM Standard D-2241. Water mains smaller than 2" in diameter shall be Class 1120 or 1220 ; Schedule 80 and meet the requirements of ASTM D-1785.
14. All water main pipe and fittings installed under this project shall be color coded or marked in accordance with subparagraph 62-555.320(21)(b)3, Florida Administrative Codes, using blue as the predominant color.
15. All 8" sanitary sewer pipe shall be constructed at a 0.40% minimum slope unless otherwise noted.
16. Force mains shall be constructed of C-900 DR 18 PVC pigmented green.
17. Adjusting manhole tops to match grade and slope of the finish paving shall be included in the respective contract unit price for manholes, payment of which will constitute full compensation for the construction and completion of the manhole, and no additional payment will be allowed or made for adjusting manhole tops.
18. Bends shall be installed in force main or water main to avoid unforeseen conflicts in existing or proposed structures.
19. The joint deflection method shall be used where practical in lieu of installing bends.
20. All valve box assemblies located within roadways or parking areas shall be protected from truck traffic by use of 6" thick reinforced concrete pads poured around valve boxes (see detail).
21. Connections into existing county-owned systems shall be via wet tap. Wet taps shall be performed by the Pasco County Utilities Services Branch at the developer's expense. Material for wet taps larger than 2" shall be provided and installed by the project contractor. Excavation, backfill and surface restoration shall be the contractor's responsibility.
22. Gate valves installed for phasing shall be restrained per current Pasco County standards.
23. Off-road utility easements shall be "stabilized" for access by maintenance vehicles.
24. Stub-out lines on the water main and force main shall have restrained joints from the main line to the stub-out.
25. All PVC pressure pipe shall have a minimum 36" cover.
26. Maintain 5' minimum horizontal separation between reclaimed mains and water mains or force mains.
27. All water mains shall be deflected vertically where crossing storm sewer pipe to obtain a minimum vertical distance of 18 inches between the outside of the water main and the outside of the storm sewer. Joints shall be located such that the distance from the storm sewer and water main joint is as far as practical.
28. Water mains should be laid at least 10 feet horizontally from any existing or proposed storm sewer.
29. At no time should vertical clearance between force main or gravity sewer and water main be less than 18" at crossing of same.
30. At no time should horizontal clearance between force main or gravity sewer and water main be less than 10' when same are paralleling each other.
31. Sanitary sewers, force and reclaimed mains and storm sewers should cross under water mains. Sanitary sewers, force and reclaimed mains and storm sewers crossing water mains shall be laid to provide a minimum vertical distance of 18 inches between the invert of the upper pipe and the crown of the lower pipe whenever possible.
32. When sanitary sewers, force and reclaimed mains and storm sewers must cross a water main with less than 18 inches vertical distance, both the sewer and the water main shall be constructed of ductile iron pipe (DIP) at the crossing. (DIP is not required for storm sewers if it is not available in the size proposed). Sufficient lengths of DIP must be used to provide a minimum separation of 10 feet between any two joints. All joints on the water main within 20 feet of the crossing must be leak free and mechanically restrained. A minimum vertical clearance of 6 inches must be maintained at the crossing.
33. Where there is no alternative to sewer and reclaimed pipes crossing over a water main, the criteria for minimum separation of 18 inches between lines and 10 feet between joints shall be required.
34. All crossings shall be arranged so that the sewer and reclaimed pipes joints and the water main pipe joints are equidistant from the point of crossing (pipes centered on the crossing).
35. Where a new pipe conflicts with an existing pipe, the new pipe shall be constructed of DIP and the crossing shall be arranged to meet the requirements above.
36. A minimum 10-foot horizontal separation shall be maintained in parallel installations between any type of sewer (including drainage inlets) and water main whenever possible. A minimum 5-foot horizontal separation shall be maintained in parallel installation between reclaimed water mains and water mains, and between reclaimed water mains and sanitary sewers whenever possible.
37. In cases where it is not possible to maintain a 10-foot horizontal separation between any type of parallel sewer and water main, or a 5-foot separation between reclaimed main and water main, the water main must be laid in a separate trench or on an undisturbed earth shelf located on one side of the sewer, reclaimed main, or force main at such an elevation that the bottom of the water main is at least 18 inches above the top of the sewer.
38. Where it is not possible to maintain a vertical distance of 18 inches or a horizontal distance of 10 feet in parallel installations, the water main shall be constructed of DIP and the sewer, reclaimed main or the force main shall be constructed of DIP (if available in the size proposed) with a minimum vertical distance of 6 inches. The water main should be above the sewer, reclaimed main, or force main. Joints on the water main shall be located as far apart as possible from joints on the sewer, reclaimed main, or force main (staggered joints).
39. All subsurface construction shall comply with the "Trench Safety Act." The Contractor shall ensure that the method of trench protection and construction is in compliance with the Occupational Safety and Health Administration (OSHA) Regulations.
40. Fire protection shall meet the requirements of the Pasco County Code, Chapter 46, Fire Prevention and Protection, and plans shall comply with referenced requirements.

N

400 200 0 200 400

SCALE: 1" = 200'

LEGEND

- SWFWL — SWFWMD WETLAND LINE
- 25' O.S. — 25' OFFSET FROM WETLAND LINE (SHOWN FOR INFORMATIONAL PURPOSES)
- 26 — ROADWAY PLAN & PROFILE SHEET
- A2 — SANITARY SEWER (SM)
- 6" SINGLE SERVICE
- 6" DOUBLE SERVICE
- FORCE MAIN (FM)
- IRRIGATION & LIGHTING SLEEVE
- RECLAIMED MAIN (RM)
- DOUBLE SERVICE (RM) SHORTSIDE
- SINGLE SERVICE (RM) SHORTSIDE
- SINGLE SERVICE (RM) LONGSIDE W/SERVICE SLEEVE
- DOUBLE SERVICE (RM) LONGSIDE W/SERVICE SLEEVE
- VALVE & BOX
- REDUCER
- PLUG
- BLOW-OFF
- BENDS
- WATER MAIN (WM)
- FIRE HYDRANT
- DOUBLE SERVICE (WM) SHORTSIDE
- SINGLE SERVICE (WM) SHORTSIDE
- SINGLE SERVICE (WM) LONGSIDE W/SERVICE SLEEVE
- DOUBLE SERVICE (WM) LONGSIDE W/SERVICE SLEEVE
- WDSP — WATER DISTRIBUTION SAMPLING POINT

SLEEVING NOTES

2"I — DENOTES SLEEVE SIZE & LOCATION (SLEEVE LOCATIONS DEPICTED ON WATER, REUSE & SANITARY SEWER PLANS)

- 2"I — IRRIGATION
- 2"L — LIGHTING
- 2"T — TELECOMMUNICATION
- 2"G — GATE SYSTEM
- 2" — ADDITIONAL SLEEVE (ADD)

ALL SLEEVING TO BE SCHEDULE 40 PVC MINIMUM THICKNESS. BURY ALL SLEEVES A MINIMUM OF 24" BELOW TOP OF CURB. NO SLEEVES SHALL BE DEEPER THAN 40" BELOW FINISH GRADE.

WHERE SEVERAL SLEEVES ARE REQUIRED, MAINTAIN 6" HORIZONTAL SEPARATION BETWEEN EACH SLEEVE. DO NOT STACK ONE ON TOP OF ANOTHER.

ALL SLEEVES ARE REQUIRED TO BE AT LEAST 2" DIA.

LOCATE ALL SLEEVES WITH PVC ELBOWS ABOVE GRADE. WHEN THERE ARE MULTIPLE SLEEVES ONLY (1) 2" SLEEVE NEEDS TO BE ELBOWED. STAKE WITH A 2 BY 4 AND MARK WITH PAINT.

ENSURE ALL SLEEVES EXTEND 24" MINIMUM BEYOND ALL CURBING OR WALKS AS REQUIRED.

CURBS AT AREA OF CROSSING TO BE MARKED USING CONCRETE SAW TO CREATE A TRIANGLE PATTERN ON THE TOP OF CURB.

ADDITIONAL SLEEVING MAY BE REQUIRED FOR ADDITIONAL UTILITIES. SITE CONTRACTOR TO COORDINATE ADDITIONAL SLEEVING ONSITE.

SEAL THE END OF ALL SLEEVES WITH DUCT TAPE.

FIELD LOCATE SLEEVES TO ENSURE THEY DO NOT LINE UP WITH SIDEWALKS.

INDEX OF MAP COVERAGE
N.T.S.

DATE	DESCRIPTION	BY
	REVISIONS	

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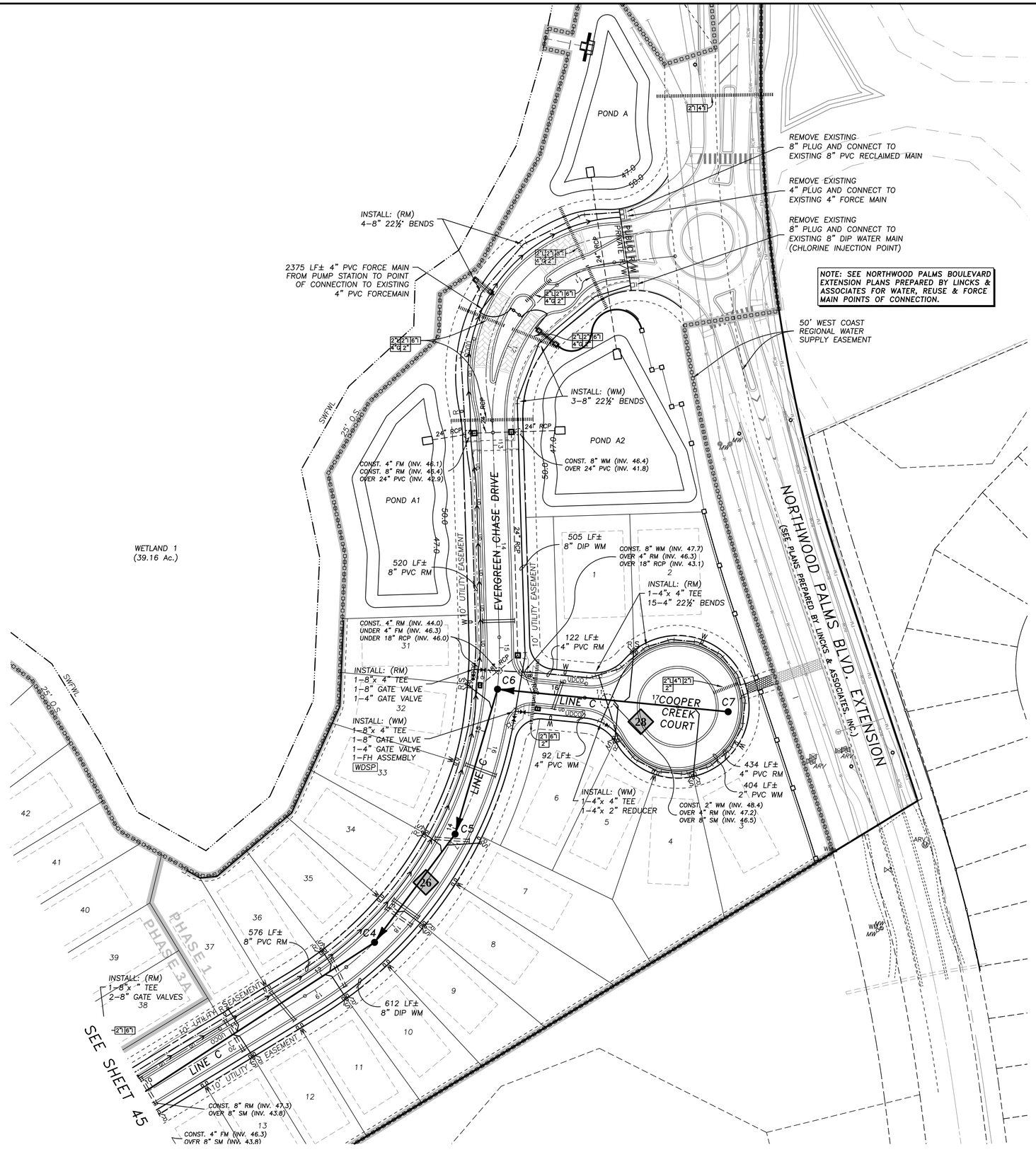
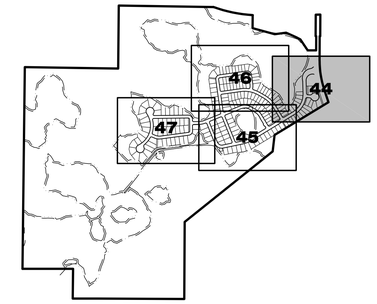
WATER, REUSE & SANITARY SEWER KEY MAP

JOB NO. TMH-NW-009	THE WOODS
DESIGN MIDDLETON	
DRAWN MIDDLETON	PREPARED FOR: TAYLOR MORRISON
DATE 07-02-2012	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE WS1	SHEET 43 OF 57 SHEETS





INDEX OF MAP COVERAGE
N.T.S.

N

100 50 0 50 100

SCALE: 1" = 50'

LEGEND

- SWFWL — WETLAND LINE
- 25' O.S. — WETLAND CONSERVATION AREA SETBACK
- 26 — ROADWAY PLAN & PROFILE SHEET
- A2 — SANITARY SEWER (SM)
- 6" SINGLE SERVICE
- 6" DOUBLE SERVICE
- FORCE MAIN (FM)
- IRRIGATION & LIGHTING SLEEVE
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LOCATE ALL SLEEVES WITH PVC ELBOWS ABOVE GRADE. WHEN THERE ARE MULTIPLE SLEEVES ONLY (1) 2" SLEEVE NEEDS TO BE ELBOWED. STAKE WITH A 2 BY 4 AND MARK WITH PAINT.

ENSURE ALL SLEEVES EXTEND 24" MINIMUM BEYOND ALL CURBING OR WALKS AS REQUIRED.

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ADDITIONAL SLEEVING MAY BE REQUIRED FOR ADDITIONAL UTILITIES. SITE CONTRACTOR TO COORDINATE ADDITIONAL SLEEVING ONSITE.

SEAL THE END OF ALL SLEEVES WITH DUCT TAPE.

FIELD LOCATE SLEEVES TO ENSURE THEY DO NOT LINE UP WITH SIDEWALKS.

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REVISIONS		

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FLORIDA PROFESSIONAL ENGINEER

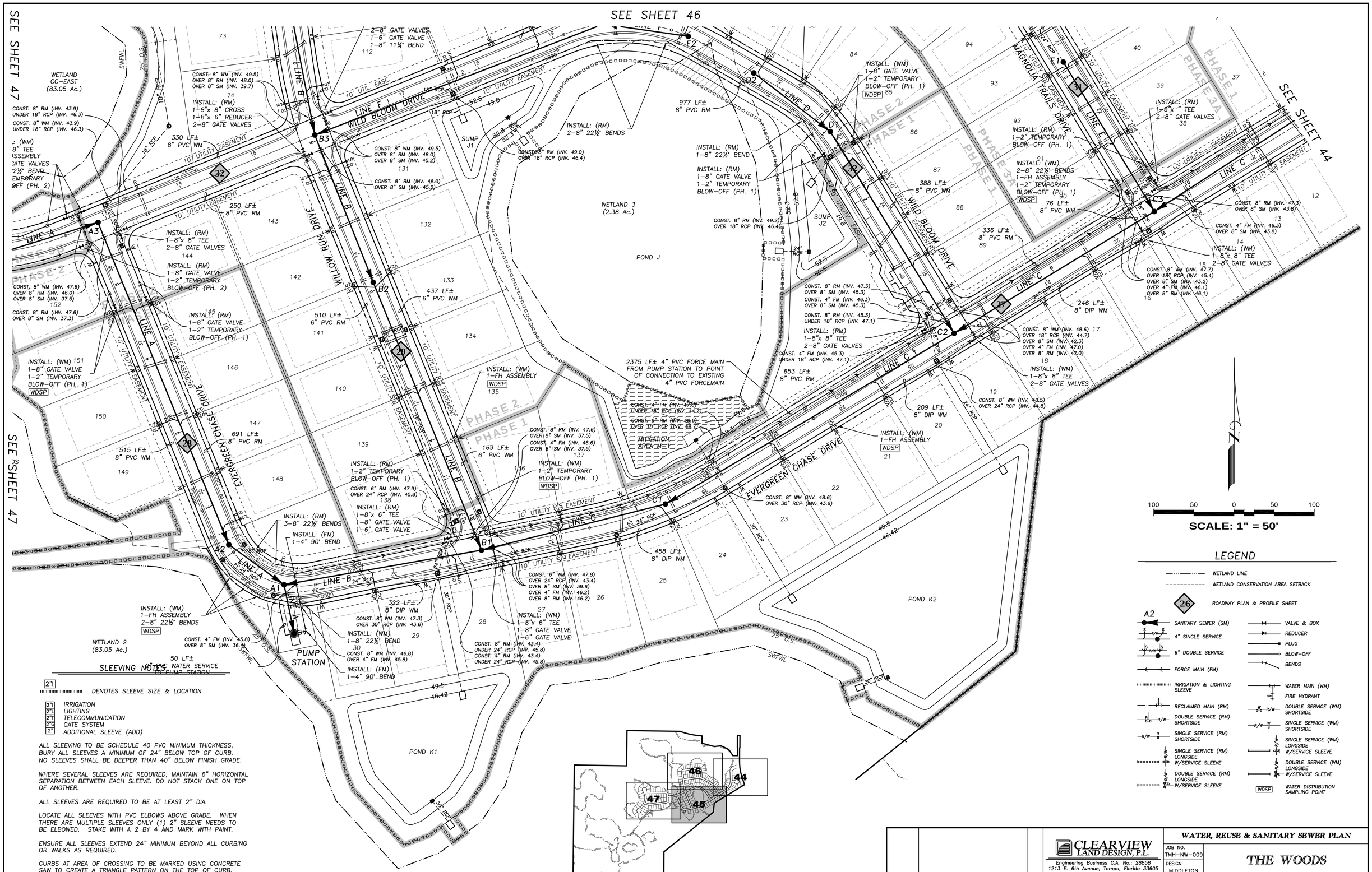
WATER, REUSE & SANITARY SEWER PLAN

THE WOODS

PREPARED FOR: **TAYLOR MORRISON**

JOB NO.	TMH-NW-009
DESIGN	MIDDLETON
DRAWN	MIDDLETON
DATE	07-02-2012
FILE	WS2

Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

WATER, REUSE & SANITARY SEWER PLAN

JOB NO. TMH-NW-009
DESIGN MIDDLETON
DRAWN MIDDLETON

THE WOODS

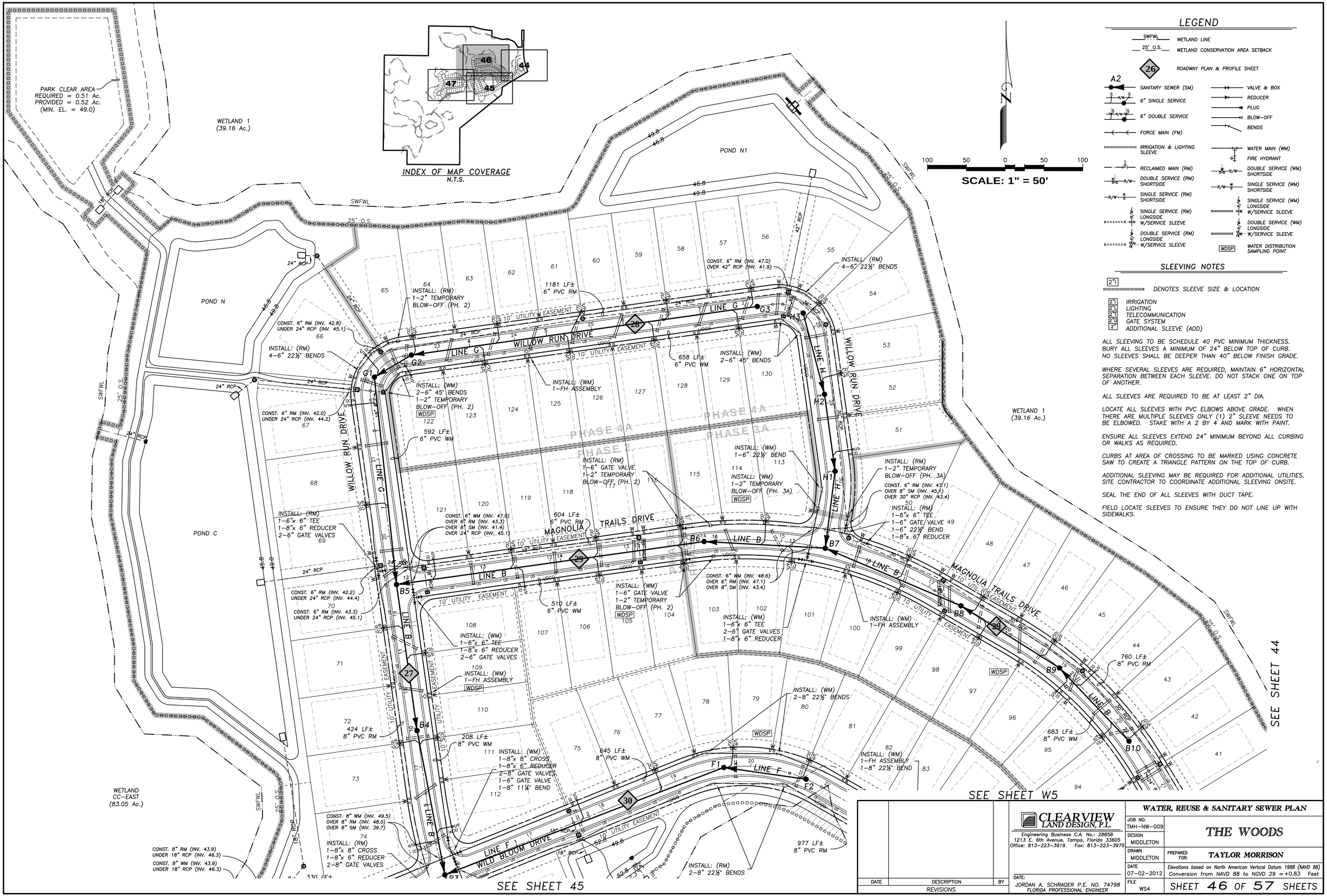
PREPARED FOR: **TAYLOR MORRISON**

DATE 07-02-2012

Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

FILE WS3

SHEET 45 OF 57 SHEETS



LEGEND

- SWFWL — WETLAND LINE
- 25' O.S. — WETLAND CONSERVATION AREA SETBACK
- 26 — ROADWAY PLAN & PROFILE SHEET
- A2 — SANITARY SEWER (SM)
- 6" SINGLE SERVICE
- 6" DOUBLE SERVICE
- FORCE MAIN (FM)
- IRRIGATION & LIGHTING SLEEVE
- RECLAIMED MAIN (RM)
- DOUBLE SERVICE (RM) SHORTSIDE
- SINGLE SERVICE (RM) SHORTSIDE
- SINGLE SERVICE (RM) LONGSIDE W/SERVICE SLEEVE
- DOUBLE SERVICE (RM) LONGSIDE W/SERVICE SLEEVE
- VALVE & BOX
- REDUCER
- PLUG
- BLOW-OFF
- BENDS
- WATER MAIN (WM)
- FIRE HYDRANT
- DOUBLE SERVICE (WM) SHORTSIDE
- SINGLE SERVICE (WM) SHORTSIDE
- SINGLE SERVICE (WM) LONGSIDE W/SERVICE SLEEVE
- DOUBLE SERVICE (WM) LONGSIDE W/SERVICE SLEEVE
- WDSP — WATER DISTRIBUTION SAMPLING POINT

SLEEVING NOTES

2"| — DENOTES SLEEVE SIZE & LOCATION

- 2"I — IRRIGATION
- 2"L — LIGHTING
- 2"T — TELECOMMUNICATION
- 2"G — GATE SYSTEM
- 2" — ADDITIONAL SLEEVE (ADD)

ALL SLEEVING TO BE SCHEDULE 40 PVC MINIMUM THICKNESS. BURY ALL SLEEVES A MINIMUM OF 24" BELOW TOP OF CURB. NO SLEEVES SHALL BE DEEPER THAN 40" BELOW FINISH GRADE.

WHERE SEVERAL SLEEVES ARE REQUIRED, MAINTAIN 6" HORIZONTAL SEPARATION BETWEEN EACH SLEEVE. DO NOT STACK ONE ON TOP OF ANOTHER.

ALL SLEEVES ARE REQUIRED TO BE AT LEAST 2" DIA.

LOCATE ALL SLEEVES WITH PVC ELBOWS ABOVE GRADE. WHEN THERE ARE MULTIPLE SLEEVES ONLY (1) 2" SLEEVE NEEDS TO BE ELBOWED. STAKE WITH A 2 BY 4 AND MARK WITH PAINT.

ENSURE ALL SLEEVES EXTEND 24" MINIMUM BEYOND ALL CURBING OR WALKS AS REQUIRED.

CURBS AT AREA OF CROSSING TO BE MARKED USING CONCRETE SAW TO CREATE A TRIANGLE PATTERN ON THE TOP OF CURB.

ADDITIONAL SLEEVING MAY BE REQUIRED FOR ADDITIONAL UTILITIES. SITE CONTRACTOR TO COORDINATE ADDITIONAL SLEEVING ONSITE.

SEAL THE END OF ALL SLEEVES WITH DUCT TAPE.

FIELD LOCATE SLEEVES TO ENSURE THEY DO NOT LINE UP WITH SIDEWALKS.

DATE	DESCRIPTION	BY
	REVISIONS	

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DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

WATER, REUSE & SANITARY SEWER PLAN

THE WOODS

PREPARED FOR: **TAYLOR MORRISON**

JOB NO.	TMH-NW-009
DESIGN	MIDDLETON
DRAWN	MIDDLETON
DATE	07-02-2012
FILE	WS4

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

SLEEVING NOTES

2" DENOTES SLEEVE SIZE & LOCATION

2" IRRIGATION
2" LIGHTING
2" TELECOMMUNICATION
2" GATE SYSTEM
2" ADDITIONAL SLEEVE (ADD)

ALL SLEEVING TO BE SCHEDULE 40 PVC MINIMUM THICKNESS. BURY ALL SLEEVES A MINIMUM OF 24" BELOW TOP OF CURB. NO SLEEVES SHALL BE DEEPER THAN 40" BELOW FINISH GRADE.

WHERE SEVERAL SLEEVES ARE REQUIRED, MAINTAIN 6" HORIZONTAL SEPARATION BETWEEN EACH SLEEVE. DO NOT STACK ONE ON TOP OF ANOTHER.

ALL SLEEVES ARE REQUIRED TO BE AT LEAST 2" DIA.

LOCATE ALL SLEEVES WITH PVC ELBOWS ABOVE GRADE. WHEN THERE ARE MULTIPLE SLEEVES ONLY (1) 2" SLEEVE NEEDS TO BE ELBOWED. STAKE WITH A 2 BY 4 AND MARK WITH PAINT.

ENSURE ALL SLEEVES EXTEND 24" MINIMUM BEYOND ALL CURBING OR WALKS AS REQUIRED.

CURBS AT AREA OF CROSSING TO BE MARKED USING CONCRETE SAW TO CREATE A TRIANGLE PATTERN ON THE TOP OF CURB.

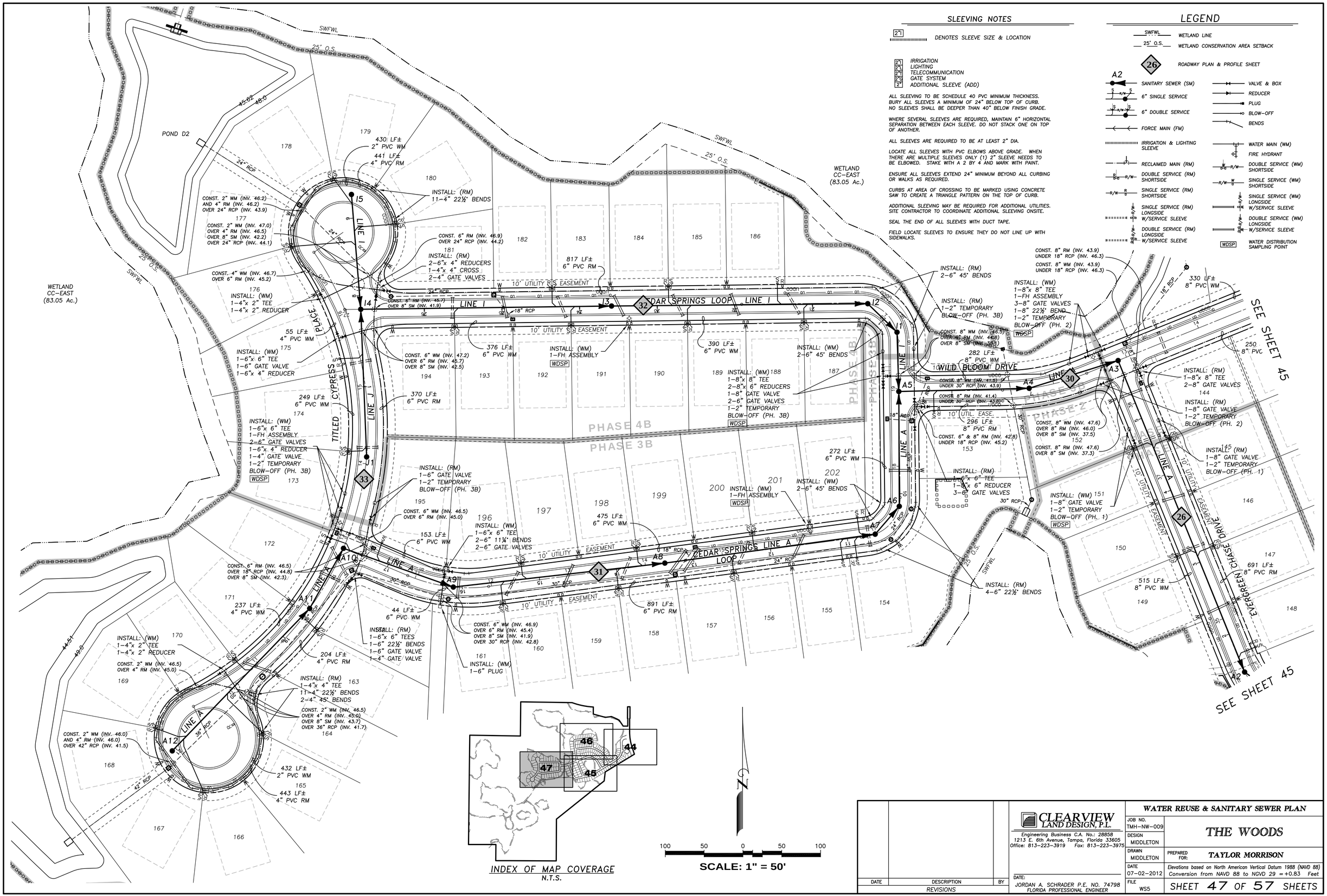
ADDITIONAL SLEEVING MAY BE REQUIRED FOR ADDITIONAL UTILITIES. SITE CONTRACTOR TO COORDINATE ADDITIONAL SLEEVING ONSITE.

SEAL THE END OF ALL SLEEVES WITH DUCT TAPE.

FIELD LOCATE SLEEVES TO ENSURE THEY DO NOT LINE UP WITH SIDEWALKS.

LEGEND

SWFWL — WETLAND LINE
25' O.S. — WETLAND CONSERVATION AREA SETBACK
26 — ROADWAY PLAN & PROFILE SHEET
A2 — SANITARY SEWER (SM)
6" SINGLE SERVICE
6" DOUBLE SERVICE
FORCE MAIN (FM)
IRRIGATION & LIGHTING SLEEVE
RECLAIMED MAIN (RM)
DOUBLE SERVICE (RM) SHORTSIDE
SINGLE SERVICE (RM) SHORTSIDE
SINGLE SERVICE (RM) LONGSIDE W/SERVICE SLEEVE
DOUBLE SERVICE (RM) LONGSIDE W/SERVICE SLEEVE
VALVE & BOX
REDUCER
PLUG
BLOW-OFF
BENDS
WATER MAIN (WM)
FIRE HYDRANT
DOUBLE SERVICE (WM) SHORTSIDE
SINGLE SERVICE (WM) SHORTSIDE
SINGLE SERVICE (WM) LONGSIDE W/SERVICE SLEEVE
DOUBLE SERVICE (WM) LONGSIDE W/SERVICE SLEEVE
WDSP — WATER DISTRIBUTION SAMPLING POINT



DATE	DESCRIPTION	BY
	REVISIONS	

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Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

WATER REUSE & SANITARY SEWER PLAN

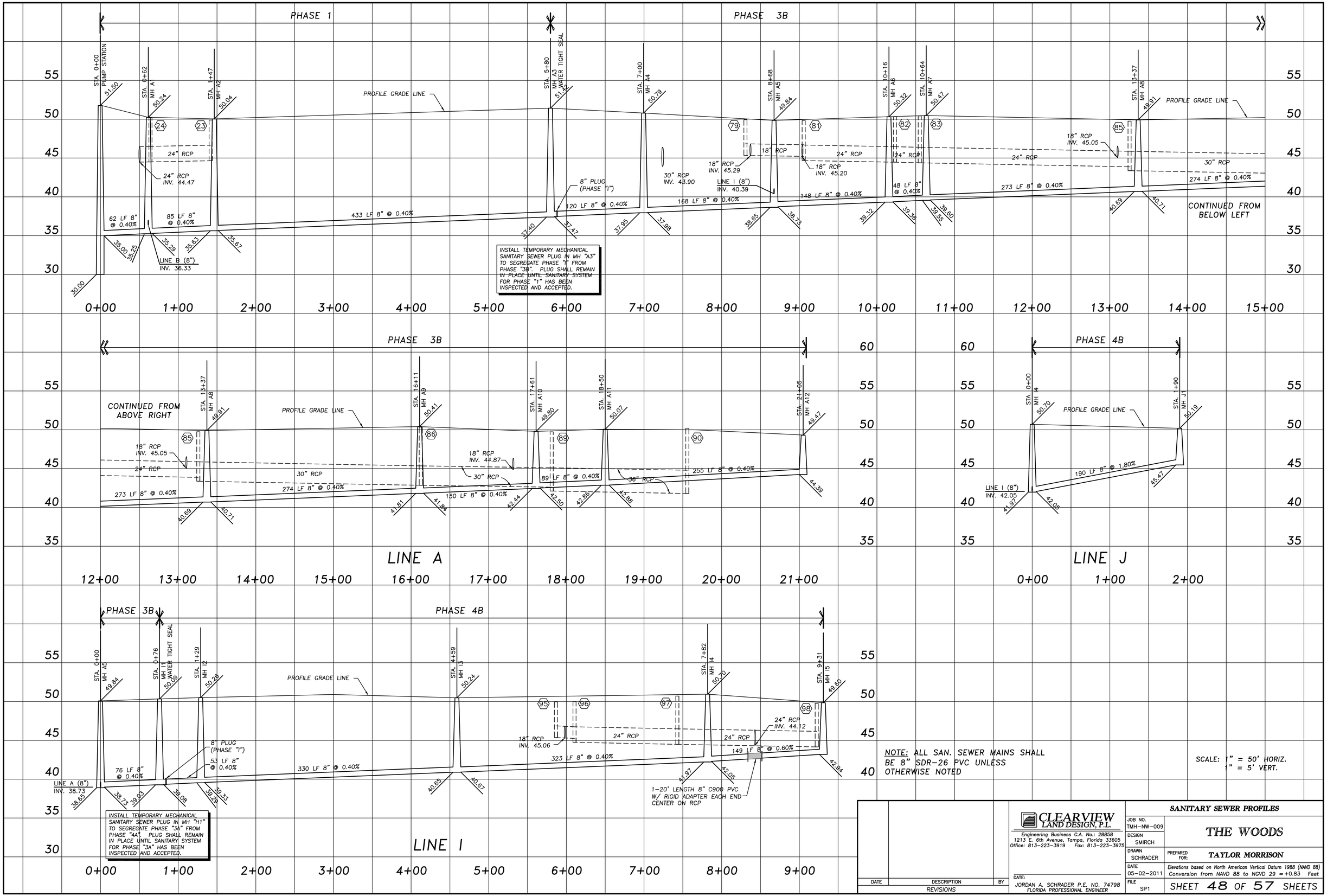
JOB NO. TMH-NW-009
DESIGN MIDDLETON
DRAWN MIDDLETON
DATE 07-02-2012
FILE WS5

THE WOODS

PREPARED FOR: **TAYLOR MORRISON**

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

SHEET 47 OF 57 SHEETS



NOTE: ALL SAN. SEWER MAINS SHALL BE 8" SDR-26 PVC UNLESS OTHERWISE NOTED

SCALE: 1" = 50' HORIZ.
1" = 5' VERT.

DATE	DESCRIPTION	BY
	REVISIONS	

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1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

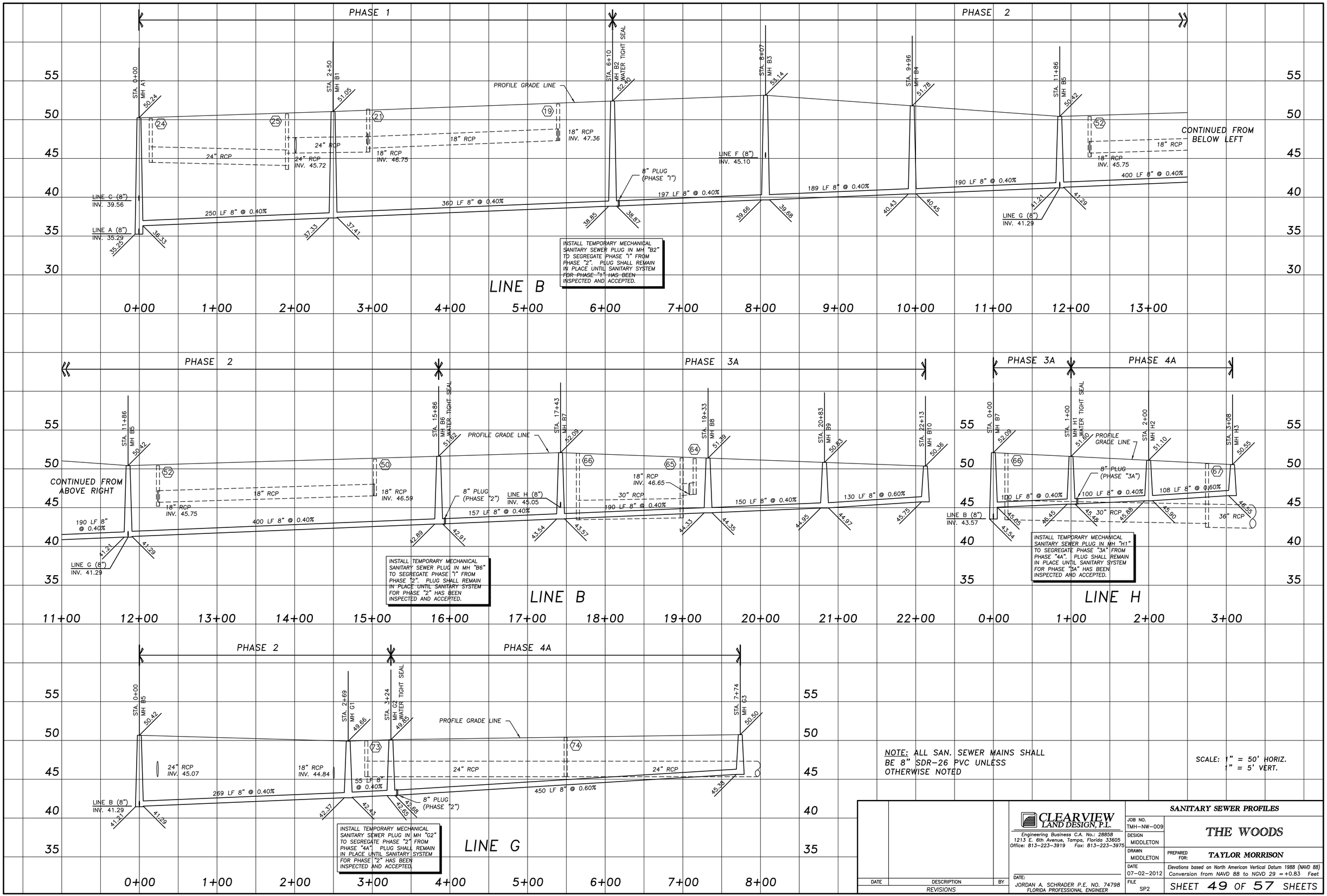
SANITARY SEWER PROFILES

JOB NO. TMH-NW-009
DESIGN SMIRCH
DRAWN SCHRADER
DATE 05-02-2011
FILE SP1

THE WOODS

PREPARED FOR: TAYLOR MORRISON

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



NOTE: ALL SAN. SEWER MAINS SHALL BE 8" SDR-26 PVC UNLESS OTHERWISE NOTED

SCALE: 1" = 50' HORIZ.
1" = 5' VERT.

DATE	DESCRIPTION	BY
	REVISIONS	

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1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

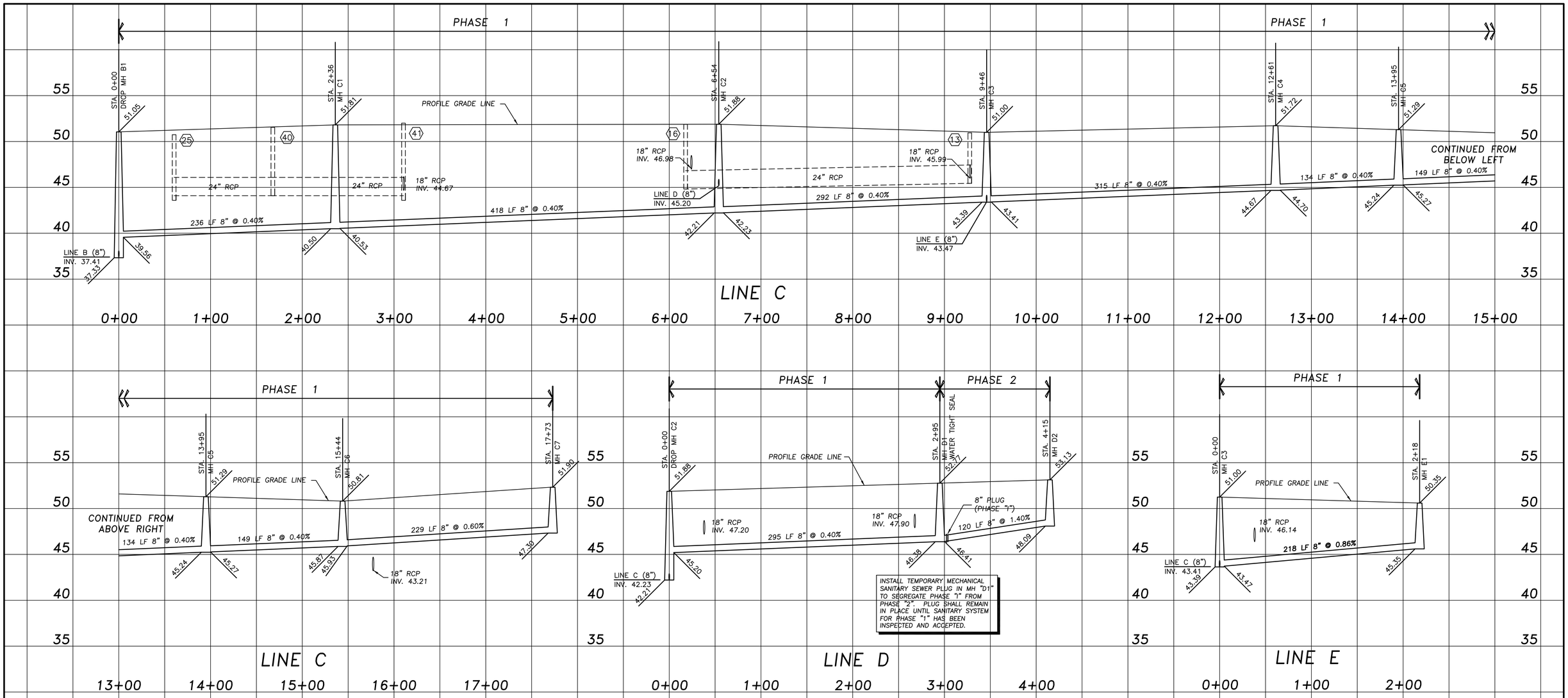
SANITARY SEWER PROFILES

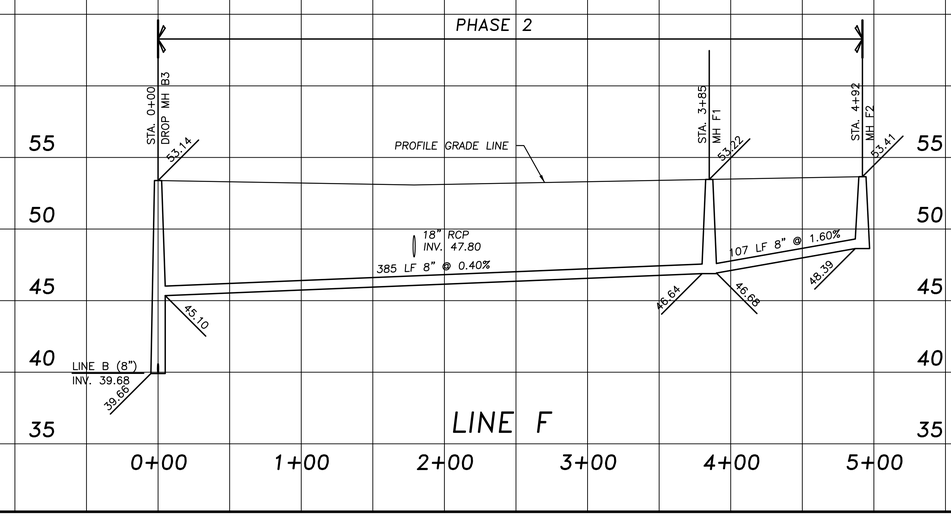
THE WOODS

TAYLOR MORRISON

JOB NO.	TMH-NW-009
DESIGN	MIDDLETON
DRAWN	MIDDLETON
DATE	07-02-2012
FILE	SP2
PREPARED FOR:	TAYLOR MORRISON

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet





NOTE: ALL SAN. SEWER MAINS SHALL BE 8" SDR-26 PVC UNLESS OTHERWISE NOTED

SCALE: 1" = 50' HORIZ.
1" = 5' VERT.

DATE	DESCRIPTION	BY
	REVISIONS	

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DATE:
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FLORIDA PROFESSIONAL ENGINEER

SANITARY SEWER PROFILES

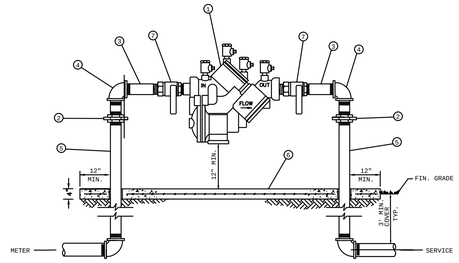
JOB NO. TMH-NW-009
DESIGN SMIRCH
DRAWN SCHRADER
DATE 05-02-2011
FILE SP3

THE WOODS

PREPARED FOR: **TAYLOR MORRISON**

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

SHEET 50 OF 57 SHEETS



MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	1	BACKFLOW PREVENTER ASSEMBLY, REDUCED PRESSURE ZONE
2	2	UNIONS - GALV.
3	2	NIPPLES - BRASS
4	2	ELBOWS - GALV. 90°
5	2	RISER - GALV.
6	*	CONCRETE SLAB
7	2	BALL VALVES - BRASS OR S.S. (PROVIDED WITH BFP ASS'Y)

NOTE:
- FIELD ADJUST AND CUT ITEM 5 TO THE PROPER LENGTH.
- MINIMUM CLEARANCE OF 24" TO BE MAINTAINED AROUND DEVICE FOR TESTING.
- ENTIRE ASSEMBLY TO BE PAINTED SAFETY BLUE.
- CONCRETE SLAB TO EXTEND 12" MIN. AROUND ENTIRE DEVICE.
- DEVICE MUST BE LISTED WITH THE UNIVERSITY OF SOUTHERN CALIFORNIA FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH.

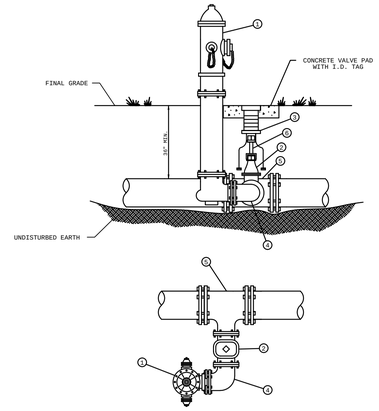
CREATED 02/24/03
REVISED

REDUCED PRESSURE BACKFLOW PREVENTER (SINGLE SERVICE: 3/4", 1", 1-1/2", 2")

PASCO COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

DETAIL 11



MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	1	HYDRANT, FIRE (5 1/4" VALVE MIN.), PAINTED YELLOW
2	1	6" VALVE, GATE, MJ RESILIENT WEDGE
3	1	BOX, VALVE SLIP TYPE
4	1	6" BEND, ANCHORING, D.I.
5	1	TEE, ANCHORING, MJ
6	*	VALVE EXTENSION ROD, AS NECESSARY (3' MAX. BELOW GRADE)

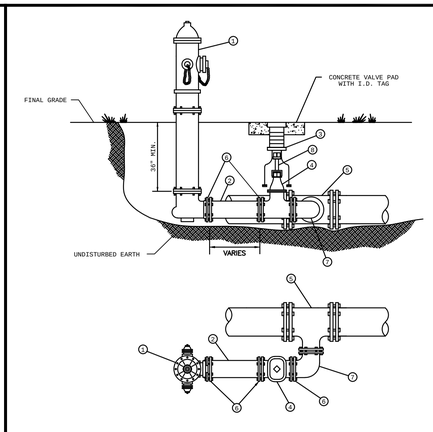
CREATED 02/24/03
REVISED

FIRE HYDRANT PARALLEL TO THE MAIN

PASCO COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

DETAIL 22



MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	1	HYDRANT, FIRE (5 1/4" VALVE MIN.), PAINTED YELLOW
2	*	6" PIPE, P.V.C. (DR-18)
3	1	BOX, VALVE SLIP TYPE
4	1	6" VALVE, GATE, M.J. RESILIENT WEDGE
5	1	TEE, ANCHORING, M.J.
6	*	6" RESTRAINER GLAND (MEGALUG)
7	1	BEND, ANCHORING, D.I.
8	*	VALVE EXTENSION ROD, AS NECESSARY (3' MAX. BELOW GRADE)

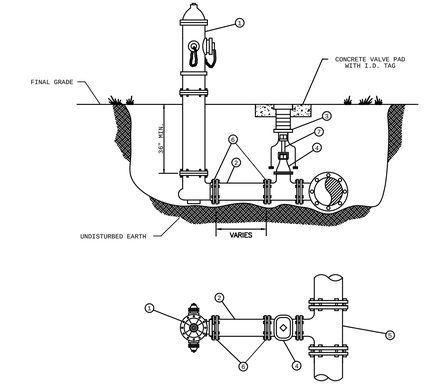
CREATED 02/24/03
REVISED

FIRE HYDRANT PARALLEL TO THE MAIN

PASCO COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

DETAIL 23



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2	*	6" PIPE, P.V.C. (DR-18)
3	1	BOX, VALVE SLIP TYPE
4	1	6" VALVE, GATE, M.J. RESILIENT WEDGE
5	1	TEE, ANCHORING, M.J.
6	*	6" RESTRAINER GLAND (MEGALUG)
7	*	VALVE EXTENSION ROD, AS NECESSARY (3' MAX. BELOW GRADE)

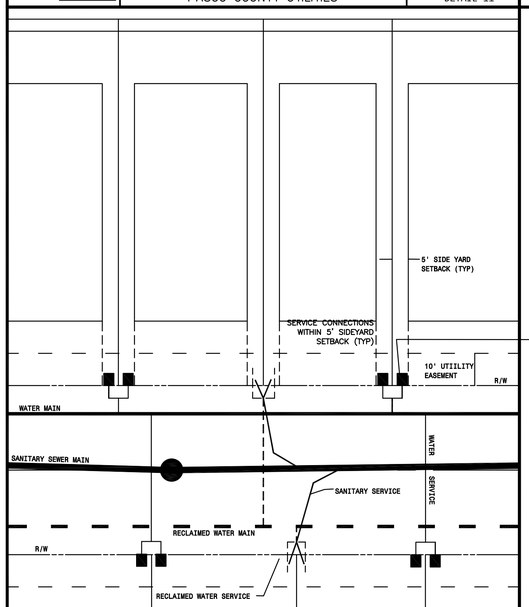
CREATED 02/24/03
REVISED

FIRE HYDRANT PERPENDICULAR TO THE MAIN

PASCO COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

DETAIL 24



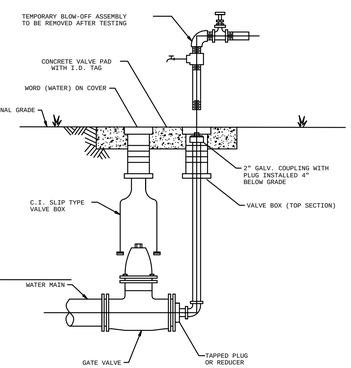
CREATED 02/24/03
REVISED

STANDARD 40' (DETACHED) SINGLE FAMILY TYPICAL UTILITY CONNECTION DETAIL

PASCO COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

DETAIL 21



NOTES:
- MECHANICAL JOINTS/UNDERGROUND PIPING SHALL BE RESTRAINED AS SPECIFIED IN JOINT RESTRAINT TABLE (DETAIL 46)
- VALVE EXTENSION ROD SHALL BE UTILIZED, AS NECESSARY, SO THAT VALVE OPERATING NUT IS A MAXIMUM OF 3' BELOW GRADE.

CREATED 02/24/03
REVISED

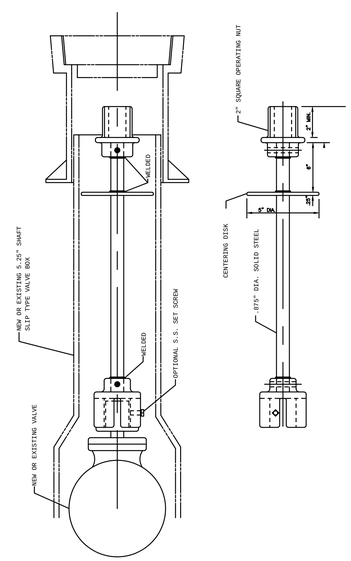
PERMANENT BLOW-OFF DETAIL

PASCO COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

DETAIL 25

NOTE: ALL VALVE BOXES SHALL INCLUDE CONCRETE PAD W/ I.D. TAG



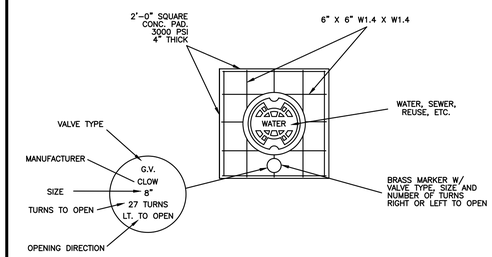
CREATED 02/24/03
REVISED

VALVE EXTENSION RODS

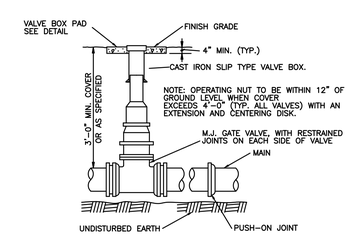
PASCO COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

DETAIL 26



TYPICAL CONCRETE VALVE PAD



CREATED 02/24/03
REVISED

VALVE BOX DETAIL SLIP TYPE

PASCO COUNTY UTILITIES

PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL

DETAIL 27

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DATE:
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FLORIDA PROFESSIONAL ENGINEER

WATER & REUSE SYSTEM DETAILS

JOB NO. TMH-NW-009
DESIGN SMIRCH
DRAWN SCHRADER
DATE 05-02-2011
FILE WD1

THE WOODS

PREPARED FOR: **TAYLOR MORRISON**

Elevations based on North American Vertical Datum 1988 (NAVD 88)
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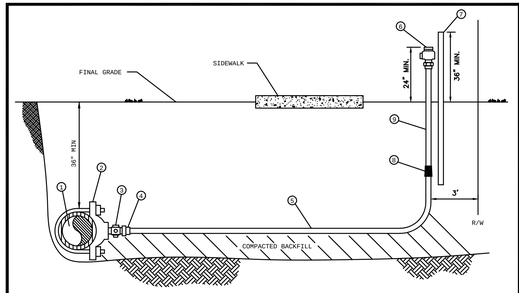
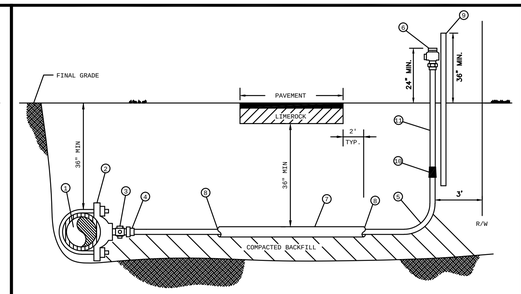


MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	*	PIPE, PVC (DR-18) OR D.I.P.
2	1	SADDLE, SERVICE W/ 1" F.I.P. THREAD
3	1	1" CORPORATION (M.I.P. x COMP.)
4	1	1" INSERT (STAINLESS STEEL)
5	*	1" TUBING, POLYETHYLENE
6	1	3/4" WATER OR 1" REUSE CURB STOP BALL VALVE W/ LOCK WINGS (F.I.P. x COMP.)
7	1	2" x 4" P.T. MARKER STAKE
8	1	1" x 3/4" COUPLING (COMP. x COMP.) WATER ONLY
9	1	3/4" WATER OR 1" REUSE TUBING, POLYETHYLENE 4'

NOTES: - ALL FITTINGS FOR POLYETHYLENE TUBING ARE BRASS COMPRESSION TYPE.
- A VALVE BOX MAY BE REQUIRED AS SPECIFIED BY THE ENGINEER.
- CURB STOP TO TERMINATE 24" ABOVE GROUND AT R/W LINE.
- REUSE CURB STOPS = 1" / WATER CURB STOPS = 3/4"
- TUBING TO BE YARDLEY 3406 OR EQUAL.
- SADDLES 2" - 3" TO BE BRASS FULL CIRCLE TYPE.
- SADDLES 4" AND LARGER TO BE D.I. DUAL STRAP TYPE.
- CURB STOPS TO BE TIED TO MARKER STAKE.
- SADDLE MAY BE INSTALLED AT ANGLE (WITHIN 45° OF HORIZONTAL).
- MARKER STAKES PAINTED SAFETY BLUE FOR WATER, PURPLE FOR REUSE.

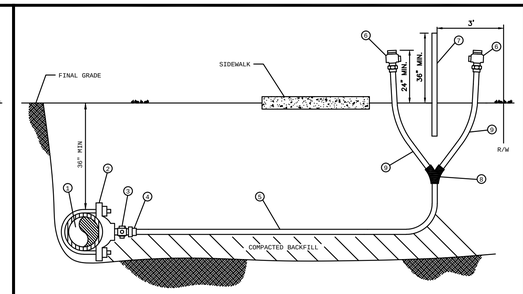
CREATED 02/24/03 REVISED	SINGLE NEAR SIDE WATER SERVICE - 3/4" SINGLE NEAR SIDE REUSE SERVICE - 1" POLYETHYLENE TUBING	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
	PASCO COUNTY UTILITIES	DETAIL 16



MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	*	PIPE, PVC (DR-18) OR D.I.P.
2	1	SADDLE, SERVICE W/ 1" F.I.P. THREAD
3	1	1" CORPORATION (M.I.P. x COMP.)
4	1	1" INSERT (STAINLESS STEEL)
5	*	1" TUBING, POLYETHYLENE
6	1	3/4" WATER OR 1" REUSE CURB STOP BALL VALVE W/ LOCK WINGS (F.I.P. x COMP.)
7	*	2" CASING, PVC OR HDPE - 2' BEYOND EDGE PAVEMENT
8	*	SEALER, RAM-NEK
9	1	2" x 4" P.T. MARKER STAKE
10	1	1" x 3/4" COUPLING (COMP. x COMP.) WATER ONLY
11	1	3/4" WATER OR 1" REUSE TUBING, POLYETHYLENE 4'

NOTES: - ALL FITTINGS FOR POLYETHYLENE TUBING ARE BRASS COMPRESSION TYPE.
- A VALVE BOX MAY BE REQUIRED AS SPECIFIED BY THE ENGINEER.
- CURB STOP TO TERMINATE 24" ABOVE GROUND AT R/W LINE.
- REUSE CURB STOPS = 1" / WATER CURB STOPS = 3/4"
- TUBING TO BE YARDLEY 3406 OR EQUAL.
- SADDLES 2" - 3" TO BE BRASS FULL CIRCLE TYPE.
- SADDLES 4" AND LARGER TO BE D.I. DUAL STRAP TYPE.
- CURB STOPS TO BE TIED TO MARKER STAKE.
- SADDLE MAY BE INSTALLED AT ANGLE (WITHIN 45° OF HORIZONTAL).
- MARKER STAKES PAINTED SAFETY BLUE FOR WATER, PURPLE FOR REUSE.

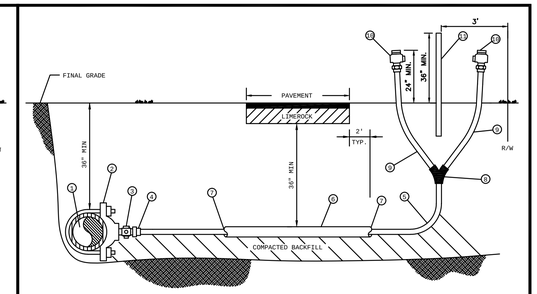
CREATED 02/24/03 REVISED	SINGLE FAR SIDE WATER SERVICE - 3/4" SINGLE FAR SIDE REUSE SERVICE - 1" POLYETHYLENE TUBING	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
	PASCO COUNTY UTILITIES	DETAIL 17



MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	*	PIPE, PVC (DR-18) OR D.I.P.
2	1	SADDLE, SERVICE W/ 1" F.I.P. THREAD
3	1	1" CORPORATION (M.I.P. x COMP.)
4	1	1" INSERT (STAINLESS STEEL)
5	*	1" TUBING, POLYETHYLENE
6	1	3/4" WATER OR 1" REUSE CURB STOP BALL VALVE W/ LOCK WINGS (F.I.P. x COMP.)
7	1	2" x 4" P.T. MARKER STAKE
8	1	1" x 3/4" WYE BRANCH (COMP. x COMP.) WATER ONLY
		1" x 1" WYE BRANCH (COMP. x COMP.) REUSE ONLY
9	1	3/4" WATER OR 1" REUSE TUBING, POLYETHYLENE 4'

NOTES: - ALL FITTINGS FOR POLYETHYLENE TUBING ARE BRASS COMPRESSION TYPE.
- A VALVE BOX MAY BE REQUIRED AS SPECIFIED BY THE ENGINEER.
- CURB STOP TO TERMINATE 24" ABOVE GROUND AT R/W LINE.
- REUSE CURB STOPS = 1" / WATER CURB STOPS = 3/4"
- TUBING TO BE YARDLEY 3406 OR EQUAL.
- SADDLES 2" - 3" TO BE BRASS FULL CIRCLE TYPE.
- SADDLES 4" AND LARGER TO BE D.I. DUAL STRAP TYPE.
- CURB STOPS TO BE TIED TO MARKER STAKE.
- SADDLE MAY BE INSTALLED AT ANGLE (WITHIN 45° OF HORIZONTAL).
- MARKER STAKES PAINTED SAFETY BLUE FOR WATER, PURPLE FOR REUSE.

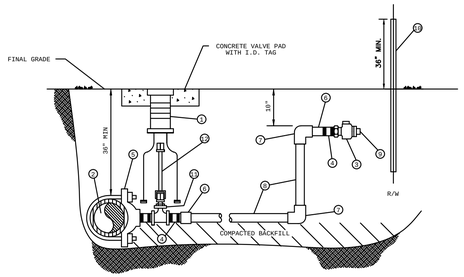
CREATED 02/24/03 REVISED	DOUBLE NEAR SIDE WATER SERVICE - 3/4" DOUBLE NEAR SIDE REUSE SERVICE - 1" POLYETHYLENE TUBING	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
	PASCO COUNTY UTILITIES	DETAIL 18



MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	*	PIPE, PVC (DR-18) OR D.I.P.
2	1	SADDLE, SERVICE W/ 1" F.I.P. THREAD
3	1	1" CORPORATION (M.I.P. x COMP.)
4	1	1" INSERT (STAINLESS STEEL)
5	*	1" TUBING, POLYETHYLENE
6	*	2" CASING, PVC OR HDPE - 2' BEYOND EDGE PAVEMENT
7	*	SEALER, RAM-NEK
8	1	WYE BRANCH FOR POLY TUBING
9	2	3/4" WATER OR 1" REUSE TUBING, POLYETHYLENE 4'
10	2	3/4" WATER OR 1" REUSE CURB STOP BALL VALVE W/ LOCK WINGS (F.I.P. x COMP.)
11	1	2" x 4" P.T. MARKER STAKE

NOTES: - ALL FITTINGS FOR POLYETHYLENE TUBING ARE BRASS COMPRESSION TYPE.
- A VALVE BOX MAY BE REQUIRED AS SPECIFIED BY THE ENGINEER.
- CURB STOP TO TERMINATE 24" ABOVE GROUND AT R/W LINE.
- REUSE CURB STOPS = 1" / WATER CURB STOPS = 3/4"
- TUBING TO BE YARDLEY 3406 OR EQUAL.
- SADDLES 2" - 3" TO BE BRASS FULL CIRCLE TYPE.
- SADDLES 4" AND LARGER TO BE D.I. DUAL STRAP TYPE.
- CURB STOPS TO BE TIED TO MARKER STAKE.
- SADDLE MAY BE INSTALLED AT ANGLE (WITHIN 45° OF HORIZONTAL).
- MARKER STAKES PAINTED SAFETY BLUE FOR WATER, PURPLE FOR REUSE.

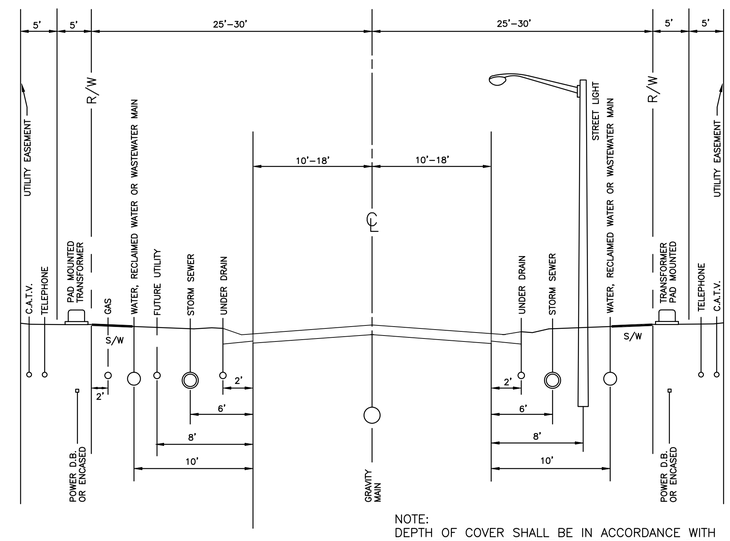
CREATED 02/24/03 REVISED	WATER AND REUSE LATERAL SERVICE 3/4" (DOUBLE - FAR SIDE) POLYETHYLENE TUBING	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
	PASCO COUNTY UTILITIES	DETAIL 19



MATERIALS		
ITEM	QUANT.	DESCRIPTION
1	1	BOX, VALVE CAST IRON SLIP TYPE
2	*	4" & LARGER PIPE, PVC (DR-18) OR D.I.P. (CLASS 50)
3	2	1 1/2", 2" CURB STOP BALL VALVE W/ LOCK WINGS (FIP x FIP OR FIP x CTS)
4	3	1 1/2", 2" NIPPLE, BRASS OR STAINLESS STEEL
5	1	1 1/2", 2" SADDLE, SERVICE (I.P. THREADS)
6	2	1 1/2", 2" ADAPTER (PVC SCH 40 / SLIP x FPT OR BRASS MIP x CTS)
7	2	1 1/2", 2" 90° ELBOW (SLIP x SLIP) SCH 40 (NOT REQUIRED FOR HDPE)
8	*	1 1/2", 2" PIPE, PVC (SCH 40) OR HDPE (3408) - LENGTH VARIES
9	1	1 1/2", 2" PLUG, THREADED (W/ TEFLON TAPE)
10	1	2" x 4" P.T. MARKER STAKE
11	1	2" GATE VALVE, IRON BODY W/ SQUARE NUT
12	1	VALVE EXTENSION ROD, AS REQUIRED (3' MAX. BELOW GRADE)

NOTE: - A VALVE BOX SHALL BE REQUIRED ON ALL GATE VALVES.
- SERVICE SADDLES SHALL BE INSTALLED ON ALL TAPS TO P.V.C. (DR-18) WATER MAINS.
- 2" GATE VALVE TO BE RESILIENT WEDGE IRON BODY TYPE WITH 2" OPERATING UNIT.
- SADDLES 4" AND LARGER TO BE DUCTILE IRON DUAL STRAP TYPE.
- 1 1/2" BRASS REDUCER BUSHING REQUIRED WITH ITEM NO. 11 FOR 1 1/2" SERVICE.
- MARKER STAKES PAINTED SAFETY BLUE FOR WATER, PURPLE FOR REUSE.
- 4" DIAMETER CASING REQUIRED FOR ROAD CROSSINGS

CREATED 02/24/03 REVISED	WATER AND REUSE LATERAL SERVICE 1 1/2" OR 2" SERVICE LATERAL PVC (SCHEDULE 40)	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
	PASCO COUNTY UTILITIES	DETAIL 20



NOTE:
DEPTH OF COVER SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE RESPECTIVE UTILITIES.

RECOMMENDED UTILITY LOCATIONS

SCALE: N.T.S.

DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

WATER & REUSE SYSTEM DETAILS

JOB NO. TMH-NW-009	THE WOODS
DESIGN SMIRCH	
DRAWN SCHRADER	PREPARED FOR: TAYLOR MORRISON
DATE 05-02-2011	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE WD2	SHEET 52 OF 57 SHEETS

PIPE RESTRAINT LENGTHS IN FEET
COMMON FITTINGS

PIPE SIZE	WATER MAINS - TEST PRESSURE 150 PSI				
	FITTING TYPE				
	11-1/4°	22-1/2°	45°	90°	DEAD END
4"	2'	4'	8'	20'	45'
6"	3'	6'	12'	28'	63'
8"	4'	7'	15'	36'	82'
10"	4'	9'	18'	43'	98'
12"	5'	10'	21'	50'	116'
16"	6'	13'	26'	63'	148'
20"	7'	15'	31'	76'	179'
24"	9'	17'	36'	87'	208'

PIPE SIZE	FORCE MAINS - TEST PRESSURE 100 PSI				
	FITTING TYPE				
	11-1/4°	22-1/2°	45°	90°	DEAD END
4"	1'	3'	6'	13'	30'
6"	2'	4'	8'	19'	42'
8"	2'	5'	10'	24'	55'
10"	3'	6'	12'	29'	66'
12"	3'	7'	14'	34'	77'
16"	4'	8'	18'	42'	99'
20"	5'	10'	21'	50'	119'
24"	6'	11'	24'	58'	139'

RESTRAINT LENGTHS ARE MEASURED FROM THE CENTER LINE OF THE FITTING ALONG THE PIPE IN BOTH DIRECTIONS (EXCEPT DEAD ENDS).

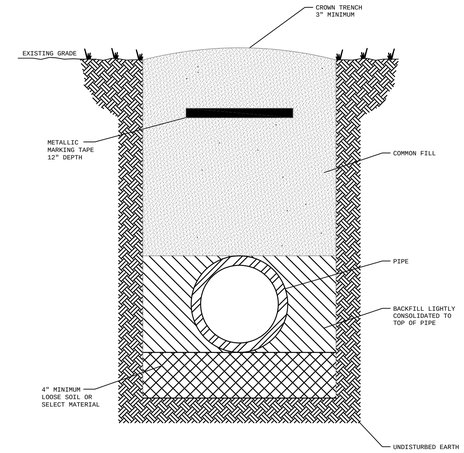
CREATED 02/24/03 REVISED	RESTRAINED JOINT TABLE COMMON FITTINGS	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
	PASCO COUNTY UTILITIES	DETAIL 28

PIPE RESTRAINT LENGTHS IN FEET
TEES (BRANCH SIDE)

RUN SIZE	WATER MAINS - TEST PRESSURE 150 PSI								
	BRANCH SIZE								
	3"	4"	6"	8"	10"	12"	16"	20"	24"
3"	6'	14'	30'	—	—	—	—	—	—
4"	2'	11'	28'	44'	—	—	—	—	—
6"	1'	2'	22'	40'	52'	—	—	—	—
8"	1'	1'	16'	35'	48'	62'	—	—	—
10"	1'	1'	10'	30'	44'	58'	83'	—	—
12"	1'	1'	3'	25'	40'	55'	80'	103'	—
16"	1'	1'	1'	14'	31'	48'	75'	98'	119'
20"	1'	1'	1'	2'	22'	40'	69'	94'	116'
24"	1'	1'	1'	1'	11'	31'	63'	89'	111'

RESTRAINT LENGTHS ARE MEASURED FROM THE CENTER LINE OF THE TEE ALONG THE BRANCH FOR THE DISTANCE INDICATED. A MINIMUM OF 5 FEET OF RESTRAINED PIPE MUST BE INSTALLED ON BOTH RUNS OF THE TEE. MEGALUG TYPE RESTRAINERS ARE REQUIRED ON ALL JOINTS.

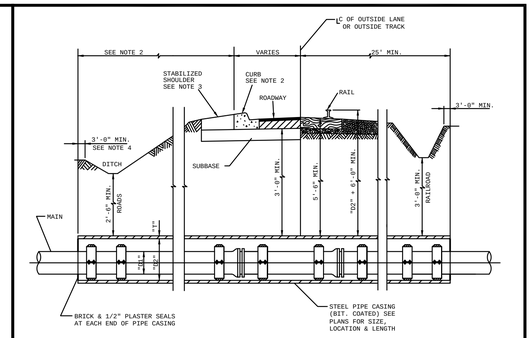
CREATED 02/24/03 REVISED	RESTRAINED JOINT TABLE TEES (BRANCH SIDE)	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
	PASCO COUNTY UTILITIES	DETAIL 29



NOTES: –LOOSE SOIL OR SELECT MATERIAL IS NATIVE SOIL EXCAVATED FROM THE TRENCH FREE OF ROCKS AND FOREIGN MATERIAL.
–COMMON FILL TO BE PLACED AND COMPACTED IN 12" LAYERS. ROLLING EQUIPMENT SHALL NOT BE USED FOR COMPACTION UNTIL A MINIMUM OF 18" OF COMMON FILL HAS BEEN PLACED AND COMPACTED OVER THE PIPE. THREE FEET OF FILL SHALL BE PLACED BEFORE A HYDROHAMMER MAY BE USED FOR COMPACTION.

NTS

CREATED 02/24/03 REVISED	PIPE LAYING CONDITIONS STANDARD UNPAVED AREAS	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
	PASCO COUNTY UTILITIES	DETAIL 32

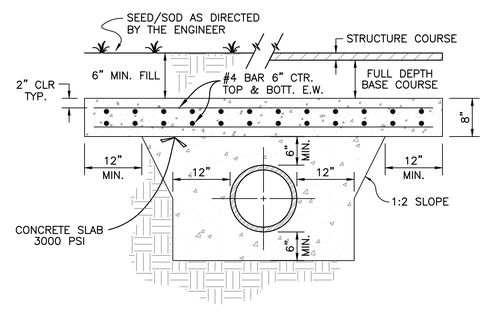


NOTE:
1. VERTICAL DIMENSIONS ARE TYPICAL FOR MAINS.
2. CASINGS SHALL TERMINATE 8' MINIMUM BEYOND EDGE OF PAVEMENT.
3. CASINGS SHALL HAVE 30" MINIMUM COVER UNDER DITCH BOTTOMS AND 36" ELSEWHERE.
4. GRAVITY SEWERS SHALL BE PROPERLY ANCHORED TO PREVENT FLOATATION WITH SPACERS ADJUSTED TO PROVIDE THE SLOPE REQUIRED.
5. SEE SECTION B.2 FOR CASING SIZE.

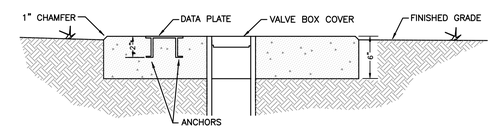
CARRIER PIPE (INCHES)	CASING PIPE (INCHES)	CASING WALL THICKNESS (INCHES)
4	12	1/4
6	16	1/4
8	16	1/4
10	24	5/16
12	24	5/16
16	30	3/8
20	36	3/8
24	42	3/8
30	48	3/8
36	54	1/2
42	60	1/2
48	66	1/2

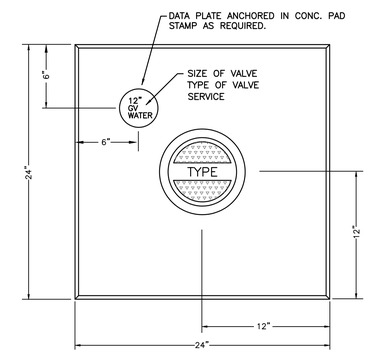
CREATED 02/24/03 REVISED	JACK & BORE DETAIL	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
	PASCO COUNTY UTILITIES	DETAIL 35

NOTE:
ALL PRESSURIZED PIPE WILL BE INSTALLED AT A MAXIMUM DEPTH OF FIVE FEET. TO MEET THIS REQUIREMENT, AT CROSSINGS WITH STORM SEWER OR SANITARY SEWER PIPING, PRESSURIZED PIPE MAY NEED TO BE CONSTRUCTED ON TOP. IF A MINIMUM THREE FEET OF COVER IS NOT ACHIEVABLE, A CONCRETE SHOCK PAD WILL BE INSTALLED (SEE DETAIL BELOW).



CONCRETE SHOCK PAD





CONCRETE VALVE PAD
(FOR UNPAVED AREAS)

NOTES:

CONCRETE TO BE TYPE I GENERAL PORTLAND CEMENT WITH 3/4" TOP SIZE AGGREGATE AND SHALL DEVELOP A 28-DAY STRENGTH OF 3000 P.S.I.

CONCRETE VALVE PAD SHALL BE POURED IN PLACE AND SHALL BE SET 1/2" ABOVE FINISHED GRADE

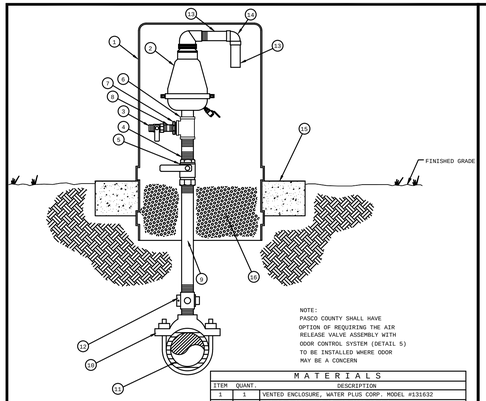
DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

WATER & REUSE SYSTEM DETAILS

JOB NO. TMH-NW-009	THE WOODS
DESIGN SMIRCH	
DRAWN SCHRADER	PREPARED FOR: TAYLOR MORRISON
DATE 05-02-2011	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE WD3	SHEET 53 OF 57 SHEETS



NOTE:
PASCO COUNTY SHALL HAVE OPTION OF REQUIRING THE AIR RELEASE VALVE ASSEMBLY WITH DOOR CONTROL SYSTEM (DETAIL 5) TO BE INSTALLED WHERE DOOR MAY BE A CONCERN

NOTE:

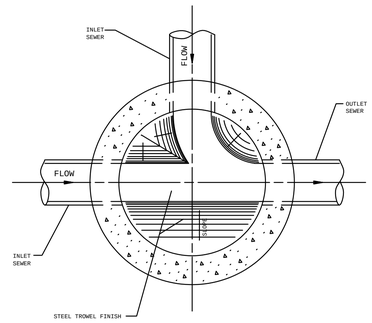
VENTED ENCLOSURE TO BE COLOR CODED AS FOLLOWS:

WATER MAIN – BLUE
FORCE MAIN – GREEN
REUSE MAIN – PURPLE

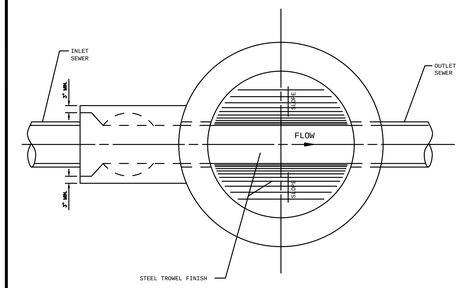
M A T E R I A L S

ITEM	QUANT.	DESCRIPTION
1	1	VENTED ENCLOSURE, WATER PLUG CORP. MODEL #131632
2	1	AIR RELEASE VALVE 2" NPT (SEE BELOW)
		SEWER AIR RELEASE VALVES SHALL BE ARI MODEL D-025
		WATER AIR RELEASE VALVES SHALL BE VALMATIC OR EQUAL
3	1	1" CURB STOP, S.S.
4	1	2" x 4" NIPPLE, S.S.
5	1	2" BALL VALVE, S.S.
6	1	2" TEE, S.S.
7	1	2" X 1" REDUCER, S.S.
8	1	1" SHORT NIPPLE, S.S.
9	1	2" PIPE, S.S. LENGTH AS REQUIRED
10	1	2" DOUBLE STRAP TAPPING SADDLE, S.S.
11	1	4" & LARGER PIPE, D.I. OR PVC (DR-18)
12	1	2" CORPORATION BRASS
13	2	1-1/2" PIPE, PVC, LENGTH AS REQUIRED
14	1	1-1/2" x 90° ELBOW, PVC
15	1	CONCRETE SLAB AROUND ENCLOSURE
16	1	#57 WHITE ROCK

CREATED 02/24/03	STANDARD AIR RELEASE VALVE ASSEMBLY (VERTICAL PIPE LAYOUT)	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL	
REVISED	PASCO COUNTY UTILITIES	DETAIL 4	



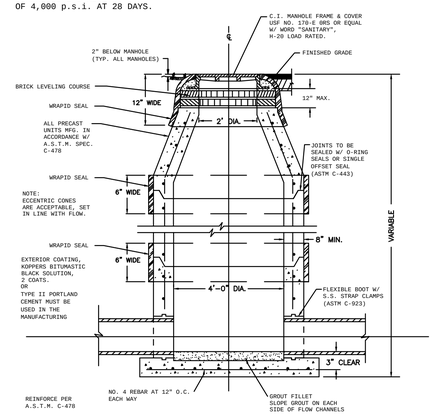
CREATED 02/24/03	STANDARD MANHOLE (BENCH AND INVERTS)	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL	
REVISED	PASCO COUNTY UTILITIES	DETAIL 36	



NOTE:
DROP MANHOLE TO BE USED WHEN THE DIFFERENCE BETWEEN INVERTS IS 2' OR MORE.

CREATED 02/24/03	DROP MANHOLE (BENCH AND INVERTS)	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL	
REVISED	PASCO COUNTY UTILITIES	DETAIL 37	

NOTE:
PRECAST CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4,000 p.s.i. AT 28 DAYS.



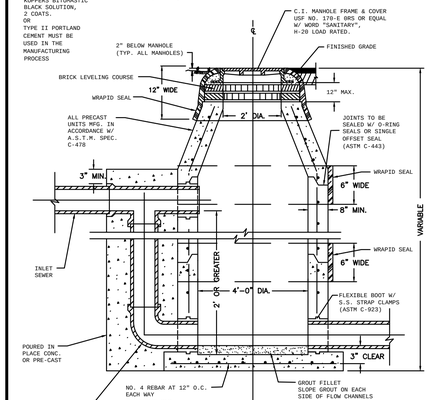
NOTE: 1. WRAPID SEAL MUST BE USED ON ALL JOINTS, CASTINGS AND RISER RINGS: ON ALL JOINTS ON AIR RELEASES, MANHOLES, GREASE/WATER, OIL/WATER SEPARATORS, AND WETWELLS.
2. WRAPID SEAL MUST BE USED IN ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS.
3. PASCO COUNTY SHALL HAVE THE OPTION OF SPECIFYING THE TYPE OF INTERIOR LINING TO BE INSTALLED FOR EACH INDIVIDUAL MANHOLE.
4. PASCO COUNTY SHALL HAVE THE OPTION OF REQUIRING A NEGATIVE PRESSURE TEST PER ASTM C-1244
5. LIFT HOLES MUST NOT PENETRATE THE WALLS

CREATED 02/24/03	STANDARD MANHOLE	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL	
REVISED	PASCO COUNTY UTILITIES	DETAIL 38	

NOTE:
ECCENTRIC CONES ARE ACCEPTABLE, SET IN LINE WITH FLOW.

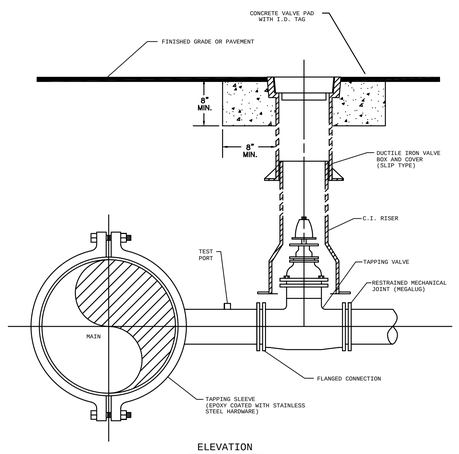
EXTERIOR COATING, KOPPERS BITUMASTIC BLACK SOLUTION, 2 COATS. OR TYPE II PORTLAND CEMENT MUST BE USED IN THE MANUFACTURING PROCESS

NOTE:
PRECAST CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4,000 p.s.i. AT 28 DAYS.



NOTE: 1. WRAPID SEAL MUST BE USED ON ALL JOINTS, CASTINGS AND RISER RINGS: ON ALL JOINTS ON AIR RELEASES, MANHOLES, GREASE/WATER, OIL/WATER SEPARATORS, AND WETWELLS.
2. WRAPID SEAL MUST BE USED IN ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS.
3. PASCO COUNTY SHALL HAVE THE OPTION OF SPECIFYING THE TYPE OF INTERIOR LINING TO BE INSTALLED FOR EACH INDIVIDUAL MANHOLE.
4. PASCO COUNTY SHALL HAVE THE OPTION OF REQUIRING A NEGATIVE PRESSURE TEST PER ASTM C-1244
5. LIFT HOLES MUST NOT PENETRATE THE WALLS

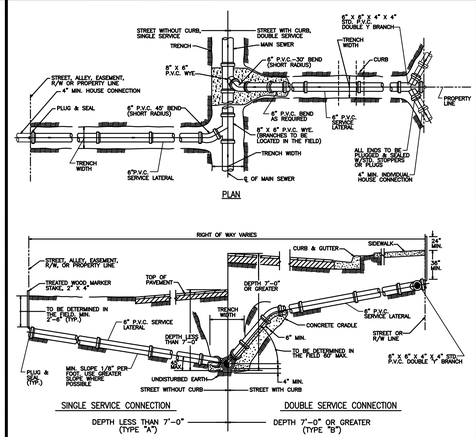
CREATED 02/24/03	DROP MANHOLE	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL	
REVISED	PASCO COUNTY UTILITIES	DETAIL 39	



ELEVATION

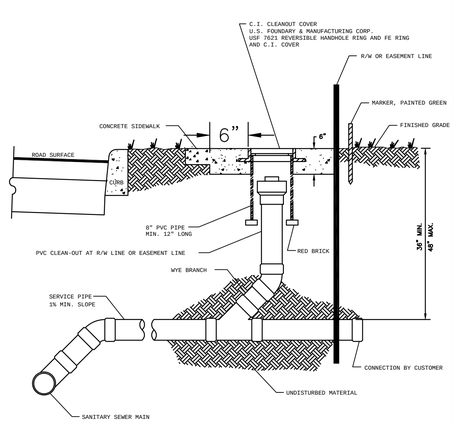
NOTES:
- SADDLE CONNECTION WILL BE TESTED TO 150 PSI PRIOR TO TAPPING MAIN.
- MECHANICAL JOINTS/UNDERGROUND PIPING SHALL BE RESTRAINED AS SPECIFIED BY COUNTY/ENGINEER.
- VALVE EXTENSION ROD SHALL BE UTILIZED, AS NECESSARY, SO THAT VALVE OPERATING NUT IS A MAXIMUM OF 3' BELOW GRADE.

CREATED 02/24/03	WATER, REUSE, AND FORCE MAIN TAPPING DETAIL W/ VALVE LOCATION	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL	
REVISED	PASCO COUNTY UTILITIES	DETAIL 34	



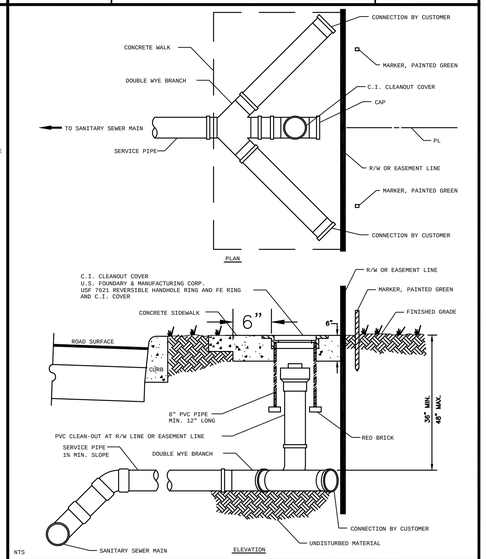
NOTE: – CONTRACTOR SHALL MAKE, ON A CLEAN SET OF PLANS, THE FINAL STATIONING OR DISTANCE AND DIRECTION FROM MANHOLE OF EACH SERVICE LATERAL AND THEN GIVE TO ENGINEER FOR RECORD PURPOSES.
– PROVIDE 2" x 4" PRESSURE TREATED WOOD MARKER STAKE AT ALL SANITARY SERVICES (INCLUDE IN PIPE PRICE), TOP OF STAKE TO BE PAINTED WITH GREEN PAINT.
– THE MINIMUM DIAMETER OF ALL SERVICE LATERALS SHALL BE 6 INCHES.

CREATED 02/24/03	SEWER LATERAL CONNECTION	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL	
REVISED	PASCO COUNTY UTILITIES	DETAIL 41	



NTS

CREATED 02/24/03	SANITARY SEWER - SINGLE WYE CONNECTION AND TYPICAL CLEAN-OUT	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL	
REVISED	PASCO COUNTY UTILITIES	DETAIL 42	



NTS

CREATED 02/24/03	SANITARY SEWER - DOUBLE WYE CONNECTION AND TYPICAL CLEAN-OUT	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL	
REVISED	PASCO COUNTY UTILITIES	DETAIL 43	

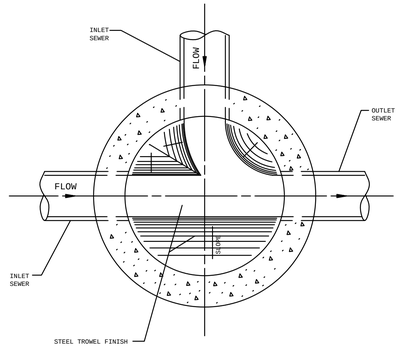
DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

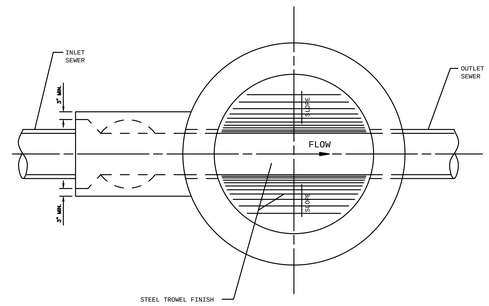
DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

SANITARY SEWER SYSTEM DETAILS

JOB NO. TMH-NW-009	THE WOODS
DESIGN SMIRCH	
DRAWN SCHRADER	PREPARED FOR: TAYLOR MORRISON
DATE 05-02-2011	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE SD1	SHEET 54 OF 57 SHEETS



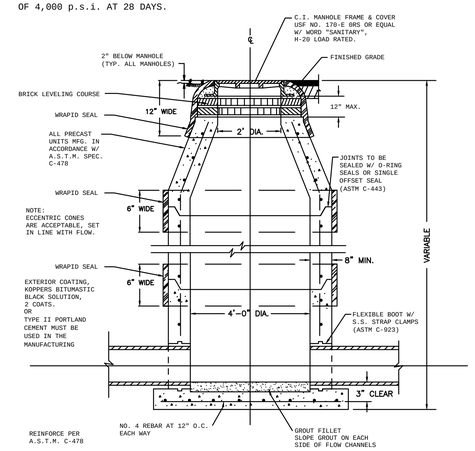
CREATED 02/24/03	STANDARD MANHOLE (BENCH AND INVERTS)	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 36



NOTE:
DROP MANHOLE TO BE USED WHEN THE DIFFERENCE BETWEEN INVERTS IS 2' OR MORE.

CREATED 02/24/03	DROP MANHOLE (BENCH AND INVERTS)	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 37

NOTE:
PRECAST CONCRETE
SHALL ATTAIN A MINIMUM
COMPRESSIVE STRENGTH
OF 4,000 p.s.i. AT 28 DAYS.



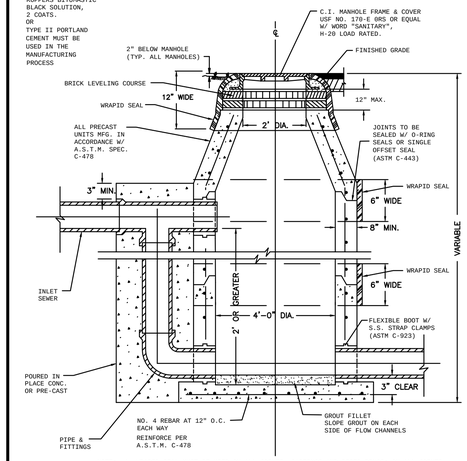
NOTE: 1. WRAPID SEAL MUST BE USED ON ALL JOINTS, CASTINGS AND RISER RINGS: ON ALL JOINTS ON AIR RELEASES, MANHOLES, GREASE/WATER, OIL/WATER SEPARATORS, AND WETWELLS.
2. WRAPID SEAL MUST BE USED IN ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS.
3. PASCO COUNTY SHALL HAVE THE OPTION OF SPECIFYING THE TYPE OF INTERIOR LINING TO BE INSTALLED FOR EACH INDIVIDUAL MANHOLE.
4. PASCO COUNTY SHALL HAVE THE OPTION OF REQUIRING A NEGATIVE PRESSURE TEST PER ASTM C-1244
5. LIFT HOLES MUST NOT PENETRATE THE WALLS

CREATED 02/24/03	STANDARD MANHOLE	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 38

NOTE:
ECCENTRIC CONES ARE ACCEPTABLE, SET IN LINE WITH FLOW.

EXTERIOR COATING, KOPPERS BITUMASTIC BLACK SOLUTION, 2 COATS.
OR
TYPE II PORTLAND CEMENT MUST BE USED IN THE MANUFACTURING PROCESS

NOTE:
PRECAST CONCRETE
SHALL ATTAIN A MINIMUM
COMPRESSIVE STRENGTH
OF 4,000 p.s.i. AT 28 DAYS.



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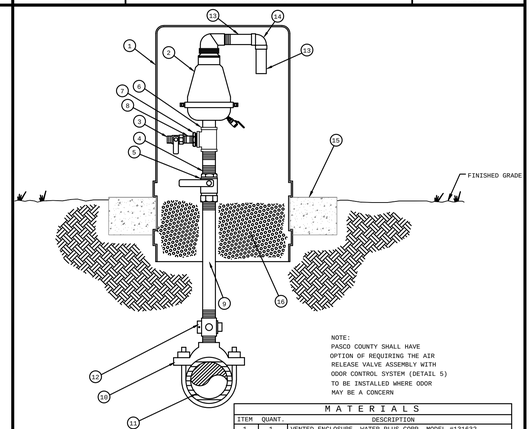
CREATED 02/24/03	DROP MANHOLE	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 39



NOTE:
PASCO COUNTY SHALL HAVE OPTION OF REQUIRING THE AIR RELEASE VALVE ASSEMBLY WITH ODOR CONTROL SYSTEM (DETAIL 5) TO BE INSTALLED WHERE ODOR MAY BE A CONCERN

NOTE:

VENTED ENCLOSURE TO BE COLOR CODED AS FOLLOWS:

WATER MAIN – BLUE
FORCE MAIN – GREEN
REUSE MAIN – PURPLE

MATERIALS

ITEM	QUANT.	DESCRIPTION
1	1	VENTED ENCLOSURE, WATER PLUS CORP. MODEL #131632
2	1	AIR RELEASE VALVE 2" NPT (SEE BELOW)
		SEWER AIR RELEASE VALVES SHALL BE ARI MODEL D-025
		WATER AIR RELEASE VALVES SHALL BE VALMATIC OR EQUAL
3	1	1" CURB STOP, S.S.
4	1	2" x 4" NIPPLE, S.S.
5	1	2" BALL VALVE, S.S.
6	1	2" TEE, S.S.
7	1	2" X 1" REDUCER, S.S.
8	1	1" SHORT NIPPLE, S.S.
9	1	2" PIPE, S.S. LENGTH AS REQUIRED
10	1	2" DOUBLE STRAP TAPPING SADDLE, S.S.
11	1	4" & LARGER PIPE, D.I. OR PVC (DR-18)
12	1	2" CORPORATION BRASS
13	2	1-1/2" PIPE, PVC, LENGTH AS REQUIRED
14	1	1-1/2" x 90° ELBOW, PVC
15	1	CONCRETE SLAB AROUND ENCLOSURE
16	1	#57 WHITE ROCK

CREATED 02/24/03	STANDARD AIR RELEASE VALVE ASSEMBLY (VERTICAL PIPE LAYOUT)	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 4

DATE	DESCRIPTION	BY
	REVISIONS	

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Engineering Business C.A. No.: 28858
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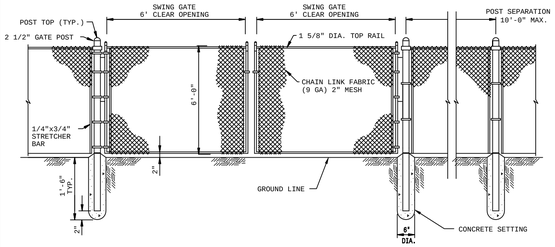
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

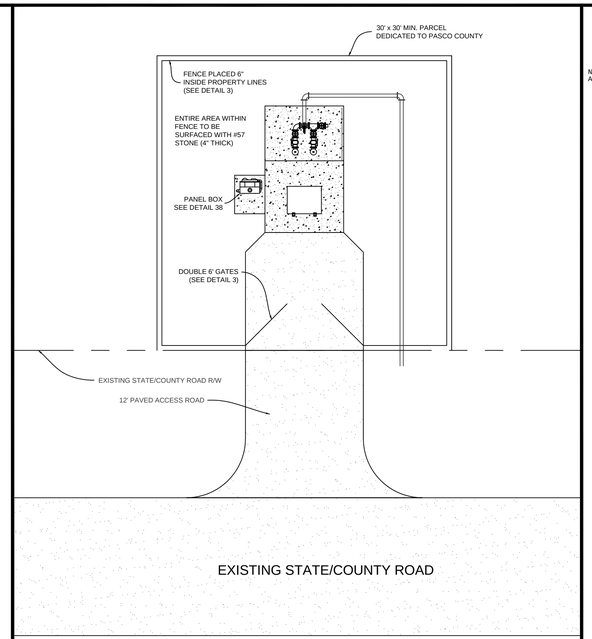
SANITARY SEWER SYSTEM DETAILS

JOB NO. TMH-NW-009	THE WOODS
DESIGN SMIRCH	
DRAWN SCHRADER	PREPARED FOR: TAYLOR MORRISON
DATE 05-02-2011	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE SD2	SHEET 55 OF 57 SHEETS

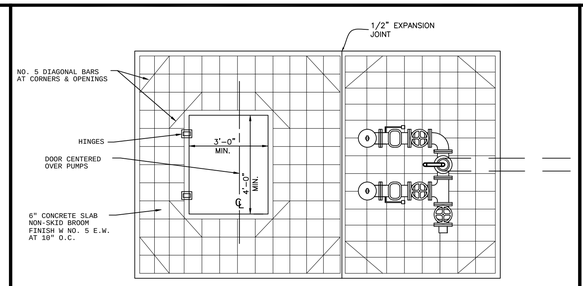


MATERIALS	
ITEM	DESCRIPTION
TYPE	CHAIN LINK
HEIGHT	4', 6', 8' - AS SPECIFIED BY COUNTY
FABRIC	9 GAUGE
POST	2-1/2" DIA. - .085 WALL THICKNESS (MINIMUM)
TOP RAILS	1-5/8" DIA. - .080 WALL THICKNESS (MINIMUM)
GATE	4' x 6' SWING TYPE W/ 2" DIA. - .085 WALL
	THICKNESS (MINIMUM)
	FRAMEWORK (LOCATED AS INDICATED ON METER
	SPEC. SHEET)
LATCH	FORK TYPE - PADLOCK COMPATIBLE

CREATED 02/24/03	**FENCE** SPECIFICATIONS	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 04

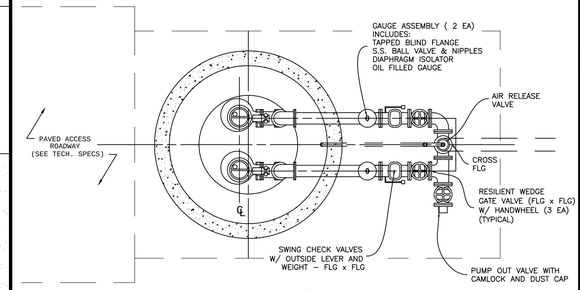


CREATED 02/24/03	PUMP STATION (DUPLEX) SITE PLAN & ACCESS	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 47



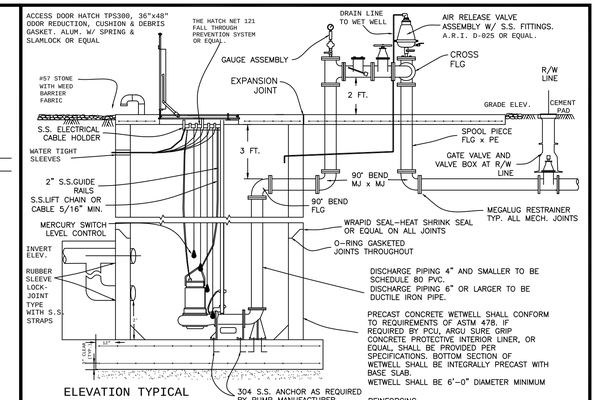
SLAB PLAN VIEW
LIFT STATION & PIPING

NOTE: PUMP OUT ASSEMBLY CAN BE PLACED ON EITHER SIDE TO BEST ACCOMMODATE PROPOSED LAYOUT



PLAN VIEW
LIFT STATION & PIPING

CREATED 02/24/03	PUMP STATION SLAB & PIPING PLAN	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 48



ELEVATION TYPICAL
LIFT STATION & PIPING

NOTES:

1. ALL PIPING WITHIN THE WETWELL (LARGER THAN 4") AND ALL ABOVE GROUND PIPING SHALL BE MANUFACTURED FLANGED PIPE. FIELD FABRICATED FLANGES (UNI-FLANGE OR MEGAFLANGE) WILL NOT BE PERMITTED.

2. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE PROVIDED WITH CERAMIC EPOXY INTERIOR LINING (PROTECTO 401). IN ADDITION, ALL PIPE & FITTINGS WITHIN THE WETWELL SHALL BE PROVIDED WITH POLYETHYLENE SHRINK WRAPPED EXTERIOR COATING.

3. ALL UNDERGROUND FITTINGS SHALL BE RESTRAINED MECHANICAL JOINT AND SHALL BE PROVIDED WITH PROTECTO 401 INTERIOR LINING.

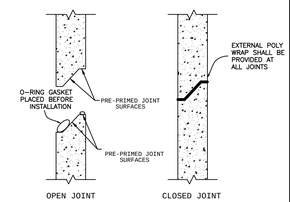
4. IF LIFT CABLES ARE USED, LIFTING RINGS MUST BE PROVIDED EVERY 4 FT.

5. INDIVIDUAL WALL PENETRATION SLEEVES SHALL BE PROVIDED FOR EACH PUMP CABLE.

6. ALL HARDWARE (INCLUDING FLANGE BOLTS & NUTS) SHALL BE STAINLESS STEEL.

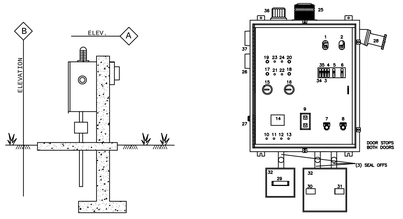
7. ALL ABOVE GROUND PIPING TO BE PAINTED SAFETY GREEN.

8. SLAB ELEVATION TO BE 12 IN. ABOVE C/L OF ROADWAY OR 12 IN. ABOVE 100 YEAR FLOOD PLAIN – WHICHEVER IS HIGHER.



PRECAST JOINT DETAIL

CREATED 02/24/03	DUPLEX PUMP STATION ELEVATION & PIPING PROFILE	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 49



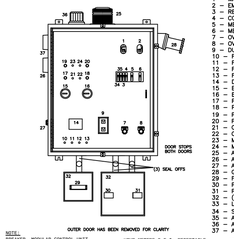
PANEL BOX ELEV.

NOTE:
POSITION PANEL BOX SO OPERATOR'S BACK IS NOT TO WET WELL WHILE FACING BOX

PANEL BOX TO BE LOCATED TO ALLOW UNOBSTRUCTED ACCESS TO WET WELL BY PAVED ACCESS ROAD

PANEL ELEVATION SHALL BE ABOVE 100-YEAR FLOOD ELEV. AND MUST BE SHOWN ON ALL PLANS

DUPLEXOR SHALL BE AN T.T.I. 6012
ANY ALTERNATE TYPE MUST BE SPECIFICALLY APPROVED BY PASCO COUNTY



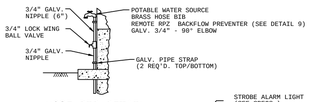
1 – MAIN BREAKER
2 – EMERGENCY BREAKER
3 – RECEPTACLE BREAKER
4 – CONTROL BREAKER
5 – MB1 MOTOR BREAKER 1
6 – MB2 MOTOR BREAKER 2
7 – OVERLOAD 1 RESET
8 – OVERLOAD 2 RESET
9 – DUPLEX RECEPTACLE (GFI)
10 – FTS1 FLOAT TEST SWITCH 1
11 – FTS2 FLOAT TEST SWITCH 2
12 – FTS3 FLOAT TEST SWITCH 3
13 – FTS4 FLOAT TEST SWITCH 4
14 – DUPLEXOR (SEE NOTE BELOW)
15 – ELAPSE TIME METER 1
16 – ELAPSE TIME METER 2
17 – PL1 OVERTEMP 1
18 – PL2 OVERTEMP 2
19 – PL3 MOISTURE 1
20 – PL4 MOISTURE 2
21 – OVERTEMP 1 TEST BUTTON
22 – OVERTEMP 2 TEST BUTTON
23 – MOISTURE 1 TEST BUTTON
24 – MOISTURE 2 TEST BUTTON
25 – AL ALARM LIGHT (DC)
26 – AL ALARM LIGHT (AC)
27 – ASB ALARM SILENCE BUTTON
28 – GR GENERATOR RECEPTACLE
29 – FLOAT TERMINAL STRIP
30 – PUMP 1 POWER TERMINAL BLOCK
31 – PUMP 2 POWER TERMINAL BLOCK
32 – (2) JUNCTION BOXES
33 – LA LIGHTNING ARRESTOR
34 – SPARE CIRCUIT BREAKER
35 – ACB DC ALARM CIRCUIT BREAKER
36 – AL ALARM LIGHT (AC)
37 – ALARM HORN (AC)

NOTE:
BREAKER, MODULAR CONTROL UNIT & RESETS MOUNTED FOR OPERATION THROUGH INNER SAFETY DOOR

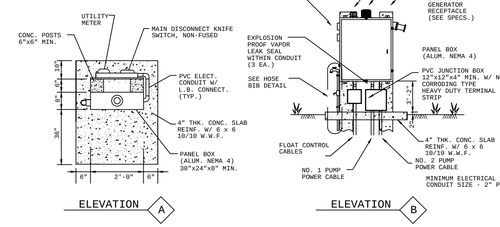
HOUR METERS G.F.I. RECEPTACLE TO BE MOUNTED ON INNER SAFETY DOOR

SEE TECHNICAL SPECIFICATION FOR DETAILS

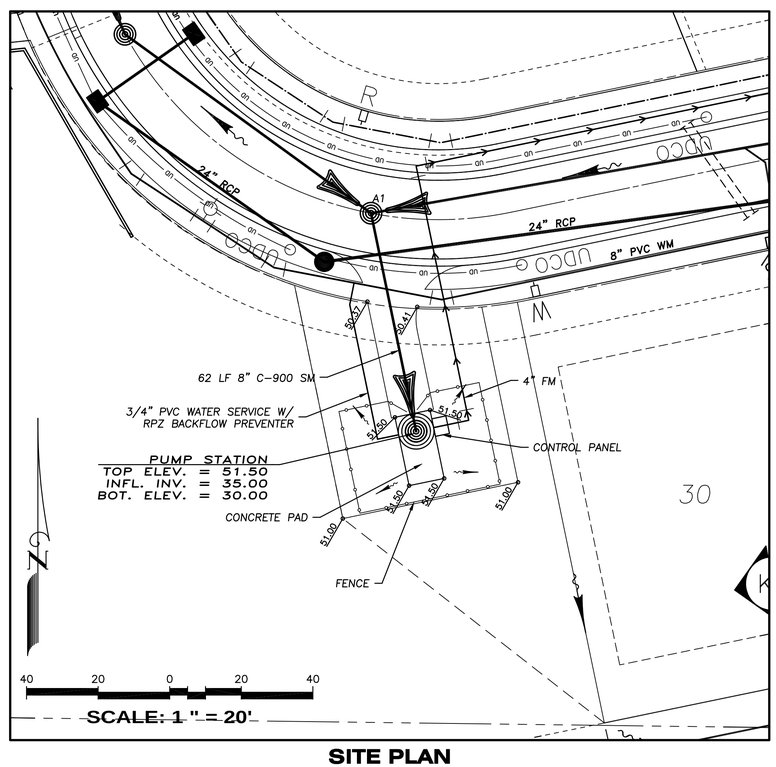
PANEL BOX COMPONENT LAY-OUT



HOSE BIB DETAIL



CREATED 02/24/03	STANDARD PUMP STATION (DUPLEX) PANEL BOX ELEVATION & COMPONENT LAY-OUT	PROVIDED FOR INFORMATIONAL PURPOSES ONLY. NO MODIFICATIONS WITHOUT WRITTEN PCU APPROVAL
REVISED	PASCO COUNTY UTILITIES	DETAIL 50



SITE PLAN

DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
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Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

PUMP STATION DETAILS	
JOB NO. TMH-NW-009	THE WOODS
DESIGN SMIRCH	
DRAWN SCHRADER	PREPARED FOR: TAYLOR MORRISON
DATE 05-02-2011	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE PS1	SHEET 56 OF 57 SHEETS

WASTEWATER PUMP STATION DESIGN PARAMETERS

THE WOODS SUBDIVISION WASTEWATER PUMP STATION

LOCATION: E. COUNTY LINE RD. & NORTHWOOD PALMS BLVD. (S/T/R: 35 & 36/26S/19E)
NEAREST CROSS STREET

I. DESIGN CAPACITY

A. AVERAGE DAILY FLOW

202 SINGLE–FAMILY UNITS (200 GPD/UNIT) = 40,400 GPD

0 MULTI–FAMILY UNITS (140 GPD/UNIT) = 0 GPD

B. PEAK INFLUENT RATE (PEAK FACTOR = 3.8 (PER STANDARDS FOR DESIGN AND CONSTRUCTION, SECTION C.3)

$\frac{\text{ADF x PEAK FACTOR}}{1440} = \frac{40{,}400 \text{ GPD x } 3.8}{1440} = 106.61$ GPM

C. DESIGN MINIMUM FLOW

$\frac{\text{ADF x } 0.20}{1440} = \frac{40{,}400 \text{ GPD x } 0.20}{1440} = 5.61$ GPM

D. DESIGN PUMP CAPACITY (MINIMUM REQUIRED) = 106.61 GPM

E. VELOCITY IN FORCE MAIN @ MAX. PUMPING RATE = 2.7 ft/s

II. WETWELL DESIGN (DUPLEX SYSTEM)

A. DESIGN CRITERIA

1. MAXIMUM PUMP MOTOR CYCLE RATE = 6 STARTS PER HOUR
2. MAXIMUM DETENTION TIME AT MINIMUM FLOW = 30 MINUTES

B. PUMP CONTROL LEVEL SETTINGS

1. PUMP CYCLING RATES ARE AT A MAXIMUM WHEN INFLOW EQUALS ONE–HALF THE DESIGN PUMPING RATE OF 106.61 GPM.
2. WETWELL VOLUME REQUIRED BETWEEN LEAD PUMP START AND PUMP SHUT OF LEVEL =

$V = \frac{\text{CYCLE PERIOD x (1/2) PUMP RATE}}{2}$

$V = \frac{10 \text{ MIN. x } (1/2)\ (106.61) \text{ GPM}}{2} = 267$ GALLONS

3. WETWELL DIAMETER = 8 FEET

$\frac{\pi\ (D)^2 \text{ x } 7.48 \text{ GAL./C.F.}}{4} = \frac{7.48\ (\pi)(D)^2}{4} = \frac{7.48\ (\pi)(8)^2}{4} = 376$ GALS./FT.DEPTH

4. WETWELL LEVEL CHANGE BETWEEN PUMP STOP AND LEAD PUMP START =
267 (II.B.2–GAL.) / 376 (II.B.3–GAL./FT.DEPTH) = 0.71' DESIGN FOR 12 INCHES

5. CONTROL ELEVATIONS

TOP OF SLAB	EL. 51.50
INFLUENT INVERT	EL. 35.00
HIGH WATER ALARM	EL. 34.50
LAG PUMP ON	EL. 34.00
LEAD PUMP ON	EL. 33.00
ALL PUMPS OFF	EL. 32.00
BOTTOM	EL. 30.00

III. SYSTEM CURVE CALCULATIONS

A. FRICTION LOSSES

1. PUMPING STATION PIPING:

	ITEM	SIZE (INCHES)	QUANITY	FRICTION LOSS (ea.)	TOTAL
A	TEE	4	1	21	21
B	90° ELBOW	4	4	11	44
C	CHECK VALVE	4	1	25	25
D	GATE VALVE	4	2	2.5	5
E	SIDE OUTLET CROSS	4	0	0	0
F	WYE	4	0	0	0
G	45° ELBOW	4	0	5	0
H	22 1/2° ELBOW	4	0	2.5	0
I	11 1/4° ELBOW	4	0	1.3	0
				TOTAL =	95
				4" (DIA.) DIP PIPE LENGTH =	28
				TOTAL EQUIVALENT LENGTH =	123

2. FORCE MAIN PIPING:

	ITEM	SIZE (INCHES)	QUANITY	FRICTION LOSS (ea.)	TOTAL
A	TEE	4	0	21	0
B	90° ELBOW	4	2	11	22
C	CHECK VALVE	4	0	25	0
D	GATE VALVE	4	1	2.5	2.5
E	SIDE OUTLET CROSS	4	0	0	0
F	WYE	4	0	0	0
G	45° ELBOW	4	0	5	0
H	22 1/2° ELBOW	4	0	2.5	0
I	11 1/4° ELBOW	4	0	1.3	0
				TOTAL =	24.5
				4" (DIA.) PVC PIPE LENGTH =	2,371
				TOTAL EQUIVALENT LENGTH =	2,396

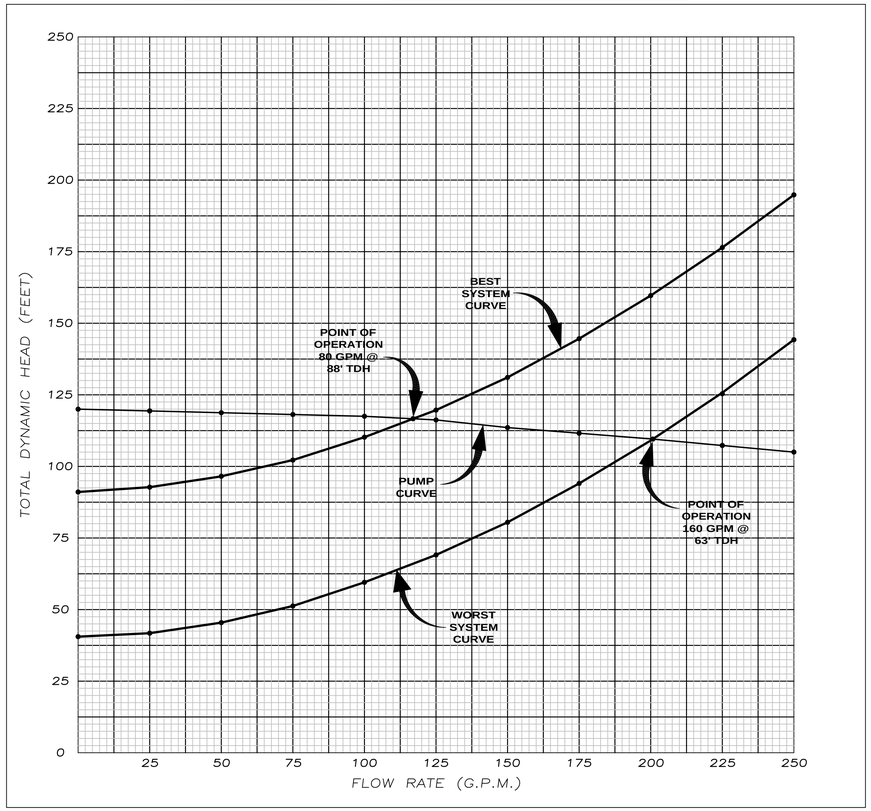
B. STATIC HEAD

1. PIPE CENTERLINE AT DISCHARGE POINT = ELEV. 54.00
2. LOW WATER LEVEL (ALL PUMPS OFF) = ELEV. 32.00
3. TOTAL STATIC HEAD = 22.00 FT.

C. PRESSURE AT POINT OF CONNECTION:
HIGH: 30 PSI (69.3 FT)
STATIC: 8 PSI (18.48 FT)
LOW: 0 PSI

FROM 24 HOUR LIFT STATION TEST PROVIDED BY PASCO COUNTY UTILITIES

SYSTEM CURVE vs. PUMP CHARACTERISTIC CURVE

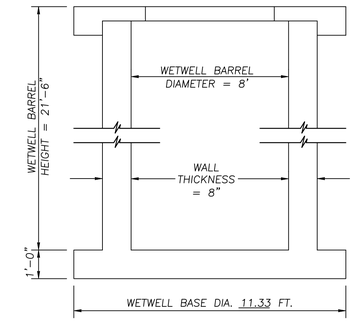


SYSTEMS HEAD COMPUTATIONS – TOTAL FRICTION LOSSES IN FEET

FLOW RATE (G.P.M.)

FLOW RATE (GPM)	0	25	50	75	100	125	150	175	200	225	250	275	300	325	350	400	425	450	475	500
ITEM: PUMP STATION PIPING (EQUIVALENT LENGTH) 123 L.F. OF 4" PVC	0.0	0.07	0.26	0.54	0.92	1.40	1.96	2.61	3.34	4.15	5.05									
FORCE MAIN PIPING (EQUIVALENT LENGTH) 2,396 L.F. OF 4" PVC	0.0	1.38	4.99	10.57	18.00	27.21	38.14	50.75	64.98	80.82	98.29									
STATIC HEAD = 22'	22	22	22	22	22	22	22	22	22	22	22									
DESIGN PRESSURE AT POINT OF CONNECTION (BEST/WORST SYSTEM CURVES)	18.48 / 69.3	18.48 / 69.3	18.48 / 69.3	18.48 / 69.3	18.48 / 69.3	18.48 / 69.3	18.48 / 69.3	18.48 / 69.3	18.48 / 69.3	18.48 / 69.3	18.48 / 69.3									
TOTAL LOSSES (BEST/WORST CASE)	40.48 / 91.30	41.93 / 92.75	45.73 / 96.55	54.59 / 102.41	59.40 / 110.22	69.09 / 119.91	80.58 / 131.40	93.84 / 144.66	108.80 / 159.62	125.45 / 176.27	143.82 / 194.64									

FLOTATION CALCULATIONS – CONCRETE WETWELL



ASSUMPTIONS

CONCRETE = 150 LBS./FT.^{3}
SATURATED SOIL = 120 LBS./FT.^{3}
WATER = 62.4 LBS./FT.^{3}
NO WATER IN WET WELL
NEGLECT TOP SLAB WEIGHT
NEGLECT SOIL FRICTION
ROUND BARREL
CIRCULAR BASE
WATER TABLE AT GRADE

BARREL WEIGHT = $[(9.33)^2 - (8)^2]\ (\pi/4)\ (21.5)\ (150) =$ 58,381 LB. ↓

BOTTOM SLAB WEIGHT = $(11.33)^2\ (\pi/4)\ (1)\ (150) =$ 15,123 LB. ↓

SOIL WEIGHT = $[(11.33)^2 - (9.33)^2\ (\pi/4)]\ (21.5)\ (120 - 62.4) =$ 40,189 LB. ↓

TOTAL WEIGHT = 113,693 LB. ↓

WEIGHT OF WATER DISPLACED:

$[(9.33)^2\ (\pi/4)\ (21.5) + (11.33)^2\ (\pi/4)\ (1)]\ (62.4) =$ 98,012 LB. ↑

$\frac{113{,}693 \text{ LB.}\downarrow}{98{,}012 \text{ LB.}\uparrow} = 1.16$ SAFETY FACTOR

PUMP DATA

EBARA MODEL 100DLMFU618

RPM: 1765, IMPELLER DIAMETER 11.38in

25.0 HP, 460 V, 3 PHASE

OPERATING POINTS ARE: 117 GPM @ 117' TDH AND 201 GPM @ 110' TDH

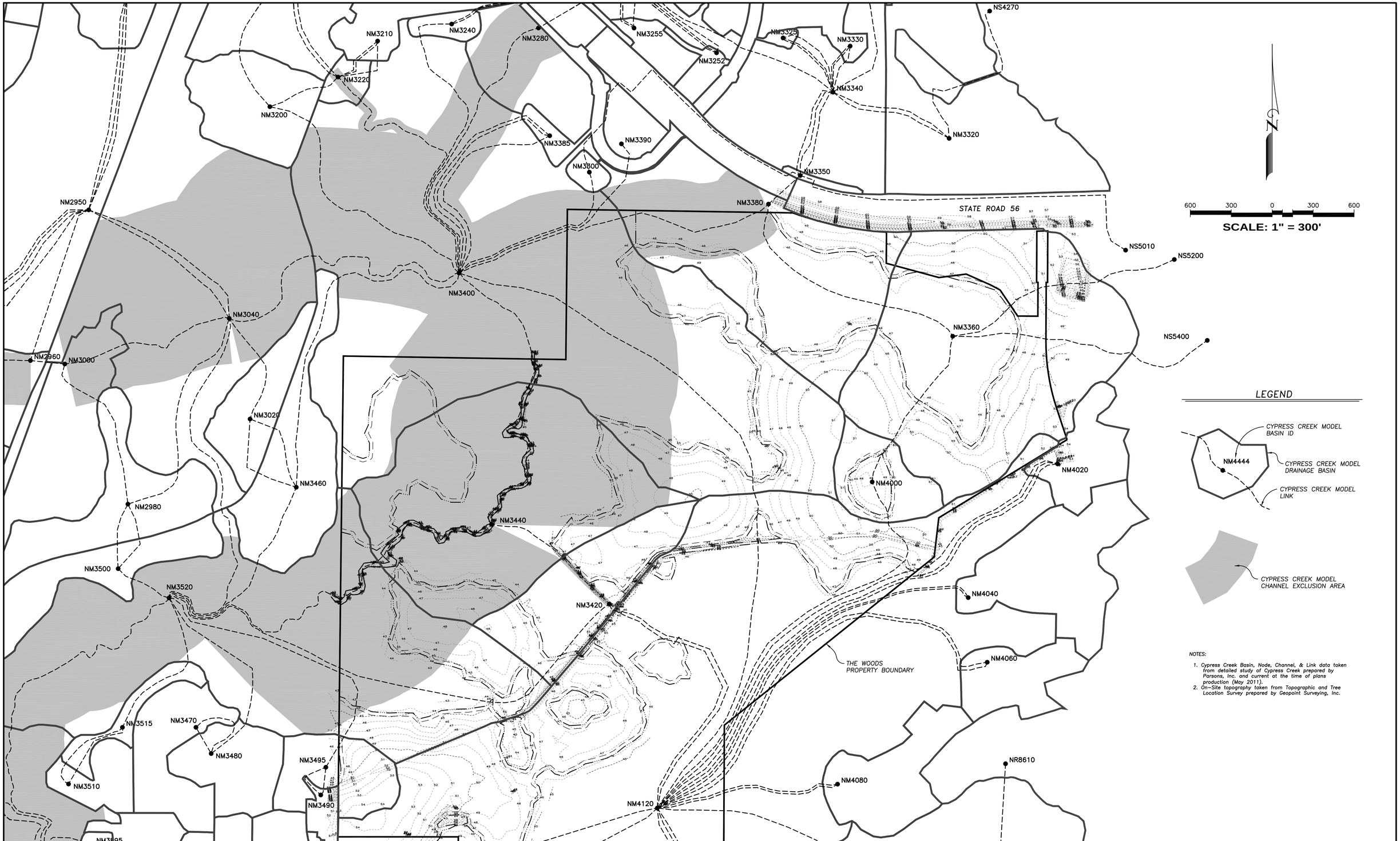
DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813–223–3919 Fax: 813–223–3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

PUMP STATION DETAILS

JOB NO. TMH–NW–009	THE WOODS
DESIGN SMIRCH	
DRAWN SCHRADER	PREPARED FOR: TAYLOR MORRISON
DATE 05–02–2011	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE PS2	SHEET 57 OF 57 SHEETS



NOTES:

1. Cypress Creek Basin, Node, Channel, & Link data taken from detailed study of Cypress Creek prepared by Parsons, Inc. and current at the time of plans production (May 2011).
2. On-Site topography taken from Topographic and Tree Location Survey prepared by Geopoint Surveying, Inc.

DATE	DESCRIPTION	BY
07-18-11	CLARIFY BASIN LINES	JAS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

PRE-DEVELOPMENT DRAINAGE MAP

JOB NO. TMH-NW-009

DESIGN SMIRCH

DRAWN SCHRADER

DATE 05-02-2011

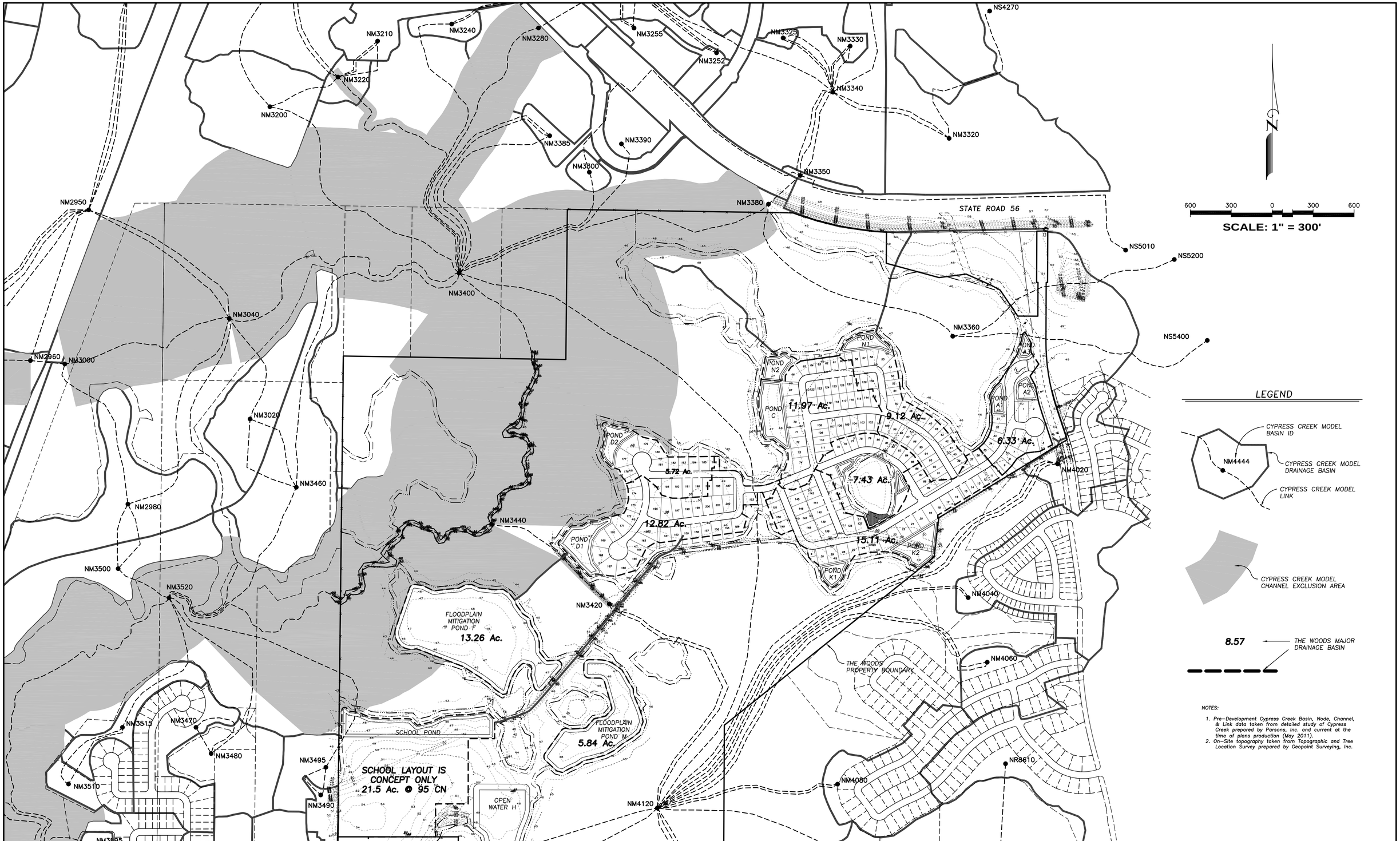
FILE DRAPRE

THE WOODS

PREPARED FOR: **TAYLOR MORRISON**

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

SHEET 1 OF 1 SHEETS



NOTES:

1. Pre–Development Cypress Creek Basin, Node, Channel, & Link data taken from detailed study of Cypress Creek prepared by Parsons, Inc. and current at the time of plans production (May 2011).
2. On–Site topography taken from Topographic and Tree Location Survey prepared by Geopoint Surveying, Inc.

DATE	DESCRIPTION	BY
07–18–11	CLARIFY BASIN LINES	JAS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813–223–3919 Fax: 813–223–3975

DATE:

JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

POST DEVELOPMENT DRAINAGE MAP

THE WOODS

JOB NO.	TMH–NW–009
DESIGN	SMIRCH
DRAWN	SCHRADER
PREPARED FOR:	TAYLOR MORRISON
DATE	05–02–2011
FILE	DRAPOST

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

SHEET 1 OF 1 SHEETS

STORM WATER POLLUTION PREVENTION PLAN

Contained on these plans and within the following notes is a Storm Water Pollution Prevention Plan (SWPPP) which has been developed by Clearview Land Design in accordance with the Florida Department of Environmental Protection's (FDEP) "National Pollutant Discharge Elimination System" (NPDES) Generic Permit for Stormwater Discharge from Large and Small Construction Activities.

The following entities are identified as team members of "SWPPP": Clearview Land Design, the Developer as identified in the title box of these plans, and the site contractor and his sub-contractors. Each team member has specific responsibilities and obligations. In general, all team members, with regard to their involvement and responsibilities on the project, are to implement all necessary storm water management controls to assure compliance with the NPDES Generic Permit for Storm Water Discharges from Construction Activities, the Southwest Florida Water Management District Permit, the applicable local governing agency (i.e. Hillsborough County, City of Tampa, etc) and the guidelines listed in the SWPPP. The duties and responsibilities of the team members as they pertain to the SWPPP are as follows:

Clearview Land Design, P.L.

A. Develop SWPPP including, but not limited to, retention/detention ponds, control structures, erosion control methods and locations and stabilization criteria. This design is included within these construction plans and the following notes and instructions.

B. Submit and obtain the necessary design related storm water permits from the Florida Department of Environmental Protection, the Southwest Florida Water Management District and other applicable governmental bodies.

C. Upon notification by the developer of his intent to commence construction, submit a Notice of Intent to the FDEP on behalf of the developer and copy the contractor including SWPPP certification and copy of the permit.

D. Submit to SWFWMD and the operator of the municipal separate storm water system, if applicable, a letter of construction commencement.

E. Complete and submit a Notice of Termination and certification for developer. The NOT's shall be submitted no more than 30 days after
(a) completion of the project and final stabilization of the site or
(b) when responsibility for the site has ended. Final stabilization as defined by EPA is when all soil disturbing activities at the site have been completed and a uniform (e.g. evenly distributed, without large bare areas) perennial vegetative cover with a density of 70% of the native background vegetative cover for the area has been established on all unpaved areas and areas not covered by permanent structures. As an alternative, equivalent permanent stabilization measures (such as riprap, gabions, or geotextiles) may be employed. The client shall notify Clearview Land Design when one of these criteria has been met.

Contractor

A. Sign and return to Clearview a Contractors Certification Form certifying your understanding of and willingness to comply with the Storm Water Pollution Prevention Plan no later than 48 hours prior to commencement of construction. Also, each subcontractor affected by the SWPPP must certify to the contractor that they understand and shall comply with the NPDES permit and SWPPP. A record of these certifications shall be maintained by the contractor on site.

B. During construction, assure compliance with the designed Storm Water Pollution Prevention Plans prepared by Clearview Land Design and the NPDES Generic Permit for Storm Water Discharges from Large and Small Construction Activities.

C. Maintain a copy of the construction plans, which include the Storm Water Pollution Prevention Plan,the NOI, and all inspection reports and certifications on site.

D. Undertake all reasonable Best Management Practices (BMP's) to assure that silted or otherwise polluted storm water is not allowed to discharge from the site during all phases of construction. Stabilization BMP's that may be used include: temporary or permanent seeding, mulching, geotextiles, sodding, vegetative buffer strips, protection of trees and preservation of mature vegetation. Structural erosion and sediment control BMP's that may be used include: straw bale dikes, silt fences, earth dikes, brush barriers, drainage swales, check dams, subsurface drain, pipe slope drain, level spreaders, storm drain inlet protection, outlet protection, sediment traps, and temporary sediment basins. Detention ponds may also be used as temporary sediment basins. Additional BMP's that may need to be implemented include: providing protected storage areas for chemicals, paints, solvents, fertilizers, and other potentially toxic materials. Providing waste receptacles at convenient locations and providing regular collection of wastes, including building material wastes. Minimizing off-site tracking of sediments. Making adequate preparations, including training and equipment to contain spills of oil and hazardous materials. Complying with applicable state or local waste disposal, sanitary sewer or septic system regulations and the use of appropriate pollution prevention measures for allowable non-storm water components of discharge.

E. Notify Clearview Land Design and the developer in writing of any non-storm water pollution sources which are being stored, or otherwise used during the construction of the project, i.e., fertilizers, fuels, pesticides, other chemicals. This notification should be accompanied with the contractor's design and methods to prevent pollution run-off from these sources.

F. Develop a maintenance and inspection plan which includes, but is not limited to the following:

A. The specific areas to be inspected and maintained that includes all the disturbed areas and material storage areas of the site.

B. The erosion and sediment controls identified in the SWPPP to be maintained and inspected and those additional controls that the contractor deems necessary.

C. Maintenance procedures.

D. The procedure to follow if additional work is required or whom to call.

E. Inspections and maintenance forms.

F. The personnel assigned to each task.

The following shall be inspected a minimum of once a week or within 24 hours after 0.50 inches of rainfall:

- Stabilization measures (once a month if fully stabilized).
- Structural controls.
- Discharge points.
- Construction entrances and exits.
- Areas used for storage of exposed materials.

An inspection form shall be completed for each inspection. Any permit violations should be noted and corrective measures shall be taken no later than 7 days after the inspection occurred. If revisions to the SWPPP are needed, a report form for changes in the SWPPP shall be completed and a copy sent to Clearview Land Design, P.L. The original shall be kept on-site as documentation of the change. If the inspection passes, a certification that the facility is in compliance with the SWPPP and the NPDES permit must be signed by a duly authorized representative of the principal executive official of the operator of the SWPPP with one of the following qualifications:

1. Has successfully completed the Florida Stormwater, Erosion and Sediment Control Inspector Training Program.
2. Successfully completed a similar training program.
3. Has enough practical on the job training to be qualified to perform the inspections.

Retain inspection reports and certifications for at least three years.

G. Site stabilization measures shall be initiated as soon as practical but in no case more than 7 days, in portions of the site where construction activities have temporarily or permanently ceased.

H. Releases in Excess of Reportable Quantities.

1. The discharge of hazardous substances or oil in the stormwater discharge(s) from a facility or activity shall be prevented or minimized in accordance with the applicable stormwater pollution prevention plan for the facility or activity. This permit does not relieve the operator of the reporting requirements of 40 CFR part 117 and 40 CFR part 302. Where a release containing a hazardous substance in an amount equal to or in excess of a reporting quantity established under either 40 CFR 117 or 40 CFR 302, occurs during a 24 hour period:

a. The operator is required to notify the State Warning Point (800-210-0519 or 850-413-9911) as soon as he or she has knowledge of the discharge;

b. The operator shall submit within 14 calendar days of knowledge of the release a written description of: the release (including the type and estimate of the amount of material released), the date that such release occurred, the circumstances leading to the release, and remedial steps to be taken, to the Florida Department of Environmental Protection, NPDES Stormwater Section, Mail Station 2500, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and

c. The stormwater pollution prevention plan required under Part V of this permit must be modified within 14 calendar days of knowledge of the release to: provide a description of the release, the circumstances leading to the release, and the date of the release. In addition, the plan must be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan must be modified where appropriate.

2. This permit does not authorize the discharge of hazardous substances or oil resulting from an on-site spill.

Developer

A. Notify Clearview of your intent to commence construction. Sign the Notice of Intent form as operator of the storm water discharge facility and permittee and return to Clearview Land Design, P.L.

B. Sign a Certification of Storm Water Pollution Prevention Plan and return to Clearview Land Design, P.L.

C. Notify Clearview when it is time to submit a Notice of Termination as defined under Part E of the Clearview Land Design section of the SWPPP. Sign and return to Clearview Land Design, P.L. for submittal to FDEP a Notice of Termination form and certification.

PRE-DEVELOPED SITE INFORMATION:

1. Total site acreage: 413.58 Ac.±
2. Land use: VACANT PASTURE
3. Vegetation: PASTURE, HARDWOODS
4. Receiving waters or municipal separate storm water system: CYPRESS CREEK
5. 2 Year/24 Hour rainfall depth: 4.3"
6. Soil types: POMONA FINE SAND, FELDA FINE SAND, SPARR FINE SAND, SMYRNA FINE SAND, NARCOOSSEE FINE SAND, OKEELANTA-TERRA CEIA ASSOCIATION, CASSISA FINE SAND

PROJECT INFORMATION:

1. Project type (residential, commercial, etc.)
2. Anticipated construction sequence is as follows:
   1. Complete erosion control installation
   2. Clearing and grubbing
   3. Earthwork activities
   4. Storm water system construction
   5. Utility construction
   6. Base and pavement construction
   7. Final stabilization

   The BMP's listed in Part D of the Contractor section of the SWPPP shall be considered during all phases of construction.
3. Anticipated start date: 12/1/2011
4. Anticipated completion date: 12/1/2016
5. Total acres disturbed: 110 Ac. ±
6. Pre-developed "C" factor: 0.15
7. Post-developed "C" factor: 0.45
8. The storm water management system, upon completion of construction and appropriate certification and as-built submittals will be operated and maintained by THE WOODS PROPERTY OWNERS ASSOCIATION
9. The potential source of pollution from this project is on-site development and construction activity.

OWNER'S INSTRUCTIONS FOR MAINTENANCE AND INSPECTION OF STORMWATER FACILITIES

The entire stormwater system should be inspected on at least a semi-annual basis. This should include a visual inspection of the pond, pond banks, bleed-down orifices, other control structures, and discharge pipes. These should be kept free of debris and cleaned on a frequency as required to keep them functional, as designed. Mowing/clearing around the structures may be required to prevent vegetation from clogging them.

Wetland plants, if intentionally installed, should be monitored and maintained as required on the approved construction plans. Areas of littoral shelving, which are required to be vegetated but not intentionally planted, should not be cleared of the wetland plants. These areas should have as high a plant coverage as possible, for maximum water filtration.

Sediment sumps, if designed and installed, should have sediment removed as necessary to allow them to efficiently remove suspended particles. They should be re-dug to the original design specifications, if silted in.

For percolation treatment ponds/swales, the owner of the facility shall inspect the pond bottom periodically after heavy rainfall events to check for persistent ponding or pooling of water. All large debris shall be removed and disposed of elsewhere. If prolonged ponding persists, i.e., in excess of 72 hours, the owner shall rake or scarify the surface. If required, the soil in the area of ponding shall be removed and replaced with clean sandy, non-cohesive soils.

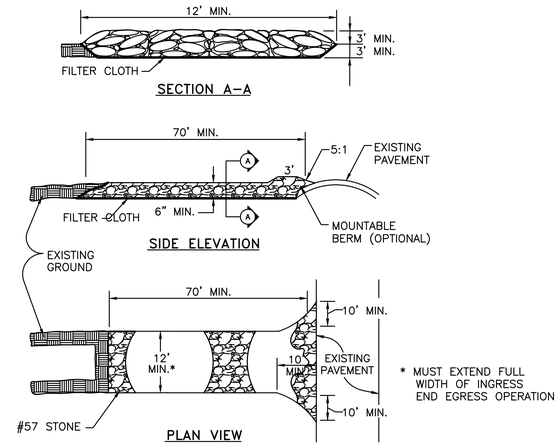
Please check the construction plans to see if written reports on monitoring or plant survival rates are required to be sent to any reviewing agencies. Written notes should always be kept which describe maintenance activities undertaken during each inspection.

Specific conditions of all permits may require additional maintenance activities above and beyond those outlined above. Please be aware of all permit conditions as issued by regulatory agencies to ensure permit compliance.

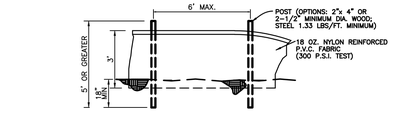
GENERAL EROSION AND TURBIDITY CONTROL NOTES

1. The Site Subcontractor shall be responsible for installation and maintenance of all erosion and turbidity controls and the quality and quantity of offsite or wetland discharges.
2. Prior to construction, the Site Subcontractor is responsible for having his dewatering plan and turbidity control plan approved by the applicable reviewing agencies. Refer to the project's permit approvals and permit conditions for agencies requiring such review and approval. Questions concerning appropriate techniques should be addressed to those agencies and/or discussed with the project engineer and owner.
3. The appropriate turbidity and erosion control methodologies selected by the Site Subcontractor for this project should be made following assessment of the plans and project site specific factors and after consultations as needed with the project engineer and appropriate agencies. The Site Subcontractor will be responsible for obtaining any and all necessary permits for such activity; several factors to consider are listed below:
   A. Clay content in excavated materials and/or permeabilities rates
   B. Depth of cut in ponds, trenches, or utility lines
   C. Ambient ground water levels
   D. Actual rainfall amounts and time of year relative to normal rainy season
   E. Proximity to wetlands, water bodies or offsite properties
   F. 'Class' designation of receiving water bodies (i.e., Outstanding Florida Waters, shellfish harvesting areas, etc.)
   G. Density, type, and proximity of upland vegetation to be retained during construction (for use as possible filtration areas)
   H. Fill height relative to natural grade and length and steepness of the proposed slopes
   I. Existing topography and directions of surface flow
   J. Type of equipment used
   K. Project type
   L. Duration of construction activities
   M. Separation distance of onsite ponds
   N. Ambient quality of surface and groundwater
   O. Temporary stockpile locations and heights
4. At the onset of construction, the Site Subcontractor, as the party responsible for implementation of the erosion and sediment control plan, shall assess the above described conditions and factors with respect to relative cost effectiveness and select the appropriate methods of protection. A fairly extensive list of techniques are presented below but it must be stressed that any or all of the following may be necessary to maintain water quality and quantity standards. The construction sequencing should be thought out in advance of initiation to provide adequate protection of water quality.
5. Discharges which exceed 29 N.T.U.'s over the background levels are in violation of state water quality standards. Discharges of water quantities which affect offsite properties or may damage wetlands are also prohibited by regulating agencies.
6. The erosion and turbidity control measures shown hereon are the minimum required for agency approval. Additional control and measures may be required due to the Site Subcontractor's construction sequence & unforeseen weather conditions. Any additional measures deemed necessary by the Site Subcontractor shall be included in the lump sum bid with no extras for materials and labor allowed.
7. Hay bales or silt screens shall be installed prior to land clearing to protect water quality and to identify areas to be protected from clearing activities and maintained for the duration of the project until all soil is stabilized.
8. Floating turbidity barriers shall be in place in flowing systems or in open water lake edges prior to initiation of earthwork and maintained for the duration of the project until all soil is stabilized.
9. No clay material shall be left exposed in any stormwater storage facility. If clay or sandy-clays are encountered during stormwater storage excavation, the Site Subcontractor shall notify the Engineer immediately before proceeding with further excavation. If the Engineer of Record has determined that such soils are non-confining and must be excavated to meet permit and design conditions, excavation may proceed after obtaining written authorization from the appropriate governing agency. If said soils are left exposed at the permitted and designed depth, the Site Subcontractor shall over-excavate the pond's bottom and side slopes by a minimum of twelve (12") inches and backfill with clean sands to help prevent suspension of fine particles in the water column.
10. The installation of temporary erosion control barriers shall be coordinated with the construction of the permanent erosion control features to the extent necessary to assure effective and continuous control of erosion and water pollution throughout the life of the construction phase.
11. The type of erosion control barriers used shall be governed by the nature of the construction operation and soil type that will be exposed. Silty and clayey material may require solid sediment barriers to prevent turbid water discharge, while sandy material may need only silt screens or hay bales to prevent erosion. Floating turbidity curtains should generally be used in open water situations. Diversion ditches or swales may be required to prevent turbid stormwater runoff from being discharged to wetlands or other water bodies. It may be necessary to employ a combination of barriers, ditches, and other erosion/turbidity control measures if conditions warrant.
12. Where pumps are to be used to remove turbid waters from construction areas, the water shall be treated prior to discharge to the wetlands. Treatment methods include, for example, turbid water being pumped into grassed swales or appropriate upland vegetated areas (other than upland preservation areas and wetland buffers), sediment basins, or confined by an appropriate enclosure such as turbidity barriers or low berms, and kept confined until turbidity levels meet State Water Quality Standards.
13. The Permittee shall schedule his operations such that the area of unprotected erodible earth exposed at any one time is not larger than the minimum area necessary for efficient construction operation, and the duration of exposed, uncompleted construction to the elements shall be as short as practicable. Clearing and grubbing shall be so scheduled and performed such that grading operations can follow immediately thereafter. Grading operations shall be so scheduled and performed that permanent erosion control features can follow immediately thereafter if conditions on the project permit.
14. Water derived from various dewatering methods should be passed through sufficiently wide areas of existing upland vegetation to filter out excess turbidity. If this is not sufficient, the water shall be retained in previously constructed permanent stormwater ponds or else retained in temporary sedimentation basins until the clarity is suitable to allow for its discharge. Plugging the outfalls from completed stormwater ponds may be needed to avoid discharge. However, such situations should be monitored closely to preclude berm failure if water levels rise too high.
15. Water can be transported around the site by the use of internal swales or by pumps and pipes.
16. Sheet flow of newly filled or scraped areas may be controlled or contained by the use of brush barriers, diversion swales, interceptor ditches or low berms. Flow should be directed toward areas where sediments can sufficiently settle out.
17. Exposed soils shall be stabilized as soon as possible, especially slopes leading to wetlands. Stabilization methods include solid sod, seeding and mulching or hydromulching to provide a temporary or permanent grass cover mulch blankets, filter fabrics, etc., can be employed to provide vegetative cover.
18. Energy dissipaters (such as rip rap, a gravel bed, hay bales, etc.) shall be installed at the discharge point of pipes or swales if scouring is observed.
19. Attempt to install roadway curb and gutters as soon as possible to reduce the surface area for erosion to occur.
20. Implement storm drain inlet protection (hay bales or gravel) to limit sedimentation within the stormwater system. Perform inspections and periodic cleaning of sediments which wash out into the streets until all soil is stabilized.
21. Water discharge velocities from impounded areas and temporary sedimentation basins shall be restricted to avoid scouring in receiving areas.
22. If water clarity does not reduce to state standards rapidly enough in holding ponds, it may be possible to use chemical agents such as alum to flocculate or coagulate the sediment particles.
23. Hay bales, silt screens, or gravel beds can be added around the pipe or swale discharge points to help clarify discharges. Spreader swales may help dissipate cloudy water prior to contact with wetlands.
24. All fuel storage areas or other hazardous storage areas shall conform to accepted state or federal criteria for such containment areas.
25. Vehicle or equipment washdown areas will be sufficiently removed from wetlands or offsite areas.
26. Fugitive dust controls (primarily by using water spray trucks) shall be employed as needed to control windborn emissions.
27. If the above controls remain ineffective in precluding release of turbid water, especially during pond or utility line dewatering, then the contractor may be compelled to use a vertical dewatering system such as well points or sack drains to withdraw groundwater which may already be clear enough to allow for direct discharge to wetlands.
28. Ongoing inspections and periodic maintenance by the Site Subcontractor shall occur daily (at a minimum) to insure the above methods are working suitably. Corrective action must be taken immediately to repair or replace any damaged BMP's to ensure the above methods are working properly.
29. Site Subcontractors are required to obtain and thoroughly review The Florida Development Manual: A Guide to Sound Land and Water Management, which was developed by the State of Florida Department of Environmental Protection in 1988. This provides fairly in-depth discussions of recommended techniques and also provides specific design and technical standards. A copy of this document is available for review at Clearview Land Design, P.L.

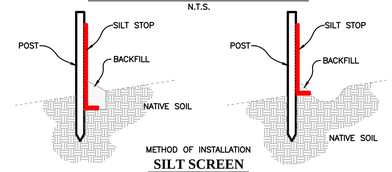
NOTE: CONTRACTOR SHALL INSPECT EROSION CONTROL DAILY (INCLUDING BUT NOT LIMITED TO TYPICAL OUTFALLS TO OFWs). CORRECTIVE ACTION SHALL BE TAKEN IMMEDIATELY TO REPAIR OR REPLACE AS NEEDED.



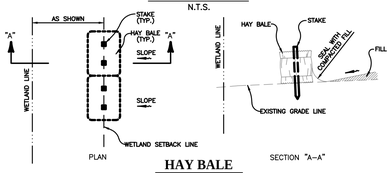
TYPICAL CONSTRUCTION ENTRANCE/EXIT
NOT TO SCALE



STAKED TURBIDITY BARRIER
N.T.S.



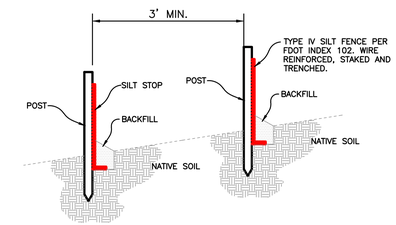
METHOD OF INSTALLATION
SILT SCREEN
N.T.S.

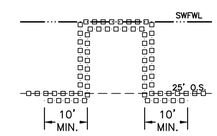


HAY BALE
N.T.S.

EROSION CONTROL DETAILS

NOTE: THE EROSION BARRIERS, AS SHOWN, ARE NOT TO BE CONSTRUED TO MEAN THAT THEY ARE ALL THAT MAY BE REQUIRED. THE CONTRACTOR IS TO TAKE WHATEVER MEASURES NECESSARY TO CONTROL EROSION THROUGHOUT THE PROJECT.





METHOD OF INSTALLATION
TYPICAL OUTFALL TO OFW DETAIL
N.T.S.

The Following ponds have been identified as discharging to Outstanding Florida Waters (OFW's) or abutting wetlands: Pond A1-A3, Pond N1-N2, Pond C, Pond D1, Pond D2, School Pond and Flood Pond F. Additional measures shall be taken across the site to prevent sediment discharge to all adjacent wetlands including but not limited to OFW's or abutting wetlands.

The following measures shall be the minimum required for outfalls discharging to OFW's or abuting wetlands. The Contractor and their subcontractors are encouraged to take additional sediment and erosion control measures.

Minimum Requirements:

a. For stormwater treatment ponds discharging to OFW's or abutting wetlands, the actual discharge structures and the outfall swales will be installed at the onset of site construction and land clearing. All disturbed soils waterward of the 25' buffer will be solid sodded as soon as the swales are graded. Such work will be in advance of any other clearing or excavation of the associated ponds.
   For Floodplain Pond F, the Geoweb discharge structures continue to be proposed within the 25' buffer. These Geoweb outfalls will be built in their entirety and all disturbed ground stabilized with solid sod prior to clearing or excavation of the adjacent floodplain pond.
b. The silt fencing at all outfall locations discharging to OFW's and abutting wetlands will include one row of silt fencing that is heavily reinforced with hardware cloth. A second row of "normal" silt fencing will also be installed. See Typical OFW Outfall Detail.
c. Daily inspections of each outfall by onsite construction personnel will be performed for each area that has started construction. Any problem areas will be repaired immediately.

APPLICANT NAME TAYLOR MORRISON OF FLORIDA, INC.

APPLICANT SIGNATURE Mac McCraw, Land Development Project Manager

DATE

DATE	DESCRIPTION	BY
11-01-11	REVISE NOTES AND OFW DETAIL	JAS
10-06-11	OUTFALL TO OFW DETAIL	JAS
07-18-11	ENTRANCE/EXIT DETAIL	JAS

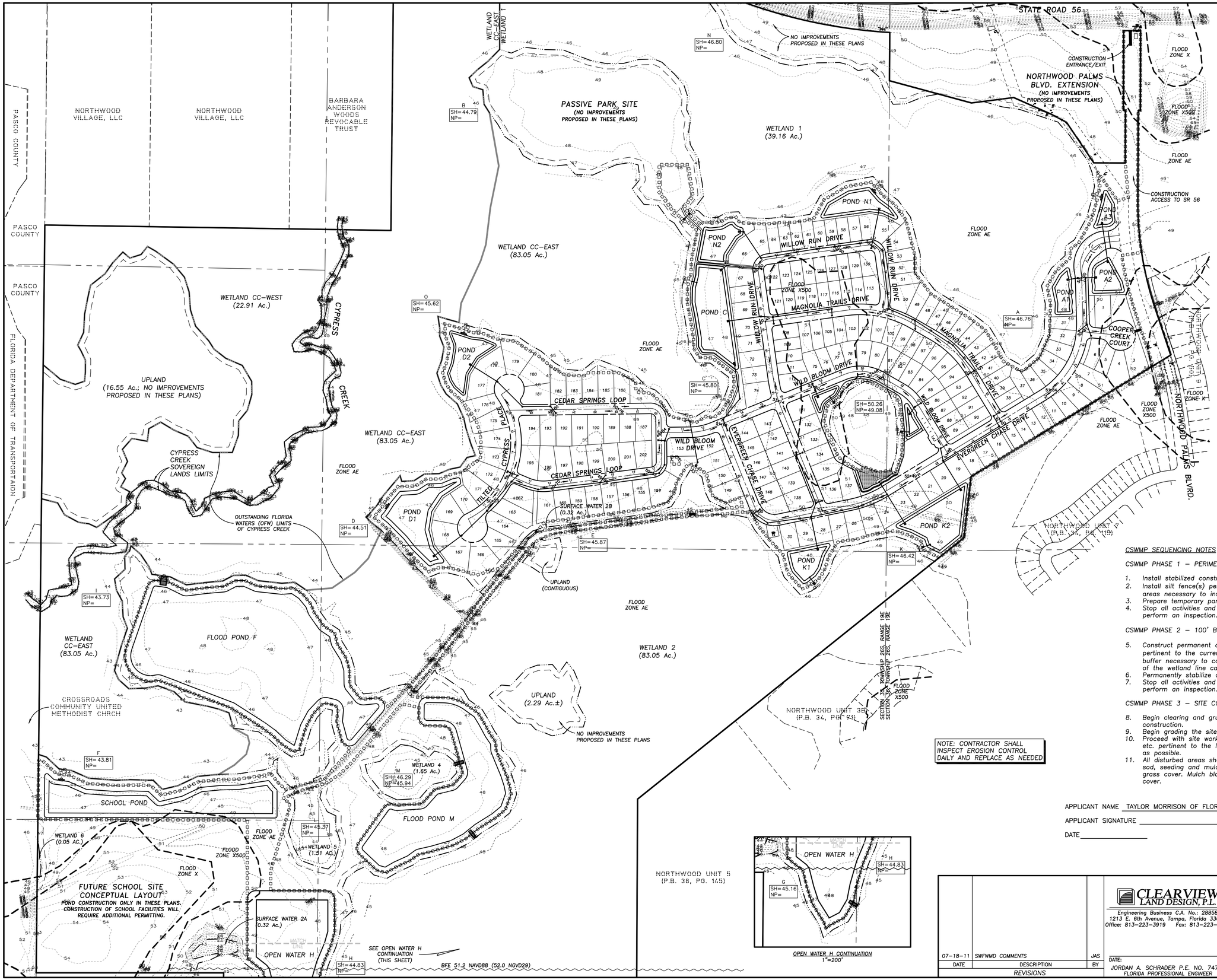
REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

CONSTRUCTION SURFACE WATER MANAGEMENT PLAN

JOB NO. TMH-NW-009	THE WOODS
DESIGN SMIRCH	
DRAWN SCHRADER	PREPARED FOR: TAYLOR MORRISON
DATE 05-02-2011	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE CSWMP1	SHEET 1 OF 2 SHEETS



NOTE: CONTRACTOR SHALL INSPECT EROSION CONTROL DAILY AND REPLACE AS NEEDED

LEGEND

EXISTING	PROPOSED	
		STORM DRAINAGE STRUCTURE
(10)	(10)	STRUCTURE NO.
+15.00	15.00 OR 15.00	SPOT ELEVATION
15	15.00	CONTOUR
		DIRECTION OF SURFACE FLOW
		STAKED EROSION CONTROL (REPRESENTS THE SWFWMD BUFFER LIMITS WHERE ADJACENT TO A PROTECTED WETLAND)
		FLOATING TURBIDITY BARRIER
	SPT#	SOIL BORING LOCATION
		1992 FEMA FLOOD LINES

A — HYDROPERIOD ID
SH=45.00 — SEASONAL HIGH WATER ELEVATION
NP= — NORMAL POOL ELEVATION (IF APPLICABLE)

CSWMP SEQUENCING NOTES

CSWMP PHASE 1 – PERIMETER CONTROLS

1. Install stabilized construction exit.
2. Install silt fence(s) pertinent to the current limits of construction. Clear only those areas necessary to install silt fence(s).
3. Prepare temporary parking and storage area.
4. Stop all activities and contact the Civil Engineer and Agency Representatives to perform an inspection.

CSWMP PHASE 2 – 100' BUFFER (OUTSTANDING FLORIDA WATERS AND ADJACENT WETLANDS)

5. Construct permanent detention ponds (including control structures and outfalls) pertinent to the current limits of construction. Clear only those areas within the 100' buffer necessary to construct the permanent detention ponds. All areas 100' landward of the wetland line can be cleared at this time for placement of excavated material.
6. Permanently stabilize detentions ponds and all disturbed areas.
7. Stop all activities and contact the Civil Engineer and Agency Representatives to perform an inspection.

CSWMP PHASE 3 – SITE CONSTRUCTION

8. Begin clearing and grubbing the site in those areas pertinent to the current limits of construction.
9. Begin grading the site in those areas pertinent to the current limits of construction.
10. Proceed with site work. Install utilities, underdrains, storm sewers, curb and gutter, etc. pertinent to the limits of construction. Exposed soils shall be stabilized as soon as possible.
11. All disturbed areas shall be permanently stabilized. Stabilization methods include solid sod, seeding and mulching or hydromulching to provide a temporary or permanent grass cover. Mulch blankets, filter fabrics, etc., can be employed to provide vegetative cover.

APPLICANT NAME TAYLOR MORRISON OF FLORIDA, INC.

APPLICANT SIGNATURE Mac McCraw, Land Development Project Manager

DATE

DATE	DESCRIPTION	BY
07-18-11	SWFWMD COMMENTS	JAS

REVISIONS

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

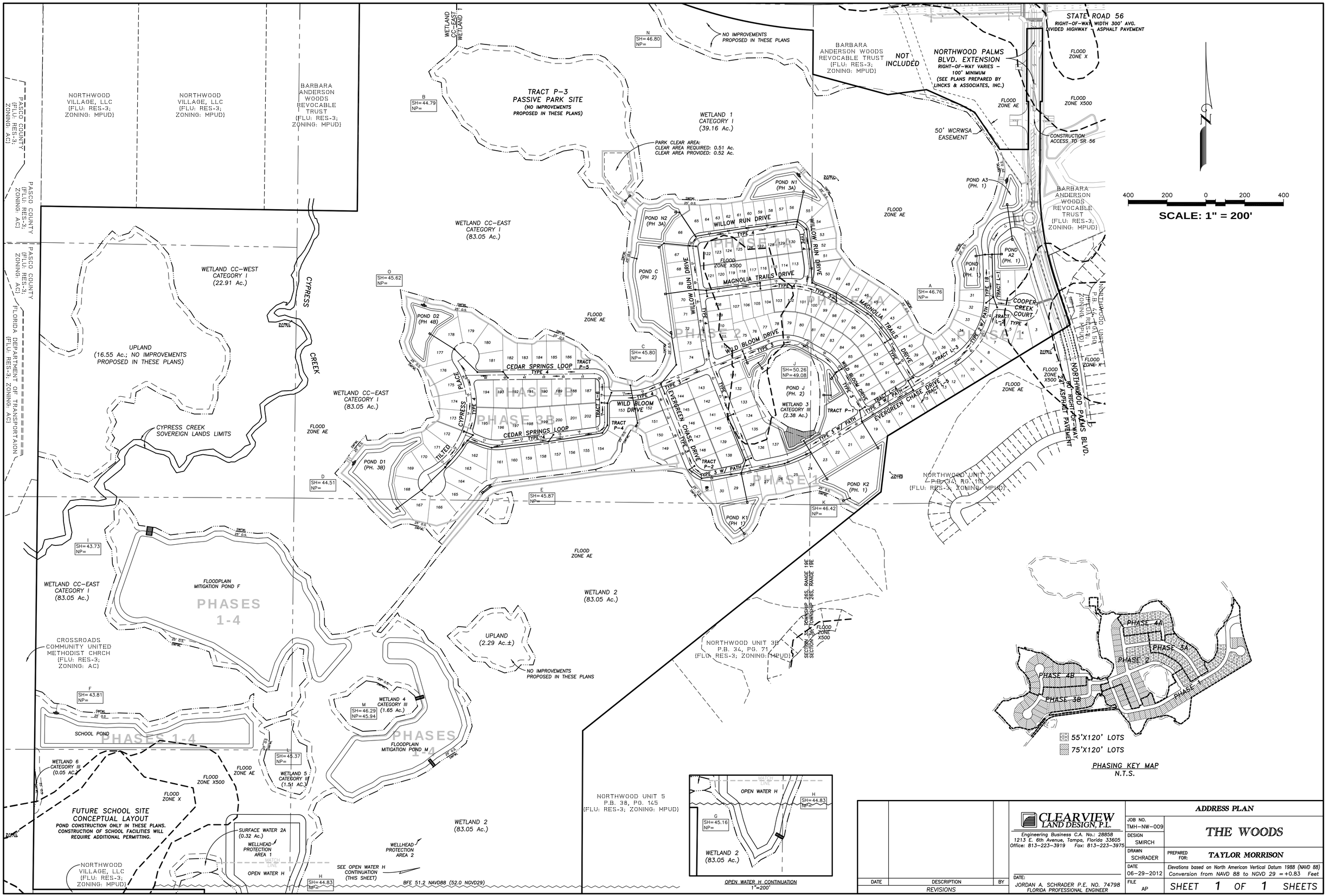
CONSTRUCTION SURFACE WATER MANAGEMENT PLAN

THE WOODS

PREPARED FOR: TAYLOR MORRISON

JOB NO.	TMH-NW-009
DESIGN	SMIRCH
DRAWN	SCHRADER
DATE	05-02-2011
FILE	CSWMP2

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet



DATE	DESCRIPTION	BY
	REVISIONS	

CLEARVIEW LAND DESIGN, P.L.
Engineering Business C.A. No.: 28858
1213 E. 6th Avenue, Tampa, Florida 33605
Office: 813-223-3919 Fax: 813-223-3975

DATE:
JORDAN A. SCHRADER P.E. NO. 74798
FLORIDA PROFESSIONAL ENGINEER

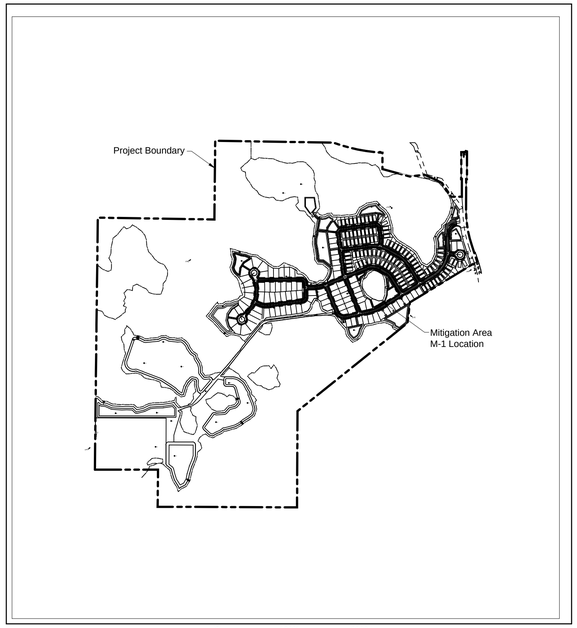
ADDRESS PLAN

THE WOODS

TAYLOR MORRISON

JOB NO.	TMH-NW-009
DESIGN	SMIRCH
DRAWN	SCHRADER
PREPARED FOR:	TAYLOR MORRISON
DATE	06-29-2012
	Elevations based on North American Vertical Datum 1988 (NAVD 88) Conversion from NAVD 88 to NGVD 29 = +0.83 Feet
FILE	AP

SHEET 1 OF 1 SHEETS



0 1000' 2000' feet

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Index Sheet
The Woods Wetland Mitigation
Pasco County, FL

COE
Sec 35
Twn 26 S
Rng 19 E

Cardno ENTRIX
3905 Crescent Park Drive | 813-664-4500 (p)
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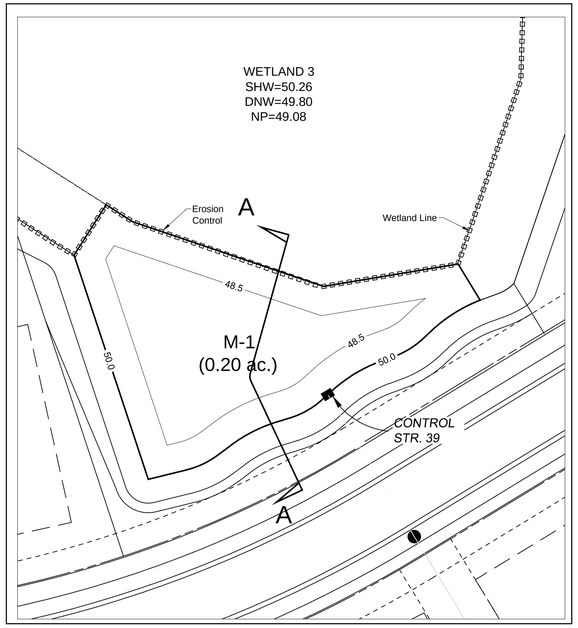
www.cardnoentrix.com
Coordinate System:
NAD 83 Florida State Planes Feet. West

Sheet 01

PM: JAG CAD Operator: JMB Creation Date: 4/27/2011 Rev. Date: 6/21/2012 Revised By: James.bottie File Location:Q:\UnitedStates\Florida\Tampa\2573\005\working\cad\M1 Design Plan.dwg



0 30' 60' feet

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M-1 Grading Plan
The Woods Wetland Mitigation
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Sheet 02

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WETLAND MITIGATION MONITORING & MAINTENANCE NOTES

All the following items will be included in the mitigation monitoring and maintenance program:

A. Monitoring and maintenance will be performed for a minimum of 3 years for this herbaceous area. Maintenance will occur eight times per year for year one and two, six times per year for years three and four and four times per year thereafter as needed. Monitoring will be done semi-annually and reported annually; Events should occur between March 1 and November 30;
Monitoring reports will be submitted to SWFWMD within 30 days following the monitoring event at the annual anniversary. At a minimum, monitoring reports will address:

1. Percent survival of planted species.
2. Number of plants replanted if necessary to meet 85 they were planted.
3. Water quality
   a) Visual observations
   b) Lab data if necessary, i.e., salinity, conductivity, pH, etc.
4. Total plant cover
5. Plant diversification and natural recruitment (list species present)
6. Depth of water at monitoring event
7. Soil stabilization measures used
8. Permanently marked photo stations
9. Wildlife usage
10. Overall ecological evaluation
11. Problems encountered and corrective actions taken or needed
12. Date planted and number of planted materials used

B. Maintenance shall mean the removal of nuisance or exotic species. Nuisance species coverage must not exceed 5 %. (cattails, willow, primrose willow, water hyacinths, Sesbania spp. dogfennel, Brazilian pepper, etc.). Contactor should avoid use of herbicides if possible. All weed control should cease one year prior to release by SWFWMD.

C. Survival must be guaranteed for each planted species. The area will be replanted annually if species survivorship falls below 85%. 50% plant cover will be achieved at the end of year one, 70% by the end of year two and 85% plant cover of non-nuisance wetland species will be achieved by the end of the third year. Replanting may be needed to achieve these values. No more than 5% of the total area coverage shall be upland or nuisance species.

D. Monitoring and maintenance will continue until SWFWMD permitted success criteria are achieved and the areas are released by SWFWMD. Reconstruction of the site design may be necessary to achieve functioning wetlands.

MISCELLANEOUS MITIGATION NOTES:

Plants will be installed in random patterns at the contractor's discretion unless otherwise directed by the plans or by the mitigation designer.

The Mitigation area will be considered as a conservation area. Plants will be installed at elevations most conductive for their development. Relative Planting ranges are depicted on the attached list.

Grades and slopes shown on the mitigation areas may be field altered to insure that water levels will be achieved which result in optimal plant survival and habitat value. However, grade changes must be approved by appropriate agencies.

Minimum plant sizes:
Herbs: 4" potted material or bare root equivalent.
Shrubs: one gallon pots
Trees: one gallon pots in herbaceous areas.

Potted, nursery grown material will be used, unless otherwise approved in advance.
Plants will be as shown on the attached list.

All mitigation areas will receive plants on 3 foot centers. In herbaceous areas, three percent of this total will be shrubs and trees to increase vegetative diversity.

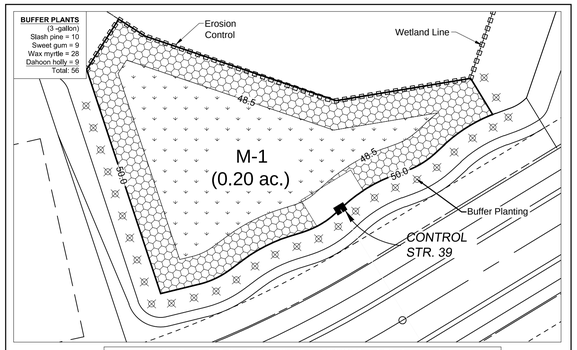
Wetland topsoil from approved impacts will not be used in the mitigation area. The contractor will provide at least 24" of sandy, non-clay material above any present clay layer.

MITIGATION CONSTRUCTION PROCESS NOTES

This pasture upland will be scraped to elevations depicted. This should be completed within 90 days following initiation of construction at the wetland impact. Suitable soils should be provided (see notes on this sheet).

Planting of the mitigation and woody buffers should occur within 60 days following completion of the mitigation grading, assuming suitable hydrology is present. Notification of planting completion should be provided to SWFWMD. A monitoring schedule will be arranged with SWFWMD.

NOTE:
MITIGATION AREAS M-1 WILL BE BUILT CONCURRENTLY WITH CONSTRUCTION OF AREA WETLAND IMPACTS.



Northwood Wetland Mitigation Area M-1 (0.20 ac.) (Herbaceous)

Zone	Elevation	Scientific Name	Common Name	Acres	Quantity	Size	Spacing
UPPER RANGE	50.0 to 49.0	*Pontederia cordata*	pickerelweed	0.10	68	4" containerized stock or bare root equivalent	3' o.c.
		Sagittaria lancifolia	lance-leaved arrowhead		63		
		Panicum hemitomon	maidencane		145		
		Canna flaccida	golden canna		24		
		Spartina bakeri	sand cordgrass		169		
		Hypericum fasciculatum	sandweed		5	1 gal	
		Acer rubrum	red maple		5		
		Ilex cassine	dahoon holly		5		
Upper Range Plant Totals:					529		
LOWER RANGE	49.0 to 48.5	*Pontederia cordata*	pickerelweed	0.10	184	4" containerized stock or bare root equivalent	3' o.c.
		Sagittaria lancifolia	lance-leaved arrowhead		189		
		Panicum hemitomon	maidencane		97		
		Cephalanthus occidentalis	buttonbush		5	1 gal	
		Taxodium distichum	bald cypress		5		
		Fraxinus caroliniana	water ash		5		
Lower Range Plant Totals:					435		
Total Plant Numbers:					964		

0 30' 60' feet

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Planting Plan
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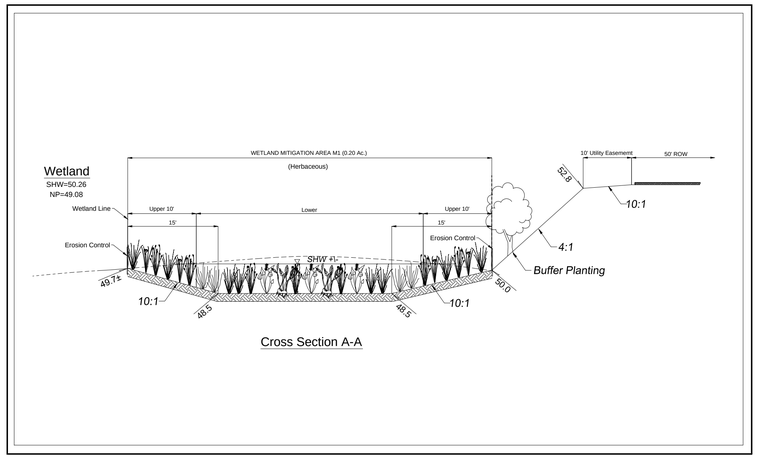

Cross Section A-A

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M-1 Cross Section
The Woods Wetland Mitigation
Pasco County, FL

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Sheet 04

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M-1 Design Plan
The Woods Wetland Mitigation
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Sheet 01

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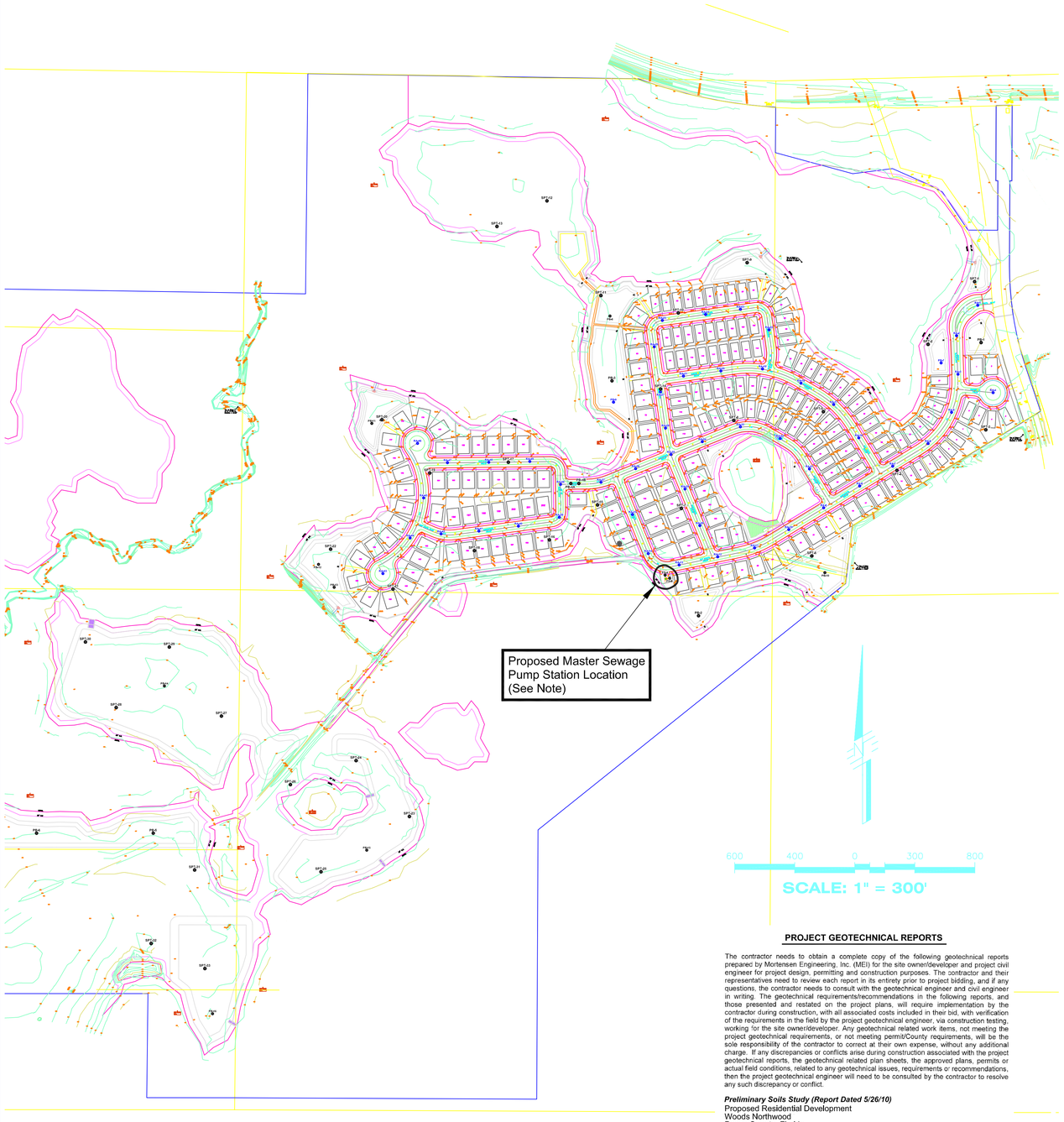
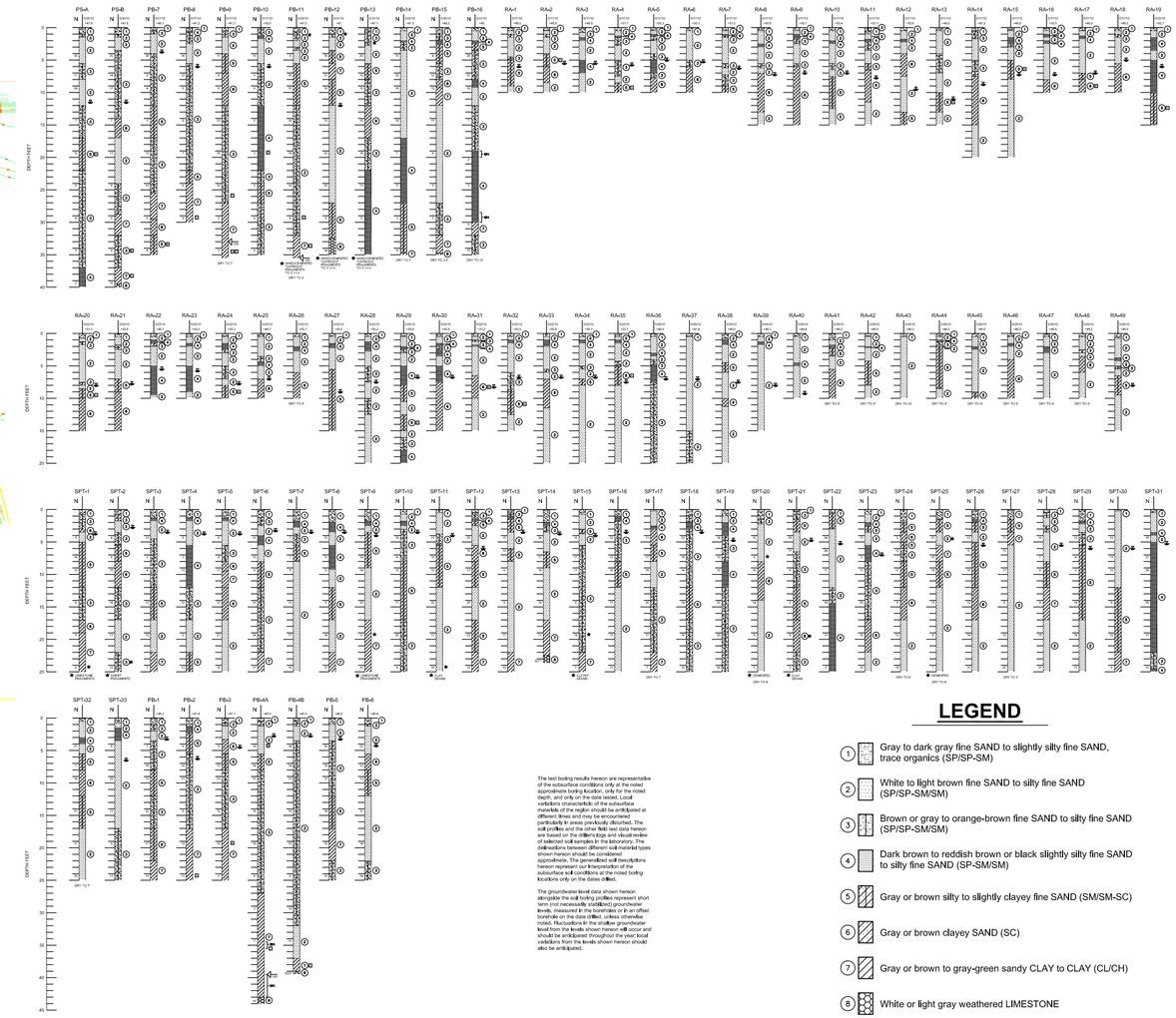




The test boring results hereon are representative of the subsurface conditions only at the noted approximate boring location, only for the noted depth, and only on the date tested. Local variations characteristic of the subsurface materials of the region should be anticipated at different times and may be encountered particularly in areas previously disturbed. The soil profiles on the other test data hereon are based on the driller's logs and visual review of selected soil samples in the laboratory. The distinctions between different soil material types shown hereon should be considered approximate. The generalized soil descriptions hereon represent our interpretation of the subsurface soil conditions at the noted boring locations only on the dates drilled.

The groundwater level data shown hereon alongside the soil boring profiles represent short term (not necessarily stabilized) groundwater levels observed in the open boring, or in an offset borehole on the date drilled, unless otherwise noted. Fluctuations in the shallow groundwater level from the levels shown hereon will occur and should be anticipated throughout the year. Local variations from the levels shown hereon should also be anticipated.

LEGEND

1. Gray to dark gray fine SAND to slightly silty fine SAND, trace organics (SP/SP-SM)
2. White to light brown fine SAND to silty fine SAND (SP/SP-SM/SM)
3. Brown or gray to orange-brown fine SAND to silty fine SAND (SP/SP-SM/SM)
4. Dark brown to reddish brown or black slightly silty fine SAND to silty fine SAND (SP-SM/SM)
5. Gray or brown silty to slightly clayey fine SAND (SM/SM-SC)
6. Gray or brown clayey SAND (SC)
7. Gray or brown to gray-green sandy CLAY to CLAY (CL/CH)
8. White or light gray weathered LIMESTONE

LEGEND

- Approximate Auger boring location
- Approximate SPT boring location

NOTE: For specific geotechnical data, evaluations/recommendations related to the proposed master sewage pump station need to review MEI report dated 6/6/12.

PROJECT GEOTECHNICAL REPORTS

The contractor needs to obtain a complete copy of the following geotechnical reports prepared by Mortensen Engineering, Inc. (MEI) for the site owner/developer and project civil engineer for project design, permitting and construction purposes. The contractor and their representatives need to review each report in its entirety prior to project bidding, and if any questions, the contractor needs to consult with the geotechnical engineer and civil engineer in writing. The geotechnical requirements/recommendations in the following reports, and those presented and restated on the project plans, will require implementation by the contractor during construction, with all associated costs included in their bid, with verification of the requirements in the field by the project geotechnical engineer, via construction testing, working for the site owner/developer. Any geotechnical related work items, not meeting the project geotechnical requirements, or not meeting permit/County requirements, will be the sole responsibility of the contractor to correct at their own expense, without any additional charge. If any discrepancies or conflicts arise during construction associated with the project geotechnical reports, the geotechnical related plan sheets, the approved plans, permits or actual field conditions, related to any geotechnical issues, requirements or recommendations, then the project geotechnical engineer will need to be consulted by the contractor to resolve any such discrepancy or conflict.

Preliminary Soils Study (Report Dated 5/26/10)
Proposed Residential Development
Woods Northwood
Pasco County, Florida

Addendum to Report Dated 5/26/10 (Report Dated 4/28/11)
Additional Geotechnical Services
Proposed Residential Development
Woods Northwood
Pasco County, Florida

Geotechnical Engineering Services (Report Dated 6/6/12)
Additional Detention Pond Area Soils Study
Additional Pump Station Work
Proposed Residential Development
The Woods
Pasco County, Florida

Geotechnical Engineering Services (Report Dated 6/5/12)
Roadway Soils Study
Proposed Residential Development
The Woods
Pasco County, Florida

(PB-1 TO PB-6)
(MEI REPORT DATED 4/28/11)

- [A] Sand Seams
- [B] Clayey Sand Seams
- [C] Sand Seams/Limestone Fragments
- Groundwater level, April 2011
- SP — Unified Soil Classification group symbol as determined by visual review
- N — SPT "N" value in blows/foot
- Loss of circulation (%)
- 50/5" — Fifty blows for five inches
- +49.3 — Ground Elevation per GeoPoint Surveying

(RA-1 TO RA-49)
(MEI REPORT DATED 6/5/12)

- [A] Clayey
- [B] Very Clayey
- Groundwater level, May 2010
- SP — Unified Soil Classification group symbol as determined by visual review
- 5/17/12 — Date of fieldwork
- +49.0 — Ground Elevation per GeoPoint Surveying

(SPT-1 TO SPT-33)
(MEI REPORT DATED 5/26/10)

- Groundwater level, May 2010
- SP — Unified Soil Classification group symbol as determined by visual review
- N — SPT "N" value in blows/foot
- 50/1" — Fifty blows for one inch

(PS-A / PS-B, PB-7 TO PB-16)
(MEI REPORT DATED 6/6/12)

- [A] Clayey
- [B] Clay Seams
- [C] Chert Seams
- [D] Limestone Seams
- [E] Limestone Fragments
- [F] Organic Sand Seams
- [G] Clayey Sand Seams
- Groundwater level, May 2012
- SP — Unified Soil Classification group symbol as determined by visual review
- N — SPT "N" value in blows/foot
- Loss of circulation (%)
- WH — Fell under weight of rod & hammer
- 5/23/12 — Date of fieldwork
- +47.8 — Ground Elevation per GeoPoint Surveying, Inc.

DATE	DESCRIPTION	BY
	REVISIONS	

MEI
MORTENSEN ENGINEERING, INC.

DATE:
RICHARD A. MORTENSEN, P.E. NO. 34604
FLORIDA PROFESSIONAL ENGINEER

B-100

JOB NO. 12-10-07619
DESIGN MTG
DRAWN DNH
DATE
FILE
SHEET 100 DRAWING

THE WOODS
GEOTECHNICAL DATA AND REQUIREMENTS

PREPARED FOR: TAYLOR MORRISON OF FLORIDA, INC.

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

SHEET # OF ## SHEETS

SHALLOW GROUNDWATER DATA TABLE

THE WOODS
ROADWAY TEST BORING LOCATIONS

Boring Number	Ground Elevation[1]	Depth to GWT Below Grade (Ft.)[2]	Elevation of GWT[2]	Estimated Average (Temporary) NWSGWT[3] Elevation (+/-)
RA-1	49.0	6.1	42.9	48
RA-2	48.8	5.6	43.2	48
RA-3	49.9	5.5	44.4	48.5
RA-4	51.7	5.7	46.0	50
RA-5	50.3	5.0	45.3	49
RA-6	50.1	5.3	44.8	49
RA-7	51.0	6.3	44.7	49.5
RA-8	50.8	7.3	43.5	49.5
RA-9	50.7	7.1	43.6	49.5
RA-10	50.4	7.0	43.4	49
RA-11	51.1	7.7	43.4	49.5
RA-12	50.6	9.4	41.2	49
RA-13	49.5	11	38.5	47.5
RA-14	47.5	8.8	38.7	47
RA-15	48.8	7.2	41.6	47.5
RA-16	50.5	7.2	43.3	49
RA-17	49.9	7.1	42.8	48.5
RA-18	49.2	4.9	44.3	48
RA-19	50.7	6	44.7	49.5
RA-20	51.1	7.9	43.2	49.5
RA-21	50.8	7.7	43.1	49.5
RA-22	49.7	5.4	44.3	48.5
RA-23	50.0	5.8	44.2	48.5
RA-24	50.3	7.7	42.6	49
RA-25	49.7	7.0	42.7	48.5
RA-26	50.1	DRY TO 9'		48.5
RA-27	50.5	9.0	41.5	49
RA-28	50.2	7.4	42.8	49
RA-29	50.8	6.8	44.0	49.5
RA-30	50.8	6.8	44.0	49.5
RA-31	51.0	8.2	42.8	49.5
RA-32	50.5	6.7	43.8	50
RA-33	50.8	6.8	44.0	50
RA-34	50.7	6.7	44.0	49.5
RA-35	50.1	7.4	42.7	49
RA-36	48.9	6.9	42.0	48
RA-37	47.4	6.8	40.6	47
RA-38	48.0	7.4	40.6	47
RA-39	48.1	7.9	40.2	47
RA-40	49.4	9.3	40.1	48
RA-41	49.0	DRY TO 9'		47.5
RA-42	48.8	DRY TO 9'		47.5
RA-43	46.3	DRY TO 10'		45
RA-44	48.0	DRY TO 9'		47
RA-45	48.6	DRY TO 9'		47
RA-46	48.5	DRY TO 9'		47
RA-47	48.6	DRY TO 9'		47
RA-48	49.2	DRY TO 9'		47.5
RA-49	48.9	7.9	41.0	47.5

Notes:
1) All elevation data per GeoPoint Surveying, Inc.
2) GWT = groundwater level (at time of fieldwork).
3) NWSGWT = normal wet season high groundwater level.

410.2/07617.xlsx

POND EXCAVATION DATA TABLE

THE WOODS
POND TEST BORING LOCATIONS

Boring Number	Possible Excavation Depth (Ft.) (See Notes 1 and 2)	Comments
SPT-1	17	Stratum 6 @ 17'
SPT-2	20	Stratum 6 8' to 12'
SPT-6	20	Stratum 7 @ 22'
SPT-9	17	Stratum 7 @ 17'
SPT-11	20	Strata 1-5 to 25'
SPT-20	20*	Stratum 6 8' to 14'
SPT-22	20*	Strata 1-5 to 25'
SPT-23	17*	Stratum 6 @ 17'
SPT-24	12*	Stratum 6 3.5' to 5' Stratum 6 @ 12'
SPT-25	20*	Stratum 7 5.5' to 8'
SPT-27	20*	Stratum 7 3.5' to 5.5'
SPT-28	12*	Stratum 7 @ 12'
SPT-29	20*	Strata 1-5 to 25'
SPT-30	20*	Stratum 7 @ 22'
SPT-33	20*	Strata 1-4 to 25'
PB-1	20	Stratum 7 @ 22'
PB-2	17	Stratum 7 @ 17'
PB-3	17	Stratum 6 3.5' to 5.5' Stratum 7 @ 17'
PB-5	17*	Stratum 7 @ 17'
PB-6	20*	Stratum 6 5.5' to 8'
PB-7	25	Stratum 7 @ 25.5'
PB-8	20	Stratum 7 @ 24'
PB-9	25	Stratum 6 7' to 12' Stratum 7 @ 27'
PB-10	27	Strata 1-5 to 35'
PB-11	25	Stratum 7 @ 32'
PB-12	22	Stratum 7 5.5' to 8' Stratum 8 @ 32.5'
PB-13	27	Stratum 6 12' to 17'
PB-14	27	Stratum 7 @ 34.5'
PB-15	25	Stratum 6/7 8' to 12' Stratum 7 @ 32' Stratum 8 @ 34.5'
PB-16	25	Stratum 7 @ 30'

Notes:
1.) Soils typically suitable for reuse (Strata 1 - 5), after excavation, drying, mixing, proper placement and compaction, as structural fill material.
2.) Considering Note 1, the level of clay and/or weathered limestone. Please review the specific soil boring profile for the variable and differing conditions encountered.
3.) For previous pond area test boring results, see prior reports dated 5/26/10 and 4/28/11.
* Additional deeper SPT borings are necessary prior to assessing whether deeper pond excavation at this location is possible and appropriate.

410.3/07615.xlsx

GENERAL GEOTECHNICAL REQUIREMENTS
ROADWAYS AND BUILDING PAD AREAS

1. Considering the shallow soil and groundwater conditions on-site and the potential for higher groundwater levels during normal wet seasons, we recommend that the proposed residential roadways be constructed with either a soil cement base course or a crushed concrete aggregate base course, over a compacted sandy soil subgrade (less than 15% fines), minimum LBR of 20; unless a stabilized subgrade LBR of 40 is required for pavement design by the project civil engineer. With either base course referenced above, pavement grades should be selected such that there is at least 18 inches of separation between the bottom of the base course and the anticipated normal wet season high groundwater level (and this assumes pavement underdrains along both sides of conventional width roadways, with positive discharge at all times at least above the receiving pond's control level). The natural fine sand subgrade beneath the base or stabilized subgrade, and any fill used to raise the roadway areas, after topsoil stripping, should be compacted to a minimum of 98% of the maximum modified Proctor dry density in accordance with AASHTO T-180, to a depth of 1-foot below the stripped grade. A soil cement base, if used as the base course alternate, should meet PCA and Pasco County requirements, should have a 300 psi 7-day compressive strength, and should be compacted to a minimum of 98% of AASHTO T-134; soil cement compressive strengths in excess of 400 psi should be avoided. If crushed concrete aggregate is used as the base course in lieu of soil cement, the crushed concrete material should have a minimum limerock bearing ratio (LBR) of 150, should have a minimum compacted dry density of 114.0 pcf, should generally meet FDOT grainstze criteria for graded aggregate base, should be free of all deleterious materials, and should be compacted to a minimum of 98% of the maximum modified Proctor dry density in accordance with AASHTO T-180. If crushed concrete is considered as the base material, then we recommend that the proposed crushed concrete aggregate borrow source be evaluated by our office prior to any material arriving on-site. The actual pavement thickness design should be performed by the project civil engineer considering traffic loadings and volume data, and Pasco County standards.

2. The fine sand (natural) subgrade soils beneath all roadway/pavement areas, and any approved sandy fill materials (Strata 1-4) used to raise the roadway areas, after topsoil stripping, shall be heavily proofrolled and compacted to a minimum of 98% of the maximum modified Proctor dry density in accordance with AASHTO T-180, tested to a depth of 1-foot below the stripped or cleared grade. The roadway embankment sandy fills, or natural sands, within 24-inches of the bottom of the base (if no stabilized subgrade), or within 24-inches of the bottom of the stabilized subgrade (if there is stabilized subgrade), shall be fine sand materials with 15% fines or less passing the No. 200 sieve (typically A-3, SP or SP-SM sand materials). The uppermost fine sands (after topsoil material removal) along the upland portions of the roadway areas, should in general, have less than 15% fines passing the No. 200 sieve. In general, a majority of the upper Strata 1-4 (fine sand materials), free of organics, should have less than 15% fines passing the No. 200 sieve.

3. During roadway alignment (and building pad) stripping operations (and demucking operations), all surficial topsoils, organic sands, mucks, deleterious fills, roots, stumps, existing fills, all existing stockpiles, haul road fills, and all buried organics and deleterious fills, etc. shall be stripped and completely removed (plus a 5-foot margin); all these unsuitable materials shall be either hauled offsite or placed in unsuitable material disposal areas onsite after permission and direction from the project engineers, with developer consent. All stripped areas (and demucked areas) should be checked by the geotechnical consultant before proofrolling and any fill placement. All roadway (and building pad) areas shall be root-raked to a depth of at least 12 inches by the contractor prior to any compaction or filling. Any buried organic materials known or later discovered by the contractor or engineers, shall be uncovered and completely removed during stripping operations in all roadway/pavement (and building pad) areas. Backhoe test pits (to depths of typically 5 to 7 feet +/-) are necessary and required by the contractor in selected lots/building pad areas, as directed in the field by the geotechnical consultant, after acceptable topsoil stripping and known demucking, with lot staking by the project surveyor as requested in advance by the contractor. All backhoe test pit work by the contractor shall be performed under full-time geotechnical observation/monitoring, to check for acceptable subgrade and shallow soil conditions (and the absence of buried organics, debris, unsuitable fills), prior to any contractor compaction or filling operations. All concern areas identified shall be improved by the contractor to acceptable conditions, as directed in the field by the geotechnical consultant.

4. After stripping (and any demucking) operations are completed and the subgrade over all the roadway/pavement (and building pad) areas is checked by the geotechnical consultant, all the roadway/pavement (and building pad) areas shall be heavily proof-rolled with a large diameter vibratory drum roller, under the full-time observation/monitoring by a senior field technician working for the project geotechnical consultant. The contractor's proof-rolling equipment shall make 10 overlapping passes over all roadway areas, and 20 overlapping passes over all proposed building pad/lot areas. Any significant soft or yielding ground/subgrade areas, or ground depressions, caused by or discovered during proof-rolling operations, shall be noted and reported to the project engineers by the contractor, and then shall be treated by the contractor as directed in the field by the geotechnical consultant.

5. After acceptable proofrolling, and after any necessary deep/shallow soil improvements in or near geologic hazard concern areas (if any); all roadway stripped subgrades shall be compacted to 98% of AASHTO T-180 to a depth of 1-foot below the stripped/proofrolled surface; and all building pad stripped subgrades shall be compacted to 95% of ASTM D-1557 to a depth of 1-foot below the stripped/proofrolled surface, with density testing by the geotechnical consultant. Depending upon the time of the year and daily weather conditions, the contractor may need to implement some effective shallow groundwater and surface water dewatering measures and controls to facilitate and accomplish the above proofrolling requirements and the above subgrade density testing requirements. After acceptable stripped subgrade density testing, the contractor shall fill all roadway areas and building pad areas with approved fine sands (Strata 1-4) in 12-inch +/- loose lifts compacted to a minimum of 98% of AASHTO T-180 for roadways, and 95% of ASTM D-1557 for all building pad areas, with density testing by the geotechnical consultant, up to finished design grades; no subsequent fill lifts shall be placed by the contractor until the previous lift is compacted to the required density. If there exists any discrepancies or conflicts between any geotechnical requirements, the project geotechnical reports, the project plans, or the project permits, the contractor needs to notify the project engineers for resolution and final direction.

6. The contractor must select and operate all their construction/compaction/proofrolling/dewatering equipment such that no adjacent existing structures or utilities are adversely impacted. This will be a very important consideration for the building pad areas, roadways, and underground pipelines, adjacent to the existing TBW Easement (66-inch and 36-inch diameter water mains). Any new building pads (and roadways/utilities) adjacent to the existing easement need subgrade improvement for proper foundation support; this improvement needs to be accomplished by the contractor, satisfactory to the geotechnical consultant, without adversely impacting any adjacent existing structures, pipelines, etc. The contractor will need to implement effective procedures to dampen construction (and dewatering) vibrations/impacts beyond the new building pad (and roadway) limits, and should also provide ground vibration/settlement monitoring procedures in the field (if necessary) to document that their operations are not adversely impacting any adjacent existing structures/pipelines. The contractor must be experienced and prepared to handle the above issues; and the contractor must include any additional associated work/equipment or costs in their bid relative to effectively and properly handling/resolving these issues.

7. Depending upon final pavement grades (low points), it may be necessary to utilize significant pavement underdrains to control temporary wet season groundwater levels adequately below the pavement base. Pavement underdrains need to have positive discharge at all times, at least 0.1 foot above the receiving ponds DLW (treatment elevation). At least the current Pasco County guidelines for roadside underdrain locating, placement, design and construction should be followed by the project civil engineer and contractor. Pavement underdrain cleaning and routine maintenance (at least once a year) is essential for long-term effective working performance, and shall be the sole responsibility of the developer/CDD for private roads and the County for public roads.

8. Based on the test boring results provided, the fine sandy soils (Strata 1 – 4) excavated for utility pipeline/manhole installations should be reusable as general backfill over pipe and around structures (and as building pad and pavement area structural fill), assuming proper drying and placement. Strata 1 - 4 sands are the more desirable structural fill materials and utility trench/manhole backfill materials. Slightly clayey fine sands (Stratum 5) will require some additional drying and mixing with the upper sands by the contractor prior to reuse. The contractor should anticipate some additional handling, drying and mixing time when utilizing slightly clayey fine sand materials as structural fill or as utility trench or structure/manhole backfill. Clayey sand and sandy clay materials (Strata 6 and 7), if encountered during excavation, shall not be reused as utility trench or manhole/structure general backfill, or as building pad or pavement subgrade structural fill.

9. During utility manhole and storm or sanitary sewer pipeline excavation, the contractor could encounter some clayey sands and/or plastic clays (Strata 6 and 7), which after excavation will not be suitable for reuse as pipeline trench or manhole/structure backfill. The contractor must be prepared to handle these situations, and any associated potential dewatering problems that might arise during deeper utility/manhole excavations; and the contractor must include any associated work/equipment or costs in their construction bid relative to effectively handling and dealing with any excavation/dewatering issues. Any pipeline trench or manhole/structure excavation bottom "boils" shall be reported to the project engineers by the contractor, and then shall be properly repaired/sealed by the contractor, prior to pipe/foundation placement or backfilling, with input from the geotechnical consultant. Temporary dewatering will be a significant construction issue, and must be effective and sustained to accomplish all the requirements and confirming testing in this section. The contractor, prior to placing any pipe bedding or piping, shall improve any significant trench bottom or structure subgrade concerns to an acceptable condition, as directed in the field by the geotechnical consultant.

10. In general, all surficial and buried organic laden sand/muck/debris/deleterious fill materials, etc., currently known or later discovered by the contractor or via onsite testing, are unacceptable beneath building pad areas (and roadway and other structure areas), because of the elevated risk of unacceptable post-construction building/foundation/roadway settlement. In general, all these type unsuitable materials, discovered during subsequent building pad area testing or building pad and roadway construction, need to be completely removed and replaced (by the contractor) with acceptable structural fill materials properly compacted to at least 98% of AASHTO T-180 for roadways, and at least 95% of ASTM D-1557 for building pad areas, under geotechnical observation and testing. Also, all existing fills (of acceptable quality), in building pad and roadway areas, will need to be adequately compacted to the same criteria, prior to additional fill placement; with confirming density testing of each 1-foot of fill material within each building pad or roadway area.

11. Upon the completion of all the required residential lot fill soil density testing per the above requirements, up to the lot/building pad finished grades per the project plans, the geotechnical consultant shall perform the required lot/building pad test drilling, with surveying support from the project surveyor. The project geotechnical consultant shall evaluate any concern test boring results, and recommend appropriate measures to reduce any significant concerns. After the required lot testing work is completed and evaluated, as required by Section 807.5 E of Pasco County's LDC, the project geotechnical consultant shall complete the project lot testing summary/certification form (only Part A) for each residential lot/building pad (to be platted); the form is entitled ***Residential Building Pad/Foundation Testing Summary and Certifications***, see Sheet B-102. All the completed forms, one per residential lot/building pad to be platted (Part A only), each signed/sealed by the project geotechnical engineer (P.E.), shall be bound together for submittal; 1 original for Pasco County to be transmitted to the County by the project civil engineer; 1 copy for the project civil engineer; and 2 originals for the project developer. Any lots/building pads constructed but not certified and not platted at this time, shall be shaded and identified on a site plan by the civil engineer (with concurrence from the geotechnical engineer), and noted/marked as "not certified" and "not to be platted" at this time, with a cover letter with the site plan sent to all parties, including Pasco County, distributed by the project civil engineer.

12. There are specific "homebuilder" additional geotechnical requirements for all platted residential lots for this project, to comply with Sections 807.6 and 807.7 LDC, and to comply with the intent of Pasco County's amendment to the Florida Building Code (FBC) Section R401.4.3. These specific additional "homebuilder" geotechnical requirements shall be implemented by the homebuilder(s) for all the platted residential lots for this project, after each "finished" lot has been turned over or sold by the developer to the homebuilder. The homebuilder(s) shall be responsible for implementing the ***Homebuilder Additional Geotechnical Requirements All Building Pad Areas (After Lots Filled To Grade)***, specifically Items 1-8 (see Sheet B-102). The homebuilders geotechnical consultant shall complete Part B of the form entitled ***Residential Building Pad/Foundation Testing Summary and Certifications*** (see Sheet B-102); the homebuilder shall keep a copy of this completed testing summary/certifications form, and shall provide a copy to the developer, and a signed/sealed original to the County, within 45 days after the slab/foundation concrete is poured for the house.

MEI/Mainfile/410.2/07617.GenGeotReqRoadBuilding.doc (last revised 6/26/12)

GENERAL GEOTECHNICAL REQUIREMENTS
POND EXCAVATION AND SOIL REUSE

1. Considering the results of the test borings in proposed stormwater detention pond areas; the soil material types classified as fine sand to silty fine sand (Strata 1 – 4) discovered to varying depths, with typically 15% fines or less passing the No. 200 sieve, after excavation and drying, should be considered most suitable for reuse as roadway and building pad structural fill, and as utility pipeline and manhole backfill. The slightly clayey fine sands of Stratum 5, with typically 15% to 25% fines passing the No. 200 sieve, if encountered, should also be suitable for reuse as structural fill after excavation, assuming some additional drying and mixing with the upper fine sands prior to reuse and compaction. Temporary dewatering during pond excavation operations will be a significant construction issue.

2. The deeper clayey sands (Stratum 6), and the deeper sandy clays to clays (Stratum 7) should not be excavated from any pond areas, as they have little to no reuse value during land development; and SWFWMD, Pasco County and TBW will prohibit any significant excavation of these clayey semi-confining unit materials over the weathered limestone (Stratum 8). No deep semi-confining unit clayey materials (Strata 6 and/or 7) and no weathered limestone (Stratum 8) materials should be excavated or removed from any pond areas. If deeper clayey materials (Strata 6 and/or 7) or any limestone materials (Stratum 8) are encountered during any deep excavation operations, the contractor shall immediately cease excavation in that area, report any such incidents to the project engineers, and shall await direction from the project geotechnical consultant regarding how to proceed in that area. Any excavated shallow seams or zones of clayey sands (Stratum 6) or sandy clays to clays (Stratum 7), should not be removed from pond excavation areas; they should be reused to rebuild (or refill) excavated littoral shelf areas (and pond side banks), with proper placement and compaction.

3. Please review the Pond Excavation Data Table on the geotechnical plan sheets for the possible pond excavation depth at each pond area test boring location; considering the presence of reusable soils (Strata 1 - 5); the depth, thickness and integrity of the deep semi-confining unit clayey materials (Strata 6 and/or 7); the depth to weathered limestone (Stratum 8); leaving 10 feet (+/-) of soil buffer or cover overtop the weathered limestone formation. This Pond Excavation Data Table is appropriate for earthwork planning, estimating, design, permitting and construction. The possible pond excavation depth from this table could be put by each test boring location on the project construction plans (Grading & Drainage Plan sheets). A complete copy of this table, also included in the project geotechnical report for the pond areas, should be included on the construction plans. The contractor needs to be provided all the geotechnical reports relevant to this project (for bidding and implementation). If there exists any discrepancies or conflicts between any of the requirements, the Pond Excavation Data Table, the project plans, the project reports, or the project permits, the contractor needs to notify the project engineers for resolution and final direction. All pond excavation operations by the contractor shall comply with the project geotechnical and permit requirements.

4. The following notes need to be enlarged and put on the project construction plans (Grading & Drainage Plan sheets) for the subject project by the civil engineer; these notes provide additional direction for the project contractor.

"No pond excavation (for any purpose) shall extend beyond or below the permitted design depths shown on the drawings and on the Pond Excavation Data Table, also included in the project geotechnical report, unless additional testing supports otherwise, and such operation is consistent with permit requirements; and no lower semi-confining unit clayey materials (Strata 6 and/or 7) and no weathered limestone materials (Stratum 8) shall be excavated, regardless if these materials are encountered within the permitted excavation depths shown on the drawings or above the level noted on the Pond Excavation Data Table. No temporary dewatering ditches or sumps (for pond excavation) shall extend below the permitted design depths shown on the drawings and on the Pond Excavation Data Table. If any lower semi-confining unit clayey materials (Stratum 6 and/or 7) or weathered limestone materials (Stratum 8) are encountered above the permitted excavation depths (or above the levels on the Pond Excavation Data Table), then excavation operations in that pond area shall immediately cease in the general area, and the project geotechnical consultant shall be notified to provide subsequent evaluations/recommendations, as appropriate, which shall be implemented by the contractor. All pond excavation operations by the contractor shall comply with the project geotechnical and permit requirements. "

"For all stormwater detention pond areas and all other pond excavation areas, the contractor shall arrange for and coordinate the inspection/observation of the required proofrolling/compaction operations over all completed pond bottom areas, in a properly dewatered state, by the geotechnical consultant, owner and civil engineer, prior to any refilling of the pond with water or placement of any materials or plantings. Each entire pond bottom area shall be leveled sufficiently to permit proofrolling/compaction of the entire pond bottom area, until acceptable to the project engineers; and the contractor shall arranged for the re-staking of certain test boring locations in the field if requested by the geotechnical consultant. The contractor shall provide a large loaded dump truck, or large vibratory drum roller, acceptable to the geotechnical consultant, for the required heavy proofrolling/compaction operations over each completed pond bottom area; proper dewatering is essential; such operations shall be coordinated with and evaluated by the geotechnical consultant, owner and civil engineer. Any significant unstable bottom areas discovered or created, and any significant bottom boils, shall be documented and repaired/improved by the contractor, as directed by the geotechnical consultant, prior to obtaining final pond acceptance."

5. It is important to note that during pond excavation operations, because the shallow aquifer system will be temporarily dewatered (lowered) and the potentiometric level (or pressure) in the limestone upper Floridan Aquifer system will remain at a higher level, the potential exists that excavation bottom "boils" may develop during excavation operations, through natural vertical sand seams or wicks, through inconsistencies in the clayey semi-confining unit over the limestone, or because of the absence (or thin layer) of clayey semi-confining unit material over the limestone surface. Pond bottom "boils" could produce significant volumes of additional groundwater requiring removal, could create turbidity problems, and after excavation they could become "drains" creating post-construction problems. The contractor must be prepared to handle these situations; and the contractor must include any additional associated work/equipment or costs in their construction bid relative to effectively and properly handling/resolving these issues satisfactory to all parties. Any pond excavation bottom "boils" (and/or any pond bottom problems) must be brought to the immediate attention of the geotechnical consultant by the contractor, and must be properly repaired/sealed by the contractor, satisfactory to all parties, prior to final pond completion.

MEI/Mainfile/410.3/07615.GenGeotReqPondSoilReuse.doc (last revised 6/5/12)

DATE	DESCRIPTION	BY
	REVISIONS	

MORTENSEN ENGINEERING, INC.

DATE:
RICHARD A. MORTENSEN, P.E. NO. 34604
FLORIDA PROFESSIONAL ENGINEER

B-101

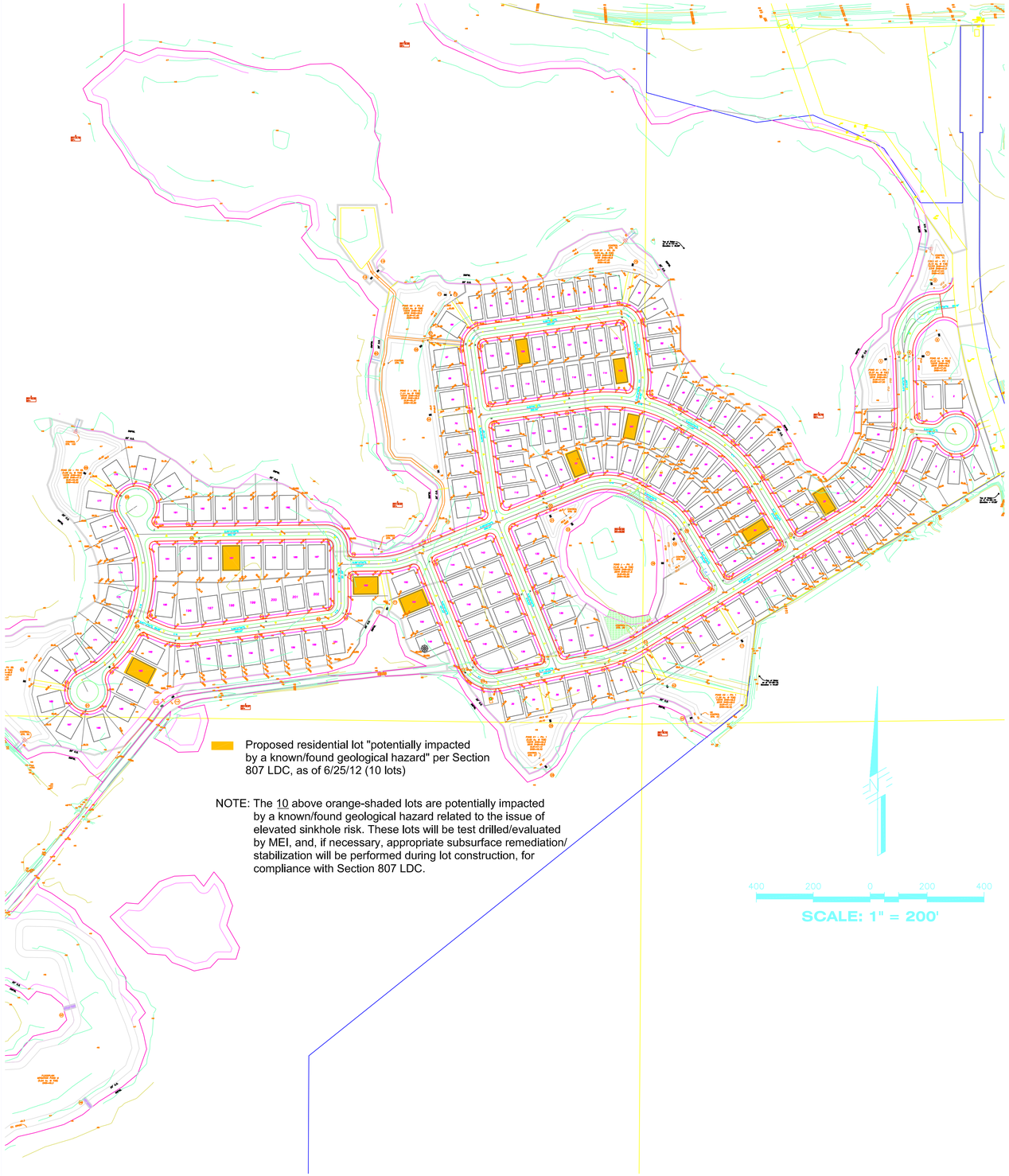
JOB NO. 12-10-07619
DESIGN MTG
DRAWN DNH
DATE
FILE

THE WOODS
GEOTECHNICAL DATA AND REQUIREMENTS

PREPARED FOR: TAYLOR MORRISON OF FLORIDA, INC.

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

SHEET # OF ## SHEETS



HOMEBUILDER ADDITIONAL GEOTECHNICAL REQUIREMENTS ALL BUILDING PAD AREAS (AFTER LOTS FILLED TO GRADE) FOR PART B OF FORM ENTITLED

"Residential Building Pad/Foundation Testing Summary and Certifications"

1. The homebuilder, for each developer completed lot/building pad, shall acquire (for each lot they plan to build on), an original of the above referenced form, with Part A already completed and certified by the developer's geotechnical consultant. The homebuilder shall provide his geotechnical consultant at least the original of the form (Part A already completed), and the house foundation design plans, relevant foundation details, notes and specifications for the house to be built on the subject lot/building pad, signed and sealed by the project architect or project structural engineer. The homebuilder's geotechnical consultant, based on available and/or supplemental testing data and his evaluation/review, shall confirm, if appropriate, that the design foundation bearing pressure on the house plans, and presumed foundation settlement tolerance, is acceptable; or provide alternative appropriate foundation design/construction recommendations to be implemented by the project architect/structural engineer and homebuilder. The homebuilder shall have his geotechnical consultant comply with the geotechnical portion of Section 807.6 of Pasco County's LDC, and provide the necessary statement/certification to accompany the homebuilders Building Permit Application, and house plans signed by the project architect/structural engineer.

2. The homebuilder, as a minimum, shall be responsible for obtaining the subsequent soils/concrete testing required for the lot and slab/foundation system (discussed below) after construction commences, and shall be responsible for having a qualified/experienced geotechnical consultant perform the subsequent required soils/concrete testing, complete Part B of the original form and provide P.E. certification. After house floor slab and foundation construction, the completed form (Parts A and B) shall be submitted by the homebuilder to Pasco County's Building Permit Inspection department, as required per Section 807.7 of Pasco County's LDC, and for compliance with Pasco County's technical amendment to the Florida Building Code (FBC) Section R401.4.3 (for each lot).

3. Each lot/building pad that needs or receives additional suitable sandy fill material (by the homebuilder) above the level compacted and tested by the developer per the project civil plans, shall require subsequent compaction and density testing. All additional fill shall be approved structural fine sand fill material, placed over properly stripped subgrade, compacted in 12-inch lifts to a minimum of 95% modified Proctor compaction per ASTM D-1557, with density testing of each 1-foot lift by a qualified geotechnical consultant, at 2 locations over the building pad area.

4. After below ground plumbing installation, and after final compaction of the floor slab subgrade and plumbing trench backfill (by the homebuilder), prior to vapor barrier or wire mesh placement, the compacted floor slab subgrade shall be checked for acceptable density, a minimum of 95% modified Proctor per ASTMD-1557, by the geotechnical consultant, at 2 locations over the building pad area.

5. After all the footings are cut to grade, after subsequent foundation subgrade compaction (by the homebuilder), prior to vapor barrier or steel rebar placement, the compacted foundation subgrades shall be checked for acceptable density, a minimum of 95% modified Proctor per ASTM D-1557, by the geotechnical consultant, at least at 4 locations, one test for each perimeter wall footing. Any interior load bearing wall or column footings shall also be properly compacted as specified herein, with density testing if required by the geotechnical consultant.

6. After completion of Items 4 and 5 above with acceptable testing results, the concrete for the floor slab and footings shall be placed that day if possible; if placed the next day, all slab and foundation subgrade conditions must be the same as previously accepted (unaffected by any rainfall or construction impacts), with confirmation by the homebuilders geotechnical consultant, just prior to concrete placement.

7. The concrete placed for floor slab and foundation element construction shall (at least) be sampled and tested for compressive strength and slump (per ASTM C-39, C-143, C-172), a minimum of 4 cylinders, by an ACI certified concrete technician, with results compared to the house design requirements on the house plans or specifications. The concrete technician shall be onsite before any concrete placement (for Item 6 above), and shall sample and test the concrete from the first truck, and shall remain onsite to observe all concrete placement operations for compliance with the approved plans/specifications. If any concrete placement procedures or testing results do not meet project requirements on the approved plans, then construction shall be stopped, and the project engineer and architect shall be consulted for remedy.

8. After the completion and acceptance of Items 3-7 above, the homebuilder's geotechnical consultant shall complete Part B of the above noted form, and provide the necessary certification. Within 45 days after house floor slab and foundation construction, the completed original form (Parts A and B) shall be submitted by the homebuilder to Pasco County's Building Permit Inspection department, per Section 807.7 of Pasco County's LDC, and for compliance with Pasco County's technical amendment to the Florida Building Code (FBC) Section R401.4.3 (for each lot). The homebuilder shall also provide a copy of the completed form to the project developer, and retain a copy for the house file.

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RESIDENTIAL BUILDING PAD/FOUNDATION TESTING SUMMARY AND CERTIFICATIONS

(Per Sec. 807.5 E - Sec. 807.7 Pasco County LDC, and FBC Sec. R401.4.3)

PART A

PROJECT NAME: _____
PHASE/SECTION: _____
LOT/BLOCK: _____
LOT ADDRESS: _____

OBSERVATION/TEST TYPE	RESULTS			
(Item 1) Backhoe Test Pit:	Date Performed: ____	Comments: ____		
(Item 2) Subgrade Stripping:	Date Performed: ____	Comments: ____		
(Item 3) Subgrade Proofrolling:	Date Performed: ____	Comments: ____		
(Item 4) Subgrade Density Tests: (0 is stripped subgrade)	0-1' (-1): ____	% Compaction	Date: ____	(P/F): ____
	1'-2' (-2): ____	% Compaction	Date: ____	(P/F): ____
	Comments: ____			
(Item 5) Lot Fill Density Tests: (0 is stripped subgrade)	0-1' (+1): ____	% Compaction	Date: ____	(P/F): ____
	1'-2' (+2): ____	% Compaction	Date: ____	(P/F): ____
	2'-3' (+3): ____	% Compaction	Date: ____	(P/F): ____
	3'-4' (+4): ____	% Compaction	Date: ____	(P/F): ____
	4'-5' (+5): ____	% Compaction	Date: ____	(P/F): ____
	Comments: ____			
(Item 6) SPT Boring Results: (0 is finished bldg pad per civil plans, boring per ASTM D-1586)	Date Drilled: ____			

Approx. GWT Depth: _____

Depth	N Value	Soil Type	Comments
0-2'	____	____	____
2'-4'	____	____	____
4'-6'	____	____	____
6'-8'	____	____	____
8'-10'	____	____	____
10'-12'	____	____	____
13'-15'	____	____	____

Comments: ____

I understand that this signed/sealed statement is to comply with Section 807.5 E LDC and other project geotechnical requirements. I understand that this document will be submitted to Pasco County by the homebuilders PE to comply with Section 807.6 LDC. I have reviewed the project geotechnical requirements; I have reviewed the results of any required special subsurface improvement (if any), required by the approved plans and geotechnical reports; and I have reviewed the above lot testing results (Items 1-6) performed under my direction, per the project requirements. It is my professional opinion that the above lot/building pad testing results meet or exceed the project requirements and the requirements of Section 807.5 E LDC. A shallow foundation system for the proposed 1 to 2 story residential structure on this lot could be designed with a net allowable soil bearing pressure of 2,000 psf, assuming the required testing below (PART B, Items 7-10) shows acceptable results, and is compatible with the house design/plans, with certification by the homebuilders PE, in order to comply with Section 807.6 LDC for Pasco County's Building Permit Application process.

Print Name: _____ Date: _____

Sign/PE Seal: _____

RAM/DT.last revised 5/29/12

RESIDENTIAL BUILDING PAD/FOUNDATION TESTING SUMMARY AND CERTIFICATIONS

(Per Sec. 807.5 E - Sec. 807.7 Pasco County LDC, and FBC Sec. R401.4.3)

PART B

PROJECT NAME: _____
PHASE/SECTION: _____
LOT/BLOCK: _____
LOT ADDRESS: _____

OBSERVATION/TEST TYPE	RESULTS			
(Item 7) Addtl. Fill Density Tests: (0-is finished bldg pad per civil plans)	0-1' (+1): ____	% Compaction	Date: ____	(P/F): ____
	1'-2' (+2): ____	% Compaction	Date: ____	(P/F): ____
		Comments: ____		
(Item 8) Finished Floor Slab Subgrade Density Tests: (after plumbing installed/ backfilled)	Back/Center: ____	% Compaction	Date: ____	(P/F): ____
	Front/Center: ____	% Compaction	Date: ____	(P/F): ____
		Comments: ____		
(Item 9) Perimeter Footing Subgrade Density Tests:	Right Wall: ____	% Compaction	Date: ____	(P/F): ____
	Left Wall: ____	% Compaction	Date: ____	(P/F): ____
	Front Wall: ____	% Compaction	Date: ____	(P/F): ____
	Back Wall: ____	% Compaction	Date: ____	(P/F): ____
		Comments: ____		
(Item 10) Floor Slab/Footing Concrete Testing:	Date of Pour: ____			
	Field Slump: ____		Design Requirement (P/F): ____	
	7-day Comp. Strength: ____		Design Requirement (P/F): ____	
	Avg. 28-day Comp. Strength: ____		Design Requirement (P/F): ____	
	Comments: ____			

I have reviewed the additional required testing results (Items 7-10), performed under my direction, per the project requirements; and it is my professional opinion that the additional testing results meet or exceed the project requirements, and are consistent with the approved house design/building plans. I understand that this document will be submitted to Pasco County by the homebuilder to comply with Sec. 807.7 LDC, and FBC Sec. R401.4.3.

Print Name: _____ Date: _____

Sign/PE Seal: _____

RAM/DT.last revised 5/29/12

DATE	DESCRIPTION	BY
	REVISIONS	

MEI
MORTENSEN ENGINEERING, INC.

DATE:
RICHARD A. MORTENSEN, P.E. NO. 34604
FLORIDA PROFESSIONAL ENGINEER

B-102

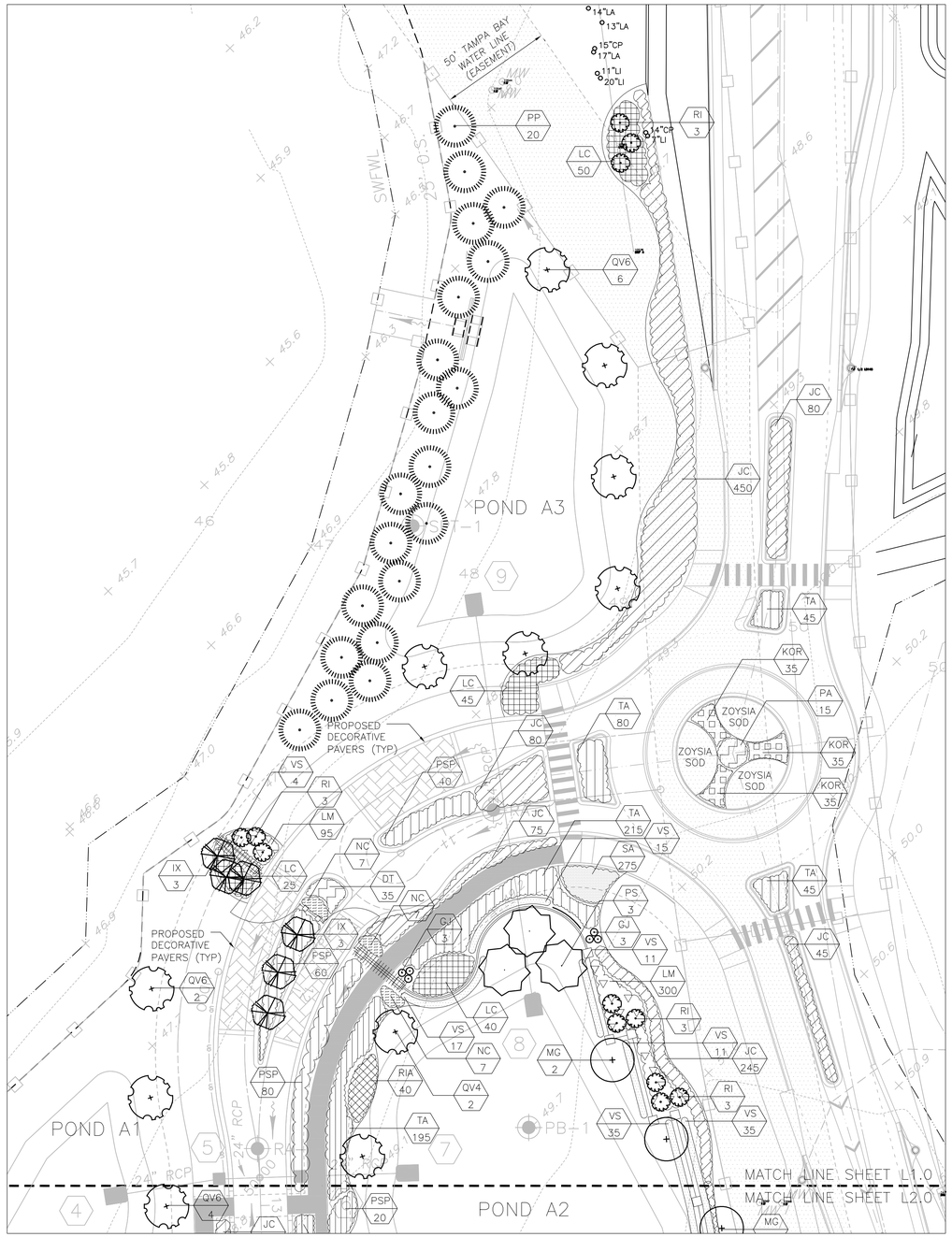
JOB NO. 12-10-07619
DESIGN MTG
DRAWN DNH
DATE
FILE

THE WOODS
GEOTECHNICAL DATA AND REQUIREMENTS

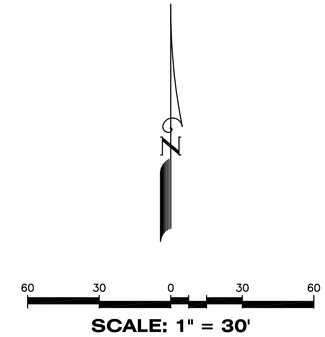
PREPARED FOR: TAYLOR MORRISON OF FLORIDA, INC.

Elevations based on North American Vertical Datum 1988 (NAVD 88)
Conversion from NAVD 88 to NGVD 29 = +0.83 Feet

SHEET # OF ## SHEETS



LANDSCAPE AREA #1



PLANT LIST:

Native	Drought Tolerant	Qty.	Code	Botanical Name	Common Name	Cal.	Height	Spread	Cont.	Comments	Spacing
				Trees							
NO	YES	15	RI	Rhaphiolepis indica 'Majestic Beauty'	Majestic Beauty Indian Hawthorn Tree	1.5"	5'	3'	15 Gal	Standard	
YES	YES	18	IX	Ilex attenuata 'Eagleston'	Eagleston Holly	3"	10'	3'-4'	45 Gal	Symmetrically sheared, full to ground	As Shown
NO	NO	16	LGM	Magnolia grandiflora 'Little Gem'	Little Gem Magnolia	3"	7-8'	3'	30 Gal	Standard, full to ground	As Shown
YES	YES	7	MC	Myrica cerifera	Wax Myrtle Tree	3"	10'	4'-5'	30 Gal	Min. 3-5 1" trunks, 2' to 3' clear trunk, full head	As Shown
YES	YES	31	PP	Pinus palustris	Long Leaf Pine	3"	10'	4' - 5'	45 Gal		As Shown
YES	YES	19	QV6	Quercus virginiana	Live Oak	6"	18'-20	11'-12'	200 Gal	8' ct. min., main central leader	
YES	YES	7	QV5	Quercus virginiana	Live Oak	5"	16'-18'	9'-10'	100 Gal	8' ct. min., main central leader	As Shown
YES	YES	48	QV4	Quercus virginiana	Live Oak	4"	14'-16'	7-8'	100 Gal	6' ct. min., main central leader	As Shown
NO	YES	12	PS	Phoenix sylvestris	Sylvester Date Palm		10' C.T. Ht.				
YES	YES	3	MG	Magnolia grandiflora	Southern Magnolia	4"	14'	7'			As Shown
				Palms							
YES	YES	16	SP	Sabal palmetto	Cabbage Palm	12"			B&B	Clear trunk height as shown-no boots, Staggered hts.	As Shown
				Shrubs							
NO	YES	1688	JC	Juniperus chinensis 'Parsonii'	Parson's Juniper		N/A	15-18"	2 GAL		2.5'
NO	YES	505	PSP	Pennisetum setaceum	White Fountain Grass		18-24"	18"-24"	1 Gal		3'
NO	YES	690	RIA	Raphiolepis indica 'Alba'	Dwarf Indian Hawthorn		15-18"	15-18"	3 Gal		2.5'
NO	YES	435	DT	Dianella tasmanica "Variegata"	Variegated Flax Lily		18"	18"-24"	1 Gal		2'
YES	YES	110	SR	Serenoa repens	Saw Palmetto		18-24"	18"-24"	3 Gal		3'
NO	YES	203	VS	Vibumum suspensum	Sandwanka Viburnum		18-24"	18"-24"	3 Gal		3'
NO	YES	21	NC	Nandina compacta	Dwarf Heavenly Bamboo		18-24"	18"-24"	3 Gal		3'
NO	YES	160	LC	Loropetalum chinensis rubrum 'Burgundy'	Burgundy Loropetalum		18-24"	18"-24"	3 Gal		3'
YES	YES	40	TF	Tripsacum floridanum	Dwarf Fakahatchee Grass		18-24"	18"-24"	1 Gal		3'
NO	YES	6	PA	Gardenia augusta 'Miami Supreme'	Miami Supreme Gardenia		18-24"	18"-24"	3 Gal	Grafted.	3'
NO	YES	450	KOR	Rosa 'Knock Out Double'	Red Double Knock Out Rose		18"	18"	3 Gal	Double Flower	2'
NO	YES	150	PA	Plumbago auriculatum	Blue Plumbago		18-24"	18"-24"	3 Gal		3'
NO	YES	25	JM	Jasmine multiflorum	Downy jasmine		18-24"	18"-24"	1 Gal		3'
				Groundcovers							
NO	NO	275	SA	Seasonal Annuals	Seasonal Annuals				4" Pot		12"
NO	YES	375	EG	Evolvulus glomeratus	Blue Daze				1 Gal	Full in pot	18"
NO	YES	985	LM	Liriope muscari 'Evergreen Giant'	Evergreen Giant Liriope				1 Gal	Full in pot	18"
NO	YES	1052	TA	Trachelospermum asiaticum	Dwarf Jasmine				1 Gal	Full in pot	2'
NO	YES			Paspalum notatum	Bahia Sod					Installed per FDOT Specifications	
NO	NO			Stenotaphrum secundatum 'Floratam'	St. Augustine 'Floratam' Sod					Installed per FDOT Specifications	
NO	YES			Zoysia matrella	Zoysia Grass					Installed per FDOT Specifications	

*Roots plus trees may be substituted for container grown trees.

DEVELOPER REQUIRED / PROVIDED TREES & LANDSCAPE

Site	Buffer Type	Total Linear Feet of Buffer	Total Shrubs Required	Total Trees Required	Diameter of Trees Required (Inches)	Total Inches of Trees Required	Total Trees Provided	Diameter of Trees Provided (Inches)	Total Inches of Trees Provided
POND J BUFFER (1 tree/50 LF)	Water Management Area	1,180	0	24	3	72	24	4	96
POND A1 BUFFER (1 tree/50 LF)	Water Management Area	230	0	5	3	15	6	4	24
POND A2 BUFFER (1 tree/50 LF)	Water Management Area	215	0	4	3	12	4	4	16
POND A3 BUFFER (1 tree/50 LF)	Water Management Area	250	0	5	3	15	6	4	24
East Side	Type D Buffer	600	100	20	3	60	20	4	80
Totals			**100**	**58**		**174**	**60**		**240**
SUBTOTAL INCHES TO BE USED FOR TREE REPLACEMENT CREDIT									**66**
TOTAL INCHES REQUIRED									**174**
TOTAL INCHES PROVIDED									**240**
CREDIT									**66**

REVISED NO.	BY	DATE	DESCRIPTION	REVISED NO.	BY	DATE	DESCRIPTION
1				6			
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4				9			
5				10			

	INITIALS	DATE
DESIGN	TFD	6/12/12
DRAWN	WJR	6/12/12
CHECKED	TDF	
QUALITY CHK		
SCALE	1"=30'	

PREPARED FOR:
TAYLOR MORRISON
1103 Marbella Plaza Drive
Tampa, FL 33619-7905

George F. Young, Inc.
Since 1919
BUSINESS LICENSE NUMBER AAC000793
ARCHITECTURE•ENGINEERING•ENVIRONMENTAL•LANDSCAPE•PLANNING•SURVEYING•UTILITIES
GAINESVILLE•LAKEWOOD RANCH•ORLANDO•PALM BEACH GARDENS•ST. PETERSBURG•TAMPA•VENICE

Thomas F. Deal, RLA No. 1446
DATE

THE WOODS
LANDSCAPE PLAN
SECTION 00, TOWNSHIP 00 S., RANGE 00 E.

JOB NO. 12005100SA
SHEET NO. L1.0

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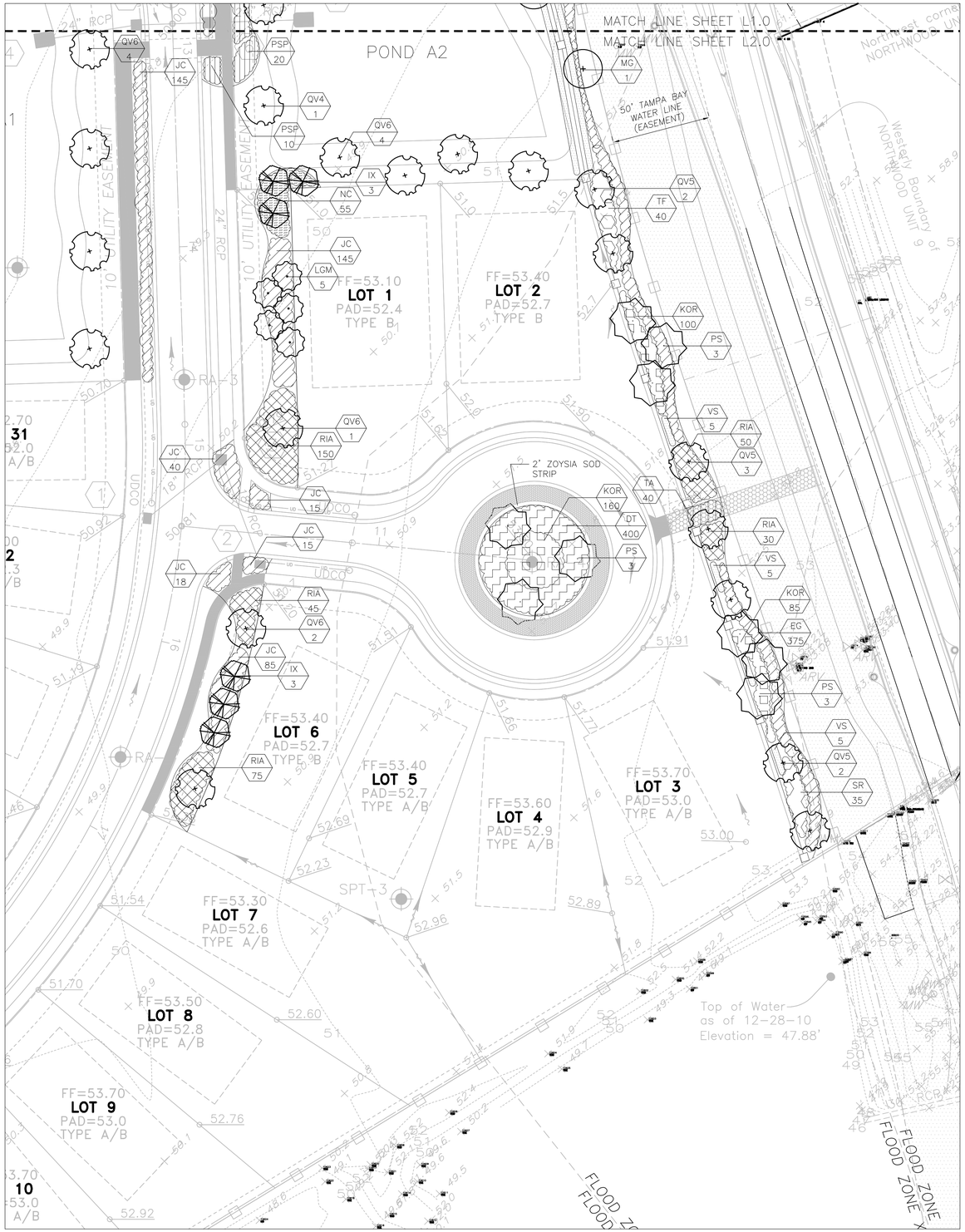

LANDSCAPE AREA #1

EXISTING TREE NOTE:

EXISTING TREES TO BE REMOVED WILL BE HARVESTED IN COMPLIANCE WITH THE AGRICULTURAL EXEMPTION.

N

60 30 0 30 60

SCALE: 1" = 30'

NOTES:

1. ALL PLANTS SHALL BE FLORIDA GRADE #1 OR BETTER.
2. APPLY A 3" LAYER OF MULCH TO ALL PROPOSED TREE, SHRUB, GROUNDCOVER AND VINE PLANTINGS.
3. ALL REQUIRED TREES TO BE PLANTED SHALL BE A MINIMUM OF 2" CALIPER OR LARGER. MULTI-TRUNK TREES SHALL BE A MINIMUM OF 2" CALIPER WITH A MIN. OF (3) TRUNKS.
4. NO REFERENCE TO ENGINEERING SHOULD BE MADE FROM THIS SHEET. FOR LANDSCAPE REFERENCE ONLY.
5. ANY DEVIATION FROM PLANT QUANTITY, SIZE, OR GRADE MAY JEOPORDIZE THE CERTIFICATE OF OCCUPANCY. ADDITIONAL PLANTS MAY BE ADDED, BUT MUST COMPLY WITH PASCO COUNTY REQUIREMENTS.
6. TAYLOR MORRISON IS RESPONSIBLE FOR MAINTENANCE OF TREES UNTIL ASSIGNED TO ANOTHER ENTITY.
7. ALL TREES MUST BE GUARANTEED BY LANDSCAPE CONTRACTOR FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY OWNER.
8. FOR EVERY FIVE TREES REQUIRED, THERE SHALL BE A MINIMUM OF ONE SPECIES PROVIDED, UP TO A MAXIMUM OF EIGHT SPECIES WHEN 40 OR MORE TREES ARE REQUIRED.
9. AN UNDERGROUND EFFLUENT IRRIGATION SYSTEM SHALL BE INSTALLED FOR ALL REQUIRED LANDSCAPING.
10. IRRIGATION SHALL BE DESIGNED TO COMPLY WITH SECTION LDC 603 OF LANSCAPING AND IRRIGATION ORDINANCE.

PASCO COUNTY STANDARD SITE NOTES:

1. ALL UTILITY CONSTRUCTION SHALL COMPLY WITH THE PASCO COUNTY STANDARDS FOR DESIGN AND CONTRUCTION OF WATER AND WASTEWATER FACILITIES SPECIFICATIONS, LATEST EDITION.
2. ALL ON-SITE WATER AND SEWER FACILITIES SHALL BE OWNED AND MAINTAINED BY THE OWNER-DEVELOPER.
3. INSTALLATION OF FUEL STORAGE TANKS REQUIRES REVIEW AND APPROVAL BY THE FIRE MARSHALL AND THE ISSUANCE OF A SEPARATE BUILDING PERMIT. APPROVAL OF THE SITE PLAN DOES NOT CONSTITUTE APPROVAL OF THE LOCATION OF THE FUEL TANKS.
4. ALL PROPOSED SIGNS MUST BE APPLIED FOR, APPROVED AND PERMITTED ON AN INDIVIDUAL BASIS APART FROM ANY ULTIMATELY- APPROVED SITE PLAN. APPROVAL OF THIS SITE PLAN DOES NOT CONSTITUTE APPROVAL OF ANY SIGNAGE.
5. HANDICAP PARKING SPACES WILL BE PROPERTY SIGNED AND STRIPED IN ACCORDANCE WITH FLORIDA STATUTE 316, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, OR OTHER APPLICABLE STANDARDS.
6. THE ARCHITECT/ENGINEER CERTIFIES THAT THE SITE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT.
7. ALL ON-SITE PARKING SPACES WILL BE STRIPED AND SIGNED IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTRAL DEVICES, LATEST EDITION. PARKING SPACES DIRECTIONAL ARROWS, AND STOP BARS SHALL BE STRIPED IN WHITE. IT SHALL BE THE OWNER-DEVELOPER'S RESPONSIBILITY TO PROPERLY SIGN AND STRIPE THE SITE IN ACCORDANCE WITH THE APPLICABLE STANDARDS.
8. THE OWNER-DEVELOPER ACKNOWLEDGES THAT THIS APPROVAL DOES NOT INCLUDE ANY WORK IN THE COUNTY RIGHT OF WAY. ALL RIGHT OF WAY WORK SHALL BE A FUNCTION OF AN APPROVED PASCO COUNTY RIGHT OF WAY USE PERMIT.
9. ALL CLEAR-SITE AREAS SHALL BE KEPT FREE OF ANY SIGNAGE, PLANTINGS, TREES, ETC. IN EXCESS OF THREE AND A HALF (3-1/2) FEET IN HEIGHT.
10. NO IRRIGATION SYSTEM OR LANDSCAPING SHALL BE INSTALLED IN ANY COUNTY OR STATE RIGHT OF WAY WITHOUT THE ISSUANCE OF AN APPROPRIATE RIGHT OF WAY USE PERMIT.
11. THE OWNER-DEVELOPER ACKNOWLEDGES THAT THE SITE AND IT'S SUBSEQUENT BUILDING PERMITS SHALL COMPLY WITH ALL REZONING/MPUD/PUD CONDITIONS. ALL STRUCTURES INCLUDING BUFFER WALLS, RETAINING WALLS, SIGNAGE, ETC., SHALL REQUIRE SEPARATE BUILDING PERMITS.

WATER MANAGEMENT AREAS:

RETENTION AREAS VISIBLE FROM THE ROAD, OR LOCATED WITHIN REQUIRED BUFFERING (MAX. 70% INTRUSION INTO BUFFER WIDTH), MUST BE OFFSET WITH ONE TREE PER 50 LF OF POND AND MEANDERED.

LANDSCAPING SPECIFICATIONS:

SIZES REQUIRED AT INSTALLATION: SHADE TREES MIN. 2" CAL.; SHRUBS 18" HT., 36" O.C.
NO MORE THAN 30% OF THE REQUIRED LANDSCAPE AREA MAY BE GRASSED (SEC. 10)
NO PLANTINGS OVER 3-1/2' HT. IN THE 20' CLEAR-SITE AREAS.
PALM TREES COUNT AS 3 TO 1; i.e., 3 PALMS = 1 SHADE TREE.
MAXIMUM 50% PLANT MATERIALS, OTHER THAN TREES, MAY BE NON-DROUGHT TOLERANT. NATIVE MATERIAL AS FOLLOWS: 2004 – 30% NATIVE PLANT MATERIALS.
FOR EVERY 5 TREES REQUIRED, THERE SHALL BE MINIMUM ONE SPECIES PROVIDED, UP TO A MINIMUM OF EIGHT SPECIES WHEN FORTY OR MORE TREES ARE REQUIRED (SECT. 602.7.B.1.d – TREE ORD.)
NO ONE PLANT SPECIES OF SHRUBS OF GROUNDCOVER, EXCLUDING TURF GRASS, SHALL CONSTITUTE MORE THAN TWENTY-FIVE (25%) PERCENT OF ANY LANSDCAPE PLAN (SECT. 6.C.11, L&IO)
BERM HEIGHT IS MEASURED FROM THE VEHICULAR USE AREA GRADE.
IRRIGATION DESIGNED PER REQUIREMENTS OF SECT. 15.C.L.&10.
MULCH AND GRAVEL SPECIFICATIONS – LDC 603.

NOTES PER PASCO COUNTY:

1. PALM TREES (EXCEPT PHOENIX SPECIES) SHALL BE SPACED 8' ON CENTER.
2. GROUND COVER PLANTS (PER PASCO COUNTY) SHALL REACH A MAXIMUM HEIGHT OF 24".

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	INITIALS	DATE
DESIGN	TFD	6/12/12
DRAWN	WJR	6/12/12
CHECKED	TDF	
QUALITY CHK		
SCALE	1"=30'	

PREPARED FOR:
TAYLOR MORRISON
1103 Marbella Plaza Drive
Tampa, FL 33619-7905

George F. Young, Inc.
Since 1919
BUSINESS LICENSE NUMBER AAC000793
ARCHITECTURE•ENGINEERING•ENVIRONMENTAL•LANDSCAPE•PLANNING•SURVEYING•UTILITIES
GAINESVILLE•LAKEWOOD RANCH•ORLANDO•PALM BEACH GARDENS•ST. PETERSBURG•TAMPA•VENICE

Thomas F. Deal, RLA No. 1446
DATE

THE WOODS
LANDSCAPE PLAN
SECTION 00, TOWNSHIP 00 S., RANGE 00 E.

JOB NO. 12005100SA
SHEET NO. L2.0

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LANDSCAPE AREA #2

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THE WOODS
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SECTION 00, TOWNSHIP 00S., RANGE 00E.

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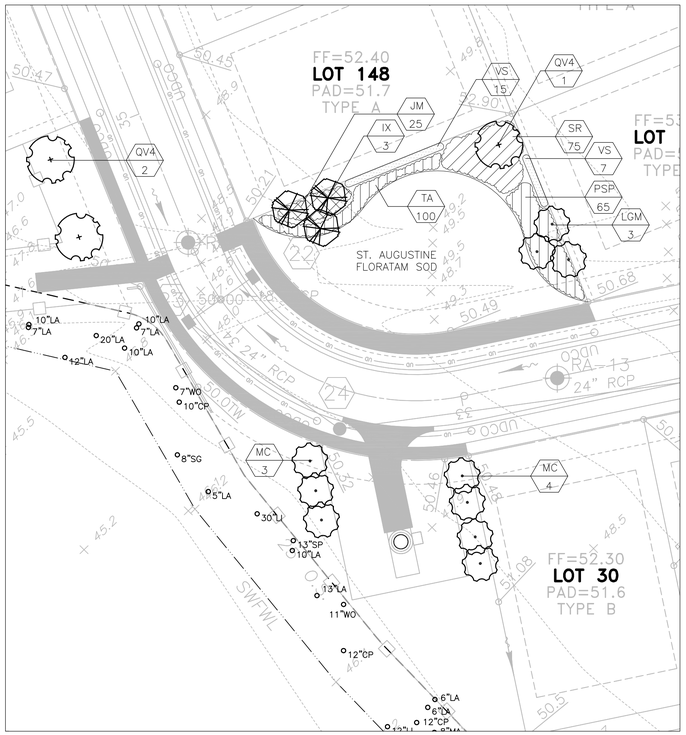

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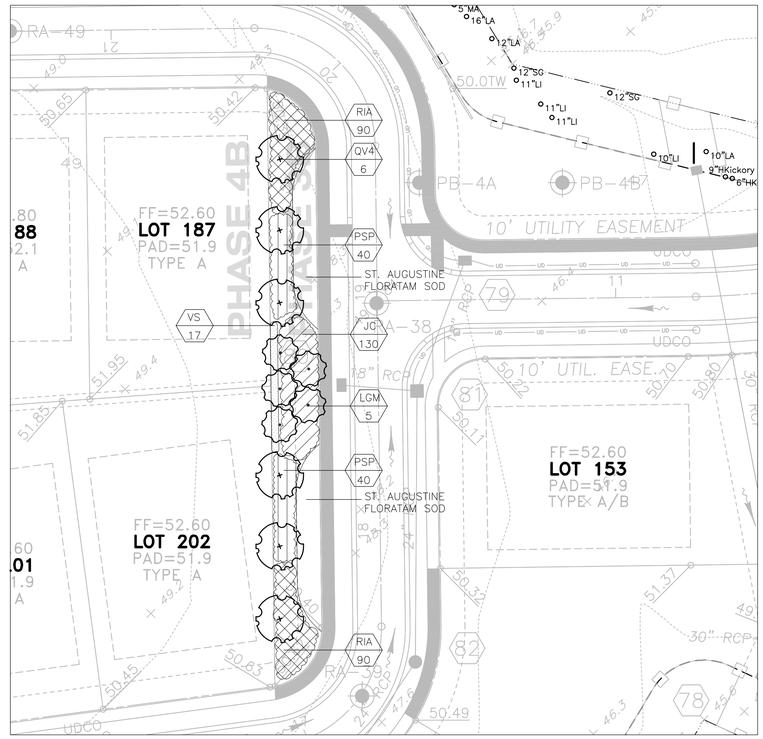

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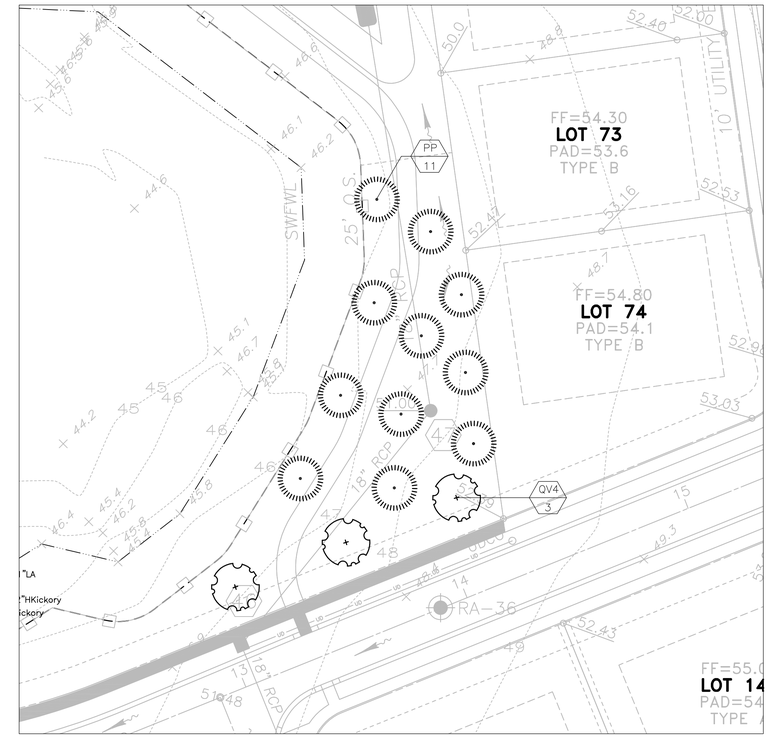

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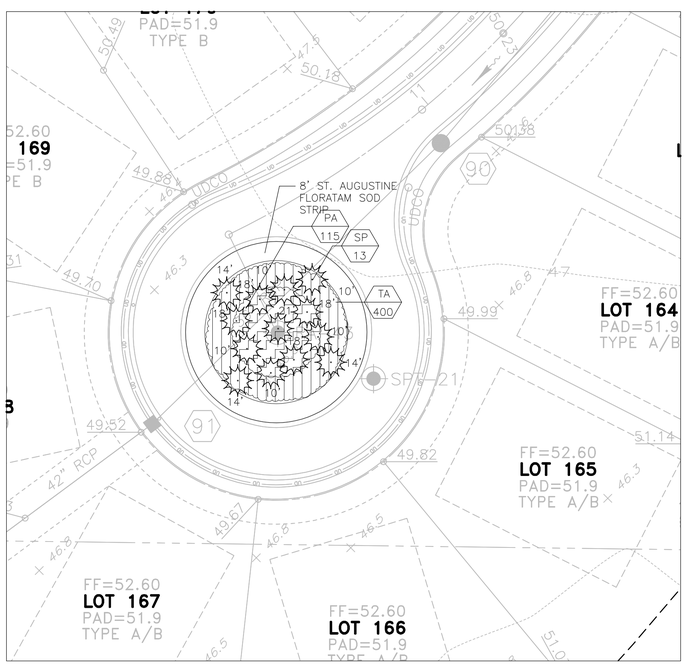

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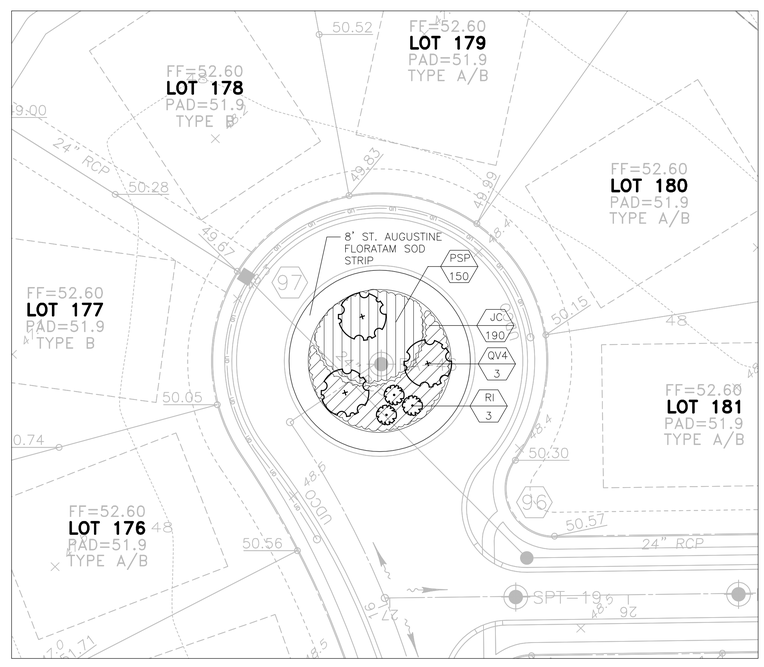

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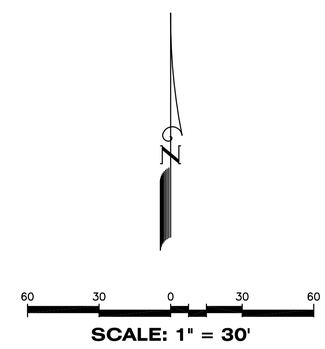

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DESIGN	TFD	6/12/12
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QUALITY CHK		
SCALE	1"=30'	

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DATE

THE WOODS
LANDSCAPE PLAN
SECTION 00, TOWNSHIP 00 S., RANGE 00 E.

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SHEET NO. L4.0

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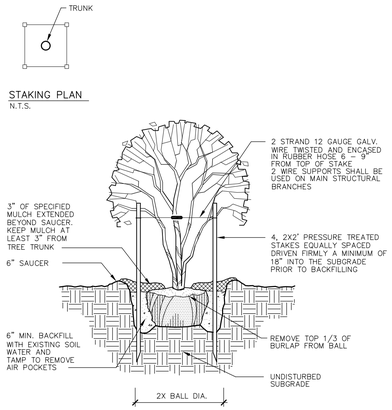


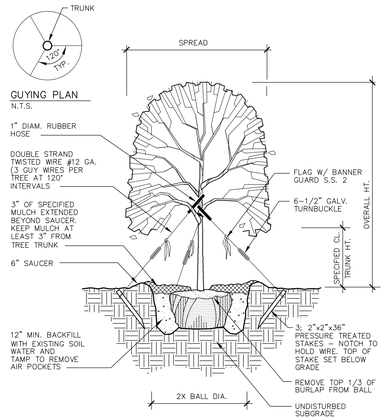
STAKING PLAN
N.T.S.

NOTES:

- STAKE TO FIRST BRANCHES AS NECESSARY FOR FIRM SUPPORT.
- WIRE SHALL NOT TOUCH OR RUB ADJACENT TRUNKS OR BRANCHES.

MULTI–TRUNK TREE STAKING DETAIL

N.T.S.



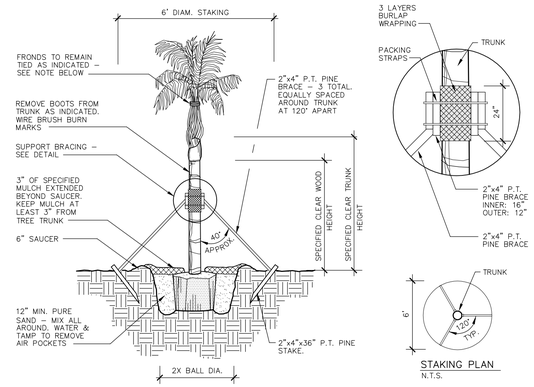
GUYING PLAN
N.T.S.

NOTES:

- PLANT SO THAT TOP OF ROOT BALL IS EVEN WITH THE FINISHED GRADE.
- BOTTOM OF ROOT BALL SHALL BE SEATED DIRECTLY ON UNDISTURBED SUBGRADE.
- STAKE ABOVE FIRST STRONG BRANCHES OR AS NECESSARY FOR FIRM SUPPORT.
- FLAG GUYING WIRES WITH BANNER GUARD S.S. 2 OR APPROVED EQUAL.

TREE PLANTING DETAIL – GUY WIRES

N.T.S.



STAKING PLAN
N.T.S.

NOTES:

- PALM FRONDS SHALL BE TIED UP UNTIL AFTER PLANTING. TIES SHALL BE REMOVED AS FOLLOWS: DATE PALM – ONE WEEK; WASHINGTON PALM & QUEEN PALM – IMMEDIATELY; SABAL PALMS WHICH ARE NOT 'HURRICANE CUT' SHALL REMAIN TIED FOR SIX MONTHS. REMOVE ALL DEAD AND BROKEN FRONDS. NEVER CUT BUD.
- ALL TRUNKS SHALL BE PREPARED PRIOR TO DELIVERY. DATE PALMS SHALL BE 'CLASSIC CUT'; SABAL AND WASHINGTON PALMS SHALL BE BOOTED OR SHAVED AS SPECIFIED.
- PLANT IN PURE SAND. PLANT SO THAT TOP OF ROOT BALL IS 2" ABOVE FINISHED GRADE; BOTTOM OF ROOT BALL SHALL BE SEATED DIRECTLY ON UNDISTURBED SUBGRADE.
- NEVER NAIL INTO TRUNK.

PALM PLANTING DETAIL

N.T.S.

GENERAL NOTES

A. IRRIGATION SYSTEM PROVIDING 100% COVERAGE SHALL BE INSTALLED (SEE IRRIGATION PLANS AND SPECIFICATIONS IF ISSUED).

B. IF ISSUED, WRITTEN SPECIFICATIONS SHALL BE AN INTEGRAL PART OF THIS PLAN SET.

C. ALL TREES, INCLUDING PALMS, SHALL BE SET VERTICALLY TO THE GROUND, OR IF ON SLOPES OR BERMS, SHALL BE SET VERTICALLY TO THE SURROUNDING FLAT TERRAIN.

D. ALL SOD SHALL BE 100% SOLID SOD, 99% FREE OF NOXIOUS WEEDS, WITH A 2" THICKNESS OF ROOTS CAPABLE OF HOLDING SAND. SOD SHALL BE FRESHLY–CUT WITHIN TWENTY–FOUR (24) HOURS OF LAYING, LAID WITH TIGHTLY–BUTTED JOINTS, AND ROLLED. HAND RAKING SHALL BE DONE AS NECESSARY TO ENSURE PROPER EVEN GRADES AND CLEAR SURFACES FOR SOD.

E. THE LANDSCAPE CONTRACTOR SHALL FIELD VERIFY PROPERTY LINE LOCATIONS BEFORE INSTALLATION OF ANY PERIMETER PLANT MATERIAL OR IRRIGATION SYSTEM.

F. ALL PLANTINGS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION, IF REQUIRED.

G. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING FULLY BOTH THE SITE AND THE BID DOCUMENTS. DISCREPANCIES IN DOCUMENTS OR SITE CONDITIONS SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT IN WRITING AT TIME OF BIDDING OR DISCOVERY, AND NO ACCOUNT SHALL BE MADE AFTER CONTRACT COMPLETION FOR FAILURE TO REPORT SUCH CONDITION, OR FOR ERRORS ON THE PART OF THE LANDSCAPE CONTRACTOR AT TIME OF BIDDING. (ONLY EXTREMELY PECULIAR AND UNUSUAL CONDITIONS WILL BE CONSIDERED FOR NEGOTIATION.)

H. ALL QUESTIONS CONCERNING THIS PLAN SET OR SPECIFICATIONS SHALL BE DIRECTED TO THE LANDSCAPE ARCHITECT.

I. PLANT MATERIALS ARE TO BE BID AS SPECIFIED UNLESS UNAVAILABLE, AT WHICH TIME THE LANDSCAPE ARCHITECT WILL BE NOTIFIED BY TELEPHONE AND IN WRITING OF THE INTENDED CHANGES.

J. THE PLANT KEY IS PRESENTED FOR THE CONVENIENCE OF THE CONTRACTOR. IN THE EVENT OF A DISCREPANCY BETWEEN THE PLAN AND PLANT LIST, THE PLAN SHALL PREVAIL.

K. THE LANDSCAPE CONTRACTOR WILL PROVIDE A SOIL SAMPLE ANALYSIS TO DETERMINE APPROPRIATE SOIL AMENDMENTS (I.E., FERTILIZER, LIME, ETC.). THE CONTRACTOR WILL PROVIDE COPIES OF THE TEST RESULTS TO THE OWNER AND THE LANDSCAPE ARCHITECT.

L. ALL PLANTS TO BE FERTILIZED WITH AGRIFORM 20–10–05 TABLETS AS PER INSTRUCTIONS IN CONJUNCTION WITH NOTE K.

M. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR SECURING ALL NECESSARY APPLICABLE PERMITS AND LICENSES TO PERFORM THE WORK SET FORTH IN THE PLAN SET OR WRITTEN SPECIFICATIONS.

N. THERE SHALL BE NO ADDITIONS, DELETIONS, OR SUBSTITUTIONS WITHOUT THE WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT.

O. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE HIS WORK WITH THE WORK OF OTHER TRADES OR PROFESSIONALS ON THE SITE WHOSE WORK MAY OVERLAP OR INTERFERE WITH THE WORK SET FORTH IN THE PLAN SET OR WRITTEN SPECIFICATIONS.

P. THE GENERAL CONTRACTOR SHALL ENSURE THAT ALL PLANTING ISLANDS OR AREAS SHALL BE CLEAN OF ALL TRASH, DEBRIS, OR OTHER NON–INDIGENOUS MATERIALS TO A DEPTH OF 18"–24" PRIOR TO ANY LANDSCAPE INSTALLATION .

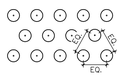
Q. THE LANDSCAPE CONTRACTOR AND/OR GENERAL CONTRACTOR SHALL NOTIFY THE OWNER AND THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES IN SITE CONDITIONS OR NON–CONFORMANCE TO SPECIFICATIONS, SUCH AS GRADING, BACKFILLING, REMOVAL OF DEBRIS, GRUBBING, ETC.

R. ALL EXISTING TREES TO REMAIN SHALL BE BARRICADED (SEE DETAIL).

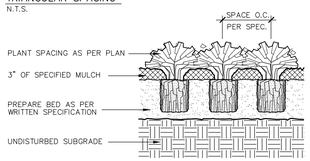
S. ALL CLEARING, GRUBBING, EXCAVATING, AND/OR GRADING UNDER THE DRIP LINE OF TREES TO REMAIN TO BE DONE BY HAND. ANY EXCEPTIONS TO THIS SHALL BE APPROVED AND SUPERVISED BY THE LANDSCAPE ARCHITECT.

T. ALL TREES TO REMAIN SHALL HAVE ALL DEAD WOOD AND CONFLICTING WOOD REMOVED. ANY BALL MOSS OR OTHER PARASITIC PLANT SPECIES SHALL BE REMOVED FROM TREE CANOPY.

U. ALL TREES TO REMAIN SHALL BE SPRAYED WITH LINDANE OR APPROVED EQUAL TO CONTROL BORES. SPRAY SHALL BE APPLIED BY A STATE CERTIFIED INDIVIDUAL OR FIRM ONLY.



TRIANGULAR SPACING
N.T.S.

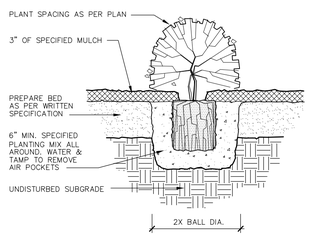


NOTES:

- GROUND COVER PLANTS ARE TO BE SPACED AS INDICATED ON PLANTING PLAN.
- 3" MIN. SPECIFIED PLANTING MIX UNDER AND AROUND – WATER AND TAMP TO AIR POCKETS.

GROUNDCOVER PLANTING DETAIL

N.T.S.

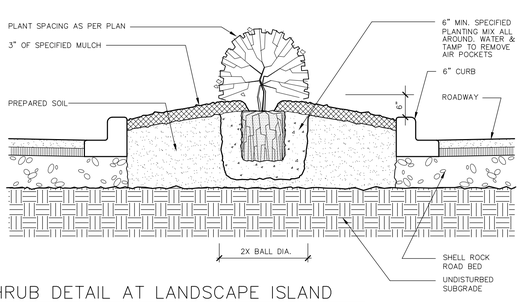


NOTES:

- PLANT SO THAT TOP OF ROOT BALL IS EVEN WITH THE FINISHED GRADE.

SHRUB PLANTING DETAIL

N.T.S.



SHRUB DETAIL AT LANDSCAPE ISLAND

N.T.S.

LANDSCAPE NOTES

A. PLANT MATERIAL STANDARDS

ALL PLANT MATERIAL USED ON THIS PROJECT SHALL BE "FLORIDA NO. 1" AS DESCRIBED IN THE LATEST EDITION OF "GRADES AND STANDARDS FOR NURSERY PLANTS", PARTS I AND II, BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES. REFER TO DETAILS FOR FURTHER QUALITY SPECIFICATIONS.

B. GRADING OF PLANTING BEDS

ALL PLANTING BEDS SHALL BE 6" BELOW ADJACENT STRUCTURES AND SLOPE AT 3% AWAY FROM EXISTING STRUCTURES. VERIFY THIS CONDITION WITH GENERAL CONTRACTOR PRIOR TO BEGINNING WORK. PARKING LOT ISLANDS SHALL SLOPE AT 3% FROM CENTER OF ISLAND TO CURB. TOE OF SLOPE ON ALL BEDS SHALL FINISH AT 2" BELOW SIDEWALKS, CURBS OR OTHER HARD EDGING TO ALLOW FOR MULCH THICKNESS.

C. BED PREPARATION AND PLANTING

LOOSEN SOIL TO A MINIMUM DEPTH OF FOUR INCHES AND REMOVE ALL DEBRIS. REGRADE THE BED TO ITS PRE–PLANTING SUBGRADE. DIG PLANTING PITS AT 2 TIMES THE DIAMETER OF THE POT. FILL PLANT PIT WITH 50% EXISTING SOIL AND 50% TOPSOIL (SEE BELOW) AND COMPACT SO THAT THE TOP OF ROOT BALL WILL SETTLE 1/8 DEPTH OF ROOT BALL ABOVE FINISH GRADE. SET PLANT AND FILL REMAINDER OF HOLE WITH PLANTING MIX. FERTILIZE EACH PLANT WITH THE RECOMMENDED RATE OF 6–6–6 FERTILIZER AND/OR AGRIFORM TABLETS, WATER IN THOROUGHLY. RESET ANY PLANTS THAT SETTLE TOO DEEP. REMOVE SPOIL DIRT AND RAKE THE BED TO ITS FINISH GRADING. COVER ALL BED AREAS WITH A 3" DEPTH OF PINE BARK MULCH. REMOVE ALL DEBRIS FROM MULCH.

D. TOPSOIL

TOPSOIL SHALL BE A NATURAL FRIABLE, FERTILE, FINE LOAM SOIL. IT SHALL BE CERTIFIED (BY TESTING) TO BE FREE OF WEED SEEDS AND PATHOGENS. IT SHALL ALSO BE FREE OF LITTER, SOD, CLAY, STONES, ROOTS AND STUMPS. IT SHALL BEAR A PH OF BETWEEN 5.5 AND 7.5.

E. EDGING

ALL EDGING SHALL BE AS DESCRIBED IN THE PLANTING DETAILS.

F. TREE STAKING

ALL TREES TO BE STAKED AND GUYED AS SHOWN IN THE DETAILS UNLESS OTHERWISE SPECIFIED BY THE GENERAL CONTRACTOR. TREE STAKING OR SUPPORT WIRE SHALL BE REMOVED AFTER ONE (1) COMPLETE GROWING SEASON.

G. WARRANTY

ALL PLANT MATERIAL SHALL BE GUARANTEED BY CONTRACTOR FOR A PERIOD OF ONE YEAR FROM RECEIVING FINAL ACCEPTANCE BY THE OWNER AND/OR LANDSCAPE ARCHITECT.

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	INITIALS	DATE
DESIGN	TFD	6/12/12
DRAWN	WJR	6/12/12
CHECKED	TFD	
QUALITY CHK		
SCALE	1"=30'	

PREPARED FOR:
TAYLOR MORRISON
1103 Marbella Drive
Tampa, FL 33619–7905

George F. Young, Inc.
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Thomas F. Deal, RLA No. 1446
DATE

THE WOODS
LANDSCAPE NOTES AND DETAILS
SECTION 00, TOWNSHIP 00S., RANGE 00E.

JOB NO. 12005100SA
SHEET NO. L5.0

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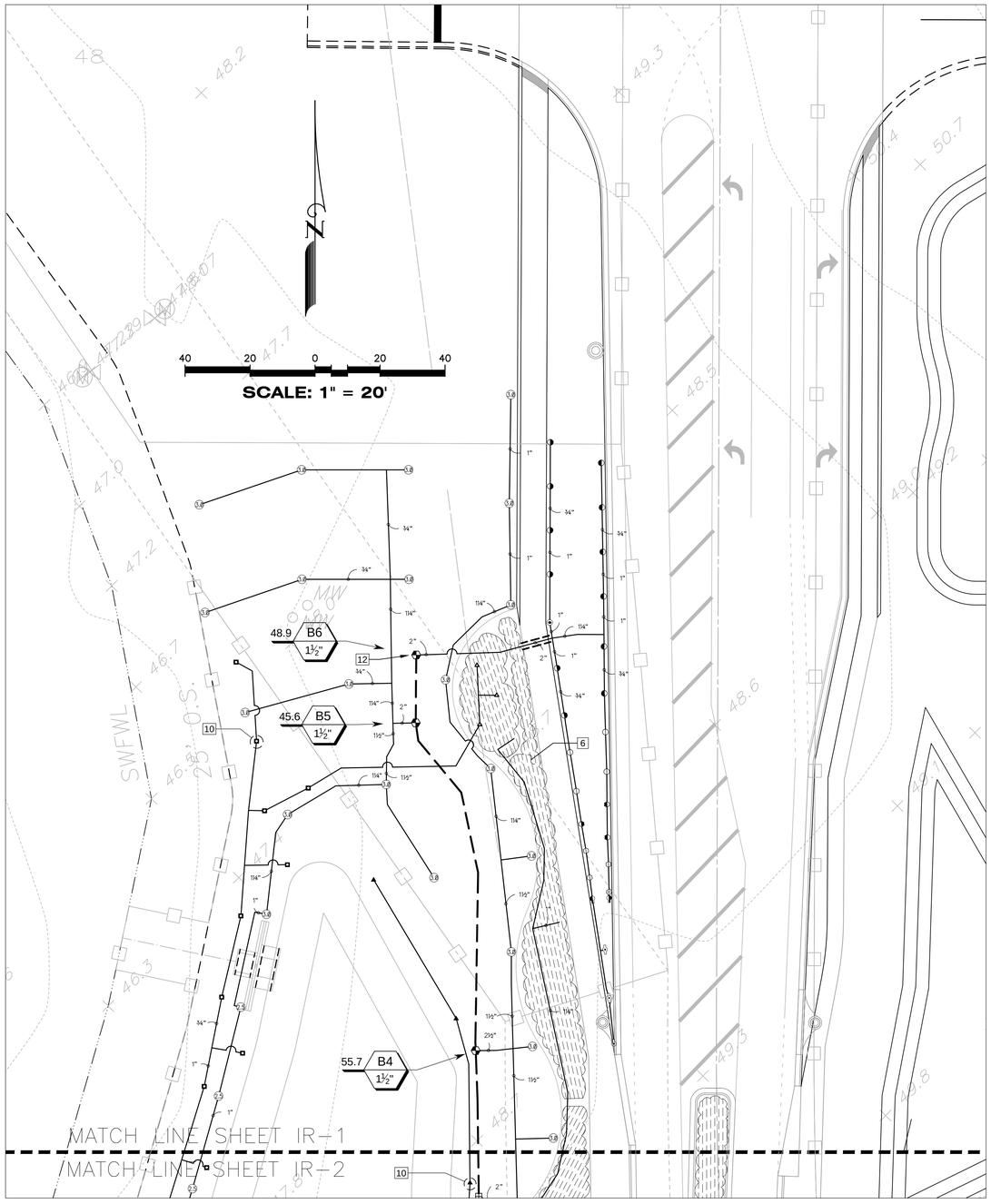
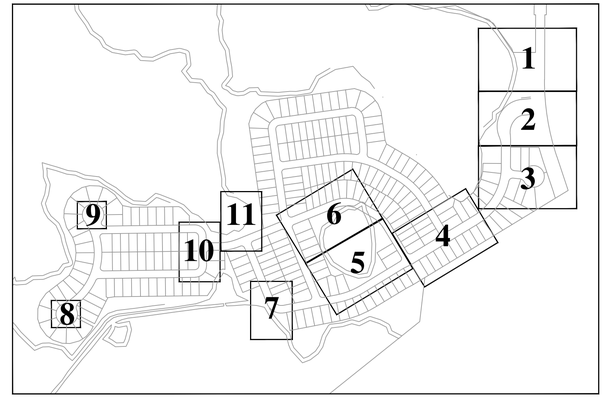


IRRIGATION AREA #1



INDEX OF IRRIGATION AREAS

N.T.S.

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
EST LCS RCS CST SST	RAIN BIRD RD-06-NP 15 STRIP SERIES TURF SPRAY, 6.0" POP-UP WITH NON-POTABLE COVER (PURPLE CAP). 1/2" NPT FEMALE THREADED INLET.	58
Q H F	RAIN BIRD RD-06-NP 5 SERIES MPR TURF SPRAY, 6.0" POP-UP WITH NON-POTABLE COVER (PURPLE CAP). 1/2" NPT FEMALE THREADED INLET.	2
Q T H F	RAIN BIRD RD-06-NP 8 SERIES MPR TURF SPRAY, 6.0" POP-UP WITH NON-POTABLE COVER (PURPLE CAP). 1/2" NPT FEMALE THREADED INLET.	353
Q T H F	RAIN BIRD RD-06-NP 10 SERIES MPR TURF SPRAY, 6.0" POP-UP WITH NON-POTABLE COVER (PURPLE CAP). 1/2" NPT FEMALE THREADED INLET.	115
Q T H TQ F	RAIN BIRD RD-06-NP 12 SERIES MPR TURF SPRAY, 6.0" POP-UP WITH NON-POTABLE COVER (PURPLE CAP). 1/2" NPT FEMALE THREADED INLET.	89
Q T H TQ F	RAIN BIRD RD-06-NP 15 SERIES MPR TURF SPRAY, 6.0" POP-UP WITH NON-POTABLE COVER (PURPLE CAP). 1/2" NPT FEMALE THREADED INLET.	38
4 6 8 10 12 15 18	RAIN BIRD RD-06-NP ADJ TURF SPRAY, 6.0" POP-UP WITH NON-POTABLE COVER (PURPLE CAP). 1/2" NPT FEMALE THREADED INLET.	201
12 HE-VAN 15 HE-VAN	RAIN BIRD RD-12-NP ADJ SHRUB SPRAY, 12.0" POP-UP WITH NON-POTABLE COVER (PURPLE CAP). 1/2" NPT FEMALE THREADED INLET.	5
1401 1402 1404 1408	RAIN BIRD 1800-1400 FLOOD FLOOD BUBBLER ON FIXED RISER	195

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
1.5	HUNTER PGP-04-CV-R TURF ROTOR, 4.0" POP-UP. ADJUSTABLE TO FULL CIRCLE. WITH DRAIN CHECK VALVE, AND RECLAIMED WATER PURPLE ID.	8
2.0	HUNTER PGP-04-CV-R TURF ROTOR, 4.0" POP-UP. ADJUSTABLE TO FULL CIRCLE. WITH DRAIN CHECK VALVE, AND RECLAIMED WATER PURPLE ID.	11
2.5	HUNTER PGP-04-CV-R TURF ROTOR, 4.0" POP-UP. ADJUSTABLE TO FULL CIRCLE. WITH DRAIN CHECK VALVE, AND RECLAIMED WATER PURPLE ID.	24
3.0	HUNTER PGP-04-CV-R TURF ROTOR, 4.0" POP-UP. ADJUSTABLE TO FULL CIRCLE. WITH DRAIN CHECK VALVE, AND RECLAIMED WATER PURPLE ID.	103
4.0	HUNTER PGP-04-CV-R TURF ROTOR, 4.0" POP-UP. ADJUSTABLE TO FULL CIRCLE. WITH DRAIN CHECK VALVE, AND RECLAIMED WATER PURPLE ID.	43
5.0	HUNTER PGP-04-CV-R TURF ROTOR, 4.0" POP-UP. ADJUSTABLE TO FULL CIRCLE. WITH DRAIN CHECK VALVE, AND RECLAIMED WATER PURPLE ID.	1

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	RAIN BIRD XCZ-150-PRB-COM WITH LATCHING SOLENOID HIGH FLOW CONTROL ZONE KIT, FOR LARGE COMMERCIAL DRIP ZONES. 1-1/2" PESB VALVE WITH TWO 1" PRESSURE REGULATING (40PSI) QUICK-CHECK BASKET FILTERS. FLOW RANGE: 15-40GPM.	1
	RAIN BIRD XCZ-100-PRB-R WITH LATCHING SOLENOID MEDIUM PLUS FLOW FOR COMMERCIAL APPLICATIONS. PURPLE CAP DESIGNATES FOR RECLAIMED WATER, NON-POTABLE USE. 1" PESBR VALVE AND 1" PRESSURE REGULATING 40PSI BASKET FILTER. 5-20GPM.	7
	RAIN BIRD XCZ-150-PRB-COM HIGH FLOW CONTROL ZONE KIT, FOR LARGE COMMERCIAL DRIP ZONES. 1-1/2" PESB VALVE WITH TWO 1" PRESSURE REGULATING (40PSI) QUICK-CHECK BASKET FILTERS. FLOW RANGE: 15-40GPM.	6
	RAIN BIRD XCZ-100-PRB-R MEDIUM PLUS FLOW FOR COMMERCIAL APPLICATIONS. PURPLE CAP DESIGNATES FOR RECLAIMED WATER, NON-POTABLE USE. 1" PESBR VALVE AND 1" PRESSURE REGULATING 40PSI BASKET FILTER. 5-20GPM.	2
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFD-09-12 (18) XFD ON-SURFACE PRESSURE COMPENSATING LANDSCAPE DRIPLINE. 0.9GPH EMITTERS AT 12.0" O.C. DRIPLINE LATERALS SPACED AT 18.0" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. UV RESISTANT.	38,716 S.F.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	RAIN BIRD PESBR - WITH LATCHING SOLENOID 1", 1-1/2", AND 2" DURABLE CHLORINE-RESISTANT VALVES FOR RECLAIMED WATER APPLICATIONS. WITH SCRUBBER MECHANISM TECHNOLOGY, AND PURPLE FLOW CONTROL HANDLE.	34
	RAIN BIRD PESBR 1", 1-1/2", AND 2" DURABLE CHLORINE-RESISTANT VALVES FOR RECLAIMED WATER APPLICATIONS. WITH SCRUBBER MECHANISM TECHNOLOGY, AND PURPLE FLOW CONTROL HANDLE.	19
	NIBCO T-113 CLASS 125 BRONZE GATE SHUT OFF VALVE WITH WHEEL HANDLE, SAME SIZE AS MAINLINE PIPE DIAMETER AT VALVE LOCATION. SIZE RANGE - 1/4" - 3"	10
C	HUNTER IC-3000-PL MODULAR CONTROLLER, 30 STATIONS, OUTDOOR MODEL, PLASTIC CABINET. COMMERCIAL USE. WITH FOUR ICM-600 MODULES INCLUDED.	1
WS	HUNTER SOLAR-SYNC-SEN SOLAR, RAIN FREEZE SENSOR WITH OUTDOOR INTERFACE, CONNECTS TO HUNTER X-CORE AND ACC CONTROLLERS, INSTALL AS NOTED. INCLUDES GUTTER MOUNT BRACKET. WIRED. MODULE NOT INCLUDED.	1
D4	HUNTER NODE-400 4-STATION CONTROLLER, OUTDOOR, BATTERY POWERED. DC LATCHING SOLENOID ORDERED SEPARATELY.	4
D6	HUNTER NODE-600 6-STATION CONTROLLER, OUTDOOR, BATTERY POWERED. DC LATCHING SOLENOID ORDERED SEPARATELY.	4
D2	HUNTER NODE-200 2-STATION CONTROLLER, OUTDOOR, BATTERY POWERED. DC LATCHING SOLENOID ORDERED SEPARATELY.	4
RS	HUNTER MINI-CLIK RAIN SENSOR, MOUNT AS NOTED	12
X	WATER METER 3/4" 18 GPM AT 60 PSI REQUIRED	2
Y	WATER METER 1" 28 GPM AT 60 PSI REQUIRED	3
Z	WATER METER 1-1/2" 60 GPM AT 60 PSI REQUIRED	2
	IRRIGATION LATERAL LINE: PVC CLASS 160 SDR 26 ONLY LATERAL TRANSITION PIPE SIZES 1" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 3/4" IN SIZE.	24,960 L.F.
	IRRIGATION MAINLINE: PVC SCHEDULE 40 "PURPLE"	2,917 L.F.
	PIPE SLEEVE: PVC SCHEDULE 40 TYPICAL PIPE SLEEVE FOR IRRIGATION PIPE. PIPE SLEEVE SIZE SHALL ALLOW FOR IRRIGATION PIPING AND THEIR RELATED COUPLINGS TO EASILY SLIDE THROUGH SLEEVING MATERIAL. EXTEND SLEEVES 18 INCHES BEYOND EDGES OF PAVING OR CONSTRUCTION.	322.3 L.F.

Valve Callout

- Valve Number
- Valve Flow
- Valve Size

PRELIMINARY "NOT FOR CONSTRUCTION"

REVISED NO.	BY	DATE	DESCRIPTION	REVISED NO.	BY	DATE	DESCRIPTION
1				6			
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	INITIALS	DATE
DESIGN	MCE	6/25/12
DRAWN	MCE	6/25/12
CHECKED	TDF	
QUALITY CHK		
SCALE	1"=20'	

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Tampa, FL 33619-7905

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Thomas F. Deal, RLA No. 1446
DATE

THE WOODS
IRRIGATION PLAN
SECTION 00, TOWNSHIP 00S., RANGE 00E.

JOB NO. 12005100SA
SHEET NO. IR1.0

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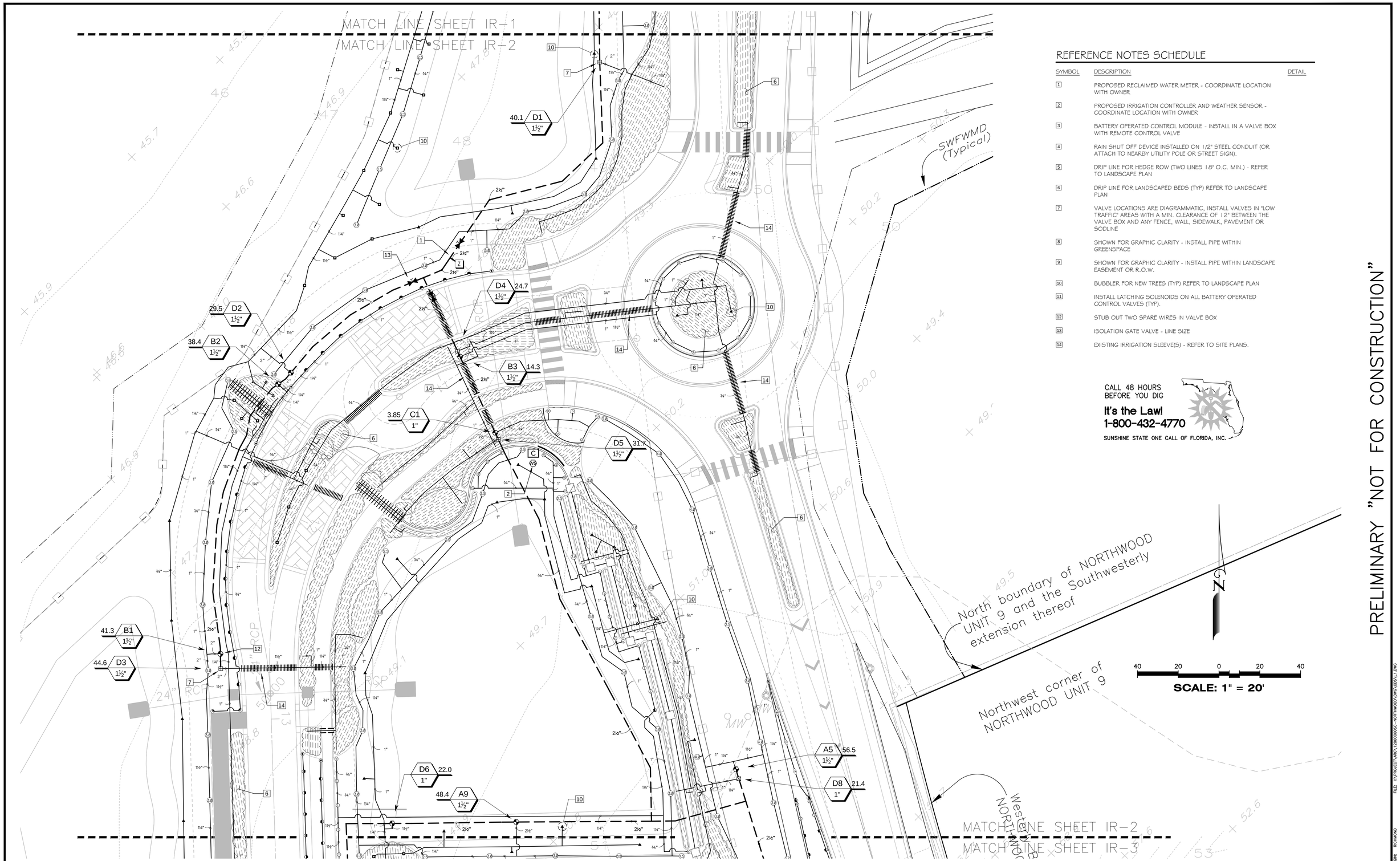

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	DETAIL
1	PROPOSED RECLAIMED WATER METER - COORDINATE LOCATION WITH OWNER	
2	PROPOSED IRRIGATION CONTROLLER AND WEATHER SENSOR - COORDINATE LOCATION WITH OWNER	
3	BATTERY OPERATED CONTROL MODULE - INSTALL IN A VALVE BOX WITH REMOTE CONTROL VALVE	
4	RAIN SHUT OFF DEVICE INSTALLED ON 1/2" STEEL CONDUIT (OR ATTACH TO NEARBY UTILITY POLE OR STREET SIGN).	
5	DRIP LINE FOR HEDGE ROW (TWO LINES 18" O.C. MIN.) - REFER TO LANDSCAPE PLAN	
6	DRIP LINE FOR LANDSCAPED BEDS (TYP) REFER TO LANDSCAPE PLAN	
7	VALVE LOCATIONS ARE DIAGRAMMATIC, INSTALL VALVES IN "LOW TRAFFIC" AREAS WITH A MIN. CLEARANCE OF 12" BETWEEN THE VALVE BOX AND ANY FENCE, WALL, SIDEWALK, PAVEMENT OR SODLINE	
8	SHOWN FOR GRAPHIC CLARITY - INSTALL PIPE WITHIN GREENSPACE	
9	SHOWN FOR GRAPHIC CLARITY - INSTALL PIPE WITHIN LANDSCAPE EASEMENT OR R.O.W.	
10	BUBBLER FOR NEW TREES (TYP) REFER TO LANDSCAPE PLAN	
11	INSTALL LATCHING SOLENOIDS ON ALL BATTERY OPERATED CONTROL VALVES (TYP).	
12	STUB OUT TWO SPARE WIRES IN VALVE BOX	
13	ISOLATION GATE VALVE - LINE SIZE	
14	EXISTING IRRIGATION SLEEVE(S) - REFER TO SITE PLANS.	

CALL 48 HOURS BEFORE YOU DIG

It's the Law!

1-800-432-4770

SUNSHINE STATE ONE CALL OF FLORIDA, INC.

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IRRIGATION AREA #2

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	INITIALS	DATE
DESIGN	MCE	6/25/12
DRAWN	MCE	6/25/12
CHECKED	TDF	
QUALITY CHK		
SCALE	1"=20'	

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Thomas F. Deal, RLA No. 1446
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THE WOODS
IRRIGATION PLAN
SECTION 00, TOWNSHIP 00 S., RANGE 00 E.

JOB NO. 12005100SA
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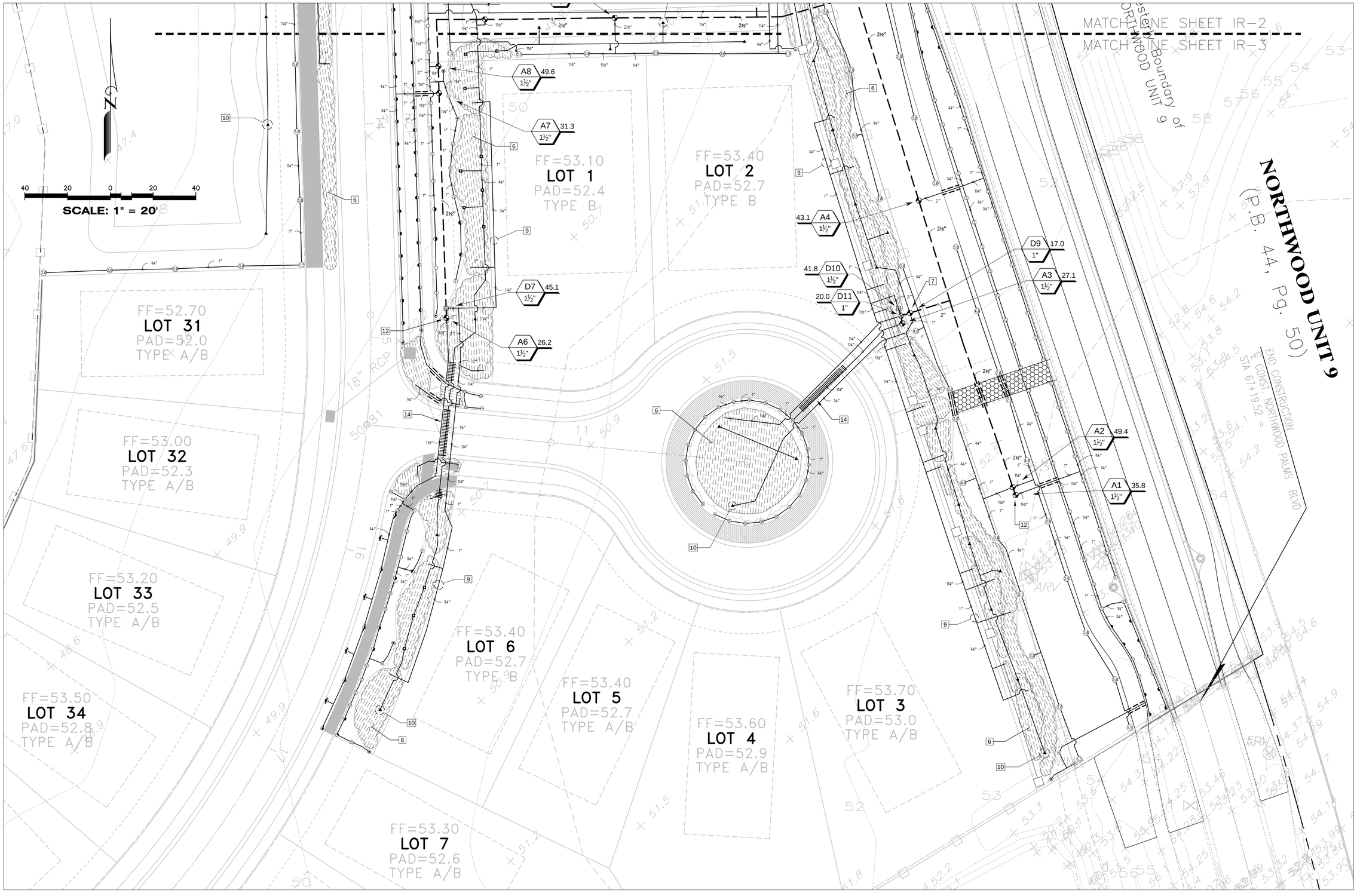

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IRRIGATION AREA #3

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SHEET NO. IR3.0

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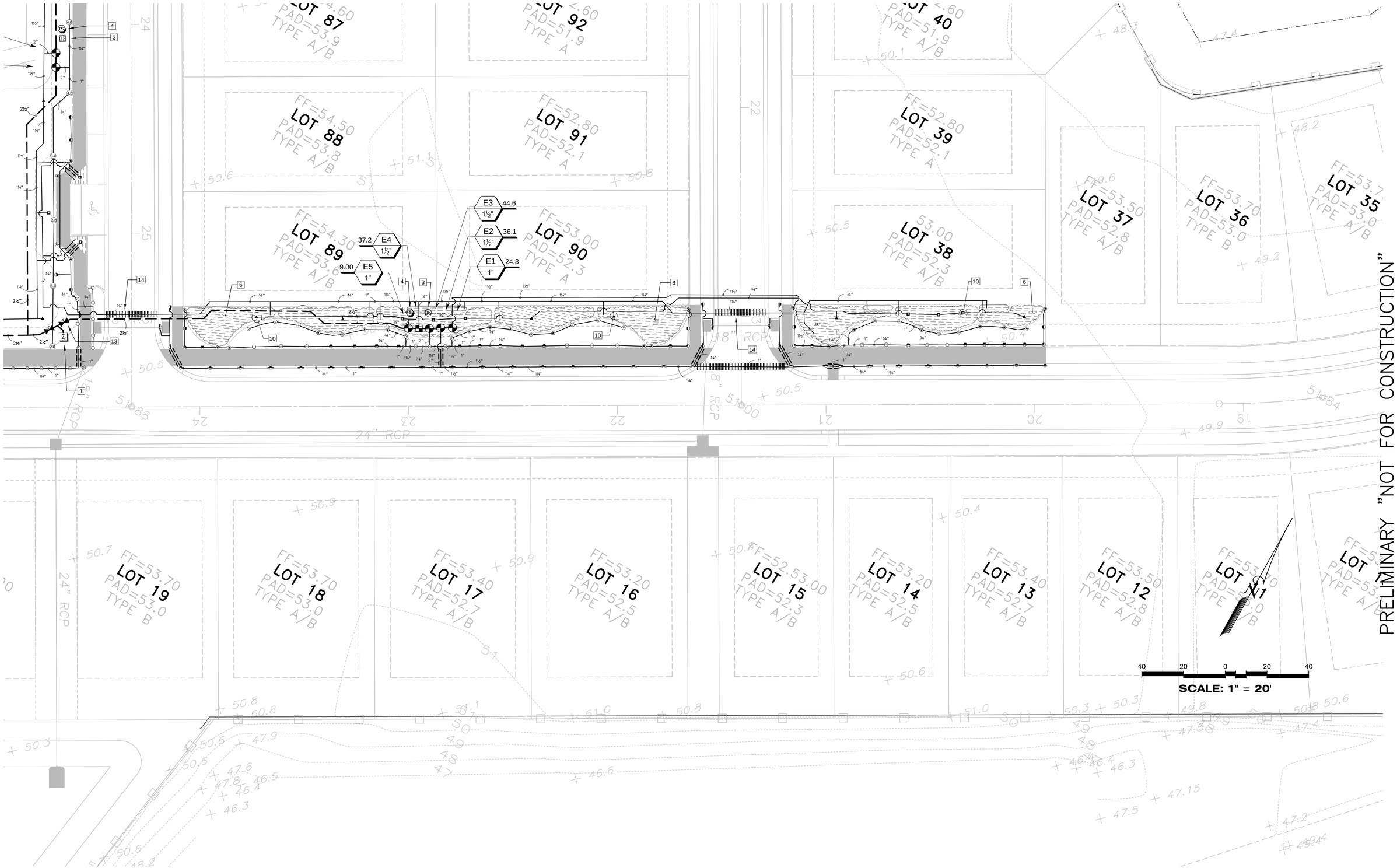

IRRIGATION AREA #4

REVISED NO.	BY	DATE	DESCRIPTION	REVISED NO.	BY	DATE	DESCRIPTION
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	INITIALS	DATE
DESIGN	MCE	6/25/12
DRAWN	MCE	6/25/12
CHECKED	TDF	
QUALITY CHK		
SCALE	1"=20'	

PREPARED FOR:
TAYLOR MORRISON
1103 Marbella Plaza Drive
Tampa, FL 33619-7905

George F. Young, Inc.
Since 1919
BUSINESS LICENSE NUMBER AAC000793
ARCHITECTURE•ENGINEERING•ENVIRONMENTAL•LANDSCAPE•PLANNING•SURVEYING•UTILITIES
GAINESVILLE•LAKEWOOD RANCH•ORLANDO•PALM BEACH GARDENS•ST. PETERSBURG•TAMPA•VENICE

Thomas F. Deal, RLA No. 1446
DATE

THE WOODS
IRRIGATION PLAN
SECTION 00, TOWNSHIP 00S., RANGE 00E.

JOB NO. 12005100SA
SHEET NO. IR4.0

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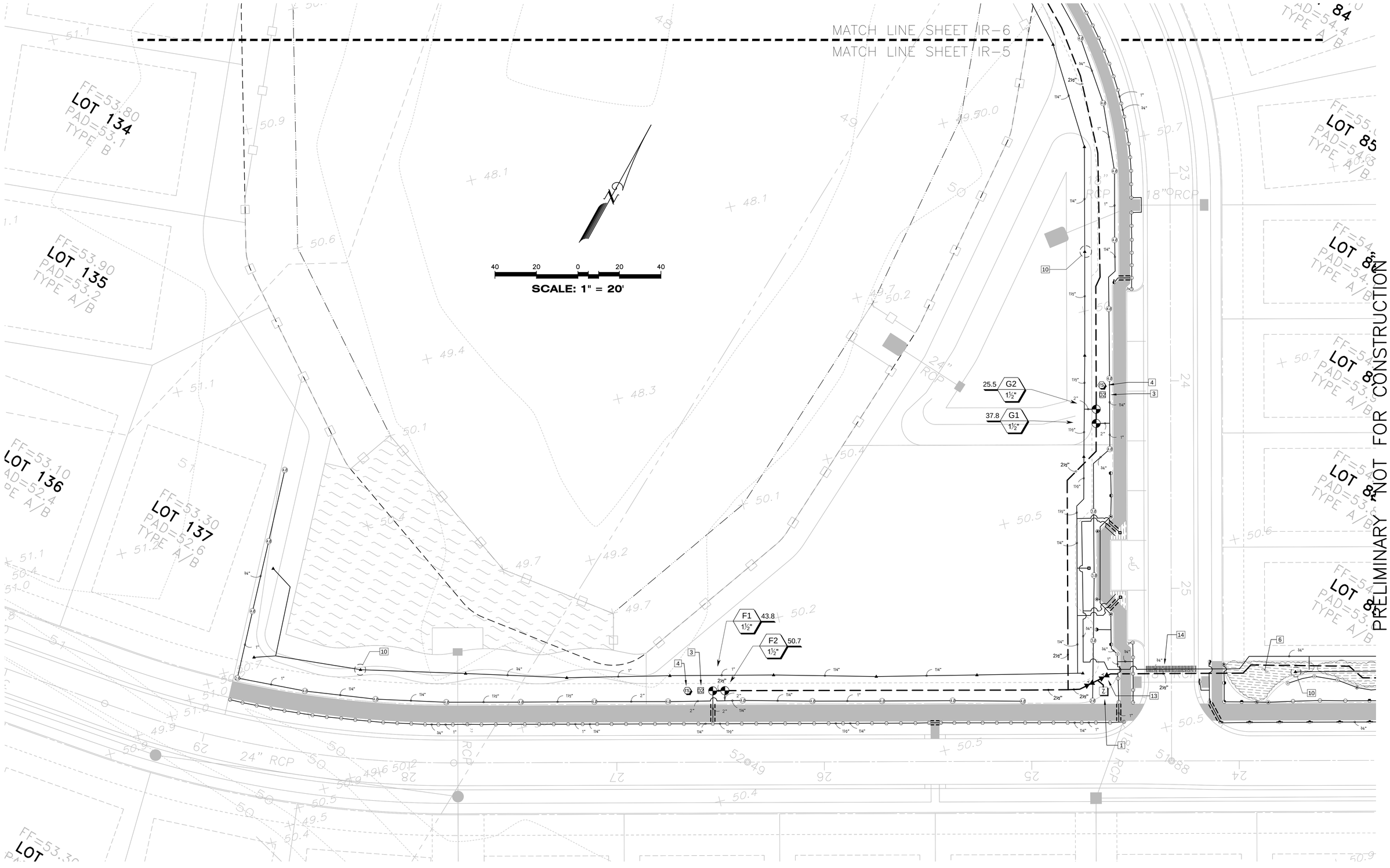

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DRAWN	MCE	6/25/12
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JOB NO. 12005100SA
SHEET NO. IR5.0

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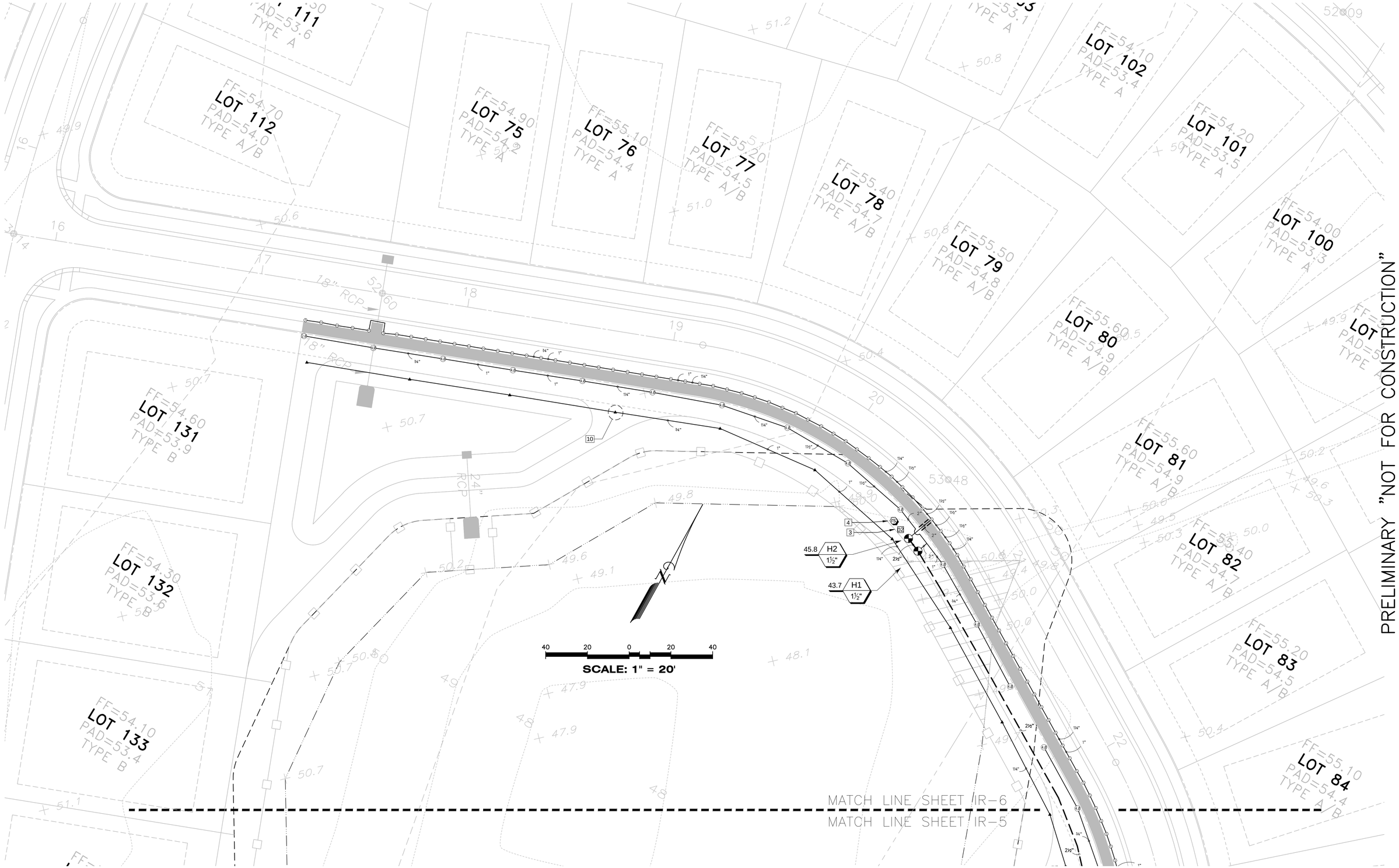

IRRIGATION AREA #6

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DRAWN	MCE	6/25/12
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QUALITY CHK		
SCALE	1"=20'	

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JOB NO. 12005100SA
SHEET NO. IR6.0

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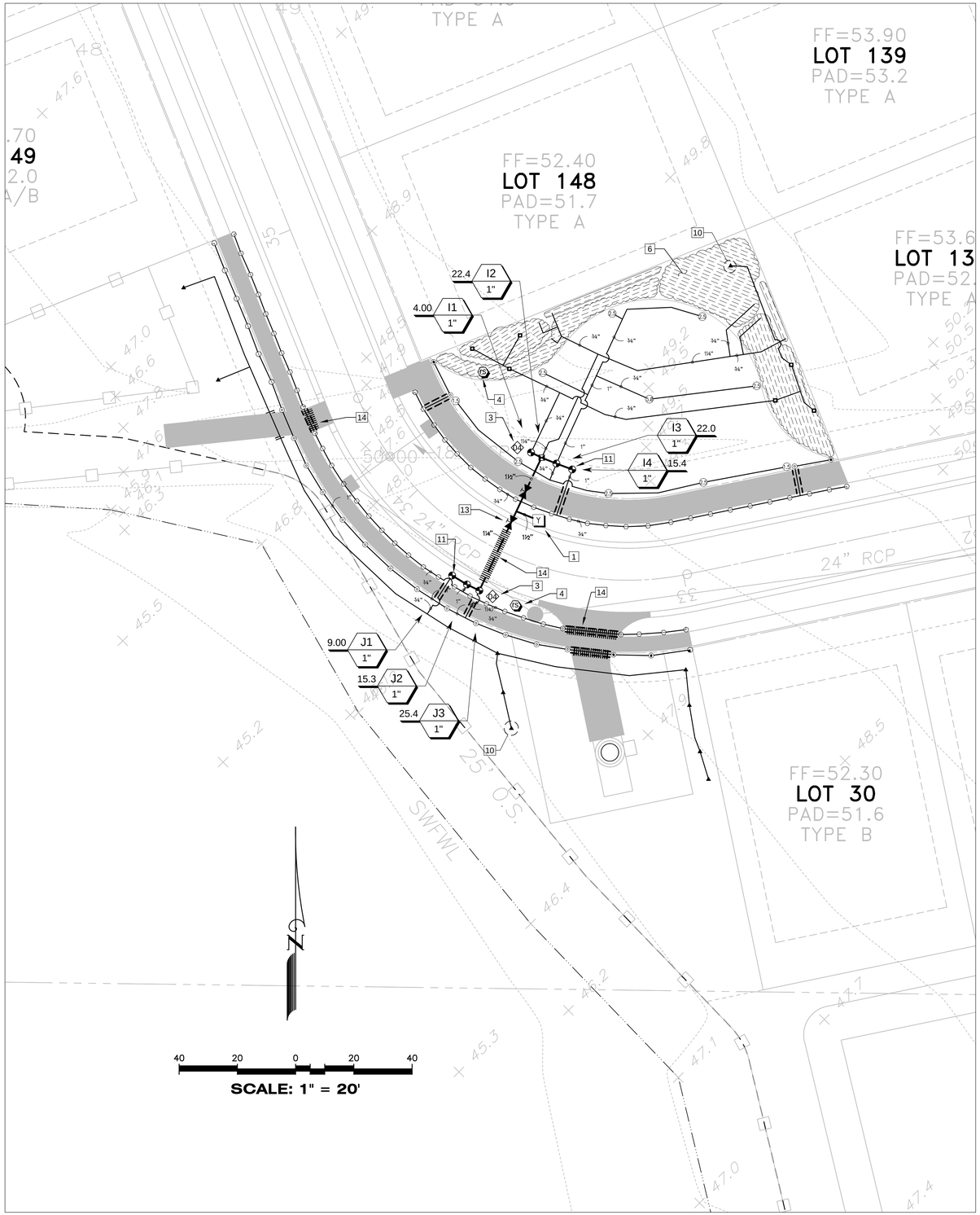

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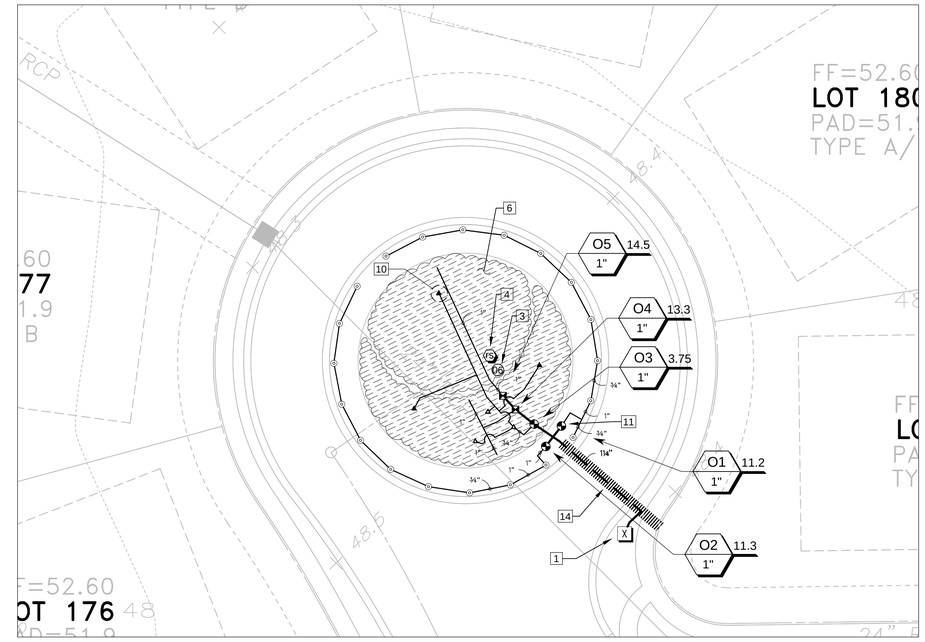

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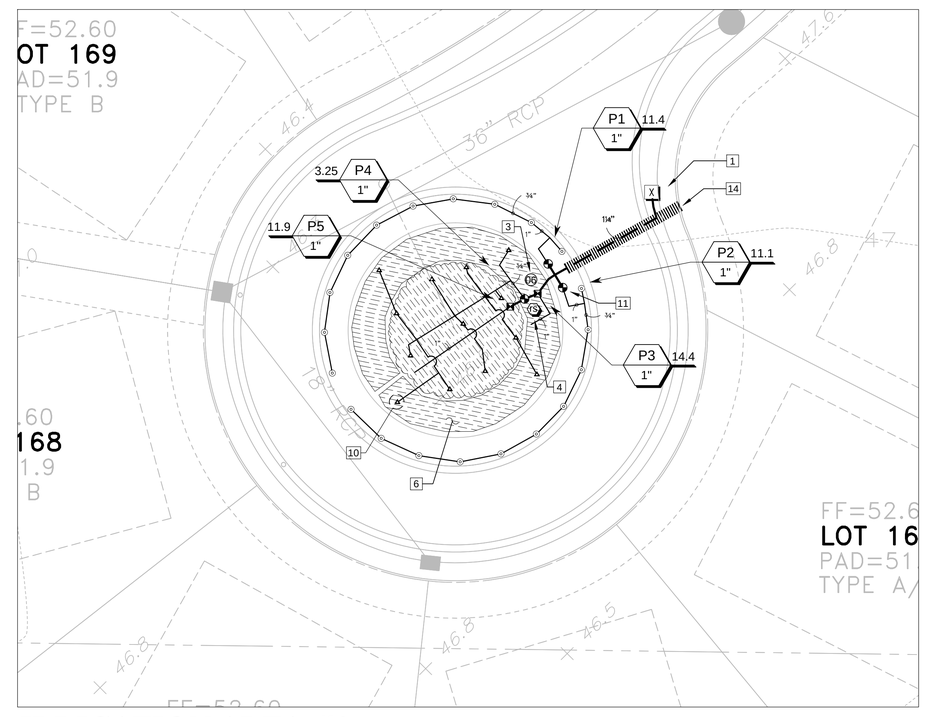

IRRIGATION AREA #9

PRELIMINARY "NOT FOR CONSTRUCTION"

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	INITIALS	DATE
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DRAWN	MCE	6/25/12
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QUALITY CHK		
SCALE	1"=20'	

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JOB NO. 12005100SA
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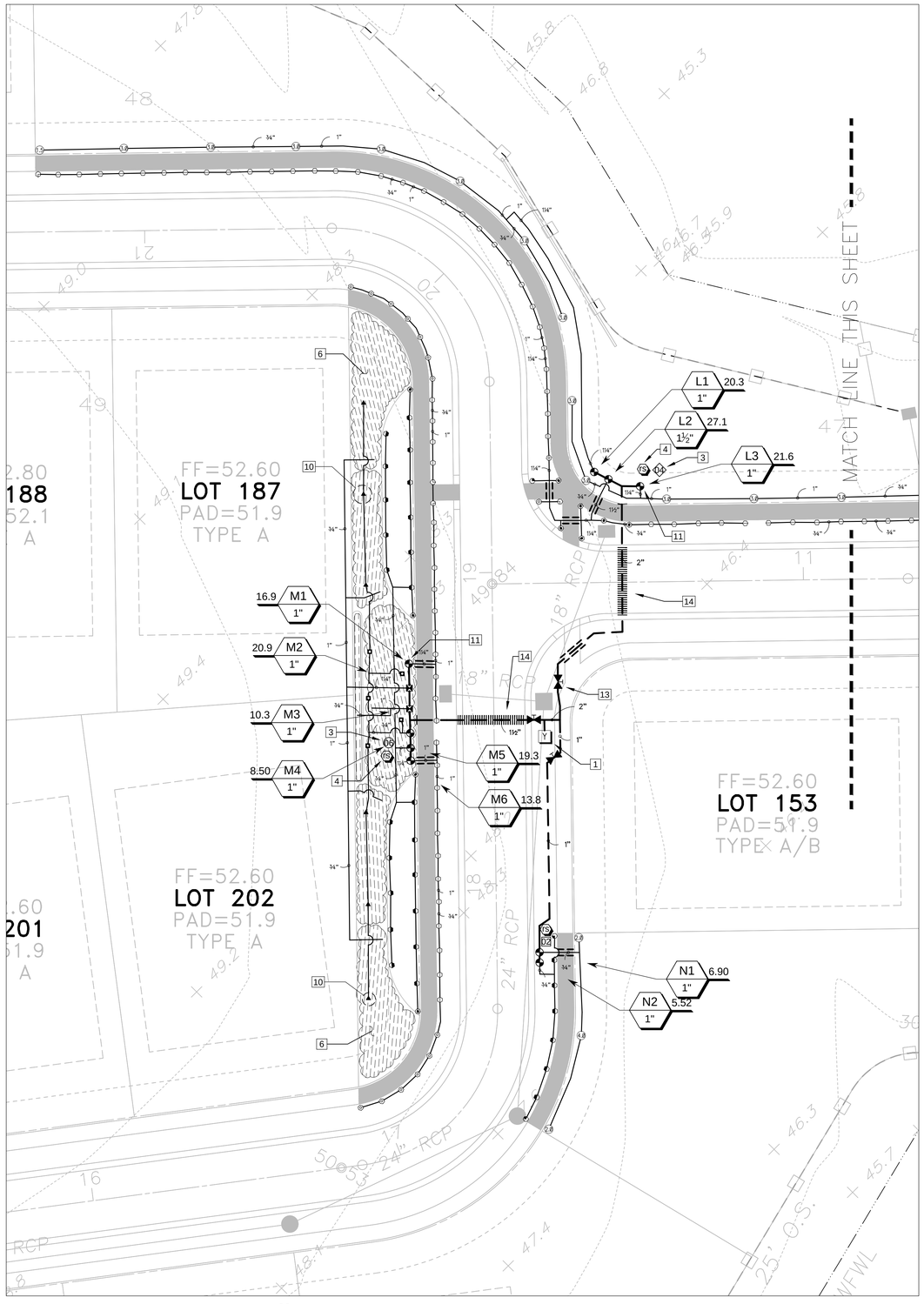
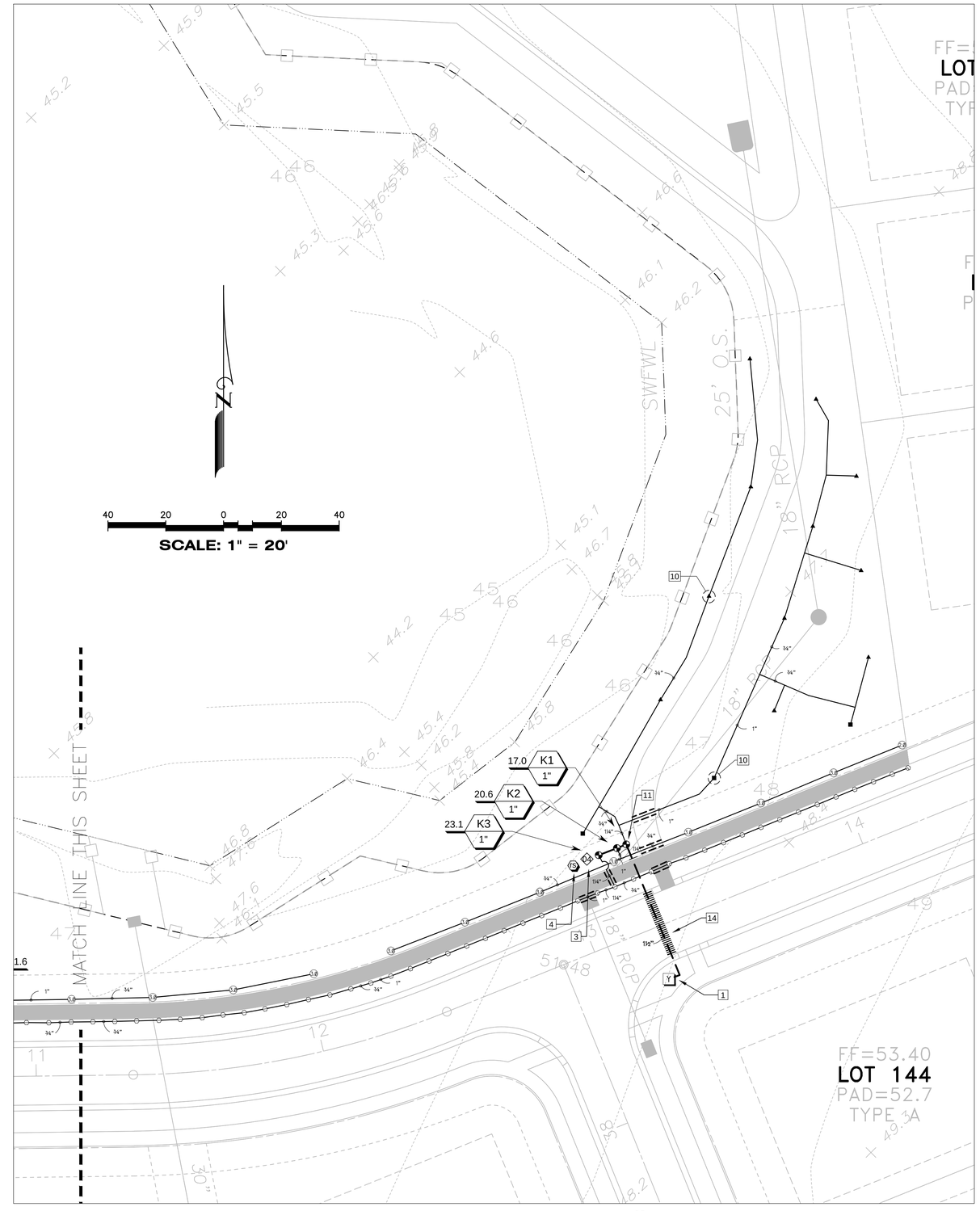


IRRIGATION AREA #10



IRRIGATION AREA #11

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QUALITY CHK		
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SECTION 00, TOWNSHIP 00 S., RANGE 00 E.

JOB NO. 12005100SA
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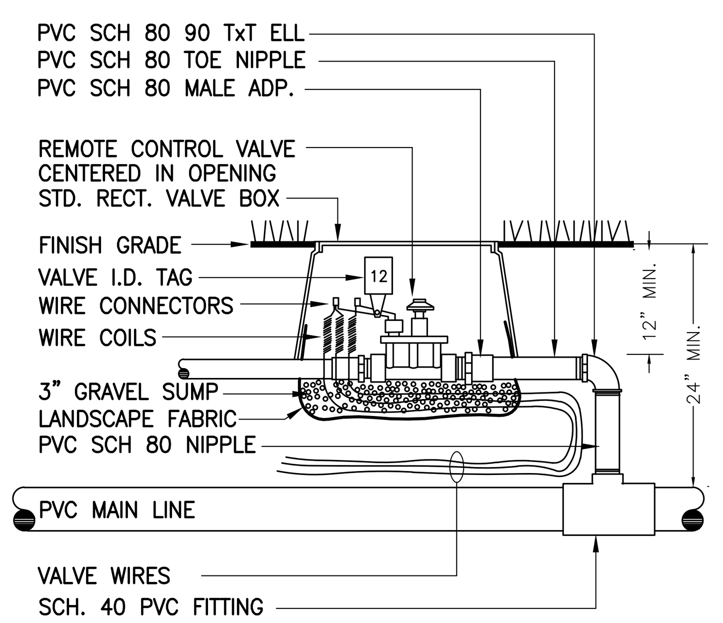
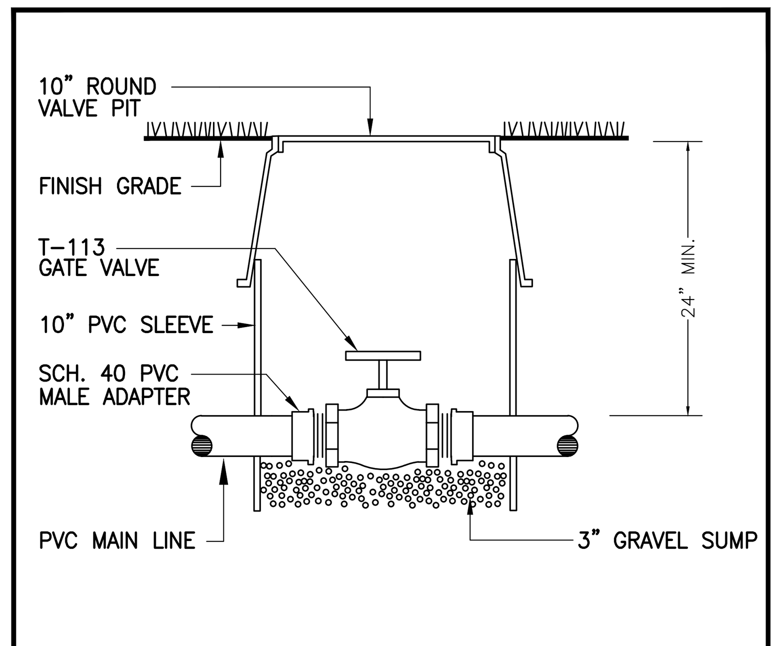
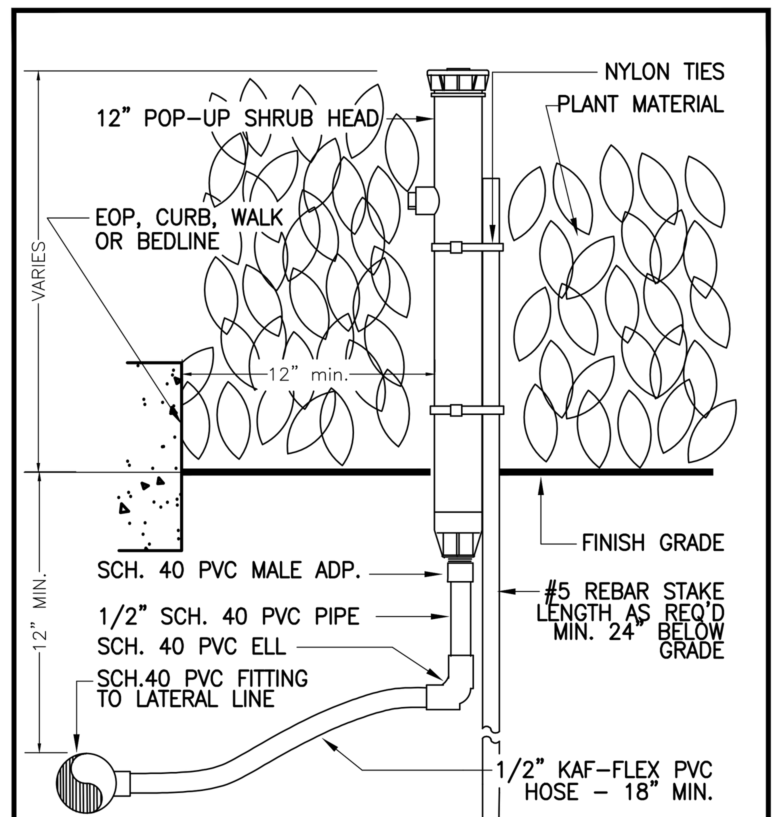


REMOTE CONTROL VALVE

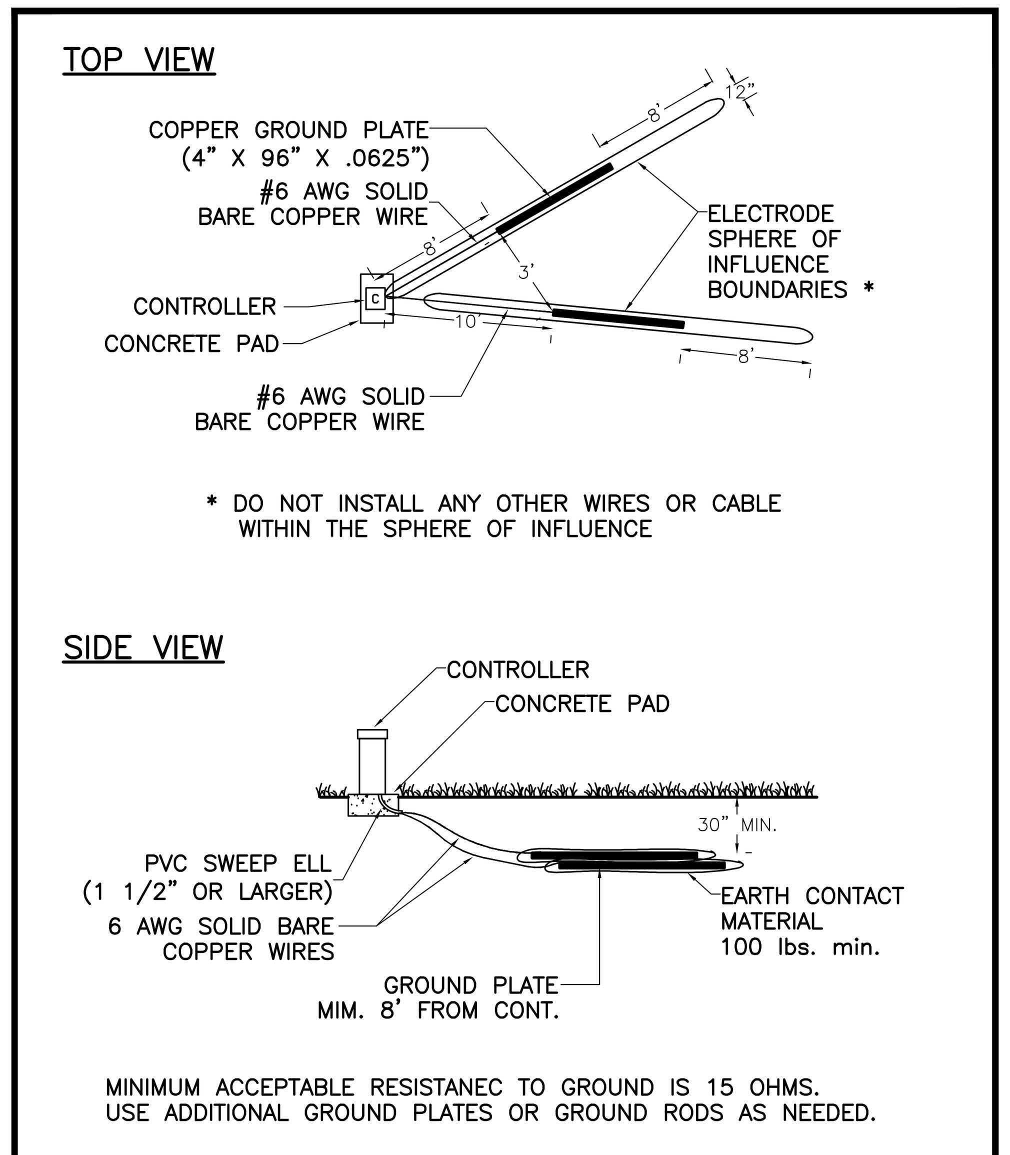


ISOLATION GATE VALVE

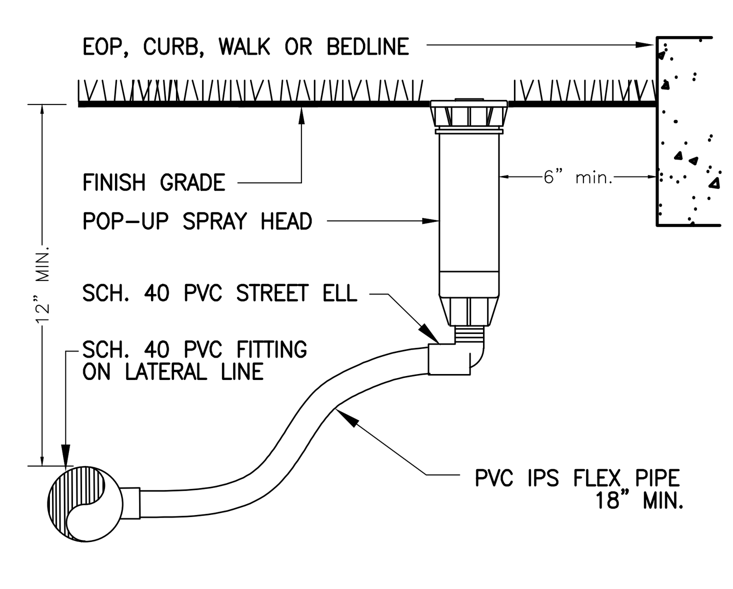


SHRUB SPRAY HEAD

PROVIDE 12" MIN. SPACE BETWEEN ALL SPRINKLER HEADS AND ANY WALL OR STRUCTURE



CONTROLLER GROUNDING



TURF SPRAY HEAD

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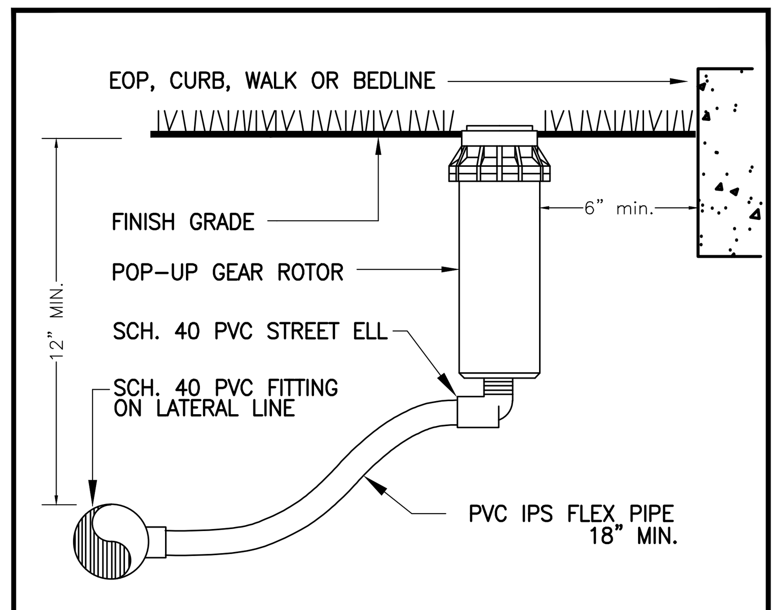

TURF ROTOR HEAD

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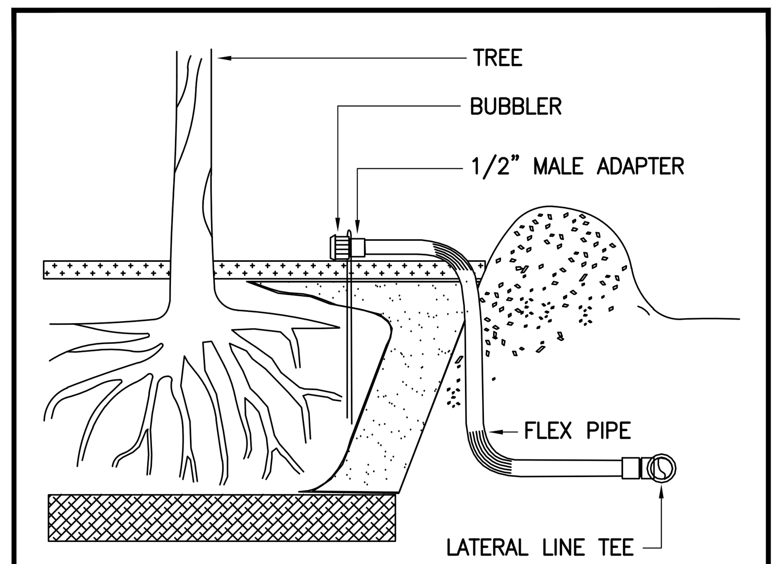
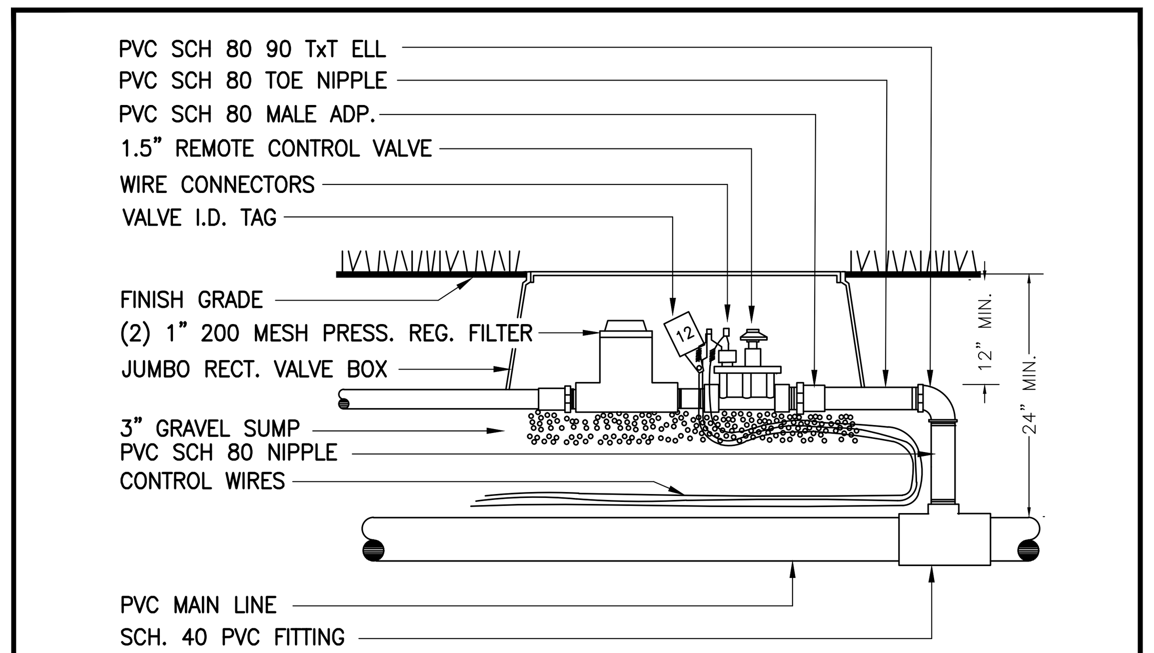
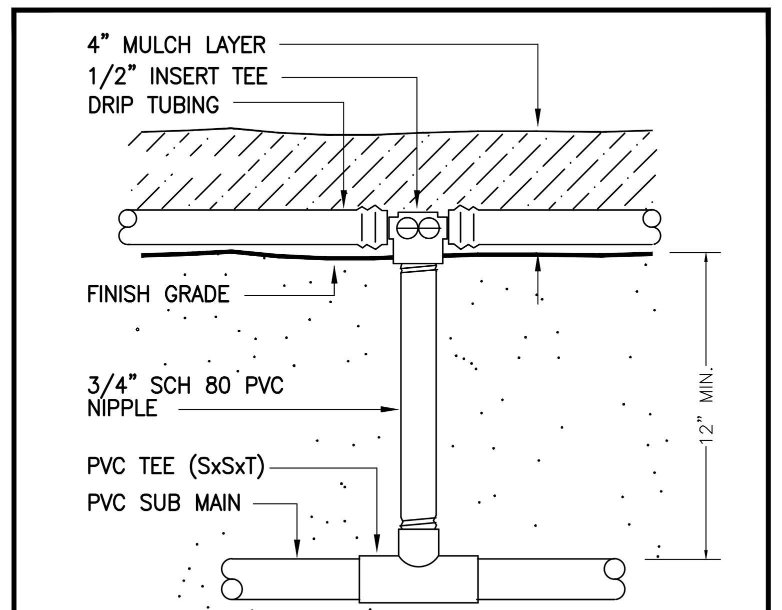


TREE BUBBLER

INSTALL FLEX PIPE (LOCATION AND DEPTH) TO BE PROTECTED FROM MAINTENANCE OPERATIONS (EDGING, MOWING)

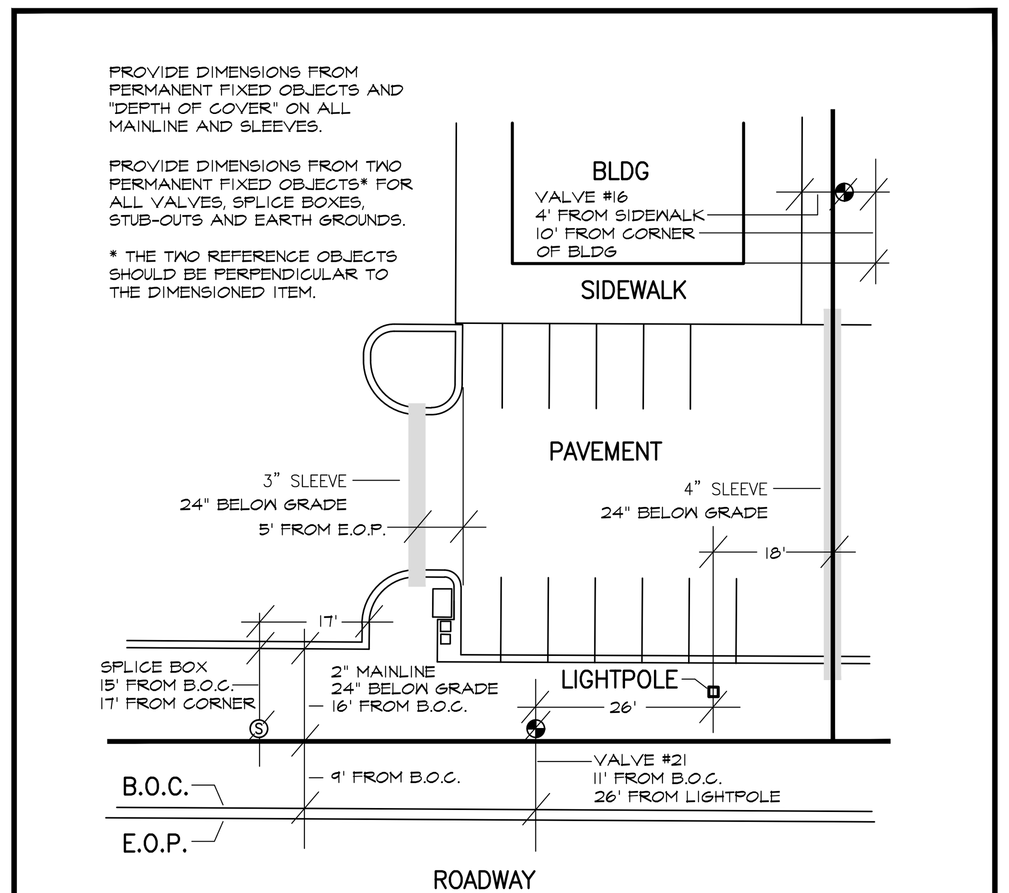


40 gpm DRIP ZONE CONTROL VALVE



PVC - DRIP CONNECTION

PROVIDE 12" MIN. SPACE BETWEEN ALL DRIPLINES AND ANY WALL OR STRUCTURE



"AS BUILT" TYPICAL

IRRIGATION NOTES:

1. Irrigation system design requirements: 60 GPM @ a minimum of 60 PSI at the point of connection. The Irrigation Contractor shall verify the available GPM and PSI prior to installation of the system.

2. Do not willfully install the irrigation system as shown on the drawings when it is obvious in the field that conditions exist that might not have been considered in the design process. For example : obstructions, grade differences, water levels, dimensional differences, etc. Refer to the Landscape Plan to avoid conflicts with proposed trees or shrubs.

3. Piping may sometimes be indicated as being located in unlikely areas: i.e., under buildings or pavement, outside of property lines, in lakes or ditches, etc. This is done for graphic clarity only. Whenever possible, piping is to be installed in open, green" areas.

4. If required, the Irrigation Contractor shall provide the necessary "Right of Way" use permits.

5. Pipe sizes shall conform to those on the drawings. Substituting with smaller pipe sizes will not be permitted.

6. Mainline is to be installed with a minimum of 24" depth of cover. Lateral lines are to be installed with a minimum of 12" depth of cover.

7. Unless otherwise indicated, all sleeves are to be PVC Sch 40 and two (2) nominal sizes larger than the pipe to be sleeved. For example: The sleeve for a 2" pipe shall be 3". No irrigation sleeve shall be smaller than 2".

8. Wherever practical, install valves in mulched beds and/or out of high traffic areas. All valves , flush valves and wire splices shall be installed in Rain Bird wide flanged, structural foam "plastic" valves boxes with "Purple" lids as follows:

Remote Control Valves	#VB-STD, 12" std. rect. box
Isolation Gate Valves	#VB-10RND, 10" round box
Wire Splices	#VB-10RND, 10" round box
Drip Zone Valve / Filter Assy	#VB-SPR, Super Jumbo Rect. box

9. Refer to Valve Designation Symbols for controller, station number and designed flow rate for each remote control valve.

10. All 24 volt control cable to be UL Listed, single strand, type UF 600 Volt control cable. Size and color as follows:

Common Wires	- size AWG #12 or larger and WHITE in color.
Hot Wires	- size AWG #14 or larger and RED in color.
Spare Wires	- size AWG #14 or larger and BLUE in color.

11. All splices to the 24 volt control wiring shall be made with Rain Bird #DBTWC 24-600 volt, direct bury splice kits.

12. All control valve wires shall be bundled and taped together at 20' intervals and placed along the side of the mainline pipe.

13. All pop-up sprinkler heads shall be installed level and flush to grade. Mount all sprinklers on flexible connections as follows:

1/2" inlet spray heads	18" of Heavy Wall PVC IPS Hose
3/4" inlet rotor heads	18" of Heavy Wall PVC IPS Hose
1" inlet rotor heads	Three Elbow, Sch. 80 PVC Swing Joint

14. The tops of all shrub sprinklers shall be installed 12" above the height of the surrounding plant material. For plant heights of 12" or more, support the riser with a #5 rebar stake and nylon cable ties. All risers shall be placed a minimum of 12" from any sidewalk, edge of pavement or structure.

15. Location of all sprinkler heads shall be site adjusted to minimize water overthrow onto building surfaces and walkways. Throttle valves on spray zones as required to prevent fogging.

16. Install drip tubing at grade and cover with mulch. Typical spacing for drip tubing is 18" to 24" on center. Spacing to be determined by plant layout. Refer to Landscape Plan. Anchor tubing every 7' with 8" long wire tubing stakes. Install flush valve assemblies at all tubing "dead ends".

17. Exact controller location(s) shall be coordinated with an Owner's Representative prior to installation. Unless otherwise stated, the General Contractor shall provide 110 volt power to the controller location(s). The Irrigation Contractor is responsible for the connection from the power source to the controller(s).

18. At each irrigation controller, install a "secondary surge arrester" to the incoming (120 volt) power supply (Intermatic #AG2401 or equal).

19. At each irrigation controller, install an "supplementary earth ground grid" with a minimum of two (2) 4" x 96" grounding plates. Test the resistance to earth per NFPA Standard #780. A acceptable earth ground should have 15 ohms or less resistance. Use more plates or grounding rods as needed to achieve the desired resistance reading.

20. A weather based sensor with interface shall be connected to the irrigation controller. The sensor/ interface shall adjust the irrigation program based on daily weather readings. The sensor shall be installed to meet local codes and/or minimum manufacturer's recommendations. Obstructions, vandalism and ease of service shall be considered in locating the device.

21. Install the Battery Operated Control Modules in valve boxes per manufacturers recommendations.

22. A rain shut-off device shall be installed on every Control Module. The device shall be installed to meet local codes and/or minimum manufacturer's recommendations. Obstructions, vandalism and ease of service shall be considered in locating the device.

23. The IRRIGATION CONTRACTOR shall prepare an AS-BUILT drawing on reproducible paper detailing the actual installation of the irrigation system. The AS-BUILT drawings shall locate all main line piping, control wires, wire splices, sleeves and valves by showing exact measurements from permanent features (buildings, edge of pavement, power poles, fire hydrants, etc.). Include depth of cover on mainline and sleeves.

24. No product substitutions will be permitted without the written permission of the Owner's Representative. Irrigation Contractor to provide submittals to the Owner's Representative for approval prior to installation.

25. Any other equipment required that is not other wise detailed or specified shall be installed as per manufacturer's recommendations and local code.

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