



SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Regulation Division

April 4, 2018

Amzak International, Inc.
980 North Federal Highway, Suite 315
Boca Raton, FL 33432

Dear Permittee:

**Subject: Correction to Environmental Resource Permit Issued August 24, 2017
Permit No. 06-07569-P
Project Name: Sierra Ranch
Location: Broward County, S18/T50S/R41E**

This is to notify you that our permit issued on August 24, 2017 referenced an incorrect acreage for the onsite wetland mitigation. The enclosed permit has been updated to reflect the correct acreage (23.86 acres) of onsite wetland mitigation in Special Condition No. 11 and in the Wetlands Section of the staff report.

I am sorry for any inconvenience this may have caused you. If you have any questions, please do not hesitate to contact this office.

Sincerely,

A handwritten signature in black ink that reads "Barbara J. Conmy".

Barbara J. Conmy
Section Leader
Natural Resource Management Section
Environmental Resource Permitting Bureau

BJC/bc
Enclosure

Cc: Mary Lindgren, mlindgren@ewconsultants.com
Michael Owens, mowens@broward.org

DISTRICT HEADQUARTERS: 3301 Gun Club Road, West Palm Beach, Florida 33406 • (561) 686-8800 • (800) 432-2045

Mailing Address: PO BOX 24680 West Palm Beach FL, 33416-4680

LOWER WEST COAST SERVICE CENTER: 2301 McGregor Boulevard, Fort Myers, FL 33901 • (239) 338-2929 • (800) 248-1201
OKEECHOBEE SERVICE CENTER: 205 North Parrott Avenue, Suite 201, Okeechobee, FL 34972 • (863) 462-5260 • (800) 250-4200
ORLANDO SERVICE CENTER: 1707 Orlando Central Parkway, Suite 200, Orlando FL 32809 • (407) 858-6100 • (800) 250-4250

sfwmd.gov



**SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE PERMIT NO. 06-07569-P**

DATE ISSUED: AUGUST 24, 2017

PERMITTEE: AMZAK INTERNATIONAL INC
(SIERRA RANCH)
980 NORTH FEDERAL HIGHWAY, SUITE 315
BOCA RATON, FL 33432

CORRECTED PERMIT

PROJECT DESCRIPTION: CONSTRUCTION AND OPERATION OF AN 89.1-ACRE RESIDENTIAL DEVELOPMENT PROJECT KNOWN AS SIERRA RANCH.

PROJECT LOCATION: BROWARD COUNTY , SECTION 18 TWP 50S RGE 41E

PERMIT DURATION: See Special Condition No:1.

This is to notify you of the District's agency action concerning Permit Application No. 141223-14, dated December 23, 2014. This action is taken pursuant to the provisions of Chapter 373, Part IV, Florida Statutes (F.S.).

Based on the information provided, District rules have been adhered to and an Environmental Resource Permit is in effect for this project subject to:

1. Not receiving a filed request for an administrative hearing pursuant to Section 120.57 and Section 120.569, or a request for a judicial review pursuant to Section 120.68, Florida Statutes.
2. The attached 18 General Conditions.
3. The attached 19 Special Conditions.
4. The attached 6 Exhibits.

Should you object to these conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Should you wish to object to the proposed agency action or file a petition, please provide written objections, petitions and/or waivers to:

Office of the District Clerk
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, FL 33406
e-mail: clerk@sfwmd.gov

Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights", we will assume that you concur with the District's action.

CERTIFICATION OF SERVICE

I HEREBY CERTIFY THAT this written notice has been mailed or electronically submitted to the Permittee (and the persons listed on the attached distribution list) this 25th day of August, 2017, in accordance with Section 120.60(3), F.S. Notice was also electronically posted on this date through a link on the home page of the District's website (my.sfwmd.gov/ePermitting).

By 
DEPUTY CLERK
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Attachments

SPECIAL CONDITIONS

1. The construction phase of this permit shall expire on August 24, 2022.
2. Operation and maintenance of the stormwater management system shall be the responsibility of SIERRA RANCH HOMEOWNERS ASSOCIATION, INC.. Within one year of permit issuance or concurrent with the engineering certification of construction completion, whichever comes first, the permittee shall submit a copy of the recorded deed restrictions (or declaration of condominium, if applicable), a copy of the filed articles of incorporation, and a copy of the certificate of incorporation for the association.

3. Discharge Facilities:

Basin: DEVELOPMENT

1-6' WIDE SHARP CRESTED weir with crest at elev. 4.8' NGVD 29.
1-.25' dia. CIRCULAR ORIFICE with invert at elev. 4' NGVD 29.
1-6' W X 6' L drop inlet with crest at elev. 6.2' NGVD 29.

Receiving body : PRESERVE
Control elev : 4 feet NGVD 29.

Basin: PRESERVE

1-.4' W X 1' H RECTANGULAR NOTCH weir with crest at elev. 4' NGVD 29.
1-3.33' W X 4.5' L drop inlet with crest at elev. 6.2' NGVD 29.

Receiving body : CBWCD N-17
Control elev : 4 feet NGVD 29.

4. Lake side slopes shall be no steeper than 4:1 (horizontal:vertical) to a depth of two feet below the control elevation. Side slopes shall be nurtured or planted from 2 feet below to 1 foot above control elevation to insure vegetative growth, unless shown on the plans.
5. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.
6. The following are exhibits to this permit. Exhibits noted as incorporated by reference are available on the District's ePermitting website (<http://my.sfwmd.gov/ePermitting>) under this application number.
Exhibit No. 1 Location Map
Exhibit No. 2 Plans, Pages 1 - 13
Exhibit No. 3 Wetland Impacts and Mitigation Plan, Pages 1-14
Exhibit No. 4 Conservation Easement, Pages 1-10
Exhibit No. 5 Draft Financial Assurance, Pages 1-2
Exhibit No. 6 Work Schedule
7. Prior to initiating construction activities associated with this Environmental Resource Permit (ERP), the permittee is required to hold a pre-construction meeting with field representatives, consultants, contractors, District Environmental Resource Compliance (ERC) staff, and any other local government entities as necessary.

The purpose of the pre-construction meeting is to discuss construction methods, sequencing, best management practices, identify work areas, staking and roping of preserves where applicable, and to facilitate coordination and

assistance amongst relevant parties.

To schedule a pre-construction meeting, please contact ERC staff from the West Palm Beach Office at (561) 686-8800 or via e-mail at: pre-con@sfwmd.gov. When sending a request for a pre-construction meeting, please include the application number, permit number, and contact name and phone number.

8. Minimum building floor elevation: BASIN: PRESERVE - 8.50 feet NGVD 29.
9. Minimum road crown elevation: Basin: PRESERVE - 7.50 feet NGVD 29.
10. No construction dewatering is proposed. However, if in the future, the permittee determines that dewatering is required, an application for dewatering authorization must be submitted to the District and approved prior to the dewatering being conducted.
11. A mitigation program for Sierra Ranch shall be implemented in accordance with Exhibit No. 3. The permittee shall restore and enhance 23.86 acres of wetlands onsite.
12. Prior to commencement of construction and in accordance with the work schedule in Exhibit No. 6, the permittee shall submit documentation from the Florida Department of Environmental Protection that 3.01 freshwater herbaceous credits have been deducted from the ledger for FPL Everglades Mitigation Bank.
13. Prior to commencement of construction and in accordance with the work schedule in Exhibit 6 the permittee shall submit an electronic or hard copy version of the documentation that the executed conservation easement for the mitigation area(s) and associated buffer(s) has been accepted by Broward County for recording. The electronic version of the documentation shall be submitted via the District's ePermitting/eCompliance website.

The permittee shall submit an electronic or hard copy version of the certified copy of the recorded conservation easement for the mitigation area(s) and associated buffer(s) when these documents are available from the County.

The electronic version of the recorded conservation easement, and associated GIS information described below, shall be submitted via the District's ePermitting/eCompliance website. The GIS data shall be supplied in a digital ESRI Geodatabase (mdb), ESRI Shapefile (shp) or AutoCAD Drawing Interchange (dxf) file format using Florida State Plane coordinate system, East Zone (3601), Datum NAD83, HARN with the map units in feet. A map depicting the Conservation Easement over the best available satellite or aerial imagery shall also be provided. If the information is provided via hard copy the GIS data shall reside on CD disk and be submitted to the District's Environmental Resource Compliance Division in the service area office where the application was submitted.

The recorded easement shall utilize the form attached as Exhibit 4. Any proposed modification to the approved form must receive prior written consent from the District. The easement must be free of encumbrances or interests in the easement which the District determines are contrary to the intent of the easement. In the event it is later determined that there are encumbrances or interests in the easement which the District determines are contrary to the intent of the easement, the permittee shall be required to provide release or subordination of such encumbrances or interests.

14. Prior to the commencement of construction and in conformance with the work schedule in Exhibit 6, the permittee shall provide an original letter of credit in the amount of \$718744.40 to ensure the permittee's financial ability and commitment to complete the proposed mitigation, monitoring and maintenance plan as shown on Exhibit No. 3. The financial assurance shall be in substantial conformance with Exhibit No. 5. The financial assurance shall be in effect for the entire period of the mitigation and monitoring program. Notification to the District by the financial institution or surety that the financial assurance will not be renewed or is no longer in effect shall constitute non-compliance with the permit.

Should the permit be transferred from the construction to operational phase prior to the completion of the mitigation and monitoring program, it will be incumbent upon the original permittee to either keep the existing financial assurance in force or provide replacement financial assurance in the name of the operational entity. The existing financial assurance

cannot be released until a replacement document is received and accepted by the District.

15. A monitoring program shall be implemented in accordance with Exhibit No. 3. The monitoring program shall extend for a period of 5 years with annual reports submitted to District staff. At the end of the first monitoring period the mitigation area shall contain an 80% survival of planted vegetation. The 80% survival rate shall be maintained throughout the remainder of the monitoring program, with replanting as necessary. If native wetland, transitional, and upland species do not achieve an 80% coverage within the initial two years of the monitoring program, native species shall be planted in accordance with the maintenance program. At the end of the 5 year monitoring program the entire mitigation area shall contain an 80% survival of planted vegetation and an 80% coverage of desirable obligate and facultative wetland species.
16. The District reserves the right to require remedial measures to be taken by the permittee if monitoring or other information demonstrates that adverse impacts to onsite or offsite wetlands, upland conservation areas or buffers, or other surface waters have occurred due to project related activities.
17. A maintenance program shall be implemented in accordance with Exhibit No. 3 for the restored/enhanced wetland areas on a regular basis to ensure the integrity and viability of those areas as permitted. Maintenance shall be conducted in perpetuity to ensure that the conservation areas are maintained free from Category 1 exotic vegetation (as defined by the Florida Exotic Pest Plant Council at the time of permit issuance) immediately following a maintenance activity. Maintenance in perpetuity shall also insure that conservation areas, including buffers, maintain the species and coverage of native, desirable vegetation specified in the permit. Coverage of exotic and nuisance plant species shall not exceed 5% of total cover between maintenance activities. In addition, the permittee shall manage the conservation areas such that exotic/nuisance plant species do not dominate any one section of those areas.
18. Permanent physical markers designating the preserve status of the wetland preservation areas and buffer zones shall be placed at the intersection of the buffer and each lot line. These markers shall be maintained in perpetuity.
19. Activities associated with the implementation of the mitigation, monitoring and maintenance plan(s) shall be completed in accordance with the work schedule attached as Exhibit No. 6. Any deviation from these time frames must be coordinated with the District's Environmental Resource Compliance staff, and may require a minor modification to this permit. Such requests must be made in writing and shall include (1) reason for the change, (2) proposed start/finish and/or completion dates; and (3) progress report on the status of the project development or mitigation effort.

GENERAL CONDITIONS

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, Florida Administrative Code (F.A.C.). Any deviations that are not so authorized shall subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.
2. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with Rule 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.
3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the "State of Florida Erosion and Sediment Control Designer and Reviewer Manual" (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the "Florida Stormwater Erosion and Sedimentation Control Inspector's Manual" (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.
4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice" indicating the expected start and completion dates. If available, an Agency website that fulfills this notification requirement may be used in lieu of the form.
5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.
6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
 - a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex- "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit"[Form 62-330.310(3)]; or
 - b. For all other activities- "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)].
 - c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.
7. If the final operation and maintenance entity is a third party:
 - a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as-built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.3 of Applicant's Handbook Volume I) as filed with the Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.
 - b. Within 30 days of submittal of the as- built certification, the permittee shall submit "Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity" [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.
8. The permittee shall notify the Agency in writing of changes required by any other regulatory agency that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.
9. This permit does not:
 - a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified

- herein or in Chapter 62-330, F.A.C.;
- b. Convey to the permittee or create in the permittee any interest in real property;
 - c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
 - d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.
10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.
 11. The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.
 12. The permittee shall notify the Agency in writing:
 - a. Immediately if any previously submitted information is discovered to be inaccurate; and
 - b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.
 13. Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.
 14. If any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, work involving subsurface disturbance in the immediate vicinity of such discoveries shall cease. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section, at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Such subsurface work shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and notification shall be provided in accordance with Section 872.05, F.S.
 15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.
 16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.
 17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the Agency will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.
 18. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the Agency staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.

NOTICE OF RIGHTS

As required by Sections 120.569 and 120.60(3), Fla. Stat., the following is notice of the opportunities which may be available for administrative hearing or judicial review when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Not all of the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (SFWMD or District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Fla. Stat. Persons seeking a hearing on a SFWMD decision which affects or may affect their substantial interests shall file a petition for hearing with the Office of the District Clerk of the SFWMD, in accordance with the filing instructions set forth herein, within 21 days of receipt of written notice of the decision, unless one of the following shorter time periods apply: (1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Fla. Stat.; or (2) within 14 days of service of an Administrative Order pursuant to Section 373.119(1), Fla. Stat. "Receipt of written notice of agency decision" means receipt of written notice through mail, electronic mail, or posting that the SFWMD has or intends to take final agency action, or publication of notice that the SFWMD has or intends to take final agency action. Any person who receives written notice of a SFWMD decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

If the District takes final agency action which materially differs from the noticed intended agency decision, persons who may be substantially affected shall, unless otherwise provided by law, have an additional Rule 28-106.111, Fla. Admin. Code, point of entry.

Any person to whom an emergency order is directed pursuant to Section 373.119(2), Fla. Stat., shall comply therewith immediately, but on petition to the board shall be afforded a hearing as soon as possible.

A person may file a request for an extension of time for filing a petition. The SFWMD may, for good cause, grant the request. Requests for extension of time must be filed with the SFWMD prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and that the SFWMD and any other parties agree to or oppose the extension. A timely request for an extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

FILING INSTRUCTIONS

A petition for administrative hearing must be filed with the Office of the District Clerk of the SFWMD. Filings with the Office of the District Clerk may be made by mail, hand-delivery, or e-mail. Filings by facsimile will not be accepted. A petition for administrative hearing or other document is deemed filed upon receipt during normal business hours by the Office of the District Clerk at SFWMD headquarters in West Palm Beach, Florida. The District's normal business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Any document received by the Office of the District Clerk after 5:00 p.m. shall be deemed filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the District Clerk, 3301 Gun Club Road, West Palm Beach, Florida 33406.

- Filings by hand-delivery must be delivered to the Office of the District Clerk. Delivery of a petition to the SFWMD's security desk does not constitute filing. It will be necessary to request that the SFWMD's security officer contact the Office of the District Clerk. An employee of the SFWMD's Clerk's office will receive and file the petition.
- Filings by e-mail must be transmitted to the Office of the District Clerk at clerk@sfwmd.gov. The filing date for a document transmitted by electronic mail shall be the date the Office of the District Clerk receives the complete document. A party who files a document by e-mail shall (1) represent that the original physically signed document will be retained by that party for the duration of the proceeding and of any subsequent appeal or subsequent proceeding in that cause and that the party shall produce it upon the request of other parties; and (2) be responsible for any delay, disruption, or interruption of the electronic signals and accepts the full risk that the document may not be properly filed.

INITIATION OF AN ADMINISTRATIVE HEARING

Pursuant to Sections 120.54(5)(b)4. and 120.569(2)(c), Fla. Stat., and Rules 28-106.201 and 28-106.301, Fla. Admin. Code, initiation of an administrative hearing shall be made by written petition to the SFWMD in legible form and on 8 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, SFWMD file number or any other SFWMD identification number, if known.
2. The name, address, any email address, any facsimile number, and telephone number of the petitioner and petitioner's representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the SFWMD's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the SFWMD's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the SFWMD's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the SFWMD to take with respect to the SFWMD's proposed action.

MEDIATION

The procedures for pursuing mediation are set forth in Section 120.573, Fla. Stat., and Rules 28-106.111 and 28-106.401–405, Fla. Admin. Code. The SFWMD is not proposing mediation for this agency action under Section 120.573, Fla. Stat., at this time.

RIGHT TO SEEK JUDICIAL REVIEW

Pursuant to Section 120.68, Fla. Stat., and in accordance with Florida Rule of Appellate Procedure 9.110, a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal with the Office of the District Clerk of the SFWMD in accordance with the filing instructions set forth herein within 30 days of rendition of the order to be reviewed, and by filing a copy of the notice with the clerk of the appropriate district court of appeal.

Last Date For Agency Action: October 14, 2017

INDIVIDUAL ENVIRONMENTAL RESOURCE PERMIT STAFF REPORT

Project Name: Sierra Ranch

Permit No.: 06-07569-P

Application No.: 141223-14

Application Type: Environmental Resource (New Construction/Operation)

Location: Broward County, S18/T50S/R41E

Permittee : Amzak International, Inc.

Operating Entity : Sierra Ranch Homeowners Association, Inc.

Project Area: 89.10 acres

Permit Area: 89.10 acres

Project Land Use: Residential

Drainage Basin: C-11 WEST

Receiving Body: CBWCD N-17

Class: CLASS III

Special Drainage District: Central Broward Water Control District

Total Acres Wetland Onsite: 69.20

Total Acres Wetland Preserved Onsite: 20.30

Total Acres Impacted Onsite : 48.90

Total Acres Presv/Mit Compensation Onsite: 23.86

Offsite Mitigation Credits-Mit.Bank: 3.01 F.P.L. Everglades Mitigation Bank

Conservation Easement To District : Yes

Sovereign Submerged Lands: No

PROJECT SUMMARY:

This Environmental Resource Permit authorizes Construction and Operation of a stormwater management system serving an 89.1-acre residential development project known as Sierra Ranch.

Construction activities include lot grading, neighborhood roads, utilities and recreational amenities. Runoff will be directed to a wet detention system that provides water quality treatment prior to overflow into the preserve area. Ultimate discharge is to the Central Broward Water Control District N-17 Canal via a control structure.

Issuance of this permit constitutes certification of compliance with state water quality standards in accordance with Rule 62-330.062, F.A.C.

PROJECT EVALUATION:**PROJECT SITE DESCRIPTION:**

The site is an undeveloped parcel located about a mile south of Interstate 595 and Hiatus Road in Broward County, as shown in Exhibit 1. This location is within the Central Broward Water Control District and the Water Preserve Area Basin boundary.

There are no permitted water management facilities within the project area. Please see the Wetlands and Other Surface Waters section for information about wetland impacts and mitigation.

LAND USE:

Land use cover identified under the category of "Other" represents Central Broward Water Control District N-17 canal right-of-way and road right-of-way area not contributing to the controlled basin.

Construction**Project:****Total Project**

Berm	2.97	acres
Building Coverage	8.47	acres
Impervious	6.96	acres
Lake	6.47	acres
Lake Bank	1.23	acres
Other	1.77	acres
Pervious	34.72	acres
Preserved	26.51	acres
Total:	89.10	

WATER QUANTITY :**Discharge Rate :**

As shown in the table below, the project discharge is within the allowable limit for the area.

Discharge Storm Frequency : 25 YEAR-3 DAY Design Rainfall : 12.8 inches

Basin	Allow Disch (cfs)	Method Of Determination	Peak Disch (cfs)	Peak Stage (ft, NGVD 29)
Preserve	2.75	Discharge Formula	2.71	6.18

Finished Floors :

As shown in the following table and the attached exhibits, minimum finished floor elevations have been set at or above the calculated design storm flood elevation.

Building Storm Frequency : 100 YEAR-3 DAY

Design Rainfall : 17.3 inches

Basin	Peak Stage (ft, NGVD 29)	Proposed Min. Finished Floors (ft, NGVD 29)	FEMA Elevation (ft, NGVD 29)
Preserve	7.04	8.5	N/A

Road Design :

As shown in the following table and the attached exhibits, minimum road center lines have been set at or above the calculated design storm flood elevation.

Road Storm Frequency : 10 YEAR-1 DAY

Design Rainfall: 8.1 inches

Basin	Peak Stage (ft, NGVD 29)	Proposed Min. Road Crown (ft, NGVD 29)
Preserve	5.24	7.5

Control Elevation :

Basin	Area (Acres)	Ctrl Elev (ft, NGVD 29)	WSWT Ctrl Elev (ft, NGVD 29)	Method Of Determination
Site	60.82	4	4.00	Adjacent Canal Control Elevation
Preserve	26.51	4	4.00	Adjacent Canal Control Elevation

Receiving Body :

Basin	Str.#	Receiving Body
Site	CS #1	Preserve
Preserve	CS #2	CBWCD N-17

Discharge Structures: Note: The units for all the elevation values of structures are (ft, NGVD 29)

Inlets:

Basin	Str#	Count	Type	Width	Length	Dia.	Crest Elev.
Preserve	CS #2	1	Fdot Mod C Drop Inlet	3.33'	4.5'		6.2

Weirs:

Basin	Str#	Count	Type	Width	Height	Length	Dia.	Elev.
Preserve	CS #2	1	Rectangular Notch	.4'	1'			4 (crest)

Water Quality Structures: Note: The units for all the elevation values of structures are (ft, NGVD 29)

Bleeders:

Basin	Str#	Count	Type	Width	Height	Length	Dia.	Invert Angle	Invert Elev.
Site	CS #1	1	Circular Orifice				.25'		4

Inlets:

Basin	Str#	Count	Type	Width	Length	Dia.	Crest Elev.
Site	CS #1	1	Inlet	6'	6'		6.2

Weirs:

Basin	Str#	Count	Type	Width	Height	Length	Dia.	Elev.
Site	CS #1	1	Sharp Crested	6'				4.8 (crest)

WATER QUALITY :

Water quality treatment will be provided in the wet detention area. The project provides the required 7.6 acre-feet of water quality treatment volume based on 1.5 inches over the controlled basin area.

Pursuant to Appendix E of Environmental Resource Permit Applicant's Handbook Volume II, the water quality treatment provided includes an additional 50% volume above the requirements in Section 4.2 of Volume meeting conditions for issuance for permits located within the Water Preserve Area Basin (40E-41.363, F.A.C.)

The project includes an Erosion Control Plan (Exhibit 2) as additional reasonable assurance of compliance with water quality criteria during construction.

Basin	Treatment Method		Vol Req.d (ac-ft)	Vol Prov'd
Site	Treatment	Wet Detention	6.47 acres	7.6

WETLANDS:**Wetlands And Other Surface Waters:**

The project site contains 69.2 acres of poor quality freshwater marsh and wet pasture wetlands, of which 48.9 acres of wetlands and 3.7 acres of ditches are to be impacted as described in Exhibit 3.

The ecological value of the functions provided by these wetlands is low and little function is available to wetland-dependent wildlife due to high coverage of exotic plant species. Onsite and offsite mitigation provides greater long-term ecological value than the area to be impacted, meeting the criteria in section 10.21.2(b) of Applicants Handbook Volume I (Volume I).

No secondary impacts were assessed for this project due to the low quality of the existing wetlands and because all remaining 23.86 acres of wetland are being restored/enhanced by the mitigation plan, which involves re-grading and planting to restore marsh and tree island habitats with transitional areas that serve as buffers. To offset the remaining wetland impacts, 3.01 freshwater herbaceous mitigation bank credits will be purchased from Everglades Mitigation Bank. A letter of reservation for a total of 10.86 credits is included in Exhibit 3. Excess credits are a requirement of the US Army Corps of Engineers.

The amount of onsite mitigation was determined by using the Uniform Mitigation Assessment Method, Chapter 62-345, F.A.C, and using the Wetland Assessment Technique for Environmental Review, which is the required assessment method for F.P.L. Everglades Mitigation Bank.

The onsite mitigation area is being preserved under a conservation easement dedicated to the District and to Broward County. Financial assurance that the mitigation will be completed is being provided as a Letter of Credit, in the amount of \$718,744.40, which is equal to more than 110% of the \$651,604.00 cost estimate provided in the Mitigation Plan .

Monitoring of the mitigation area will be conducted by the permittee for five years or until District staff determines that mitigation success has been achieved. Exhibit 3 describes the monitoring methodology, locations, and maintenance activities. Monitoring will include vegetative cover, hydrologic conditions and success of the mitigation effort, as well as wildlife usage and recommendations for maintenance work.

Cumulative Impact Assessment:

Mitigation onsite accounts for 72% of the wetland impacts for this project. The remaining 28% of the impacts will be offset using mitigation bank credits outside of the New River Basin (Basin).

Since a portion of the mitigation is not located within the same basin as the wetland impacts, District staff considered the potential for cumulative impacts to freshwater herbaceous wetlands within the Basin, pursuant to Rule 10.2.8 of Volume I.

Previous analyses found that 97.4% of all wetlands in the Basin were preserved by land use restrictions or dedicated as public preserve land, and identified approximately 296 acres of freshwater herbaceous wetlands that were not protected "at risk". If 28% of the remaining "at risk" wetlands in the Basin were offset outside of the basin, the loss of wetland acres within the Basin would be less than 1%. Additionally, the functions provided by the wetlands to be impacted is low.

Therefore, the District has determined that the project will not result in unacceptable cumulative impacts to the New River Basin. This conclusion is project specific and does not apply to any other application.

Wetland Inventory :

CONSTRUCTION NEW -Impacts

Site Id	Site Type	Pre-Development				Post-Development						
		Pre Fluc cs	AA Type	Acreage (Acres)	Current Wo Pres	With Project	Time Lag (Yrs)	Risk Factor	Pres. Adj. Factor	Post Fluc cs	Adj Delta	Functional Gain / Loss
Ditches	ON	510	Direct	3.70							.000	.000
EWH	ON	641	Direct	45.20	.20	.00					-.200	-9.040
FM	ON	641	Direct	3.70	.23	.00					-.230	-.851
Total:				52.60								-9.89

Wetland Inventory :

CONSTRUCTION NEW -Onsite Mitigation

Site Id	Site Type	Pre-Development				Post-Development						
		Pre Fluc cs	AA Type	Acreage (Acres)	Current Wo Pres	With Project	Time Lag (Yrs)	Risk Factor	Pres. Adj. Factor	Post Fluc cs	Adj Delta	Functional Gain / Loss
BR	ON	422	Restoration/Creation	1.01	.00	.70	6 - 10	1.50		617	.373	.377
ME	ON	641	Restoration/Creation	14.65	.20	.70	5	1.50		641	.292	4.284
MR	ON	422	Restoration/Creation	2.55	.00	.70	5	1.50		641	.409	1.044
OWE	ON	641	Restoration/Creation	4.67	.23	.60	5	1.25		560	.260	1.213
TI	ON	641	Restoration/Creation	.98	.23	.73	6 - 10	1.50		617	.267	.261
Total:				23.86								7.18

<u>Fluccs Code</u>	<u>Description</u>
422	Brazilian Pepper-Upland
422	Brazilian Pepper-Wetland (Ff)
422	Brazilian Pepper-Wetland (Fh)
422	Brazilian Pepper-Wetland (Sf)
510	Streams And Waterways
560	Slough Waters
617	Mixed Wetland Hardwoods
641	Freshwater Marshes

MITBANK

F.P.L. EVERGLADES MITIGATION BANK

Type Of Credits	Number Of Credits
	Mitigation Bank Cr Used
Fresh Water Herbaceous	3.01
Total:	3.01

CERTIFICATION, OPERATION, AND MAINTENANCE:

Pursuant to Chapter 62-330.310 Florida Administrative Code (F.A.C.), Individual Permits will not be converted from the construction phase to the operation phase until construction completion certification of the project is submitted to and accepted by the District. This includes compliance with all permit conditions, except for any long term maintenance and monitoring requirements. It is suggested that the permittee retain the services of an appropriate professional registered in the State of Florida for periodic observation of construction of the project.

For projects permitted with an operating entity that is different from the permittee, it should be noted that until the construction completion certification is accepted by the District and the permit is transferred to an acceptable operating entity pursuant to Sections 12.1-12.3 of the Applicant's Handbook Volume I and Section 62-330.310, F.A.C., the permittee is liable for operation and maintenance in compliance with the terms and conditions of this permit.

In accordance with Section 373.416(2), F.S., unless revoked or abandoned, all stormwater management systems and works permitted under Part IV of Chapter 373, F.S., must be operated and maintained in perpetuity.

The efficiency of stormwater management systems, dams, impoundments, and most other project components will decrease over time without periodic maintenance. The operation and maintenance entity must perform periodic inspections to identify if there are any deficiencies in structural integrity, degradation due to insufficient maintenance, or improper operation of projects that may endanger public health, safety, or welfare, or the water resources. If deficiencies are found, the operation and maintenance entity will be responsible for correcting the deficiencies in a timely manner to prevent compromises to flood protection and water quality. See Section 12.4 of Applicant's Handbook Volume I for Minimum Operation and

Maintenance Standards.

RELATED CONCERNS:**Water Use Permit Status:**

Water Use Permit Number 06-04148-W for landscape irrigation was issued on February 4, 2015. The project will use surface water from the lakes as a source of irrigation.

Dewatering is not required for construction of this project.

This permit does not release the permittee from obtaining all necessary Water Use authorization(s) prior to the commencement of activities which will require such authorization, including construction dewatering and irrigation.

CERP:

The proposed project is not located within or adjacent to a Comprehensive Everglades Restoration Project component.

Potable Water Supplier:

City of Sunrise Utilities

Waste Water System/Supplier:

City of Sunrise Utilities

Right-Of-Way Permit Status:

A District Right-of-Way Permit is not required for this project.

Water Preserve Area:

This project is located within the boundaries of the Water Preserve Area Basin as defined in Chapter 40E-41.323, F.A.C. In accordance with 40E-41.363, F.A.C., Conditions of Issuance of Environmental Resource Permits and Surface Water Management Permits in the Water Preserve Area, Water Preserve Area Basin, or Adjacent to the Protective Levees, the applicant has demonstrated that the proposed project meets the criteria pursuant to this rule.

Historical/Archeological Resources:

The District has received correspondence from the Florida Department of State, Division of Historical Resources indicating that no significant archaeological or historical resources are recorded in the project area and the project is therefore unlikely to have an effect upon any such properties.

This permit does not release the permittee from compliance with any other agencies' requirements in the event that historical and/or archaeological resources are found on the site.

DEO/CZM Consistency Review:

The issuance of this permit constitutes a finding of consistency with the Florida Coastal Management Program.

Third Party Interest:

No third party has contacted the District with concerns about this application.

Enforcement:

There has been no enforcement activity associated with this application.

STAFF RECOMMENDATION TO EXECUTIVE DIRECTOR:

The Staff recommends that the following be authorized :

Construction and Operation of an 89.1-acre residential development project known as Sierra Ranch.

Based on the information provided, District rules have been adhered to.

Staff recommendation is for approval subject to the attached General and Special Conditions.

STAFF REVIEW:

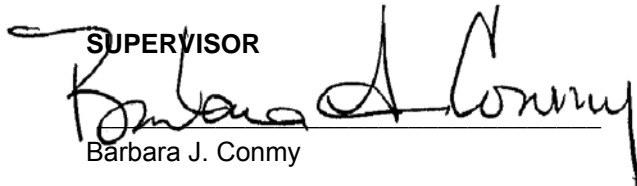
NATURAL RESOURCE MANAGEMENT APPROVAL

ENVIRONMENTAL EVALUATION



Melinda Parrott

SUPERVISOR



Barbara J. Conmy

SURFACE WATER MANAGEMENT APPROVAL

ENGINEERING EVALUATION



Carlos A. de Rojas, P.E.

SUPERVISOR



Carlos A. de Rojas, P.E.

ENVIRONMENTAL RESOURCE COMPLIANCE BUREAU CHIEF :


Ricardo A. Valera, P.E.

DATE: August 21, 2017

REGULATION DIVISION ASSISTANT DIRECTOR :


Anthony M. Waterhouse, P.E.

DATE: 8/21/17

GENERAL CONDITIONS

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, Florida Administrative Code (F.A.C.). Any deviations that are not so authorized shall subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.
2. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with Rule 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.
3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the "State of Florida Erosion and Sediment Control Designer and Reviewer Manual" (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the "Florida Stormwater Erosion and Sedimentation Control Inspector's Manual" (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.
4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice" indicating the expected start and completion dates. If available, an Agency website that fulfills this notification requirement may be used in lieu of the form.
5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.
6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
 - a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex- "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit"[Form 62-330.310(3)]; or
 - b. For all other activities- "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)].
 - c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.
7. If the final operation and maintenance entity is a third party:
 - a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as- built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.3 of Applicant's Handbook Volume I) as filed with the Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.
 - b. Within 30 days of submittal of the as- built certification, the permittee shall submit "Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity" [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.

GENERAL CONDITIONS

8. The permittee shall notify the Agency in writing of changes required by any other regulatory agency that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.
9. This permit does not:
 - a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;
 - b. Convey to the permittee or create in the permittee any interest in real property;
 - c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
 - d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.
10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.
11. The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.
12. The permittee shall notify the Agency in writing:
 - a. Immediately if any previously submitted information is discovered to be inaccurate; and
 - b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.
13. Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.
14. If any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, work involving subsurface disturbance in the immediate vicinity of such discoveries shall cease. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section, at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Such subsurface work shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and notification shall be provided in accordance with Section 872.05, F.S.
15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.

GENERAL CONDITIONS

16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.
17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the Agency will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.
18. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the Agency staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.

SPECIAL CONDITIONS

1. The construction phase of this permit shall expire on August 24, 2022.
2. Operation and maintenance of the stormwater management system shall be the responsibility of SIERRA RANCH HOMEOWNERS ASSOCIATION, INC. Within one year of permit issuance or concurrent with the engineering certification of construction completion, whichever comes first, the permittee shall submit a copy of the recorded deed restrictions (or declaration of condominium, if applicable), a copy of the filed articles of incorporation, and a copy of the certificate of incorporation for the association.
3. Discharge Facilities:

Basin: DEVELOPMENT

1-6' WIDE SHARP CRESTED weir with crest at elev. 4.8' NGVD 29.
 1-.25' dia. CIRCULAR ORIFICE with invert at elev. 4' NGVD 29.
 1-6' W X 6' L drop inlet with crest at elev. 6.2' NGVD 29.

Receiving body : PRESERVE
 Control elev : 4 feet NGVD 29.

Basin: PRESERVE

1-.4' W X 1' H RECTANGULAR NOTCH weir with crest at elev. 4' NGVD 29.
 1-3.33' W X 4.5' L drop inlet with crest at elev. 6.2' NGVD 29.

Receiving body : CBWCD N-17
 Control elev : 4 feet NGVD 29.

4. Lake side slopes shall be no steeper than 4:1 (horizontal:vertical) to a depth of two feet below the control elevation. Side slopes shall be nurtured or planted from 2 feet below to 1 foot above control elevation to insure vegetative growth, unless shown on the plans.
5. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.
6. The following are exhibits to this permit. Exhibits noted as incorporated by reference are available on the District's ePermitting website (<http://my.sfwmd.gov/ePermitting>) under this application number.
 - Exhibit No. 1 Location Map
 - Exhibit No. 2 Plans, Pages 1 - 13
 - Exhibit No. 3 Wetland Impacts and Mitigation Plan, Pages 1-14
 - Exhibit No. 4 Conservation Easement, Pages 1-10
 - Exhibit No. 5 Draft Financial Assurance, Pages 1-2
 - Exhibit No. 6 Work Schedule
7. Prior to initiating construction activities associated with this Environmental Resource Permit (ERP), the permittee is required to hold a pre-construction meeting with field representatives, consultants, contractors, District Environmental Resource Compliance (ERC) staff, and any other local government entities as necessary.

The purpose of the pre-construction meeting is to discuss construction methods, sequencing, best

SPECIAL CONDITIONS

management practices, identify work areas, staking and roping of preserves where applicable, and to facilitate coordination and assistance amongst relevant parties.

To schedule a pre-construction meeting, please contact ERC staff from the West Palm Beach Office at (561) 686-8800 or via e-mail at: pre-con@sfwmd.gov. When sending a request for a pre-construction meeting, please include the application number, permit number, and contact name and phone number.

8. Minimum building floor elevation: BASIN: PRESERVE - 8.50 feet NGVD 29.
9. Minimum road crown elevation: Basin: PRESERVE - 7.50 feet NGVD 29.
10. No construction dewatering is proposed. However, if in the future, the permittee determines that dewatering is required, an application for dewatering authorization must be submitted to the District and approved prior to the dewatering being conducted.
11. A mitigation program for Sierra Ranch shall be implemented in accordance with Exhibit No. 3. The permittee shall restore and enhance 23.86 acres of wetlands onsite.
12. Prior to commencement of construction and in accordance with the work schedule in Exhibit No. 6, the permittee shall submit documentation from the Florida Department of Environmental Protection that 3.01 freshwater herbaceous credits have been deducted from the ledger for FPL Everglades Mitigation Bank.
13. Prior to commencement of construction and in accordance with the work schedule in Exhibit 6 the permittee shall submit an electronic or hard copy version of the documentation that the executed conservation easement for the mitigation area(s) and associated buffer(s) has been accepted by Broward County for recording. The electronic version of the documentation shall be submitted via the District's ePermitting/eCompliance website.

The permittee shall submit an electronic or hard copy version of the certified copy of the recorded conservation easement for the mitigation area(s) and associated buffer(s) when these documents are available from the County.

The electronic version of the recorded conservation easement, and associated GIS information described below, shall be submitted via the District's ePermitting/eCompliance website. The GIS data shall be supplied in a digital ESRI Geodatabase (mdb), ESRI Shapefile (shp) or AutoCAD Drawing Interchange (dxf) file format using Florida State Plane coordinate system, East Zone (3601), Datum NAD83, HARN with the map units in feet. A map depicting the Conservation Easement over the best available satellite or aerial imagery shall also be provided. If the information is provided via hard copy the GIS data shall reside on CD disk and be submitted to the District's Environmental Resource Compliance Division in the service area office where the application was submitted.

The recorded easement shall utilize the form attached as Exhibit 4. Any proposed modification to the approved form must receive prior written consent from the District. The easement must be free of encumbrances or interests in the easement which the District determines are contrary to the intent of the easement. In the event it is later determined that there are encumbrances or interests in the easement which the District determines are contrary to the intent of the easement, the permittee shall be required to provide release or subordination of such encumbrances or interests.

14. Prior to the commencement of construction and in conformance with the work schedule in Exhibit 6, the permittee shall provide an original letter of credit in the amount of \$718,744.40 to ensure the permittee's financial ability and commitment to complete the proposed mitigation, monitoring and maintenance plan as shown on Exhibit No. 3. The financial assurance shall be in substantial

SPECIAL CONDITIONS

conformance with Exhibit No. 5. The financial assurance shall be in effect for the entire period of the mitigation and monitoring program. Notification to the District by the financial institution or surety that the financial assurance will not be renewed or is no longer in effect shall constitute non-compliance with the permit.

Should the permit be transferred from the construction to operational phase prior to the completion of the mitigation and monitoring program, it will be incumbent upon the original permittee to either keep the existing financial assurance in force or provide replacement financial assurance in the name of the operational entity. The existing financial assurance cannot be released until a replacement document is received and accepted by the District.

15. A monitoring program shall be implemented in accordance with Exhibit No. 3. The monitoring program shall extend for a period of 5 years with annual reports submitted to District staff. At the end of the first monitoring period the mitigation area shall contain an 80% survival of planted vegetation. The 80% survival rate shall be maintained throughout the remainder of the monitoring program, with replanting as necessary. If native wetland, transitional, and upland species do not achieve an 80% coverage within the initial two years of the monitoring program, native species shall be planted in accordance with the maintenance program. At the end of the 5 year monitoring program the entire mitigation area shall contain an 80% survival of planted vegetation and an 80% coverage of desirable obligate and facultative wetland species.
16. The District reserves the right to require remedial measures to be taken by the permittee if monitoring or other information demonstrates that adverse impacts to onsite or offsite wetlands, upland conservation areas or buffers, or other surface waters have occurred due to project related activities.
17. A maintenance program shall be implemented in accordance with Exhibit No. 3 for the restored/enhanced wetland areas on a regular basis to ensure the integrity and viability of those areas as permitted. Maintenance shall be conducted in perpetuity to ensure that the conservation areas are maintained free from Category 1 exotic vegetation (as defined by the Florida Exotic Pest Plant Council at the time of permit issuance) immediately following a maintenance activity. Maintenance in perpetuity shall also insure that conservation areas, including buffers, maintain the species and coverage of native, desirable vegetation specified in the permit. Coverage of exotic and nuisance plant species shall not exceed 5% of total cover between maintenance activities. In addition, the permittee shall manage the conservation areas such that exotic/nuisance plant species do not dominate any one section of those areas.
18. Permanent physical markers designating the preserve status of the wetland preservation areas and buffer zones shall be placed at the intersection of the buffer and each lot line. These markers shall be maintained in perpetuity.
19. Activities associated with the implementation of the mitigation, monitoring and maintenance plan(s) shall be completed in accordance with the work schedule attached as Exhibit No. 6. Any deviation from these time frames must be coordinated with the District's Environmental Resource Compliance staff, and may require a minor modification to this permit. Such requests must be made in writing and shall include (1) reason for the change, (2) proposed start/finish and/or completion dates; and (3) progress report on the status of the project development or mitigation effort.

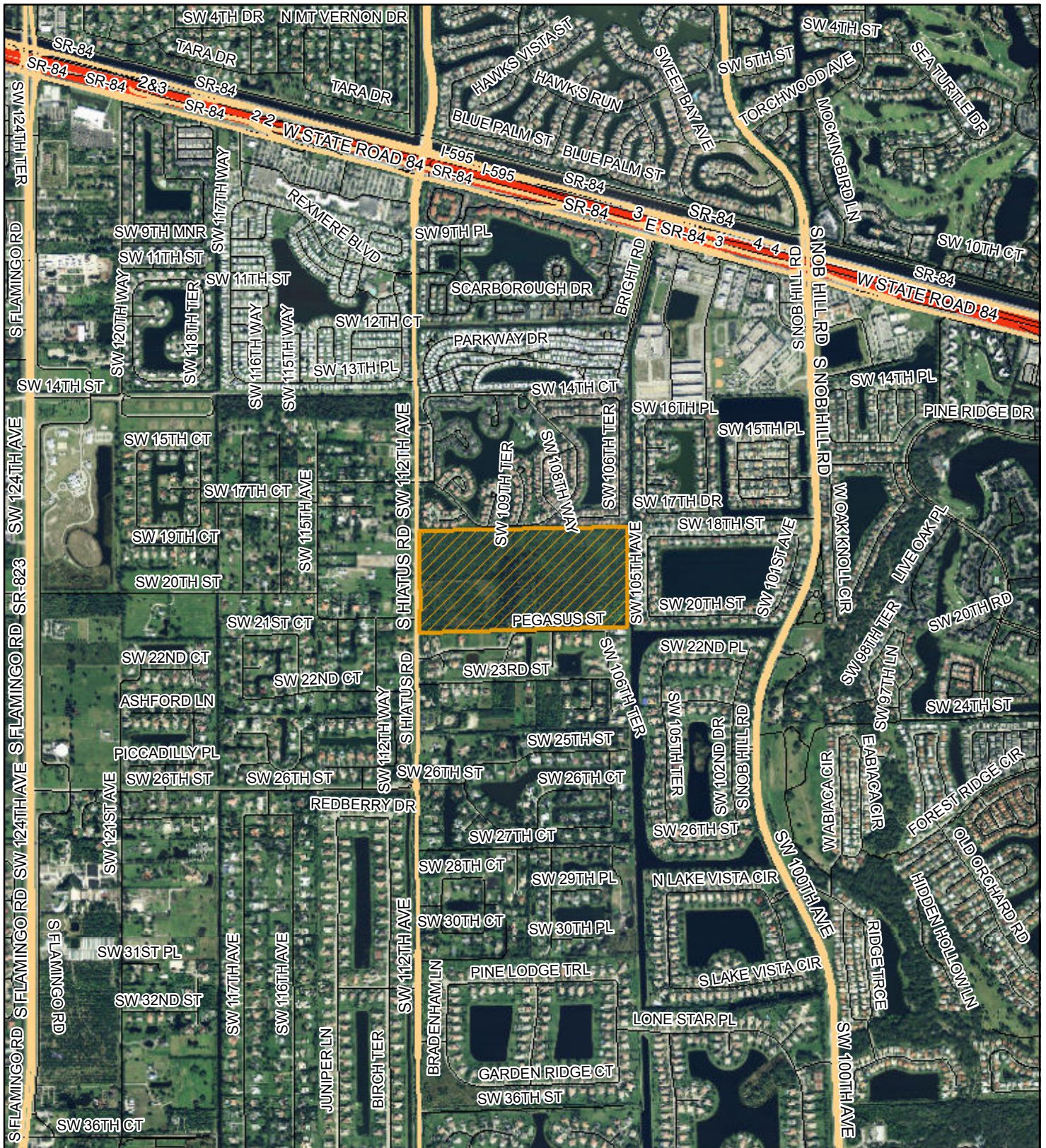




Exhibit No: 1	Exhibit Created On: 2014-12-24	BROWARD COUNTY, FL
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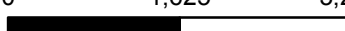
REGULATION DIVISION
Project Name: SIERRA RANCH




N




0 1,625 3,250



Feet




Application



Permit No.: 06-07569-P

Application Number: 141223-14



Created by Regulation GIS Section
South Florida Water Management District

SIERRA RANCH

SECTION 18, TOWNSHIP 50 S, RANGE 41 E

BROWARD COUNTY, FLORIDA

DWG NO:	DRAWING TITLE
C-1	CIVIL ENGINEERING COVER SHEET
C-2	GENERAL NOTES & SPECIFICATIONS
C-3	DEMOLITION PLAN
C-4	OVERALL DRAINAGE PLAN
C-5 THRU C-7	PAVING, GRADING & DRAINAGE PLANS
C-8	OVERALL WATER & SEWER PLAN
C-9 THRU C-11	WATER & SEWER PLANS
C-12 THRU C-14	SANITARY SEWER PROFILES
C-15	EROSION CONTROL PLAN
C-16 THRU C-18	PAVEMENT MARKING AND SIGNAGE PLANS
C-19	FIRE ACCESS PLAN
C-20 THRU C-23	PAVING, GRADING AND DRAINAGE DETAILS
C-24	TYPICAL SECTIONS
C-25	CITY OF SUNRISE STANDARD WATER DETAILS AND NOTES
C-26	CITY OF SUNRISE GENERAL WATER AND SANITARY SEWER DETAILS AND NOTES
C-27	CITY OF SUNRISE STANDARD SANITARY SEWER DETAILS AND NOTES
1 of 1	BOUNDARY SURVEY



LOCATION MAP

SCALE: 1" = 300'±

PREPARED FOR: HOME DYNAMICS CORPORATION

LEGAL DESCRIPTION

THE NORTH 1/2 OF THE NORTH 1/2 OF THE FOLLOWING DESCRIBED PROPERTY:

BEGINNING AT THE SOUTHWEST CORNER OF SECTION 18, TOWNSHIP 50 SOUTH, RANGE 41 EAST, ACCORDING TO THE PLAT OF NEWMAN'S SURVEY, RECORDED IN PLAT BOOK 2, PAGE 26, OF THE PUBLIC RECORDS OF MIAMI-DADE COUNTY, FLORIDA; THENCE RUN NORTH 88°52'50" EAST ALONG THE SOUTH BOUNDARY OF SAID SECTION 2626.40 FEET, MORE OR LESS, TO THE EAST BOUNDARY OF THE WEST 1/2 OF SAID SECTION; THENCE CONTINUE NORTH 88°52'50" EAST 30.30 FEET TO A POINT; THENCE RUN NORTH 0°15'20" EAST, 2724.4 FEET, MORE OR LESS, TO A POINT ON THE NORTH BOUNDARY OF THE SOUTH 1/2 OF SAID SECTION, LOCATED 127.15 FEET EAST OF THE CENTER OF SAID SECTION; THENCE RUN WEST ALONG SAID NORTH BOUNDARY 127.15 FEET TO THE CENTER OF SAID SECTION; THENCE CONTINUE WEST ALONG SAID NORTH LINE 2773.31 FEET, MORE OR LESS, TO THE EAST BOUNDARY LINE OF RANGE 40 EAST; THENCE RUN SOUTHERLY ALONG SAID EAST BOUNDARY OF RANGE 40 EAST, 2724.7 FEET, MORE OR LESS, TO THE SOUTH LINE OF SAID SECTION 18 EXTENDED WESTERLY; THENCE RUN NORTH 88°52'50" EAST 244.10 FEET TO THE POINT OF BEGINNING; LESS THE WESTERLY 53 FEET THEREOF. SAID LANDS SITUATE, LYING AND BEING IN BROWARD COUNTY, FLORIDA.

THE SOUTH 1/2 OF THE NORTH 1/2 OF THE FOLLOWING DESCRIBED PROPERTY:

BEGINNING AT THE SOUTHWEST CORNER OF SECTION 18, TOWNSHIP 50 SOUTH, RANGE 41 EAST, ACCORDING TO THE PLAT OF NEWMAN'S SURVEY, RECORDED IN PLAT BOOK 2, PAGE 26 OF THE PUBLIC RECORDS OF MIAMI-DADE COUNTY, FLORIDA; THENCE RUN NORTH 88°52'50" EAST ALONG THE SOUTH BOUNDARY OF SAID SECTION 2626.40 FEET, MORE OR LESS, TO THE EAST BOUNDARY OF THE WEST 1/2 OF SAID SECTION; THENCE CONTINUE NORTH 88°52'50" EAST 30.30 FEET TO A POINT; THENCE RUN NORTH 0°15'20" EAST, 2724.4 FEET, MORE OR LESS, TO A POINT ON THE NORTH BOUNDARY OF THE SOUTH 1/2 OF SAID SECTION, LOCATED 127.15 FEET EAST OF THE CENTER OF SAID SECTION; THENCE RUN WEST ALONG SAID NORTH BOUNDARY 127.15 FEET TO THE CENTER OF SAID SECTION; THENCE CONTINUE WEST ALONG SAID NORTH LINE 2773.31 FEET, MORE OR LESS, TO THE EAST BOUNDARY LINE OF RANGE 40 EAST; THENCE RUN SOUTHERLY ALONG SAID EAST BOUNDARY OF RANGE 40 EAST, 2724.7 FEET, MORE OR LESS, TO THE SOUTH LINE OF SAID SECTION 18 EXTENDED WESTERLY; THENCE RUN NORTH 88°52'50" EAST 244.10 FEET TO THE POINT OF BEGINNING; LESS THE WESTERLY 53 FEET THEREOF. SAID LANDS SITUATE, LYING AND BEING IN BROWARD COUNTY, FLORIDA.

ALSO KNOWN AS:

ALL OF THE PLAT OF "SIERRA ESTATES", ACCORDING TO THE PLAT THEREOF, AS RECORDED IN PLAT BOOK 173, PAGE 152, OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA.

BENCHMARK REFERENCE: BROWARD COUNTY BENCHMARK #2352 BROWARD COUNTY ENGINEERING BRASS DISC AT THE NORTHEAST CORNER OF SECTION 13-50-40, ELEVATION = 7.16

SITE DATA

LAND USE: RESIDENTIAL

ZONING: R-1 ESTATE DWELLING (LOTS 1, 45-48)
R-2 LOW DENSITY DWELLING (REMAINDER OF PROPERTY)

FOLIO NUMBER: 5041 1817 0010

NATIONAL FLOOD INSURANCE PROGRAM

NEW FLOOD PANEL NO.: 12011C0535H
NEW NAVD 88 ELEVATION: 6
NEW FLOOD ZONE: AH
EFFECTIVE DATE: 8/18/14

NOTES:

- 1.) ALL ELEVATIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE BASED ON THE NATIONAL GEODETICAL VERTICAL DATUM OF 1929, (N.G.V.D.), UNLESS OTHERWISE NOTED.
- 2.) CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF SUNRISE MINIMUM DESIGN AND CONSTRUCTION STANDARDS.

CONSTRUCTION IN THE PUBLIC RIGHT-OF-WAY

THE PUBLIC ROADWAYS INDICATED IN THESE PLANS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE "MANUAL OF UNIFORM MINIMUM STANDARDS FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS OF FLORIDA"

PROJECT TEAM

OWNER / DEVELOPER: HOME DYNAMICS CORPORATION
4755 TECHNOLOGY WAY, SUITE 210
BOCA RATON, FLORIDA 33431
(561) 869-1800
EMAIL: ADELFINO@HOMEDYNAMICS.COM

AGENT / PLANNER: DESIGN AND ENTITLEMENT CONSULTANTS, LLC
1402 ROYAL PALM BEACH BOULEVARD, SUITE 102
ROYAL PALM BEACH, FLORIDA 33411
(561) 707-3410
EMAIL: KEN@DESIGNANDENTITLEMENT.COM

CIVIL ENGINEER AND LANDSCAPE ARCHITECT: CRAVEN THOMPSON & ASSOCIATES, INC.
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SURVEYOR: ABSOLUTE SURVEYING INC.
215 GOOLSBY BOULEVARD
DEERFIELD BEACH, FLORIDA 33442
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EMAIL:

ENVIRONMENTAL CONSULTANT: EW CONSULTANTS, INC.
601 HERITAGE DRIVE, SUITE 124
JUPITER, FLORIDA 33458
(561) 623-5475
EMAIL: MLINDGREN@EWCONSULTANTS.COM

Always call 811 two full business days before you dig to have underground utilities located and marked.



LEAVE BLANK - FOR CITY USE ONLY

DATE:	10/28/16		
SCALE:	AS NOTED		
DESIGNED BY:	M.R.N.		
DRAWN BY:	E.H.M.		
CHECKED BY:	C.E.E.		
APPROVED BY:	C.E.E.		
	DESCRIPTION	BY:	DATE:

CRAVEN THOMPSON AND ASSOCIATES, INC.
ENGINEERS • PLANNERS • SURVEYORS
3563 N.W. 53RD STREET, FORT LAUDERDALE, FLORIDA 33309
FAX: (954) 739-6409 TEL: (954) 739-6400
FLORIDA LICENSED ENGINEERING, SURVEYING & MAPPING BUSINESS NO. 271
FLORIDA LICENSED LANDSCAPE ARCHITECTURE BUSINESS NO. 500014
WE STRONGLY RECOMMEND THE SERVICES OF QUALIFIED PROFESSIONAL ENGINEERS, ARCHITECTS, AND OTHERS. CONTACT US FOR A LIST OF QUALIFIED PROFESSIONALS IN YOUR AREA. © 2017

SIERRA RANCH
PREPARED FOR:
HOME DYNAMICS CORPORATION
4755 TECHNOLOGY WAY, SUITE 210
BOCA RATON, FLORIDA 33431

COVER SHEET

DATE: 10/28/16

DRAWING NO. C-1

PROJECT # 12-0093-001-06

Chad E. Edwards, P.E.
Florida P.E. No. 59306
February 1, 2017

I. APPLICABLE CODES

- A. ALL CONSTRUCTION AND MATERIALS SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE TOWN OF DAVIE, CITY OF SUNRISE (WATER AND SEWER), AND ALL OTHER LOCAL, STATE AND NATIONAL CODES WHERE APPLICABLE. IN THE EVENT OF A CONFLICT, TOWN OF DAVIE AND CITY OF SUNRISE (WATER AND SEWER) SPECIFICATIONS WILL GOVERN.
- B. ALL CONSTRUCTION SHALL BE DONE IN A SAFE MANNER AND IN STRICT COMPLIANCE WITH ALL THE REQUIREMENTS OF FEDERAL, OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AND ALL STATE AND LOCAL SAFETY AND HEALTH REGULATIONS.
- C. ALL ELEVATIONS SHOWN ON THE CONSTRUCTION DRAWINGS ARE BASED ON THE NATIONAL GEODETICAL VERTICAL DATUM OF 1929, (N.G.V.D.), UNLESS OTHERWISE NOTED.

II. PRECONSTRUCTION RESPONSIBILITIES

- A. UPON THE RECEIPT OF THE "NOTICE TO PROCEED", THE CONTRACTOR SHALL CONTACT THE ENGINEER OF RECORD AND ARRANGE A PRECONSTRUCTION CONFERENCE TO INCLUDE ALL INVOLVED GOVERNMENTAL AGENCIES, UTILITY OWNERS, THE OWNER AND THE ENGINEER OF RECORD.
- B. THE CONTRACTOR SHALL OBTAIN A SUNSHINE CERTIFICATION NUMBER AT LEAST 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION, CALL 811 OR 1-800-432-4770.
- C. ALL UTILITY EASEMENTS TO BE SECURED PRIOR TO CONSTRUCTION (IF REQUIRED).
- D. LOCATION OF EXISTING FACILITIES AS SHOWN ON CONSTRUCTION DRAWINGS ARE DRAWN FROM AVAILABLE RECORDS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE FACILITIES SHOWN OR FOR ANY FACILITY NOT SHOWN. THE CONTRACTOR SHALL VERIFY, IF POSSIBLE, THE ELEVATIONS AND LOCATIONS OF EXISTING FACILITIES PRIOR TO CONSTRUCTION. IF AN EXISTING FACILITY IS FOUND TO CONFLICT WITH THE PROPOSED CONSTRUCTION UPON EXCAVATION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF RECORD SO THAT APPROPRIATE MEASURES CAN BE TAKEN TO RESOLVE THE PROBLEM. AT LEAST TWO (2) DAYS PRIOR TO THE START OF CONSTRUCTION.
- E. THE OWNER SHALL SUBMIT A "NOTICE OF INTENT (N.O.I.) TO USE GENERIC PERMIT FOR STORMWATER DISCHARGE FROM CONSTRUCTION ACTIVITIES THAT DISTURB FIVE OR MORE ACRES OF LAND" FORM (D.E.P. FORM #62-621.300(4)(B)) TO F.D.E.P. NOTICES CENTER. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE STORM WATER POLLUTION PREVENTION PLAN (S.W.P.P.P.) REQUIRED FOR N.O.I. SUBMITTAL AND SHALL RETAIN A COPY ON-SITE FROM THE DATE OF PROJECT INITIATION TO THE DATE OF FINAL SITE STABILIZATION. A "NOTICE OF TERMINATION" (N.O.T.) OF GENERIC PERMIT COVERAGE" FORM (D.E.P. FORM #2-621-300(6)) MUST BE SUBMITTED TO F.D.E.P. TO DISCONTINUE PERMIT COVERAGE SUBSEQUENT TO COMPLETION OF CONSTRUCTION. FOR ADDITIONAL INFORMATION, SEE F.D.E.P. WEBSITE: HTTP://WWW.DE.P.STATE.FL.US/WATER/STORMWATER/NPDES

III. INSPECTIONS

- A. THE CONTRACTOR SHALL NOTIFY THE TOWN OF DAVIE, CITY OF SUNRISE (WATER AND SEWER), THE ENGINEER OF RECORD, AND ANY OTHER GOVERNMENTAL AGENCIES HAVING JURISDICTION AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION AND PRIOR TO THE INSPECTION OF THE FOLLOWING ITEMS, WHERE APPLICABLE:
 - 1. CLEARING AND FILLING
 - 2. STORM DRAINAGE SYSTEM
 - 3. SANITARY SEWER SYSTEM
 - 4. WATER DISTRIBUTION SYSTEM
 - 5. SUBGRADE
 - 6. LIMEROCK BASE
 - 7. ASPHALTIC CONCRETE
 - 8. SIDEWALK
 - 9. FINAL

IV. SHOP DRAWINGS

- A. PRIOR TO THEIR CONSTRUCTION OR INSTALLATION, SHOP DRAWINGS SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER OF RECORD, TOWN OF DAVIE, CITY OF SUNRISE (WATER AND SEWER) FOR THE FOLLOWING: SANITARY MANHOLES, STORM DRAIN MANHOLES, CATCH BASINS, FIRE HYDRANTS, PIPING, VALVES AND ALL REQUIRED ACCESSORIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN ALL OTHER AGENCY APPROVALS IF REQUIRED.

V. TEMPORARY FACILITIES

- A. TEMPORARY FACILITIES:
 - 1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE FOR OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY.
- B. TRAFFIC REGULATION:
 - 1. MAINTENANCE OF TRAFFIC IN THE PUBLIC RIGHTS-OF-WAY SHALL BE IN ACCORDANCE WITH THE M.U.T.C.D.
 - 2. ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAYS OR WALKWAYS SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
 - 3. NO TRENCHES OR HOLES NEAR WALKWAYS, IN ROADWAYS OR THEIR SHOULDERS ARE TO BE LEFT OPEN DURING NIGHTTIME HOURS WITHOUT EXPRESS PERMISSION OF THE TOWN OF DAVIE.
 - 4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR FOR ANY NECESSARY CONSTRUCTION, PAVEMENT MARKING AND SIGNAGE OR ANY PEDESTRIAN SIGNALIZATION AND/OR SIGNAL MODIFICATION TO ACCOMMODATE AN ALTERNATE SAFE WALK ROUTE.

VI. STORM DRAINAGE

- A. GENERAL:
 - 1. DISTANCES AND LENGTHS SHOWN ON PLANS AND PROFILE DRAWINGS ARE REFERENCED TO THE CENTER OF STRUCTURES.
 - 2. ALL MUCK AND NON-PERVIOUS MATERIALS SHALL BE REMOVED FROM THE DRY RETENTION AND EXFILTRATION TRENCH AREAS AND REPLACED WITH CLEAN FILL MATERIAL ACCEPTABLE TO THE TOWN OF DAVIE.
- B. MATERIALS:
 - 1. REINFORCED CONCRETE PIPE (R.C.P.) SHALL MEET THE REQUIREMENTS OF ASTM C-76, LATEST REVISION, RUBBER GASKETS OR OTHER MANUFACTURER SUPPLIED JOINT SEALER SHALL BE USED.
 - 2. MITERED END SECTIONS SHALL BE CONSTRUCTED PER FDOT INDEX NO. 272.
 - 3. ALL DRAINAGE STRUCTURES SHALL BE PRECAST CONCRETE AND SHALL MEET THE REQUIREMENTS OF ASTM C-478. THE MINIMUM WALL THICKNESS AND MINIMUM TOP AND BOTTOM SLAB THICKNESS SHALL BE 8 INCHES. THE MINIMUM REINFORCING SHALL BE NO. 4 BARS AT 12 INCHES EACH WAY UNLESS OTHERWISE INDICATED. CONCRETE SHALL BE MINIMUM OF 4000 PSI AT 28 DAYS.

C. INSTALLATION:

- 1. PIPE SHALL BE PLACED ON A MINIMUM OF 8" STABLE GRANULAR MATERIAL FREE OF ROCK FORMATION AND OTHER FOREIGN FORMATIONS, AND CONSTRUCTED TO A UNIFORM GRADE AND LINE.
- 2. BACK FILL MATERIAL SHALL BE WELL GRADED GRANULAR MATERIAL, WELL TAMPED IN LAYERS NOT TO EXCEED 6 INCHES TO A HEIGHT OF 12 INCHES ABOVE PIPE AS SHOWN ON THE PLANS.
- 3. PROVIDE A MINIMUM PROTECTIVE COVER OF 18 INCHES OVER STORM SEWER AND AVOID UNNECESSARY CROSSING BY HEAVY CONSTRUCTION VEHICLES DURING CONSTRUCTION.
- 4. THE CONTRACTOR SHALL NOTIFY THE TOWN OF DAVIE AND THE ENGINEER OF RECORD AT LEAST 7 DAYS PRIOR TO THE START OF CONSTRUCTION.

D. TESTING:

- 1. ON COMPLETION OF EACH SECTION OF DRAINAGE SYSTEM, THE SECTION OF THE SYSTEM IS TO BE CLEANED AND INSPECTED. INSPECTION SHALL BE PERFORMED BY LAMPING, EACH SECTION BETWEEN STRUCTURES. IN EXAMINATION FROM EITHER END, SHALL SHOW A FULL CIRCLE OF LIGHT. ALL REPAIRS SHOWN NECESSARY BY THE INSPECTION ARE TO BE MADE: COLLAPSED PIPE REPLACED, ALL DEPOSITS REMOVED AND THE DRAIN LINE LEFT TRUE TO LINE AND GRADE ENTIRELY CLEAN AND READY FOR USE.

VII. PAVING

A. GENERAL:

- 1. ALL MUCK AND YIELDING MATERIAL WITHIN THE LIMIT OF CONSTRUCTION SHALL BE REMOVED AND REPLACED WITH CLEAN FILL MATERIAL WHICH SHALL BE COMPACTED AND SHAPED TO CONFORM TO THE REQUIRED SECTION. NO MATERIAL OF F.D.O.T. CLASS A-5, A-7 OR A-8 WILL BE ALLOWED. COMPACTED AREAS, AS SHOWN ON THE PLANS AND/OR AS DETERMINED BY THE ENGINEER, SHALL BE COMPACTED TO NOT LESS THAN 100% OF MAXIMUM DRY DENSITY PER AASHTO T-99-C. AREAS TO BE STABILIZED AS DETERMINED BY THE ENGINEER, SHALL HAVE A MINIMUM LBR-40.
- 2. ALL UNDERGROUND UTILITIES SHALL BE COMPLETE PRIOR TO FINISHED GRADING AND COMPACTION OF SUBGRADE.
- 3. ALL EXISTING PAVEMENT, CUT OR DAMAGED BY CONSTRUCTION, SHALL BE PROPERLY RESTORED AT THE CONTRACTOR'S EXPENSE.
- 4. WHERE ANY PROPOSED PAVEMENT IS TO BE CONNECTED TO EXISTING PAVEMENT, THE EXISTING EDGE OF PAVEMENT SHALL BE CLEANLY SAW CUT TO ENSURE A PROPER JOINT.

B. MATERIALS:

- 1. BASE COURSE SHALL BE CRUSHED LIME ROCK COMPACTED TO 98% MAX. DRY DENSITY W/ MINIMUM LBR-100.
- 2. ASPHALT SURFACES FOR PAVED AREAS SHALL CONFORM WITH THE FOLLOWING:
 - DRIVES TO BE 1 3/4" ASPHALT, 1ST LIFT 3/4" TYPE S-III AND 2ND LIFT 1" TYPE S-III; (WITH SECOND LIFT INSTALLED AFTER FINAL LANDSCAPING AND IRRIGATION INSPECTION). 8" LIMEROCK BASE, 12" STABILIZED SUBGRADE.
- 3. MINIMUM SIDEWALK CONSTRUCTION SHALL BE 4" INCH THICK (6" INCH THICK AT DRIVEWAYS AND IN COUNTY RIGHT-OF-WAY) CONCRETE, MINIMUM 3000 PSI COMPRESSIVE STRENGTH AT 28 DAYS. SAWCUT CONSTRUCTION JOINTS 5 FOOT O.C. WITHIN 48 HOURS OF PLACING, EXPANSION JOINTS SHALL BE 20' FOOT O.C. NO EXPANSION JOINTS ARE TO BE INSTALLED WITHIN RIGHT-OF-WAY.
- 4. CURBS AND GUTTERS, CONCRETE 3000 PSI COMPRESSIVE STRENGTH AT 28 DAYS, SAWCUT CONSTRUCTION JOINTS 10' FOOT O.C. WITHIN 48 HOURS OF PLACING.

C. INSTALLATION:

- 1. SUBGRADE FOR PAVEMENT AREAS SHALL BE COMPACTED TO A MINIMUM OF 98% OF THE MAXIMUM DENSITY (AASHTO T-180), AND SHALL HAVE A MINIMUM LBR OF 40.
- 2. BASE COURSE MATERIAL FOR PAVED AREAS SHALL CONFORM TO FOLLOWING: MINIMUM THICKNESS OF 8 INCHES, AND SHALL BE CONSTRUCTED IN TWO 4 INCH LAYERS.
- 3. BASE COURSE SHALL BE COMPACTED TO 98% OF THE MAXIMUM DENSITY AS PER AASHTO T-180 AND SHALL HAVE A MINIMUM LBR 100.
- 4. A PRIME COAT SHALL BE APPLIED TO THE BASE COURSE AND A TACK COAT SHALL BE APPLIED BETWEEN PAVING COURSES.
- 5. INSTALLATION OF THE WEARING SURFACE AND FRICTION COURSE SHALL CONFORM WITH THE REQUIREMENTS OF THE F.D.O.T. STANDARD SPECIFICATIONS.
- 6. ALL PAVEMENT RESTORATION TO BE MADE IN ACCORDANCE WITH THE CITY, COUNTY, OR STATE OF FLORIDA D.O.T. SPECIFICATIONS, WHERE APPLICABLE.

D. TESTING:

- 1. THE FINISHED SURFACE OF THE BASE COURSE AND THAT OF THE WEARING SURFACE SHALL NOT VARY MORE THAN 1/4" IN ANY 14' SEGMENT FROM PROPOSED GRADES. ANY IRREGULARITIES EXCEEDING THIS LIMIT SHALL BE CORRECTED.
- 2. DENSITY TESTS SHALL BE TAKEN BY AN INDEPENDENT TESTING LABORATORY CERTIFIED BY THE STATE OF FLORIDA, WHERE DIRECTED BY THE ENGINEER.
- 3. ALL TESTING COSTS SHALL BE PAID FOR BY THE OWNER EXCEPT THOSE TESTS FAILING TO MEET THE SPECIFIED REQUIREMENTS WHICH ARE TO BE PAID BY THE CONTRACTOR.
- 4. DENSITY TESTS ON THE STABILIZED SUBGRADE SHALL BE SUPPLIED TO THE ENGINEER OF RECORD, AND APPROVED BEFORE ANY LIME ROCK BASE IS CONSTRUCTED.
- 5. DENSITY TESTS AND AS-BUILTS ON THE FINISHED LIMEROCK BASE SHALL BE SUPPLIED TO THE ENGINEER OF RECORD, AND APPROVED BEFORE ANY ASPHALTIC PAVEMENT IS CONSTRUCTED.

VIII. DEWATERING

- 1. DEWATERING (IF REQUIRED) MUST BE PERFORMED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY DEWATERING PERMITS AND APPROVALS.

IX. PAVEMENT MARKING AND SIGNAGE

- 1. ALL PAVEMENT MARKINGS AND SIGNAGE SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS," LATEST EDITION; AND BROWARD COUNTY TRAFFIC ENGINEERING STANDARDS (CURRENT EDITION). STANDARDS & SPECIFICATIONS FOR PAVEMENT MARKING REQUIREMENTS.

X. ENGINEER'S AS BUILT REQUIREMENTS

- 1. DURING THE DAILY PROGRESS OF THE JOB, THE CONTRACTOR SHALL RECORD ON HIS SET OF CONSTRUCTION DRAWINGS THE EXACT LOCATION, LENGTH, MATERIAL AND ELEVATION OF ANY FACILITY NOT BUILT EXACTLY ACCORDING TO PLANS.

2. AS-BUILTS OF WATER LINES SHALL INCLUDE THE FOLLOWING:

- a. TOP OF PIPE ELEVATIONS EVERY 100 LINEAR FEET.
- b. LOCATIONS AND ELEVATIONS OF ALL FITTINGS INCLUDING BENDS, TEES, GATE VALVES, DOUBLE DETECTOR CHECK VALVES, FIRE HYDRANTS, ETC.
- c. ALL TIE INS TO EXISTING LINES SHALL BE AS BUILT.
- d. THE TERMINATION OF ALL WATER SERVICES SHALL BE SHOWN.

3. AS-BUILTS OF ALL THE GRAVITY SANITARY SEWER LINES SHALL INCLUDE THE FOLLOWING INFORMATION:

- a. RIMS, INVERTS, AND LENGTH OF PIPING BETWEEN STRUCTURES, AS WELL AS PIPE SLOPES.
- b. LOCATIONS OF ALL STUB ENDS OF ALL SEWER LATERALS, INVERT ELEVATIONS AND LOCATIONS OF ALL CLEAN OUTS.
- c. LIFT STATION AS-BUILTS SHALL CONSIST OF THE TOP OF WET WELL ELEVATION, INVERT ELEVATIONS OF THE INCOMING LINE, BOTTOM OF THE WET WELL AND AS-BUILTS OF THE COMPOUND AREA.

4. FORCE MAIN AS-BUILTS SHALL BE PREPARED THE SAME AS THE WATER MAIN AS-BUILTS DESCRIBED ABOVE.

5. AS-BUILTS OF ALL DRAINAGE LINES SHALL INCLUDE THE FOLLOWING INFORMATION:

- a. RIMS, INVERTS, AND LENGTH OF PIPING BETWEEN STRUCTURES, AND WEIR ELEVATIONS WHERE APPLICABLE.
- b. THE SIZE OF THE PIPING SHALL BE VERIFIED BY THE SURVEY FIELD CREW AT THE TIME OF AS-BUILT.

6. ALL ROCK AS-BUILTS FOR DRIVE AREAS SHALL CONSIST OF THE FOLLOWING INFORMATION:

- a. ROCK ELEVATIONS AT ALL HIGH AND LOW POINTS, AND AT ENOUGH INTERMEDIATE POINTS TO CONFIRM SLOPE CONSISTENCY.
- b. ROCK AS-BUILTS SHALL BE TAKEN AT ALL LOCATIONS WHERE THERE IS A FINISHED GRADE ELEVATION SHOWN ON THE DESIGN PLANS.
- c. ALL CATCH BASIN AND MANHOLE RIM ELEVATIONS SHALL BE SHOWN.
- d. ELEVATIONS AROUND ISLANDS SHALL ALSO BE SHOWN.

e. WHERE CONCRETE IS TO BE USED AS A FINISHED PRODUCT FOR THE ROADWAY OR PARKING LOT, ROCK AS-BUILTS WILL BE REQUIRED AS INDICATED ABOVE, AS WELL AS AS-BUILTS ON THE FINISHED CONCRETE AT LOCATIONS WHERE THERE IS A FINISHED GRADE ELEVATION SHOWN ON THE DESIGN PLANS.

f. AS-BUILTS SHALL BE TAKEN ON ALL PAVED AND UNPAVED SWALES, PRIOR TO PLACEMENT OF ASPHALT OR TOPSOIL OR SOD, AT ENOUGH INTERMEDIATE POINTS TO CONFIRM SLOPE CONSISTENCY AND CONFORMANCE TO THE PLANS.

7. LAKE AND CANAL BANK AS-BUILTS SHALL INCLUDE A KEY SHEET OF THE LAKE FOR THE LOCATIONS OF CROSS SECTIONS. LAKE AND CANAL BANK CROSS SECTIONS SHALL BE PLOTTED AT A MINIMUM OF EVERY 100 LINEAR FEET UNLESS OTHERWISE SPECIFIED. AS-BUILTS SHALL CONSIST OF THE LOCATION AND ELEVATION OF THE TOP OF BANK, EDGE OF WATER AND THE DEEP CUT LINE, WITH THE DISTANCE BETWEEN EACH SHOWN ON THE DRAWING.

8. RETENTION AREA AS-BUILT ELEVATIONS SHALL BE TAKEN AT THE BOTTOM OF THE RETENTION AREA AND AT THE TOP OF BANK. AS-BUILT OF CONTOURS SHALL BE SHOWN, WHERE APPLICABLE.

9. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL PREPARE RECORD DRAWINGS, ON FULL SIZE REPRODUCIBLE MATERIAL. ONE SET OF REPRODUCIBLE RECORD DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD, ALONG WITH EIGHT SETS OF BLUE OR BLACK LINE DRAWINGS. THESE DRAWINGS SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED LAND SURVEYOR. ADDITIONALLY, AN ELECTRONIC COPY OF THESE RECORD DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER IN AUTOCAD, ".DWG" OR ".DXF" FORMAT.

10. THE FOLLOWING SUBMITTALS TO THE TOWN OF DAVIE ARE REQUIRED AFTER THE PROJECT IS COMPLETED AND APPROVED BY THE TOWN OF DAVIE:

- a. TWO (2) COMPLETE "AS-BUILT" SETS OF BLUEPRINTS SIGNED AND SEALED BY A REGISTERED ENGINEER.
- b. ONE (1) COMPLETE "AS-BUILT" SET OF MYLAR.
- c. TWO (2) "AS-BUILT" CDS IN AUTOCAD.

Always call 811 two full business days before you dig to have underground utilities located and marked.

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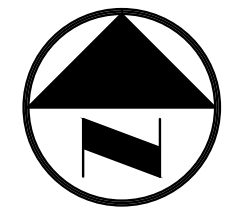
DATE:	10/28/16				
SCALE:	AS NOTED				
DESIGNED BY:	M.R.N.				
DRAWN BY:	E.H.M.				
CHECKED BY:	C.E.E.				
APPROVED BY:	C.E.E.	DESCRIPTION	BY:	DATE:	

Craven Thompson and Associates, Inc.
 ENGINEERS • PLANNERS • SURVEYORS
 3563 N.W. 53RD STREET, FORT LAUDERDALE, FLORIDA 33309
 FAX: (954) 739-6409 TEL: (954) 739-6400
 FLORIDA LICENSED ENGINEERING, SURVEYING & MAPPING BUSINESS NO. 271
 FLORIDA LICENSED LANDSCAPE ARCHITECTURE BUSINESS NO. 500014
WE HEREBY CERTIFY THAT THE PROJECT OF "SIERRA RANCH" IS A PROJECT OF "SIERRA RANCH" AND SHALL NOT BE CONSIDERED A PROJECT OF "SIERRA RANCH" UNLESS IT IS APPROVED BY "SIERRA RANCH" AND SHALL NOT BE CONSIDERED A PROJECT OF "SIERRA RANCH" UNLESS IT IS APPROVED BY "SIERRA RANCH".

SIERRA RANCH
 PREPARED FOR:
 HOME DYNAMICS CORPORATION
 4755 TECHNOLOGY WAY, SUITE 210
 BOCA RATON, FLORIDA 33431

GENERAL NOTES AND SPECIFICATIONS

DATE:	10/28/16
DRAWING NO.	C-2
PROJECT #:	12-0093-001-06

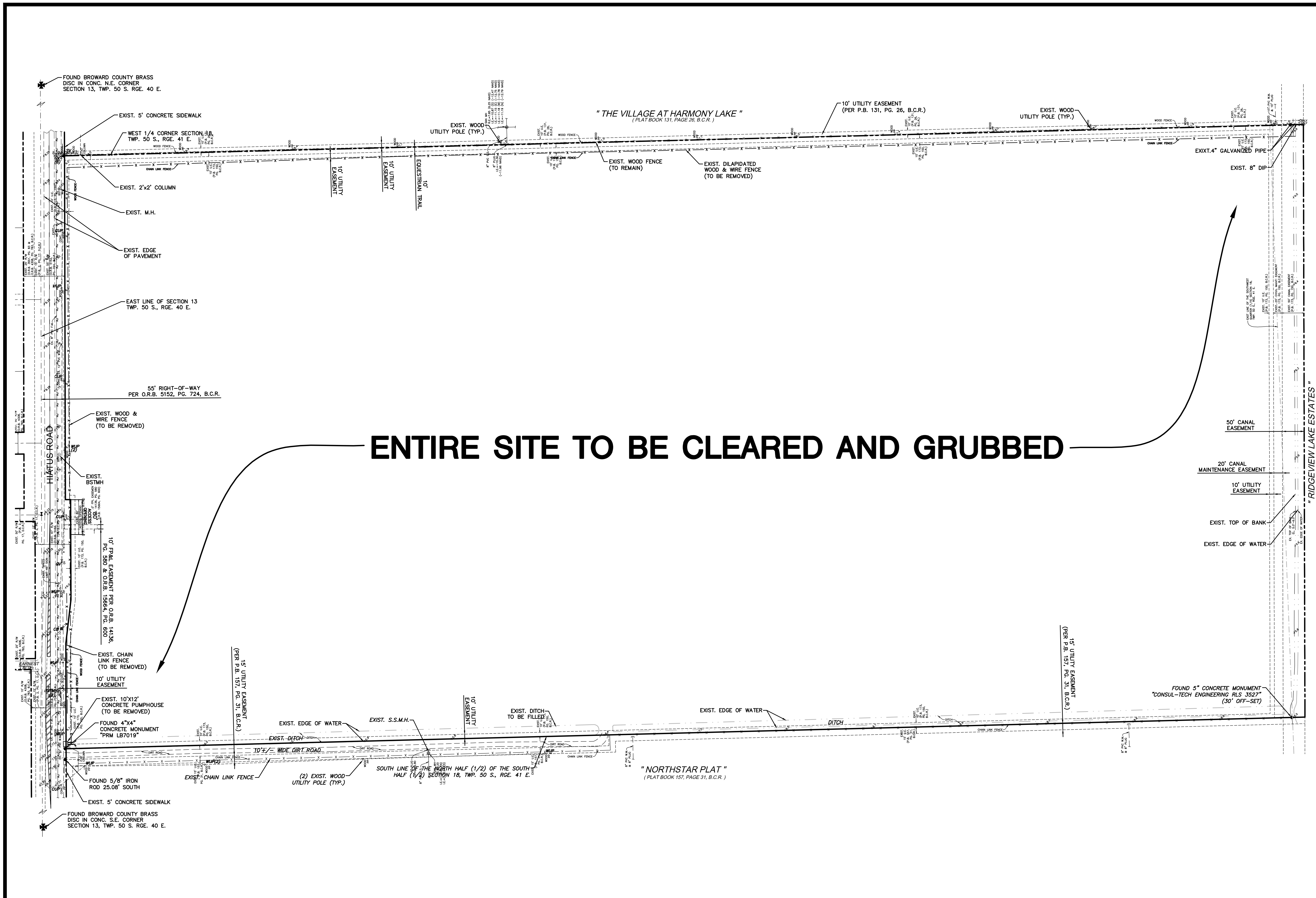


DEMOLITION NOTES:

- REFER TO TREE REMOVAL/RELOCATION PLANS FOR DETAILS REGARDING EXISTING TREES TO BE REMOVED-RELOCATED OR TO REMAIN.
- REFER TO ENVIRONMENTAL PLANS FOR WETLAND DELINEATION AND REQUIREMENTS

LEGEND:

- X EXISTING FENCE
- X 1.7 EXISTING SPOT ELEVATION
- WOOD EXISTING WOOD POWER POLE
- PP EXISTING CONCRETE POWER POLE
- GV EXISTING GATE VALVE
- FH EXISTING FIRE HYDRANT
- ⊙ EXISTING BELL SOUTH MANHOLE
- ⊙ EXISTING SANITARY SEWER MANHOLE
- WM EXISTING WATER MAIN
- FM EXISTING FORCE MAIN
- CB EXISTING CATCH BASIN



ENTIRE SITE TO BE CLEARED AND GRUBBED

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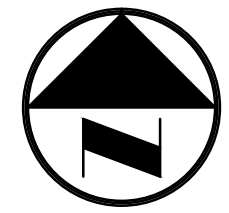
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SCALE:	AS NOTED	
DESIGNED BY:	M.R.N.	
DRAWN BY:	E.H.M.	
CHECKED BY:	C.E.E.	
APPROVED BY:	C.E.E.	
DESCRIPTION	BY:	DATE:

Craven Thompson and Associates, Inc.
 ENGINEERS • PLANNERS • SURVEYORS
 3563 N.W. 53RD STREET, FORT LAUDERDALE, FLORIDA 33309
 FAX: (954) 739-6409 TEL: (954) 739-6400
 FLORIDA LICENSED ENGINEERING, SURVEYING & MAPPING BUSINESS NO. 271
 FLORIDA LICENSED LANDSCAPE ARCHITECTURE BUSINESS NO. 5200114

SIERRA RANCH
 PREPARED FOR:
 HOME DYNAMICS CORPORATION
 4755 TECHNOLOGY WAY, SUITE 210
 BOCA RATON, FLORIDA 33431

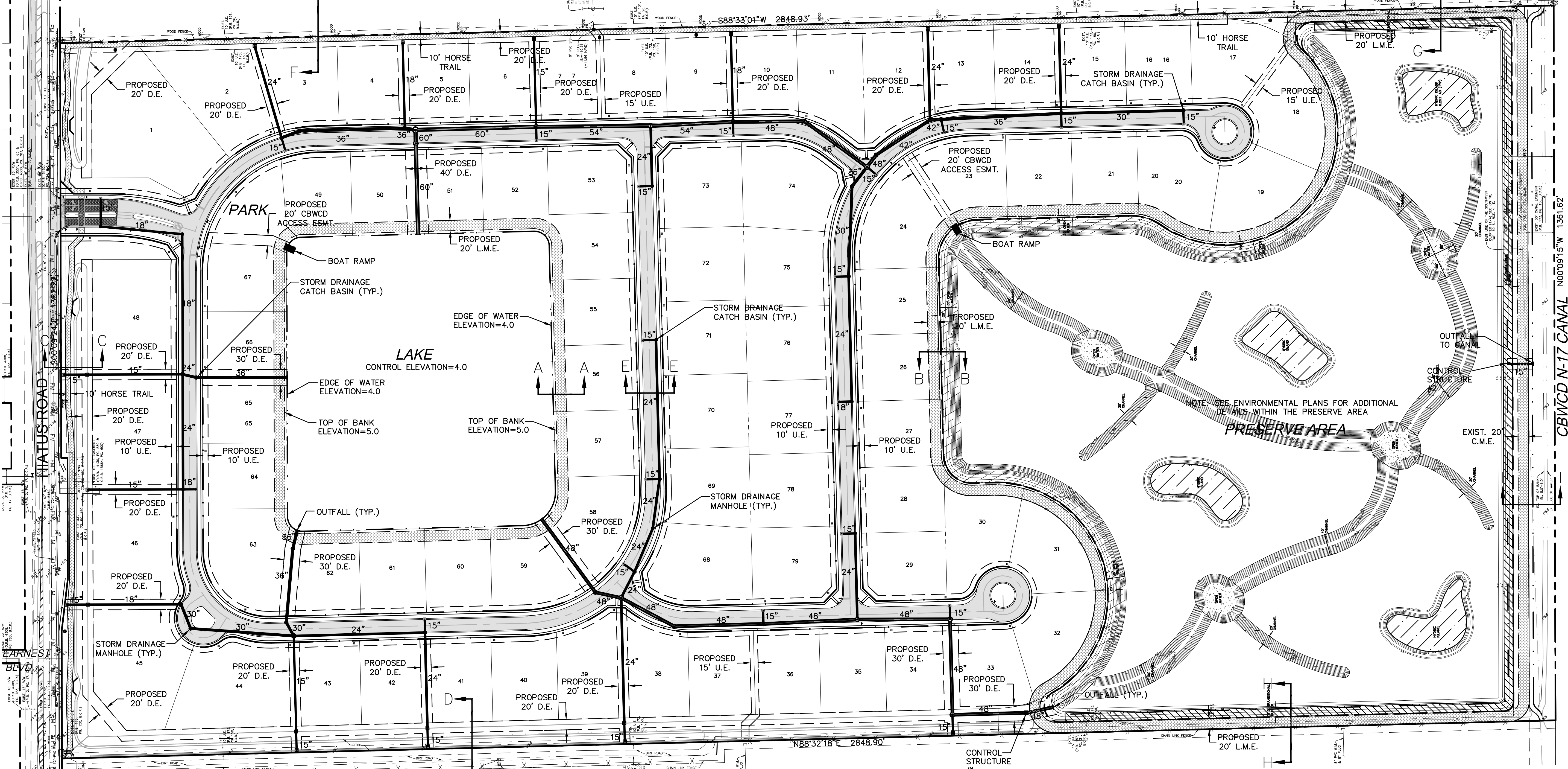
DEMOLITION PLAN

DATE:	10/28/16
DRAWING NO.	C-3
PROJECT #:	12-0093-001-06



"THE VILLAGE AT HARMONY LAKE"
(PLAT BOOK 131, PAGE 26, B.C.R.)

NOTE: HORSE TRAIL TO BE CONSTRUCTED BY THE DEVELOPER AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION. ALL DRAINAGE STRUCTURES, PIPES, LAKE AND PRESERVE AREA TO BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION.



- LEGEND:**
- H.P. ROADWAY HIGH POINT
 - L.P. ROADWAY LOW POINT
 - DRAINAGE CATCH BASIN
 - DRAINAGE MANHOLE
 - YARD DRAIN WITH CONCRETE APRON
 - HDPE HIGH DENSITY POLYETHYLENE PIPE
 - INDICATES STORM DRAIN STRUCTURE NUMBER
 - R.E.# INDICATES STORM DRAIN RIM ELEVATION
 - I.E.# INDICATES STORM DRAIN INVERT ELEVATION
 - INDICATES STORM DRAIN STRUCTURE TYPE
 - DRAINAGE OUTFALL
 - FLOW ARROW
 - PROPOSED SPOT ELEVATION
 - EXISTING SPOT ELEVATION
 - F.F. BUILDING FINISHED FLOOR ELEVATION
 - D.E. DRAINAGE EASEMENT
 - L.M.E. LAKE MAINTENANCE EASEMENT
 - U.E. UTILITY EASEMENT
 - CBWCD CENTRAL BROWARD WATER CONTROL DISTRICT
 - ASPHALT PAVEMENT
 - CONCRETE SIDEWALK
 - STABILIZED SOG

"NORTHSTAR PLAT"
(PLAT BOOK 157, PAGE 31, B.C.R.)

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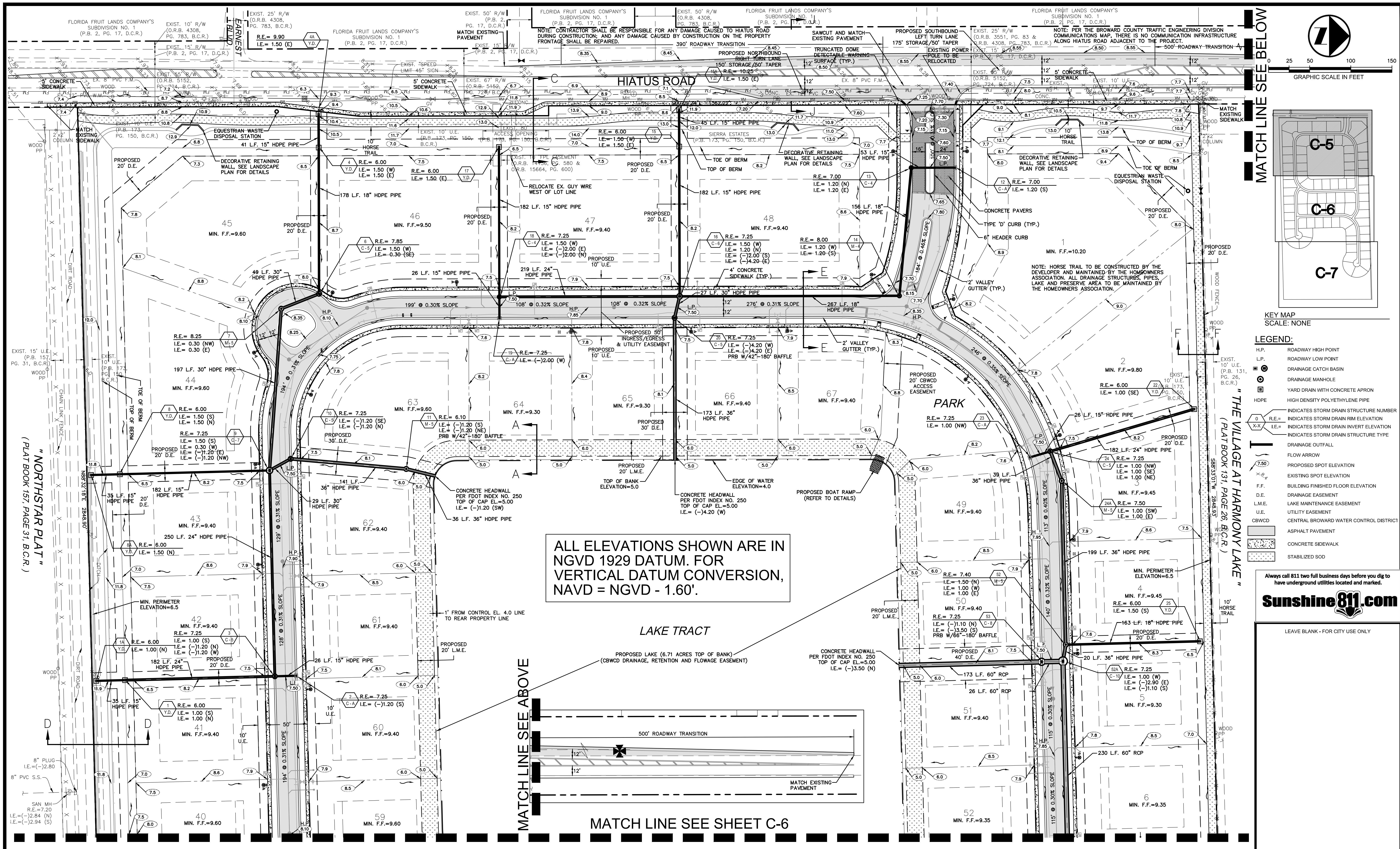
DATE:	10/28/16
SCALE:	AS NOTED
DESIGNED BY:	M.R.N.
DRAWN BY:	E.H.M.
CHECKED BY:	C.E.E.
APPROVED BY:	C.E.E.
DESCRIPTION:	
BY:	
DATE:	

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FLORIDA LICENSED ENGINEERING, SURVEYING & MAPPING BUSINESS NO. 271
FLORIDA LICENSED LANDSCAPE ARCHITECTURE BUSINESS NO. 5000114

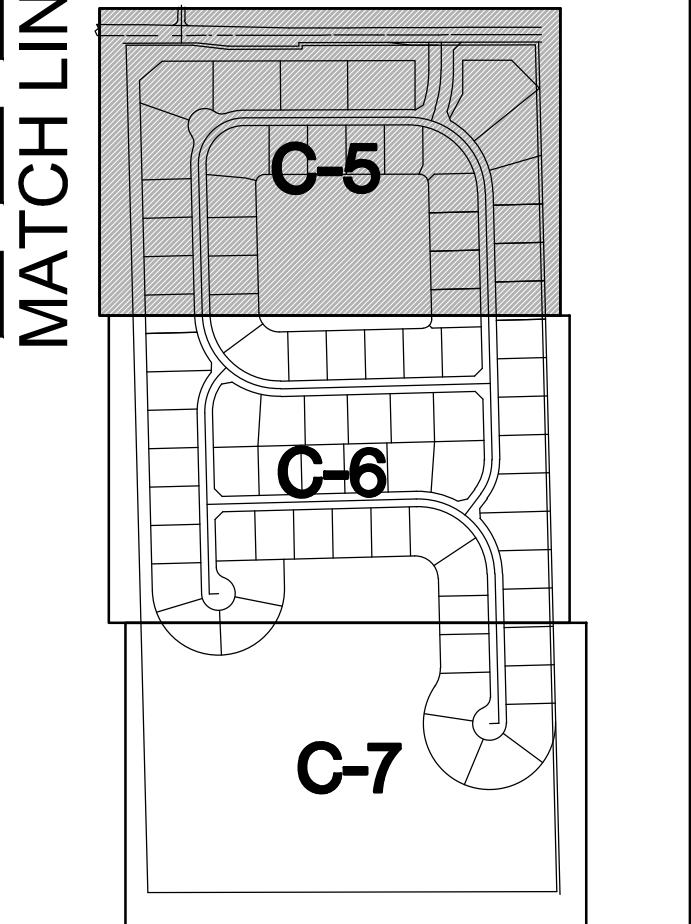
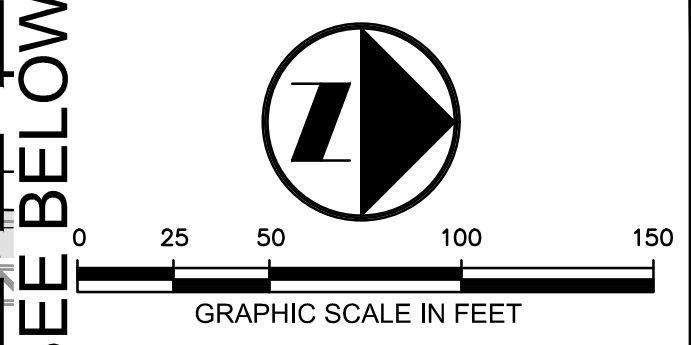
SIERRA RANCH
PREPARED FOR:
HOME DYNAMICS CORPORATION
4755 TECHNOLOGY WAY, SUITE 210
BOCA RATON, FLORIDA 33431

OVERALL DRAINAGE PLAN

DATE:	10/28/16
DRAWING NO.:	C-4
PROJECT #:	12-0093-001-06
Chad E. Edwards, P.E. Florida P.E. No. 59306 August 16, 2017	



ALL ELEVATIONS SHOWN ARE IN NGVD 1929 DATUM. FOR VERTICAL DATUM CONVERSION, NAVD = NGVD - 1.60'.



KEY MAP SCALE: NONE

- LEGEND:**
- H.P. ROADWAY HIGH POINT
 - L.P. ROADWAY LOW POINT
 - DRAINAGE CATCH BASIN
 - DRAINAGE MANHOLE
 - YARD DRAIN WITH CONCRETE APRON
 - HDPE HIGH DENSITY POLYETHYLENE PIPE
 - INDICATES STORM DRAIN STRUCTURE NUMBER
 - INDICATES STORM DRAIN RIM ELEVATION
 - INDICATES STORM DRAIN INVERT ELEVATION
 - INDICATES STORM DRAIN STRUCTURE TYPE
 - DRAINAGE OUTFALL
 - FLOW ARROW
 - PROPOSED SPOT ELEVATION
 - EXISTING SPOT ELEVATION
 - F.F. BUILDING FINISHED FLOOR ELEVATION
 - D.E. DRAINAGE EASEMENT
 - L.M.E. LAKE MAINTENANCE EASEMENT
 - U.E. UTILITY EASEMENT
 - CBWCD CENTRAL BROWARD WATER CONTROL DISTRICT
 - ASPHALT PAVEMENT
 - CONCRETE SIDEWALK
 - STABILIZED SOG

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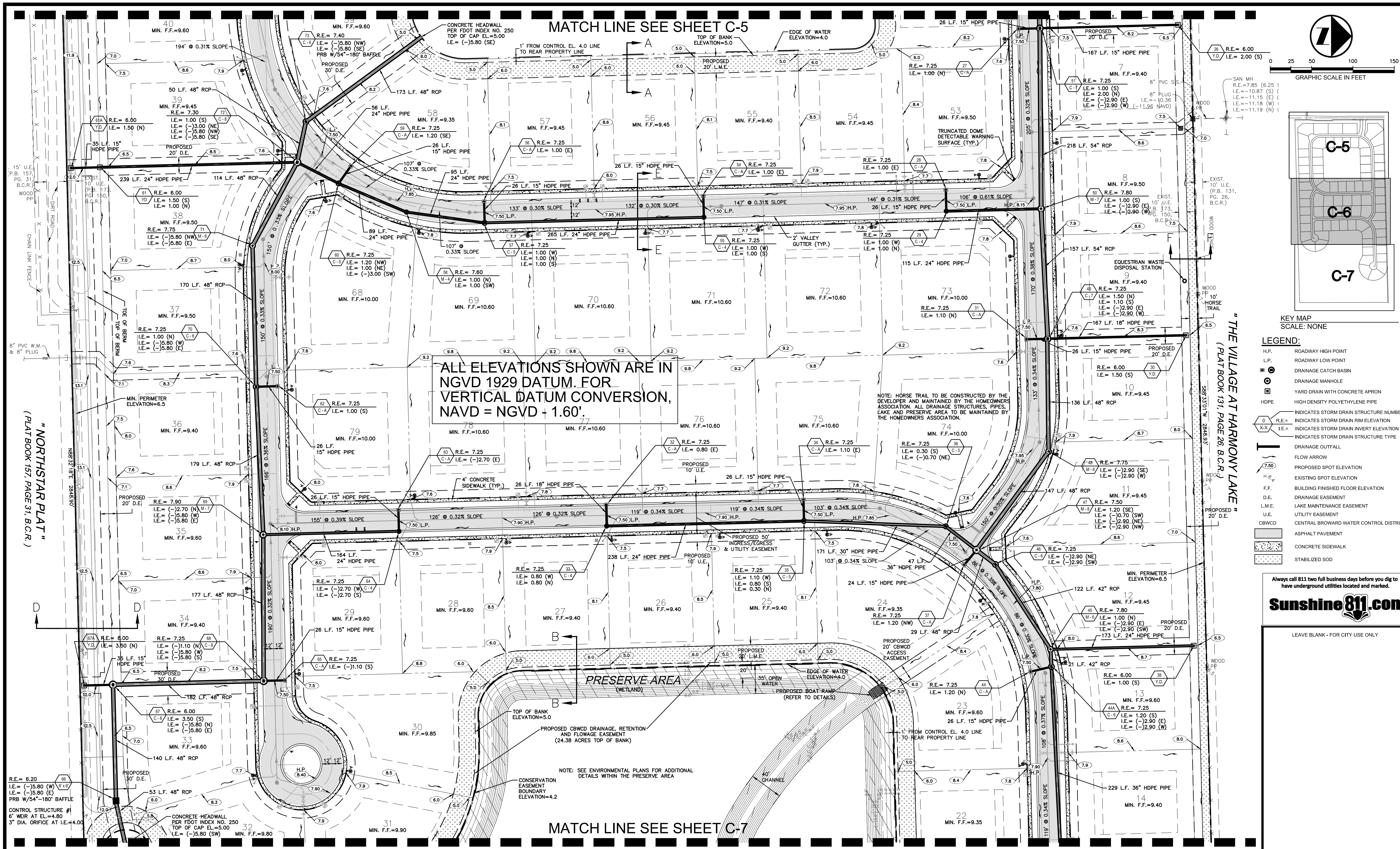
DATE:	10/28/16
SCALE:	AS NOTED
DESIGNED BY:	M.R.N.
DRAWN BY:	E.H.M.
CHECKED BY:	C.E.E.
APPROVED BY:	C.E.E.
DESCRIPTION:	
BY:	
DATE:	

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 FLORIDA LICENSED LANDSCAPE ARCHITECTURE BUSINESS NO. 000014

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 BOCA RATON, FLORIDA 33431

PAVING, GRADING AND DRAINAGE PLAN

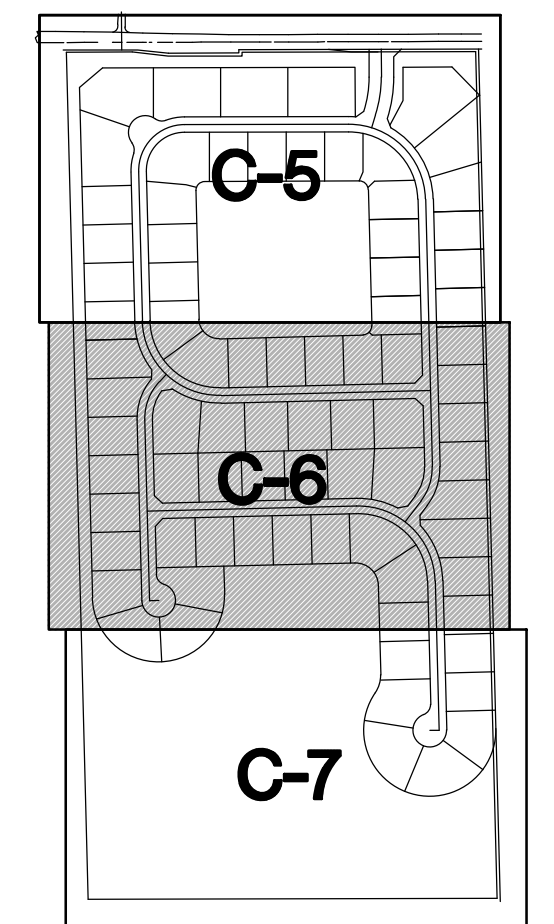
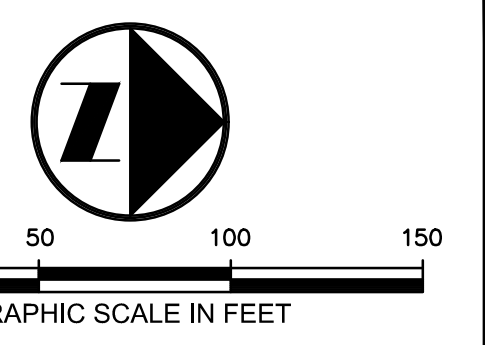
DATE:	10/28/16
DRAWING NO.:	C-5
PROJECT #:	12-0093-001-06



MATCH LINE SEE SHEET C-5

ALL ELEVATIONS SHOWN ARE IN NGVD 1929 DATUM. FOR VERTICAL DATUM CONVERSION, NAVD = NGVD + 1.60'

MATCH LINE SEE SHEET C-7



- KEY MAP SCALE: NONE
- LEGEND:**
- H.P. ROADWAY HIGH POINT
 - L.P. ROADWAY LOW POINT
 - DRAINAGE CATCH BASIN
 - DRAINAGE MANHOLE
 - YARD DRAIN WITH CONCRETE APRON
 - HDPE HIGH DENSITY POLYETHYLENE PIPE
 - INDICATES STORM DRAIN STRUCTURE NUMBER
 - R.E. = INDICATES STORM DRAIN RIM ELEVATION
 - I.E. = INDICATES STORM DRAIN INVERT ELEVATION
 - INDICATES STORM DRAIN STRUCTURE TYPE
 - DRAINAGE OUTFALL
 - FLOW ARROW
 - PROPOSED SPOT ELEVATION
 - EXISTING SPOT ELEVATION
 - F.F. BUILDING FINISHED FLOOR ELEVATION
 - D.E. DRAINAGE EASEMENT
 - L.M.E. LAKE MAINTENANCE EASEMENT
 - U.E. UTILITY EASEMENT
 - C.B.W.C.D. CENTRAL BROWARD WATER CONTROL DISTRICT
 - ASPHALT PAVEMENT
 - CONCRETE SIDEWALK
 - STABILIZED SOG

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DATE:	10/28/16
SCALE:	AS NOTED
DESIGNED BY:	M.R.N.
DRAWN BY:	E.H.M.
CHECKED BY:	C.E.E.
APPROVED BY:	C.E.E.
DESCRIPTION	BY: DATE:

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 FLORIDA LICENSED LANDSCAPE ARCHITECTURE BUSINESS NO. 5000114

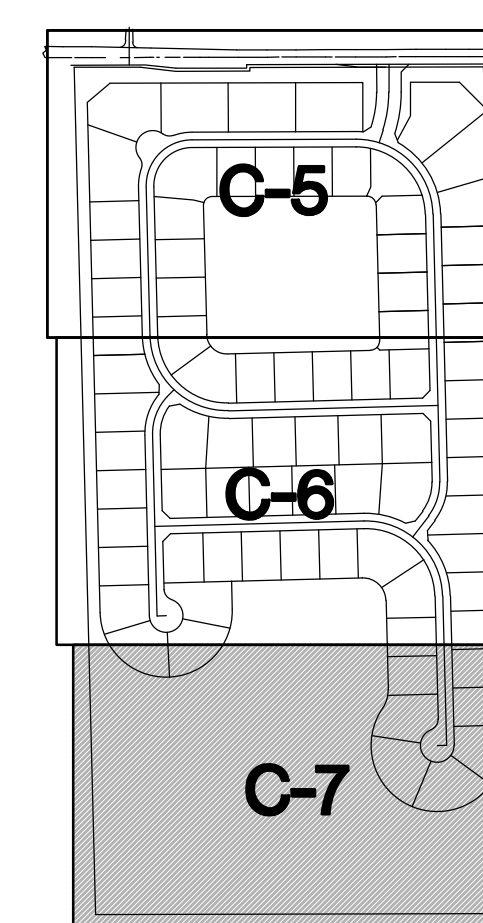
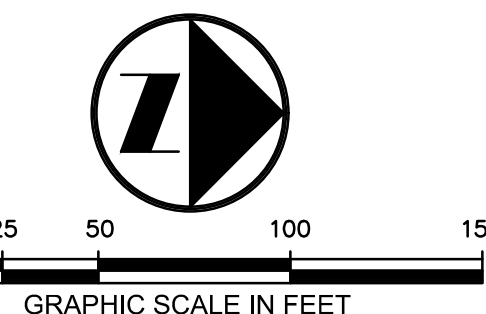
SIERRA RANCH
 PREPARED FOR:
 HOME DYNAMICS CORPORATION
 4755 TECHNOLOGY WAY, SUITE 210
 BOCA RATON, FLORIDA 33431

PAVING, GRADING AND DRAINAGE PLAN

DATE:	10/28/16
DRAWING NO.	C-6
PROJECT #:	12-0093-001-06

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MATCH LINE SEE SHEET C-6

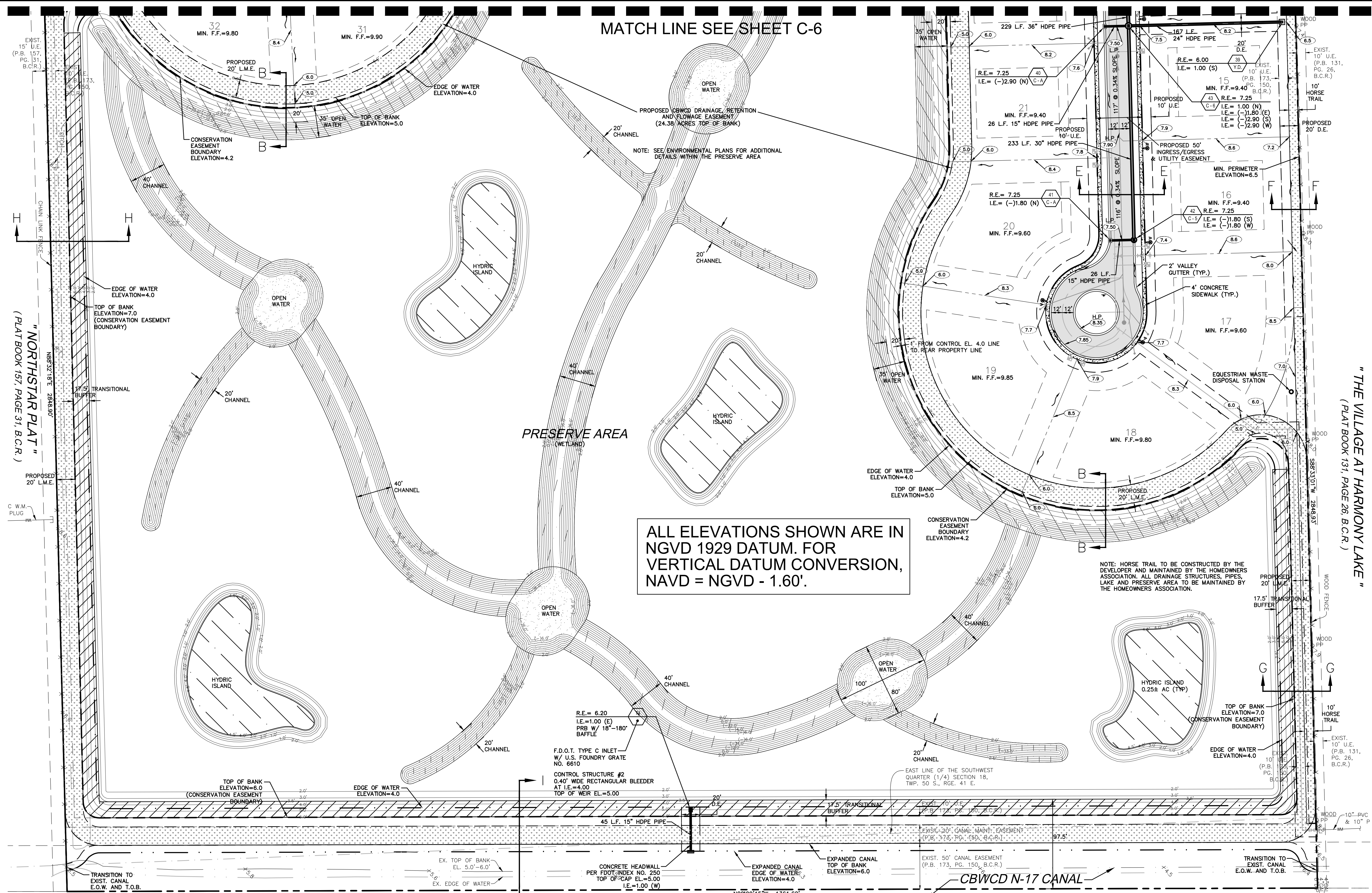


KEY MAP SCALE: NONE

- LEGEND:**
- H.P. ROADWAY HIGH POINT
 - L.P. ROADWAY LOW POINT
 - ☉ DRAINAGE CATCH BASIN
 - ⊙ DRAINAGE MANHOLE
 - ⊙ YARD DRAIN WITH CONCRETE APRON
 - HDPE HIGH DENSITY POLYETHYLENE PIPE
 - INDICATES STORM DRAIN STRUCTURE NUMBER
 - R.E.= INDICATES STORM DRAIN RIM ELEVATION
 - I.E.= INDICATES STORM DRAIN INVERT ELEVATION
 - X-X INDICATES STORM DRAIN STRUCTURE TYPE
 - ┆ DRAINAGE OUTFALL
 - FLOW ARROW
 - 7.50' PROPOSED SPOT ELEVATION
 - EXISTING SPOT ELEVATION
 - F.F. BUILDING FINISHED FLOOR ELEVATION
 - D.E. DRAINAGE EASEMENT
 - L.M.E. LAKE MAINTENANCE EASEMENT
 - U.E. UTILITY EASEMENT
 - CBWCD CENTRAL BROWARD WATER CONTROL DISTRICT
 - ASPHALT PAVEMENT
 - CONCRETE SIDEWALK
 - STABILIZED SOIL

ALL ELEVATIONS SHOWN ARE IN NGVD 1929 DATUM. FOR VERTICAL DATUM CONVERSION, NAVD = NGVD - 1.60'.

NOTE: HORSE TRAIL TO BE CONSTRUCTED BY THE DEVELOPER AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION. ALL DRAINAGE STRUCTURES, PIPES, LAKE AND PRESERVE AREA TO BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION.



DATE:	10/28/16
SCALE:	AS NOTED
DESIGNED BY:	M.R.N.
DRAWN BY:	E.H.M.
CHECKED BY:	C.E.E.
APPROVED BY:	C.E.E.
DESCRIPTION:	
BY:	
DATE:	

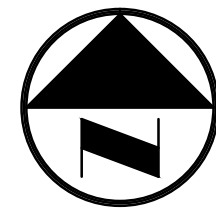
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 FAX: (954) 739-6409 TEL: (954) 739-6400
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SIERRA RANCH
 PREPARED FOR:
 HOME DYNAMICS CORPORATION
 4755 TECHNOLOGY WAY, SUITE 210
 BOCA RATON, FLORIDA 33431

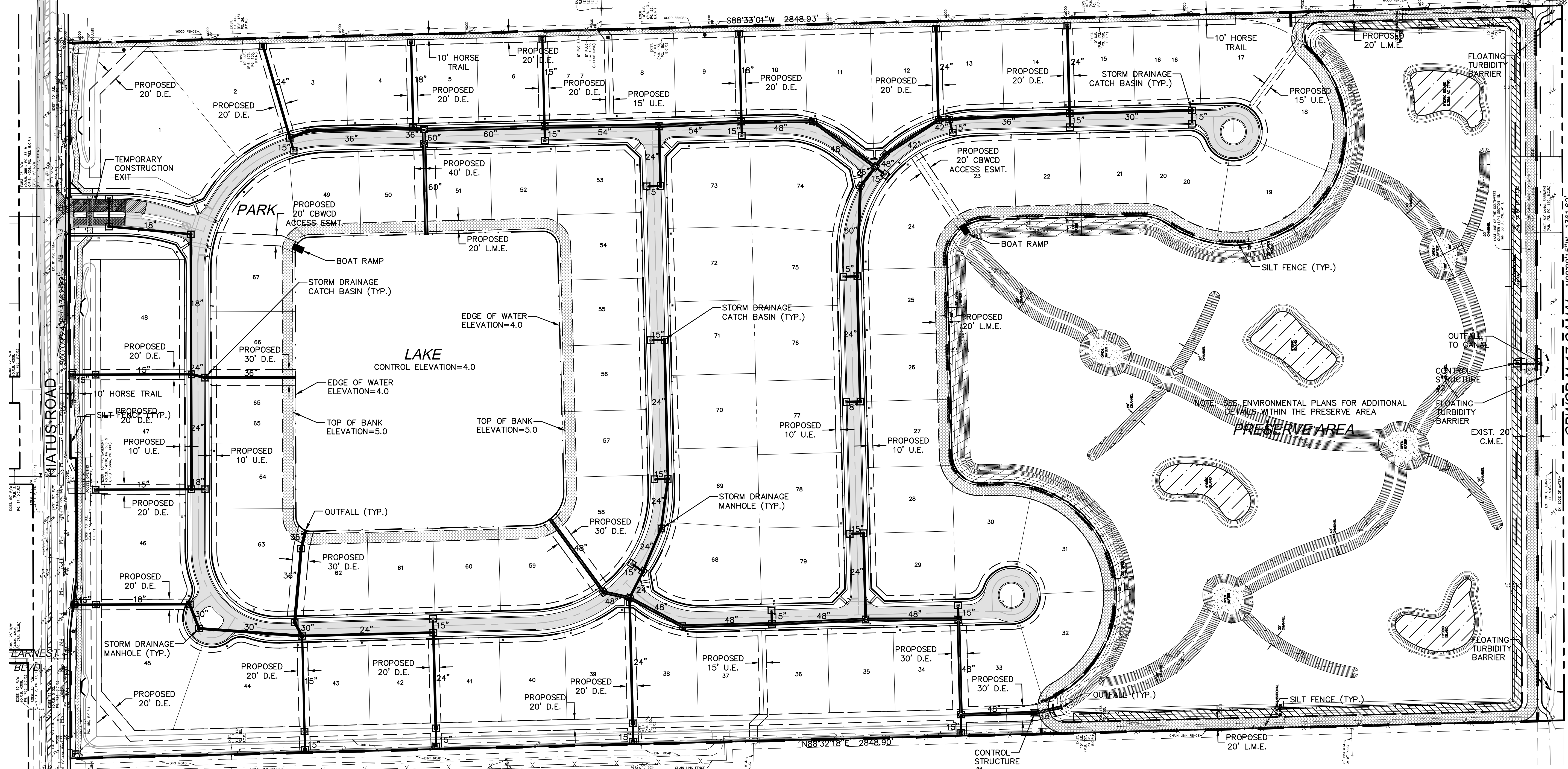
**PAVING, GRADING
 AND DRAINAGE PLAN**

DATE:	10/28/16
DRAWING NO.:	C-7
PROJECT #:	12-0093-001-06

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" THE VILLAGE AT HARMONY LAKE " (PLAT BOOK 131, PAGE 26, B.C.R.)



PROPOSED EROSION CONTROL LEGEND

- PROPOSED CATCH BASIN PROTECTED W/ HAY BALES AND FILTER FABRIC
- SILT FENCE

- NOTES:
- 1.) CONTRACTOR SHALL ASSUME ANY AND ALL RESPONSIBILITIES FOR ANY WATER CONTROL VIOLATIONS RESULTING FROM FAILURE TO ELIMINATE AND/OR CONTROL TURBID RUNOFF FROM LEAVING THE SITE AS ISSUED BY ANY AGENCY HAVING JURISDICTION.
 - 2.) CONTRACTOR SHALL PROVIDE TEMPORARY DEWATERING AREA(S) PRIOR TO ANY EXCAVATION FOR PIPE INSTALLATION, DEWATERING AREA(S) SHALL BE PROTECTED WITH SILT SCREENS. ALL DEWATERING OPERATIONS SHALL DISCHARGE INTO TEMPORARY DEWATERING AREA(S) AND NO DIRECT DISCHARGE INTO THE EXISTING OR NEW DITCHES, STORM DRAINS, AND/OR PUBLIC RIGHT OF WAY WILL BE ALLOWED.
 - 3.) CONTRACTOR SHALL MAINTAIN A POLLUTION PREVENTION CONTROL LOG AND CONDUCT WEEKLY INSPECTIONS AND WITHIN 24 HOURS OF A 0.25" STORM EVENT.
 - 4.) CONTRACTOR TO EMPLOY BEST MANAGEMENT PRACTICES THROUGHOUT CONSTRUCTION IN ORDER TO ENSURE POLLUTION PREVENTION. CONTRACTOR TO COMPLY WITH ALL LOCAL, STATE, AND OTHER LOCAL GOVERNMENTAL ENVIRONMENTAL REGULATIONS THROUGHOUT CONSTRUCTION.
 - 5.) DURING CONSTRUCTION, ALL CATCH BASINS TO BE EQUIPPED WITH FILTER FABRIC AND HAY BALES OVER GRATES.
 - 6.) ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE STABILIZED WITHIN A REASONABLE PERIOD OF TIME TO ASSURE MINIMUM EROSION OF SOILS.
 - 7.) NO LAND CLEARING OR GRADING SHALL BEGIN UNTIL ALL EROSION CONTROL MEASURES HAVE BEEN INSTALLED.
 - 8.) ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY. ADDITIONAL CONTROL MEASURES SHALL BE INSTALLED AT CONTRACTOR'S EXPENSE.
 - 9.) CONTRACTOR SHALL CLEAN ANY DEBRIS, DIRT OR MATERIAL FROM HIATUS ROAD ON A DAILY BASIS.
 - 10.) A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE SUBMITTED WITH ENGINEERING PERMITS THAT MEETS THE FLORIDA ADMINISTRATIVE CODE.

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" NORTHSTAR PLAT " (PLAT BOOK 157, PAGE 31, B.C.R.)

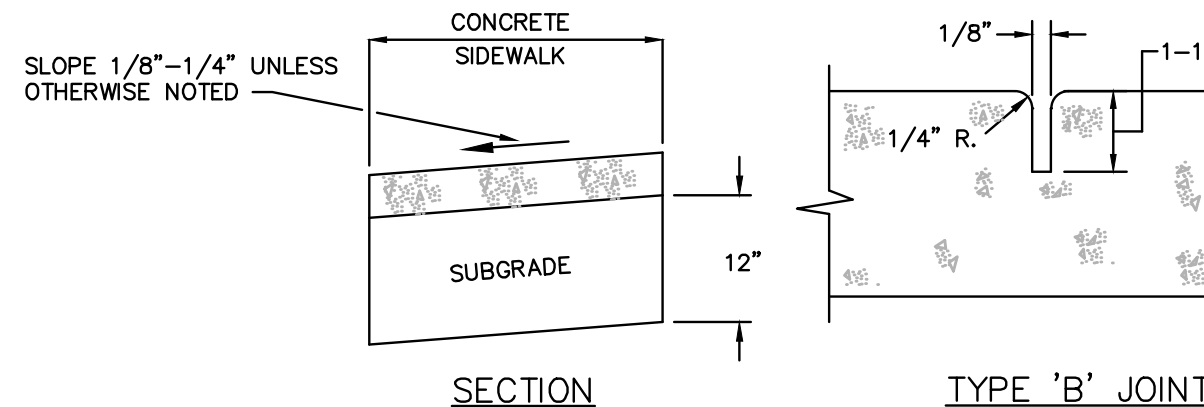
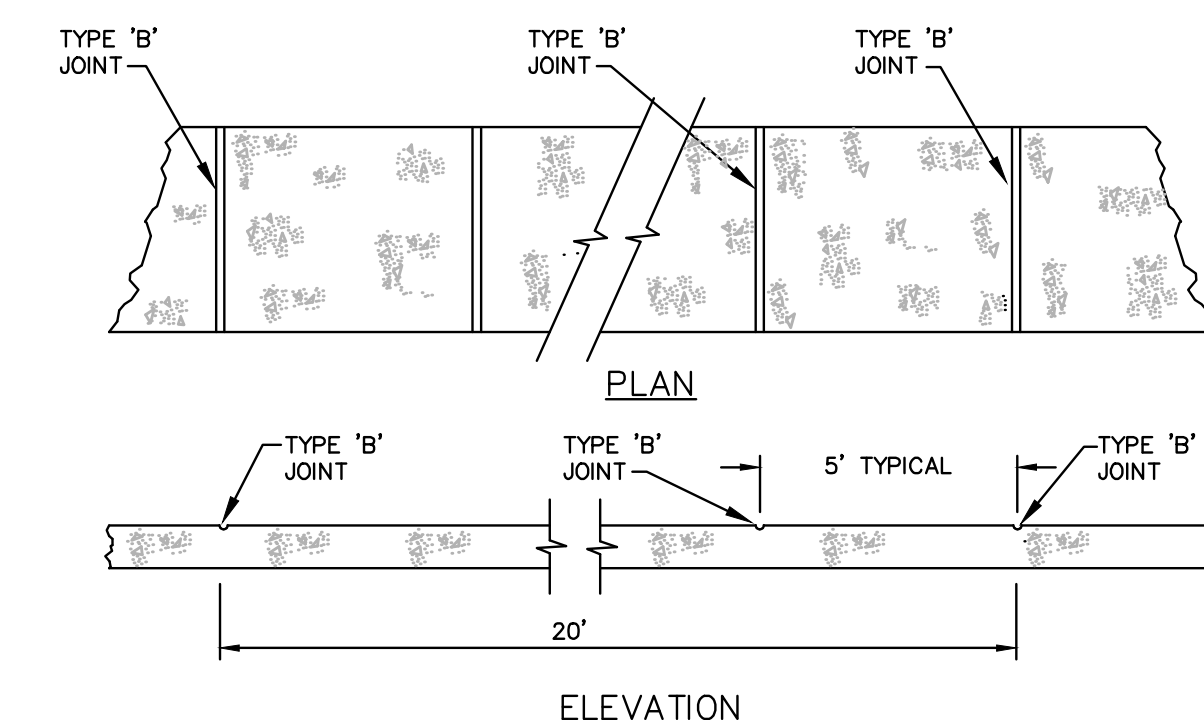
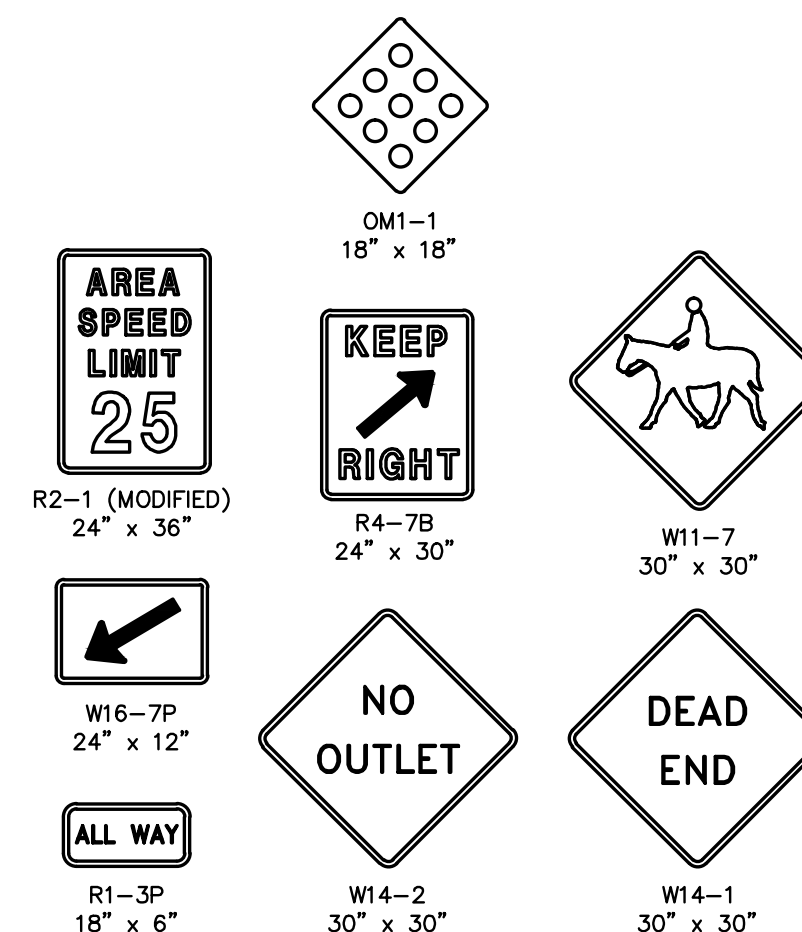
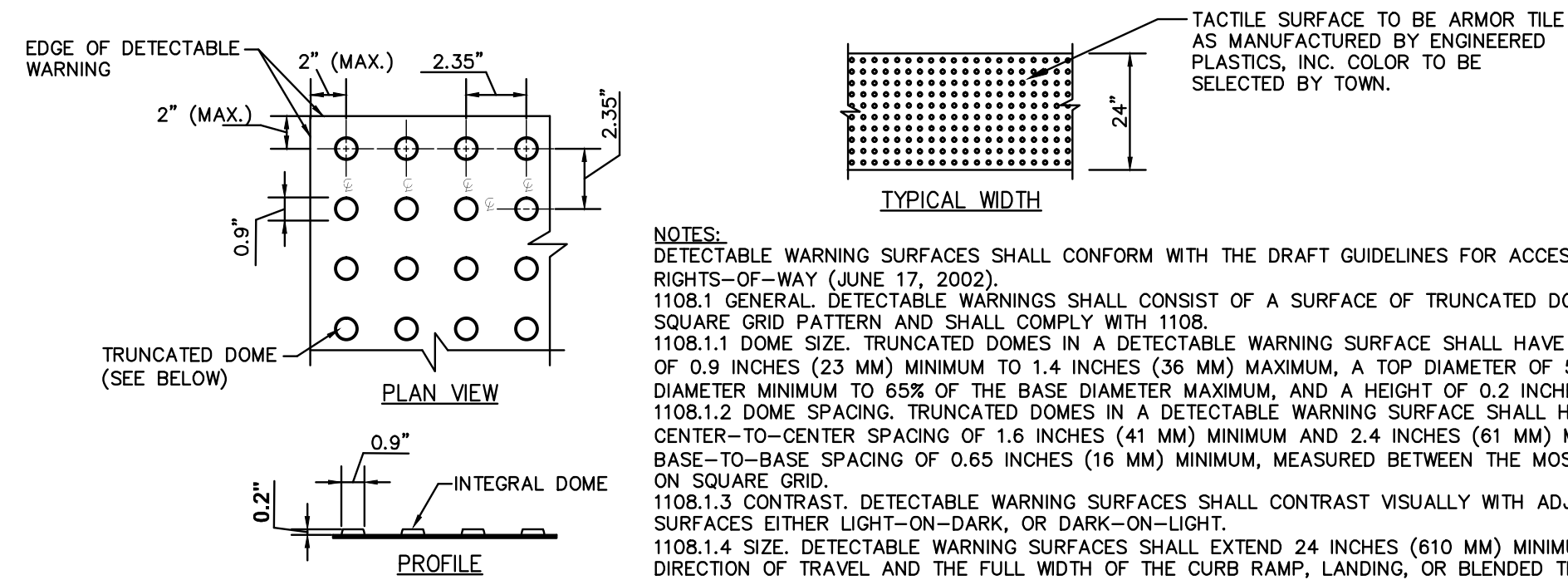
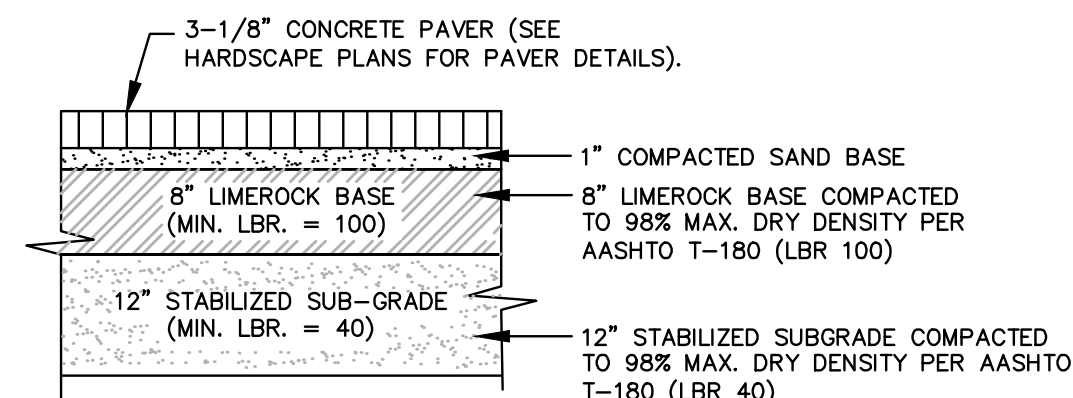
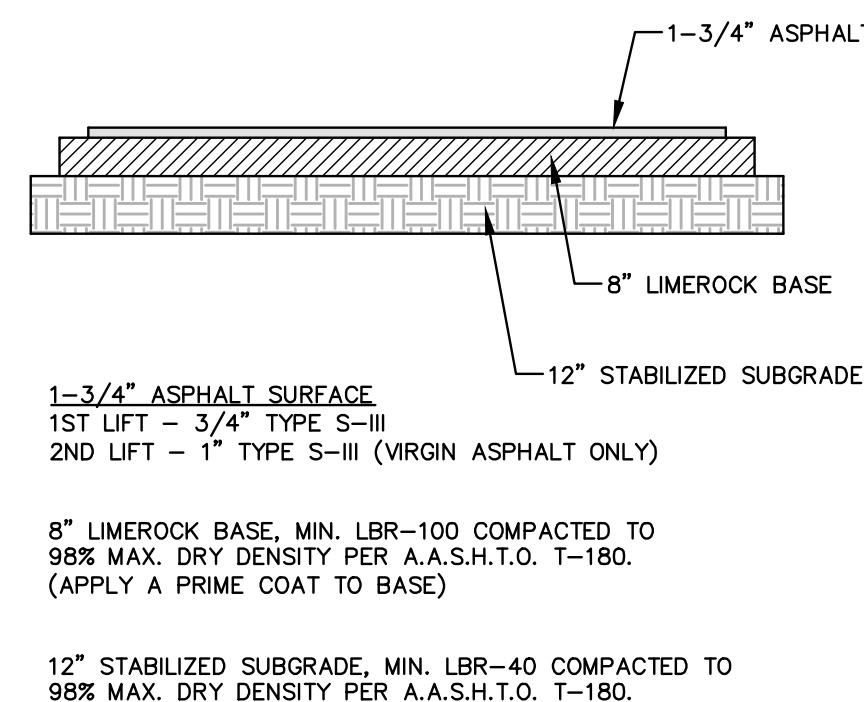
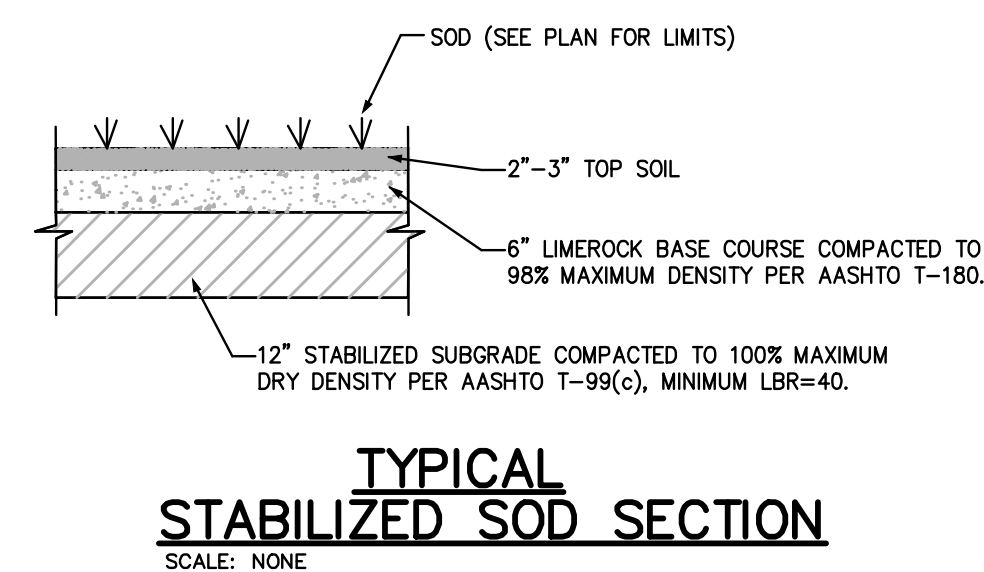
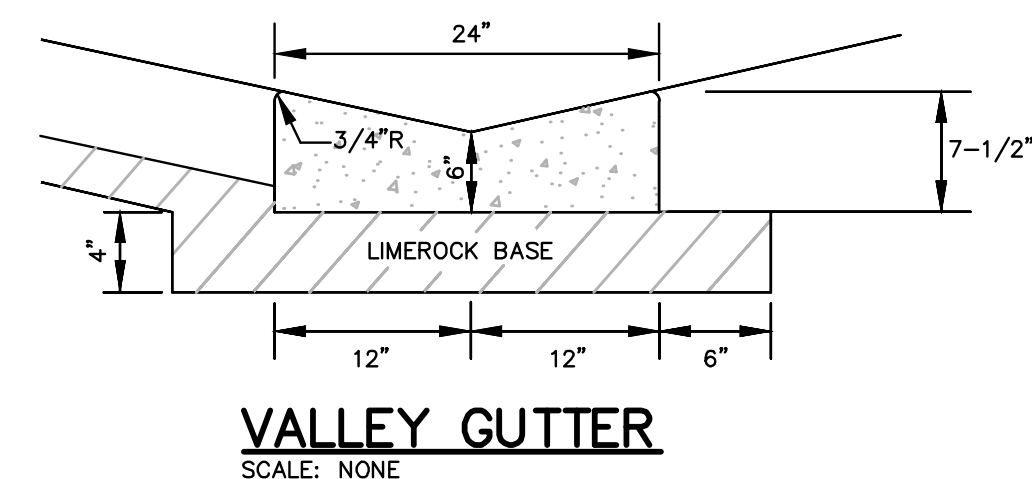
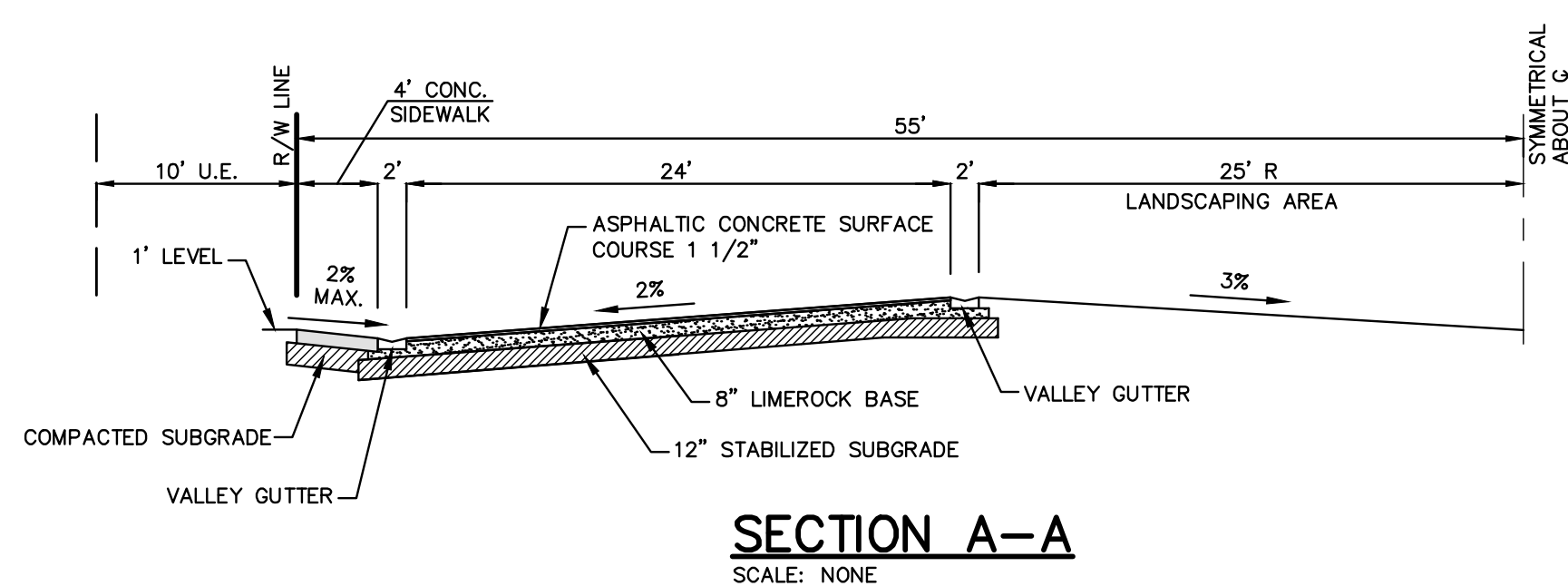
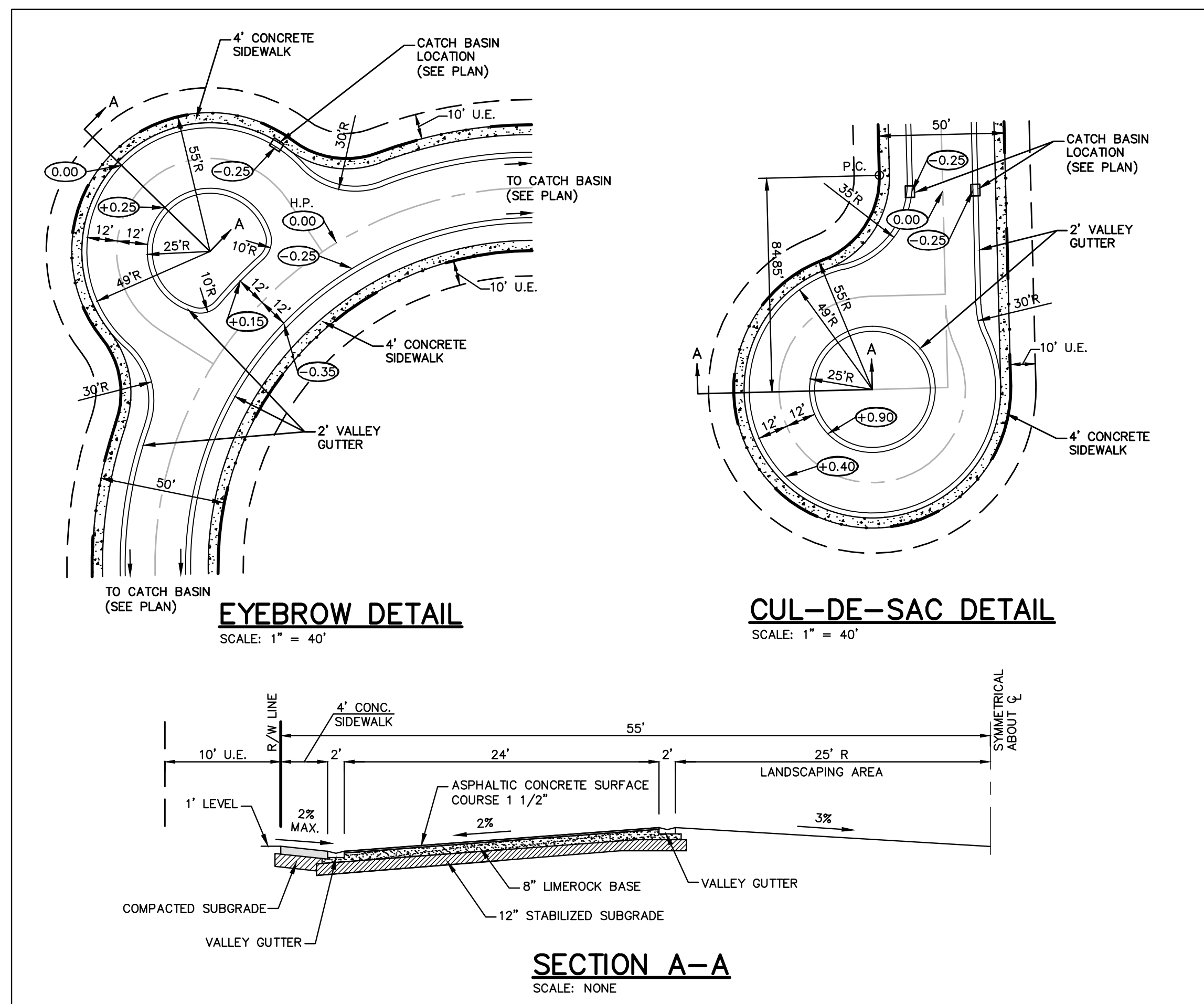
DATE:	10/28/16
SCALE:	AS NOTED
DESIGNED BY:	M.R.N.
DRAWN BY:	E.H.M.
CHECKED BY:	C.E.E.
APPROVED BY:	C.E.E.
DESCRIPTION	BY: DATE:

CRAVEN THOMPSON AND ASSOCIATES, INC.
 ENGINEERS • PLANNERS • SURVEYORS
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 FLORIDA LICENSED LANDSCAPE ARCHITECTURE BUSINESS NO. 0000114

SIERRA RANCH
 PREPARED FOR:
 HOME DYNAMICS CORPORATION
 4755 TECHNOLOGY WAY, SUITE 210
 BOCA RATON, FLORIDA 33431

EROSION CONTROL PLAN

DATE:	10/28/16
DRAWING NO.:	C-15
PROJECT #:	12-0093-001-06

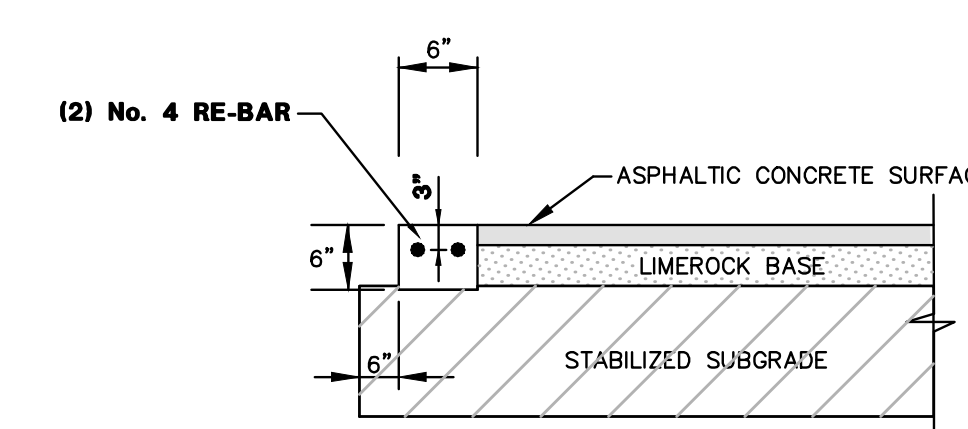
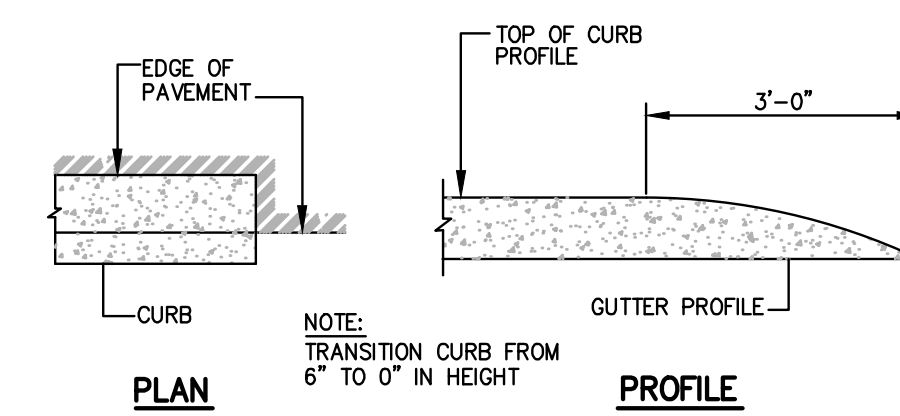


- NOTES: SIDEWALK SHALL BE 4" THICK EXCEPT IN DRIVEWAYS WHERE THE THICKNESS SHALL BE 6".
- SUBGRADE BELOW SIDEWALK SHALL BE A MIN. L.B.R. 40 COMPACTED TO 98% OF MAX. DENSITY PER A.A.S.H.T.O. T-180.
- CONCRETE STRENGTH SHALL BE MIN. 3000 PSI @ 28 DAYS.

TABLE OF SIDEWALK JOINTS

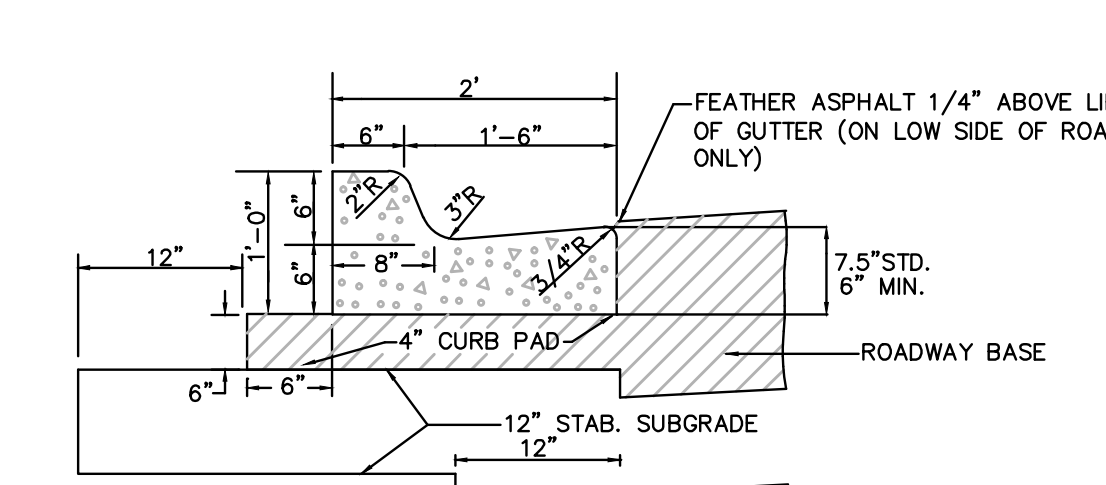
TYPE	LOCATION
'B'	5 FEET CENTER TO CENTER ON SIDEWALKS.

SIDEWALK DETAILS
SCALE: NONE

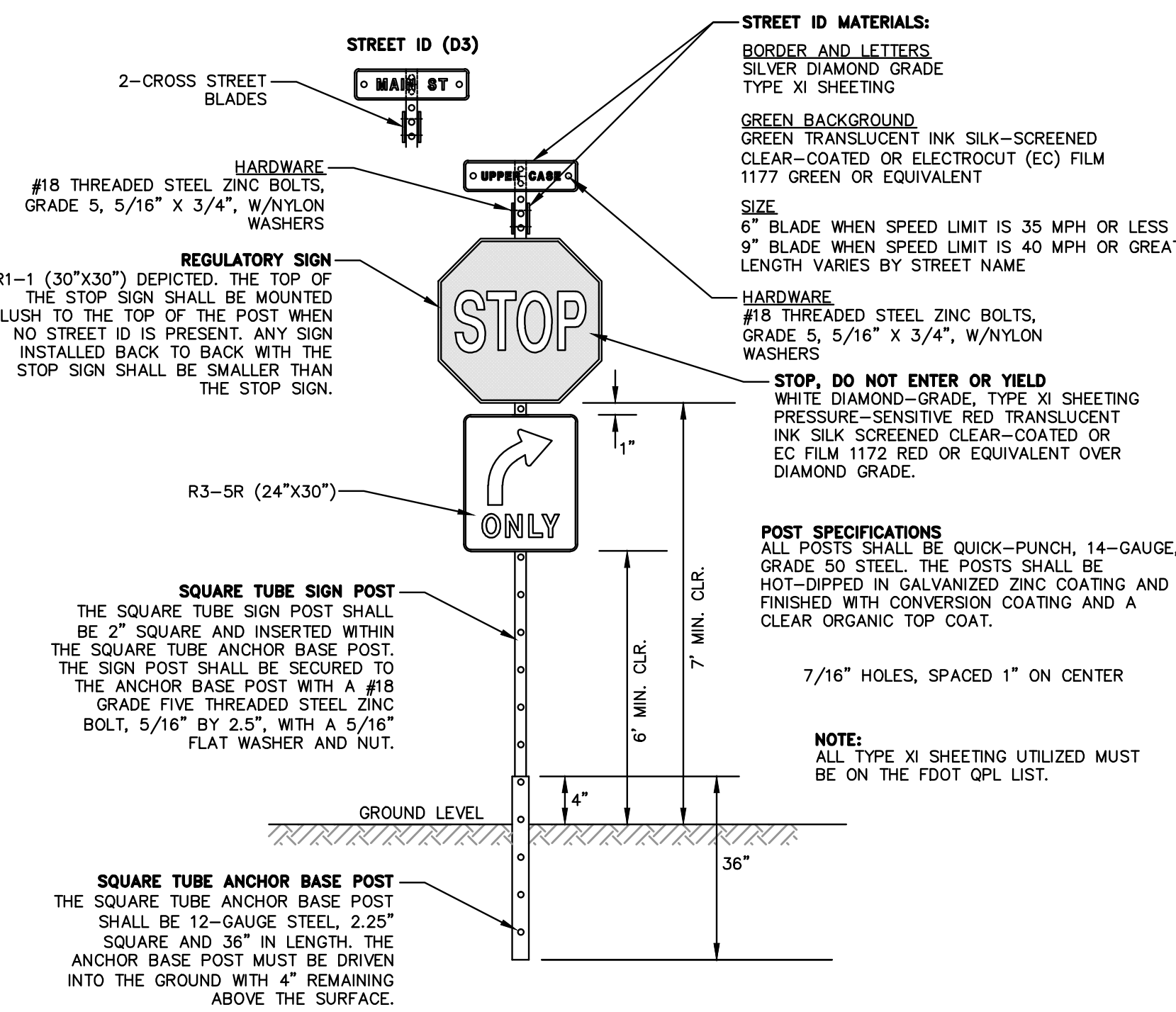
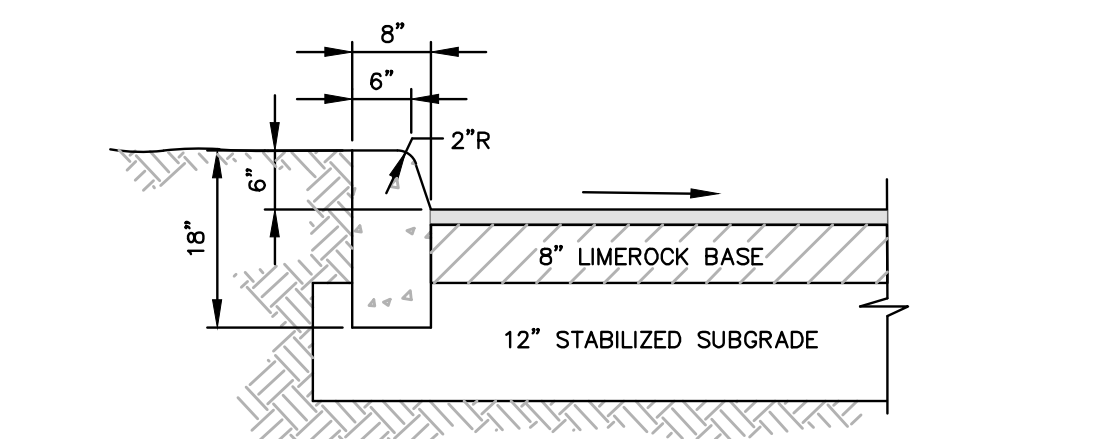


- SAWCUT CONTRACTION JOINTS @ 10' O.C.
- PROVIDE 12" COMPACTED SUBGRADE BASE BELOW LIMEROCK BASE.
- CONCRETE HEADER TO BE 3,000 PSI STANDARD MIX CONCRETE.

6"x6" CONCRETE HEADER CURB
SCALE: NONE



TYPE "F" CURB & GUTTER
SCALE: NONE



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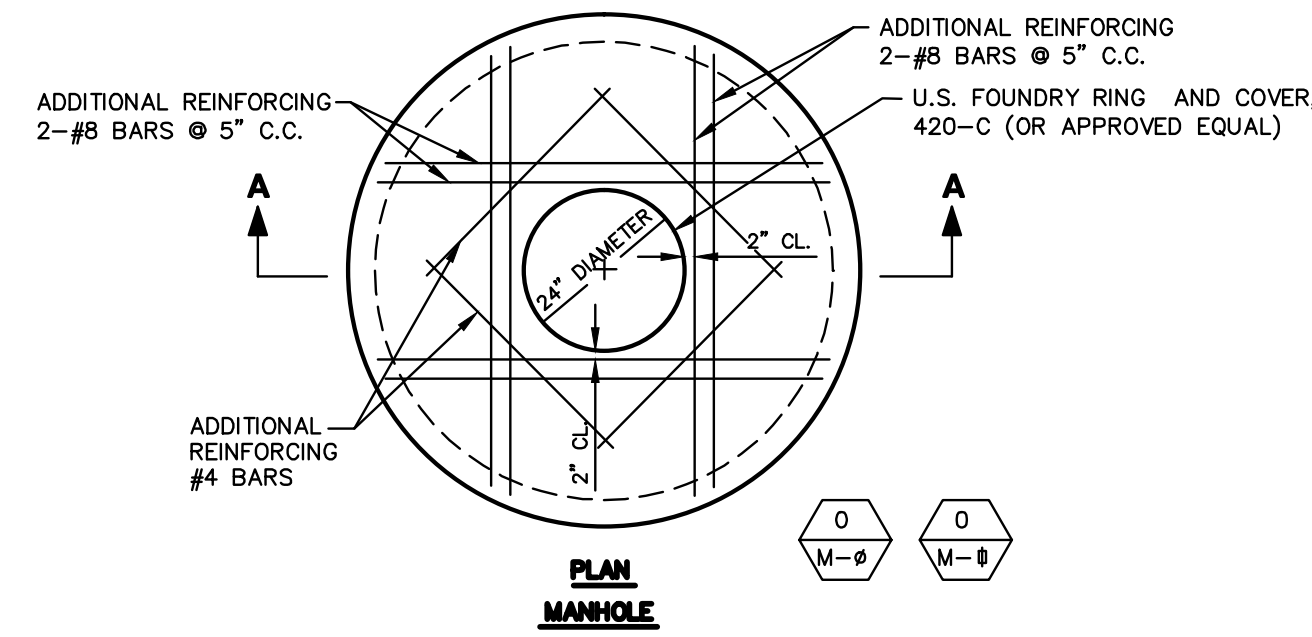
DATE:	10/28/16
SCALE:	AS NOTED
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FLORIDA LICENSED LANDSCAPE ARCHITECTURE BUSINESS NO. 2000114

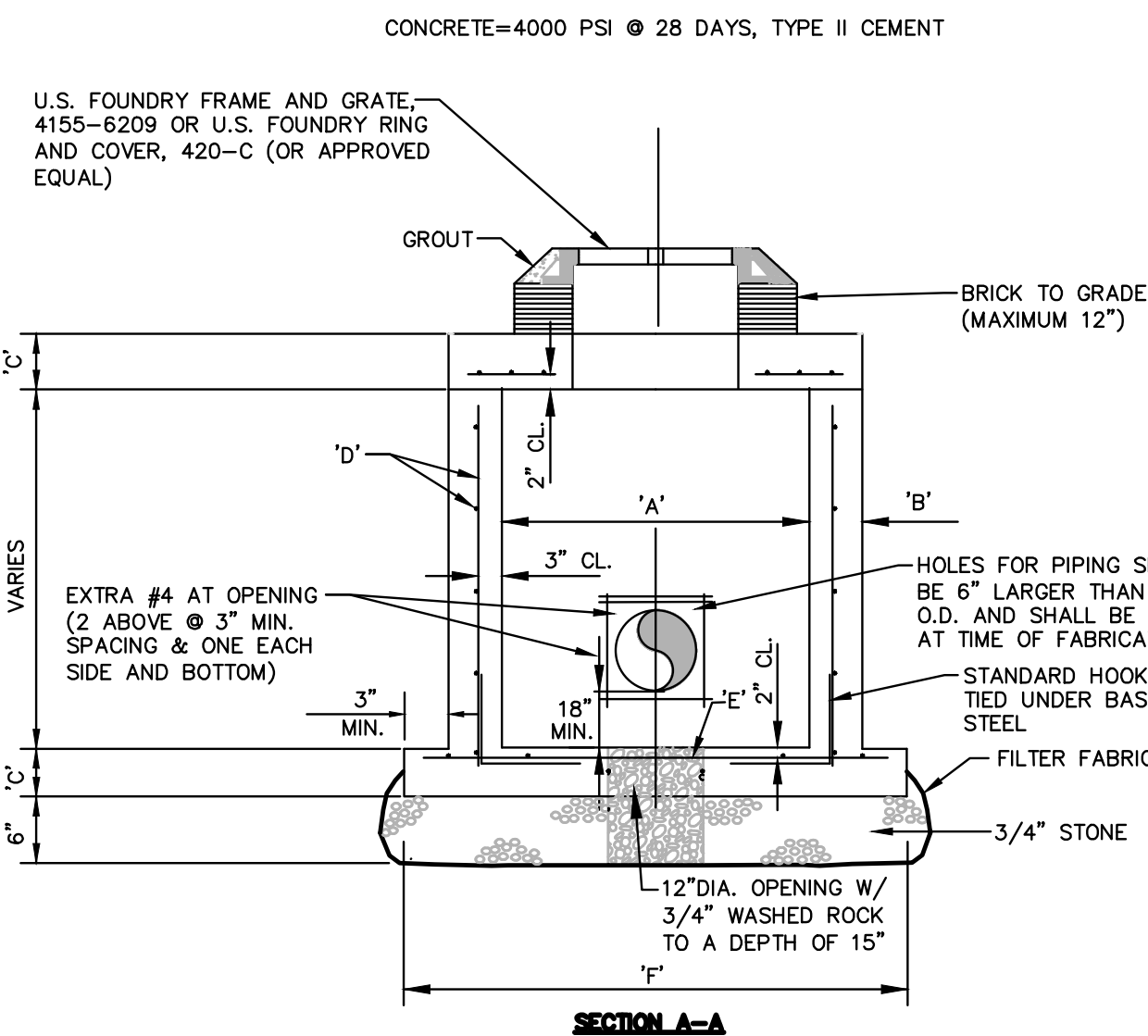
SIERRA RANCH
PREPARED FOR:
HOME DYNAMICS CORPORATION
4755 TECHNOLOGY WAY, SUITE 210
BOCA RATON, FLORIDA 33431

PAVING, GRADING AND DRAINAGE DETAILS

DATE:	10/28/16
DRAWING NO.:	C-20
PROJECT #:	12-0093-001-06



PLAN MANHOLE

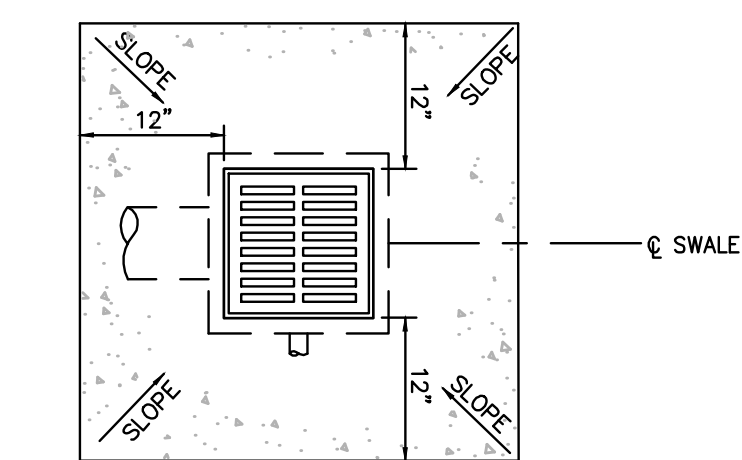


SECTION A-A

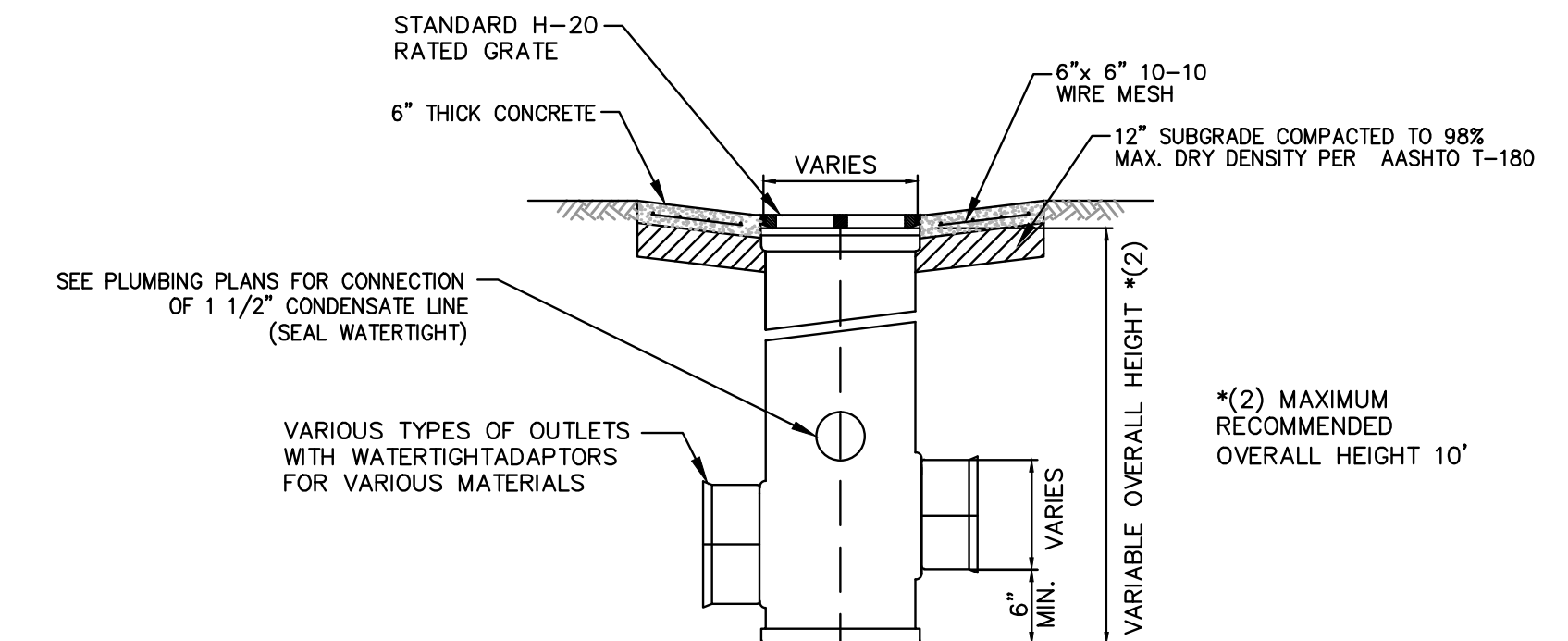
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C-4	4'-0"	8"	8"	4 @ 12" C.C.E.W.	4 @ 12" C.C.E.W.	6'-4"
C-5	5'-0"	8"	8"	5 @ 12" C.C.E.W.	5 @ 12" C.C.E.W.	7'-4"
C-6	6'-0"	8"	10"	5 @ 12" C.C.E.W.	5 @ 6" C.C.E.W.	8'-4"
C-7	7'-0"	8"	10"	5 @ 12" C.C.E.W.	5 @ 6" C.C.E.W.	9'-4"
C-8	8'-0"	10"	10"	5 @ 12" C.C.E.W.	5 @ 6" C.C.E.W.	10'-8"
C-10	10'-0"	10"	10"	5 @ 12" C.C.E.W.	5 @ 6" C.C.E.W.	12'-8"

PRECAST SQUARE DRAINAGE STRUCTURES

SCALE: NONE
REINFORCEMENT SHALL BE ASTM A615/A615M GRADE 60 STEEL



PLAN (DRAIN BASIN)



SECTION

- NOTES:
1. APRON AROUND CATCH BASIN TO BE 6" THICK CONCRETE ON COMPACTED SUBGRADE.
 2. FOR CATCH BASINS CONSTRUCT 12" WIDE (MIN.) APRON ON ALL (4) SIDES.
 3. FOR YARD DRAINS CONSTRUCT 6" WIDE (MIN.) APRON ON ALL (4) SIDES.
 4. CONCRETE APRON SHALL BE INSTALLED AROUND ALL CATCH BASINS AND DRAIN BASINS WITHIN GREEN AREAS.
 5. ALL YARD DRAINS SHALL BE MANUFACTURED BY A.D.S. OR APPROVED EQUAL DRAIN BASINS.
 6. ALL PVC PIPE SHALL BE SDR-35.

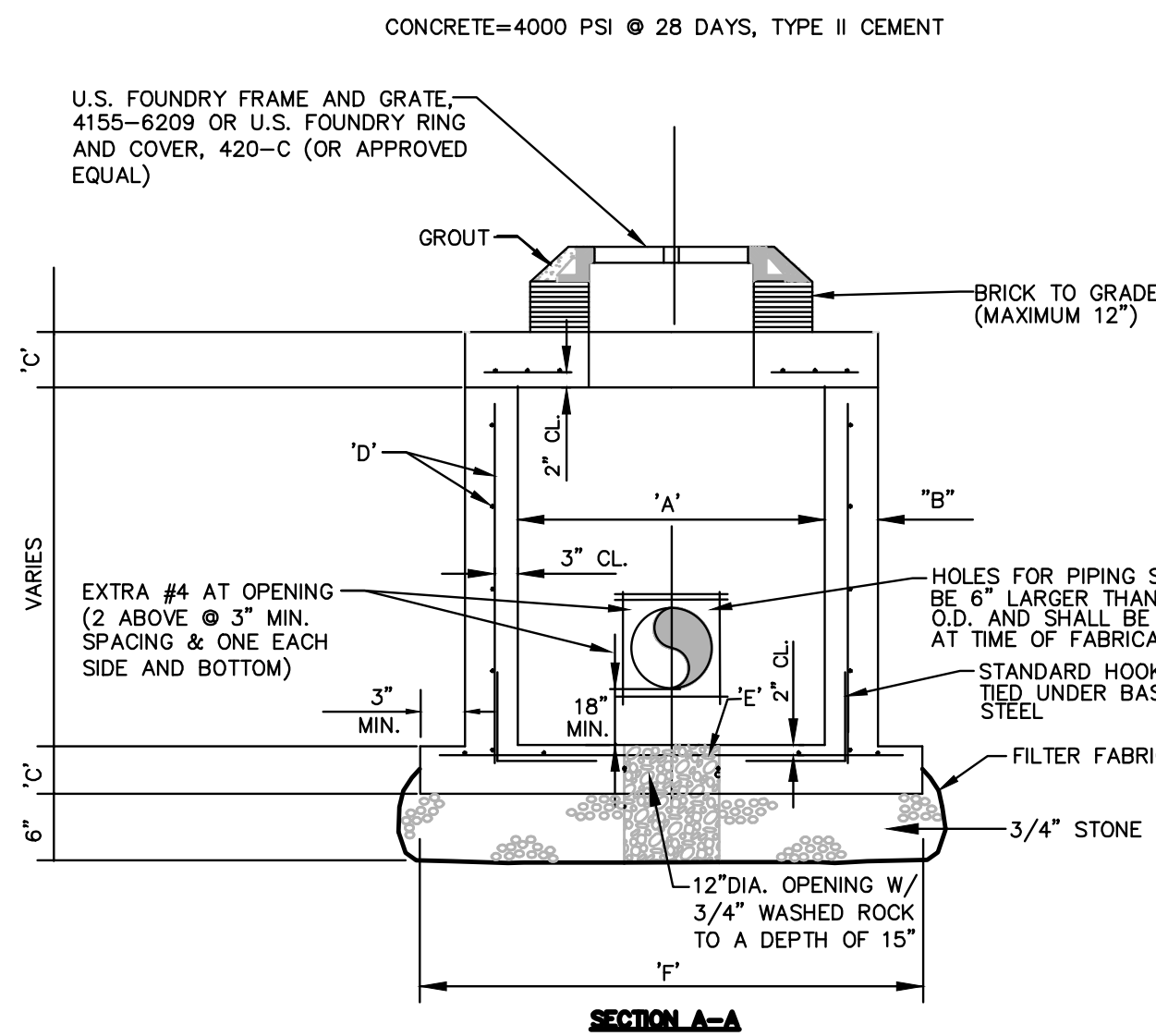
DRAIN BASIN AND DRAIN BASIN APRON DETAIL

N.T.S.

PRECAST CONCRETE-TOP SLAB

SCALE: NONE

"A"	"C"	"G"	"H"
3'-6"	8"	4'-6"	# 4 @ 6" C.C.E.W.
4'-0"	8"	5'-4"	# 4 @ 6" C.C.E.W.
5'-0"	8"	6'-4"	# 4 @ 6" C.C.E.W.
6'-0"	10"	7'-4"	# 5 @ 6" C.C.E.W.
7'-0"	10"	8'-4"	# 5 @ 6" C.C.E.W.
8'-0"	10"	9'-8"	# 5 @ 6" C.C.E.W.
10'-0"	12"	11'-8"	# 6 @ 5" C.C.E.W.

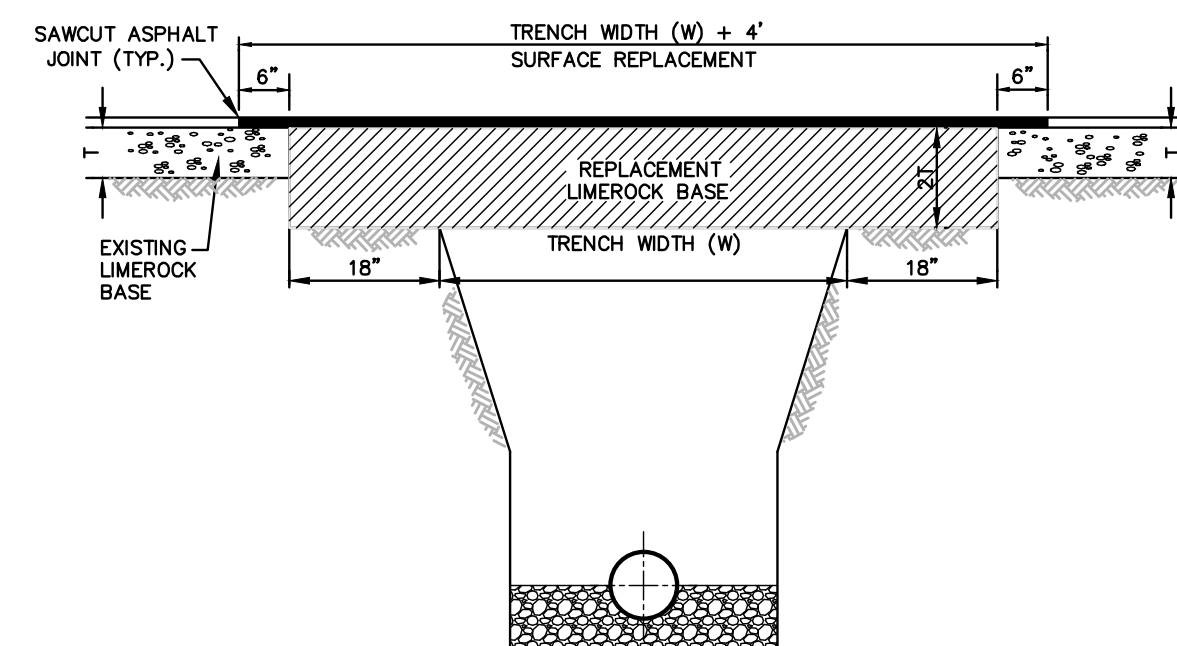


SECTION A-A

TYPE	"A"	"B"	"C"	"D"	"E"	"F"
P	3'-6"	6"	8"	4 @ 12" C.C.E.W.	4 @ 12" C.C.E.W.	5'-0"
C-4	4'-0"	8"	8"	4 @ 12" C.C.E.W.	4 @ 12" C.C.E.W.	6'-4"
C-5	5'-0"	8"	8"	5 @ 12" C.C.E.W.	5 @ 12" C.C.E.W.	7'-4"
C-6	6'-0"	8"	10"	5 @ 12" C.C.E.W.	5 @ 6" C.C.E.W.	8'-4"
C-7	7'-0"	8"	10"	5 @ 12" C.C.E.W.	5 @ 6" C.C.E.W.	9'-4"
C-8	8'-0"	10"	10"	5 @ 12" C.C.E.W.	5 @ 6" C.C.E.W.	10'-8"
C-10	10'-0"	10"	10"	5 @ 12" C.C.E.W.	5 @ 6" C.C.E.W.	12'-8"

PRECAST CIRCULAR DRAINAGE STRUCTURES

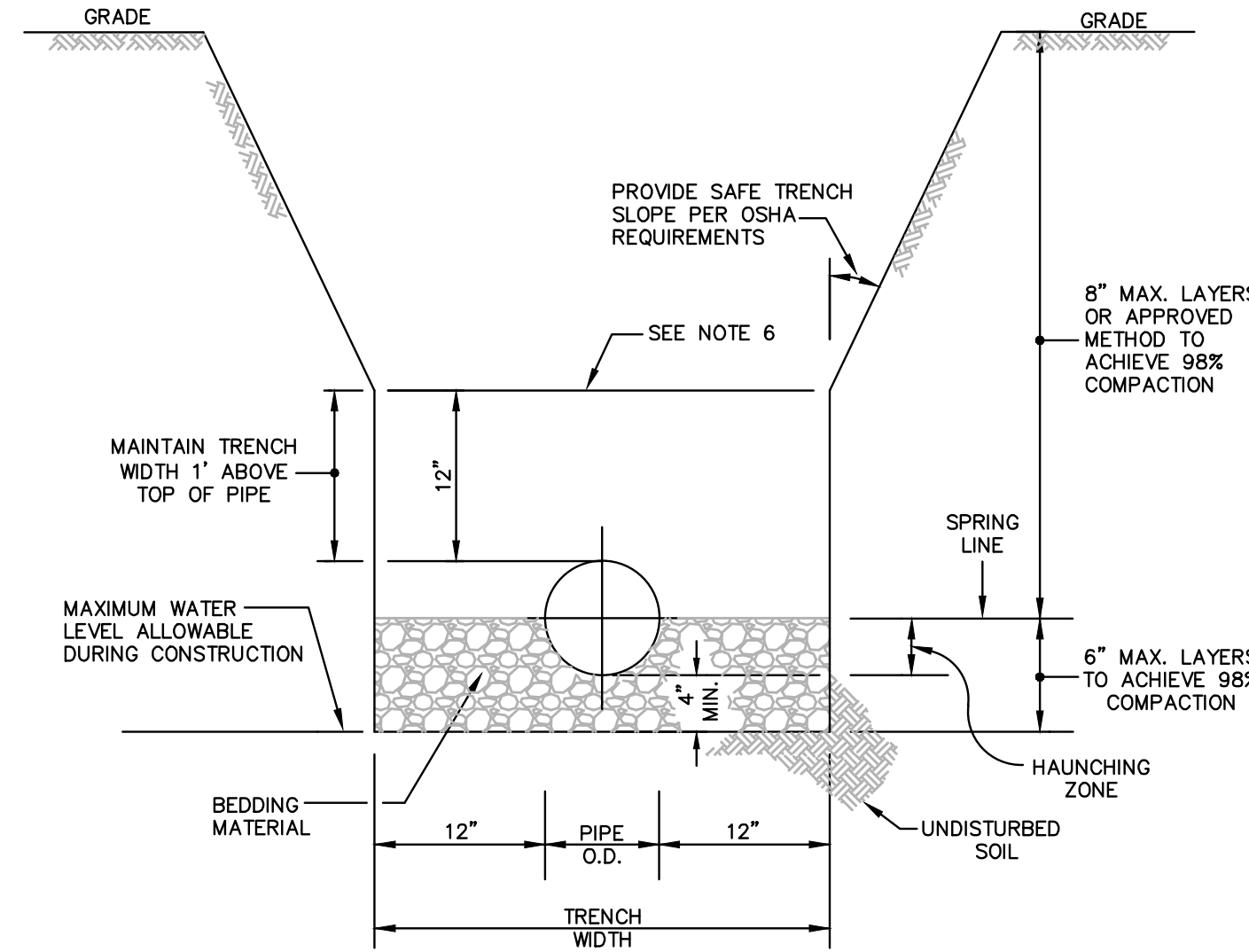
SCALE: NONE
REINFORCEMENT SHALL BE ASTM A615/A615M GRADE 60 STEEL



- NOTES:
1. REPLACED BASE MATERIAL OVER TRENCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE, MINIMUM 8", MAXIMUM 18".
 2. BASE MATERIAL SHALL BE PLACED IN 6" MAXIMUM (LOOSE MEASUREMENT) LAYERS AND EACH LAYER THOROUGHLY ROLLED OR TAMPED TO 98% OF MAXIMUM DENSITY, PER AASHTO T-180.
 3. SUBGRADE MATERIAL SHALL BE GRANULAR AND ANGULAR AND SHALL HAVE A MINIMUM LBR OF 40.
 4. ASPHALT CONCRETE PAVEMENT JOINTS SHALL BE MECHANICALLY SAWED PARALLEL TO OR PERPENDICULAR TO THE ROADWAY.
 5. SURFACE TREATED PAVEMENT JOINTS SHALL BE LAPPED.
 6. SURFACE MATERIAL SHALL BE CONSISTENT WITH THE SURROUNDING SURFACE (MINIMUM 1" THICKNESS).
 7. BASE MATERIAL SHALL HAVE A MINIMUM LBR OF 100 AND A MINIMUM CARBONATE CONTENT OF 70% (60% FOR LOCAL STREETS).
 8. IF THE TRENCH IS FILLED TEMPORARILY, IT SHALL BE COVERED WITH A 2" ASPHALTIC CONCRETE PATCH TO KEEP THE FILL MATERIAL FROM RAVELING UNTIL REPLACED WITH A PERMANENT PATCH.

PAVEMENT RESTORATION DETAIL

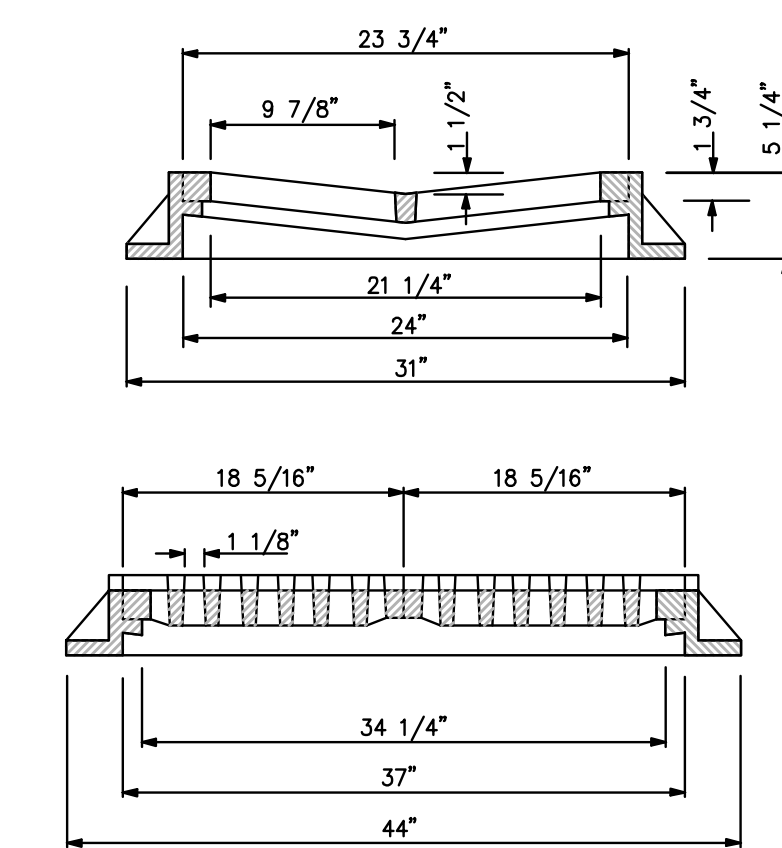
SCALE: NONE



- NOTES:
1. WHERE SOIL CONDITIONS CAN NOT BE MAINTAINED AS SHOWN ABOVE, PROVIDE APPROVED MEANS OF CONSTRUCTION.
 2. BEDDING MATERIAL SHALL CONSIST OF WELL GRADED ASTM C33 #67 ROCK (3/4" TO No.4) AND BE PLACED TO SPRING LINE OF PIPE.
 3. SHEETING WILL BE REQUIRED AS DETERMINED IN THE FIELD.
 4. REFER TO SPECIFICATIONS FOR EXCAVATION IN MUCK OR OTHER UNSUITABLE MATERIAL.
 5. COMPACTION PERCENTAGES SHOWN REFER TO AASHTO T-180.
 6. MECHANICAL COMPACTION NOT ALLOWED BELOW THIS LEVEL (WITHIN 12" OF TOP OF PIPE).
 7. THOROUGHLY WORK IN AND TAMP THE BEDDING MATERIAL IN THE HAUNCHING ZONE BEFORE PLACING AND COMPACTING REMAINDER OF BACKFILL.

TRENCH DETAIL

SCALE: NONE



FRAME AND GRATE DETAIL

U.S.F. No. 5113-6194 N.T.S.

DATE:	10/28/16
SCALE:	AS NOTED
DESIGNED BY:	M.R.N.
DRAWN BY:	E.H.M.
CHECKED BY:	C.E.E.
APPROVED BY:	C.E.E.

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FAX: (954) 739-6409 TEL: (954) 739-6400
FLORIDA LICENSED ENGINEERING, SURVEYING & MAPPING BUSINESS NO. 271
FLORIDA LICENSED LANDSCAPE ARCHITECTURE BUSINESS NO. 5000114

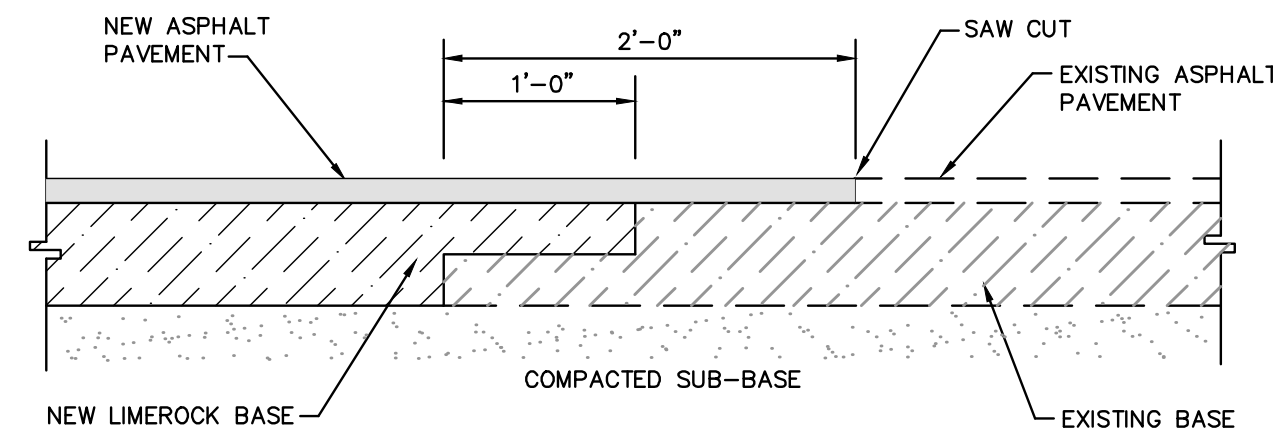
SIERRA RANCH
PREPARED FOR:
HOME DYNAMICS CORPORATION
4755 TECHNOLOGY WAY, SUITE 210
BOCA RATON, FLORIDA 33431

PAVING, GRADING AND DRAINAGE DETAILS

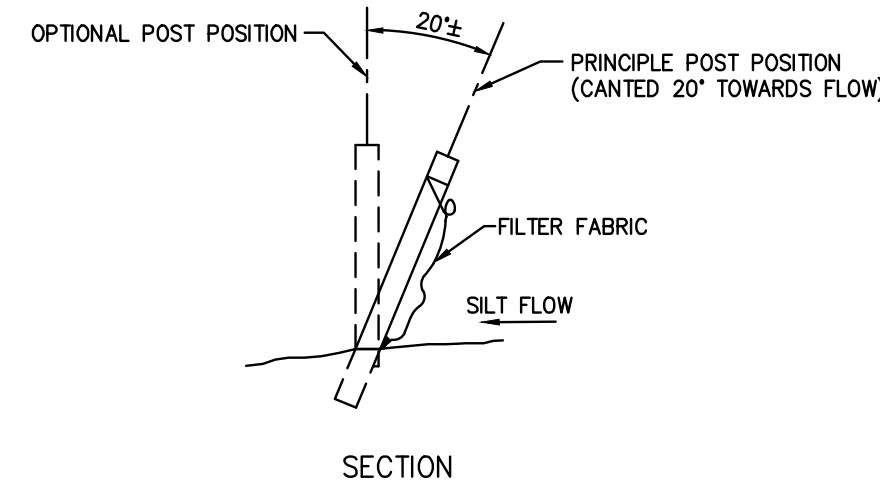
DATE:	10/28/16
DRAWING NO.:	C-21
PROJECT #:	12-0093-001-06

CRWCD GENERAL NOTES

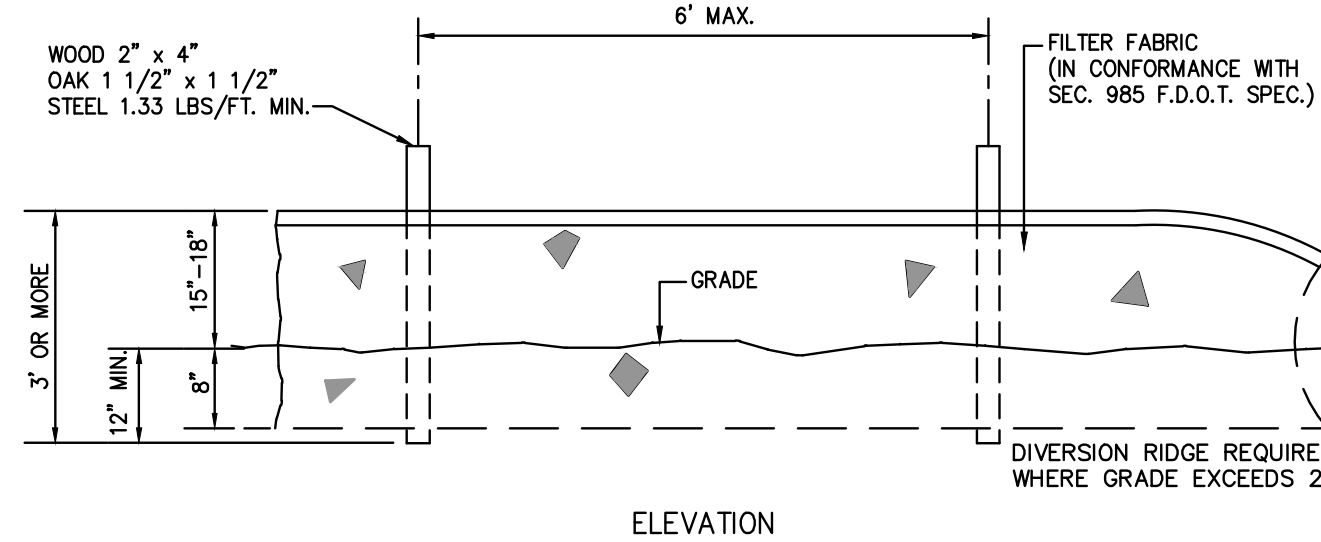
- THE FOLLOWING GENERAL NOTES ARE REQUIRED BY CENTRAL BROWARD WATER CONTROL DISTRICT. THEY ARE NOT MEANT TO BE ALL INCLUSIVE, AND IT IS THE ENGINEERS' RESPONSIBILITY TO ADD ANY NOTES WHICH WILL INFORM THE OWNER AND THE CONTRACTOR OF ANY ADDITIONAL REQUIREMENT OF CENTRAL BROWARD WATER CONTROL DISTRICT.
- LIMEROCK BASE COURSE SHALL CONFORM TO THE REQUIREMENTS OF SECTION 911 OF FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, EXCEPT THE MINIMUM PERCENTAGE OF CARBONATES OF CALCIUM AND MAGNESIUM SHALL BE SIXTY PERCENT (60 %).
- CENTRAL BROWARD WATER CONTROL DISTRICT WILL BE CALLED 24 HOURS PRIOR TO BACK-FILLING OF DRAINAGE TRENCH AND PRIOR TO THE PLACEMENT OF ASPHALT. CALL (954) 432-5110.
- ANY REVISIONS TO THESE PLANS MUST BE APPROVED BY CENTRAL BROWARD WATER CONTROL DISTRICT PRIOR TO CONSTRUCTION.
- BONDS AND INSPECTIONS:**
 - UPON DISTRICT BOARD OF COMMISSIONERS APPROVAL OF PLANS, BUT BEFORE CONSTRUCTION CAN COMMENCE, THE FOLLOWING ITEMS MUST BE COMPLIED WITH:
 - BOND (CASH OR SURETY), IN THE DISTRICT'S FAVOR, MUST BE POSTED IN THE AMOUNT OF 110 PERCENT OF THE DEVELOPER'S ENGINEER'S (ENGINEER OF RECORD) ESTIMATE OF COST OF CONSTRUCTION OF THE PAVING AND DRAINAGE WORKS. (SUBJECT TO APPROVAL OF THE COST ESTIMATE BY THE DISTRICT ENGINEERS.)
 - ALL EASEMENTS, DEED RESTRICTIONS, MAINTENANCE AGREEMENTS, AND DEEDS AS REQUIRED BY THE BOARD SHALL BE PRESENTED TO THE DISTRICT SECRETARY AND ATTORNEY FOR APPROVAL BEFORE RECORDATION. ALL COSTS OF RECORDING THE APPLICABLE INSTRUMENT WILL BE BORNE BY THE DEVELOPER.
 - UPON COMPLIANCE WITH THE CONDITIONS REQUIRED BY THE BOARD FOR APPROVAL, AND RECEIPT OF APPROVED PLANS FROM THE DISTRICT ENGINEER, THE DISTRICT SECRETARY WILL MARK THE PLANS "APPROVED"; SIGN SAME, AND DISTRIBUTE THE APPROVED PLANS TO THE GOVERNMENTAL AGENCY INVOLVED, THE DEVELOPER, AND THE DISTRICT FILES.
 - THE DISTRICT'S BOND FORM IS THE ONLY FORM APPROVED FOR USE, AND IT SHALL BE A RECORDED INSTRUMENT. RELEASE OR REDUCTION FROM THE RECORDED INSTRUMENT SHALL BE THE RESPONSIBILITY OF THE APPLICANT.
 - BONDS SHALL BE PROVIDED BY THE PRINCIPALS OF DEVELOPMENT ONLY. CONTRACTOR OR SUB-CONTRACTOR BONDS ARE NOT ACCEPTABLE.
 - WHEN CONSTRUCTION IS IN PROGRESS, THE DISTRICT'S INSPECTOR WILL INSPECT THE INSTALLATION OF DRAINAGE WORKS, ACCORDING TO AN INSPECTION SCHEDULE ESTABLISHED BY THE BOARD OF COMMISSIONERS. INSPECTION MUST BE MADE BY DISTRICT PERSONNEL OF ALL UNDERGROUND STORM DRAIN FACILITIES BEFORE BACKFILLING; CALL (954) 432-5110 FOR AN INSPECTION APPOINTMENT A MINIMUM OF TWENTY-FOUR (24) HOURS IN ADVANCE. ALL COSTS OF PERIODIC INSPECTIONS OF CONSTRUCTION BY THE DISTRICT SHALL BE BORNE BY THE DEVELOPER.
 - SWALES, LAKE BANKS, SLOPES, CANALS, AND OTHER EXCAVATIONS SHALL BE BONDED SEPARATELY FROM OTHER DRAINAGE IMPROVEMENTS, AND WILL BE HELD BY THE DISTRICT UNTIL SUCCESSFUL COMPLETION. THE AMOUNT OF THIS SEPARATE BOND WILL BE DETERMINED BY THE DISTRICT BOARD OF COMMISSIONERS AND BY RECOMMENDATION OF THE DISTRICT SECRETARY.
 - CERTIFIED "AS-BUILT" PLANS FROM THE ENGINEER OF RECORD WILL BE REQUIRED BEFORE RELEASE OF PERFORMANCE BONDS. AS-BUILTS SHALL BE PROVIDED AS AN OVERLAY ON THE APPROVED CONSTRUCTION DRAWINGS AT THE SAME SCALE FOR COMPARISON PURPOSES. AS-BUILT SUBMITTALS SHALL FOLLOW THE SAME FORMAT OF GENERAL REVIEW AS OUTLINED IN SECTION 3.2 (2) OF CENTRAL BROWARD WATER CONTROL DISTRICT'S CRITERIA.
 - LAKE AND CANAL AS-BUILTS WILL BE CROSS SECTIONED SHOWING THE DESIGNED SECTION AS DASHED, AS-BUILT SECTION AS SOLID, AND HAVE THE TOP OF BANK REFERENCE TO THE LAKE/CANAL MAINTENANCE EASEMENT. SPACING BETWEEN EACH CROSS-SECTION SHALL BE SUCH AS TO PROVIDE ENOUGH DATA TO DETERMINE IF THE LAKE/CANAL WAS CONSTRUCTED AS DESIGNED.
 - UPON SUCCESSFUL COMPLETION OF CONSTRUCTION, AND ACCEPTANCE OF "AS-BUILTS"; A PERCENTAGE OF THE PERFORMANCE BOND AS DETERMINED BY THE DISTRICT BOARD, AND RETAINED BY THE DISTRICT, MAY BE RELEASED. THE BALANCE OF BOND SHALL REMAIN IN FULL FORCE AND EFFECT FOR AN ADDITIONAL TWELVE (12) MONTHS AFTER FINAL INSPECTION AND APPROVAL, UNLESS SUPPLEMENTED BY NEW BOND FORMS IN THE REQUIRED AMOUNTS, AND APPROVED BY THE DISTRICT ATTORNEY.



TYPICAL PAVEMENT INTERFACE
SCALE: NONE

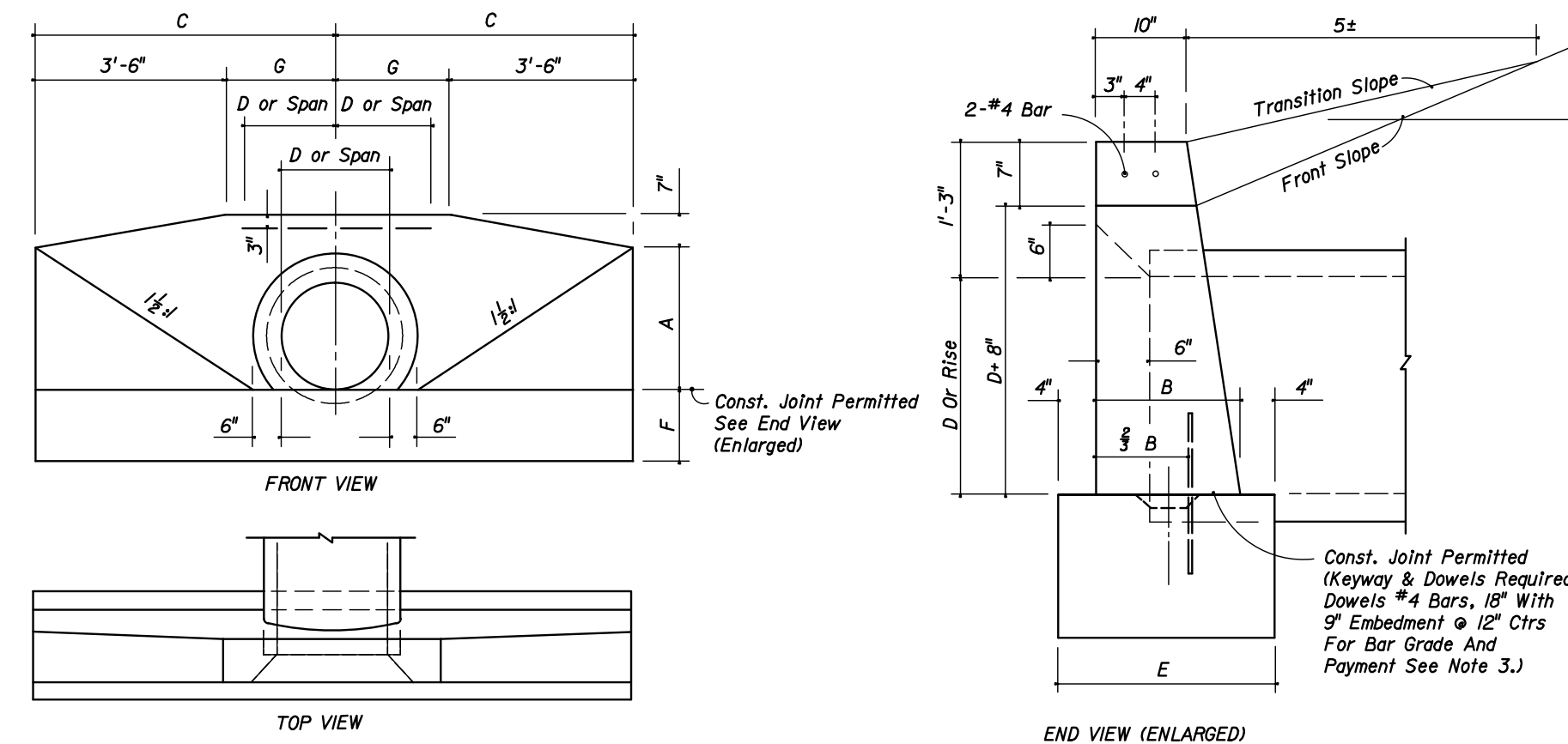


SECTION



ELEVATION

TYPE III SILT FENCE
N.T.S.



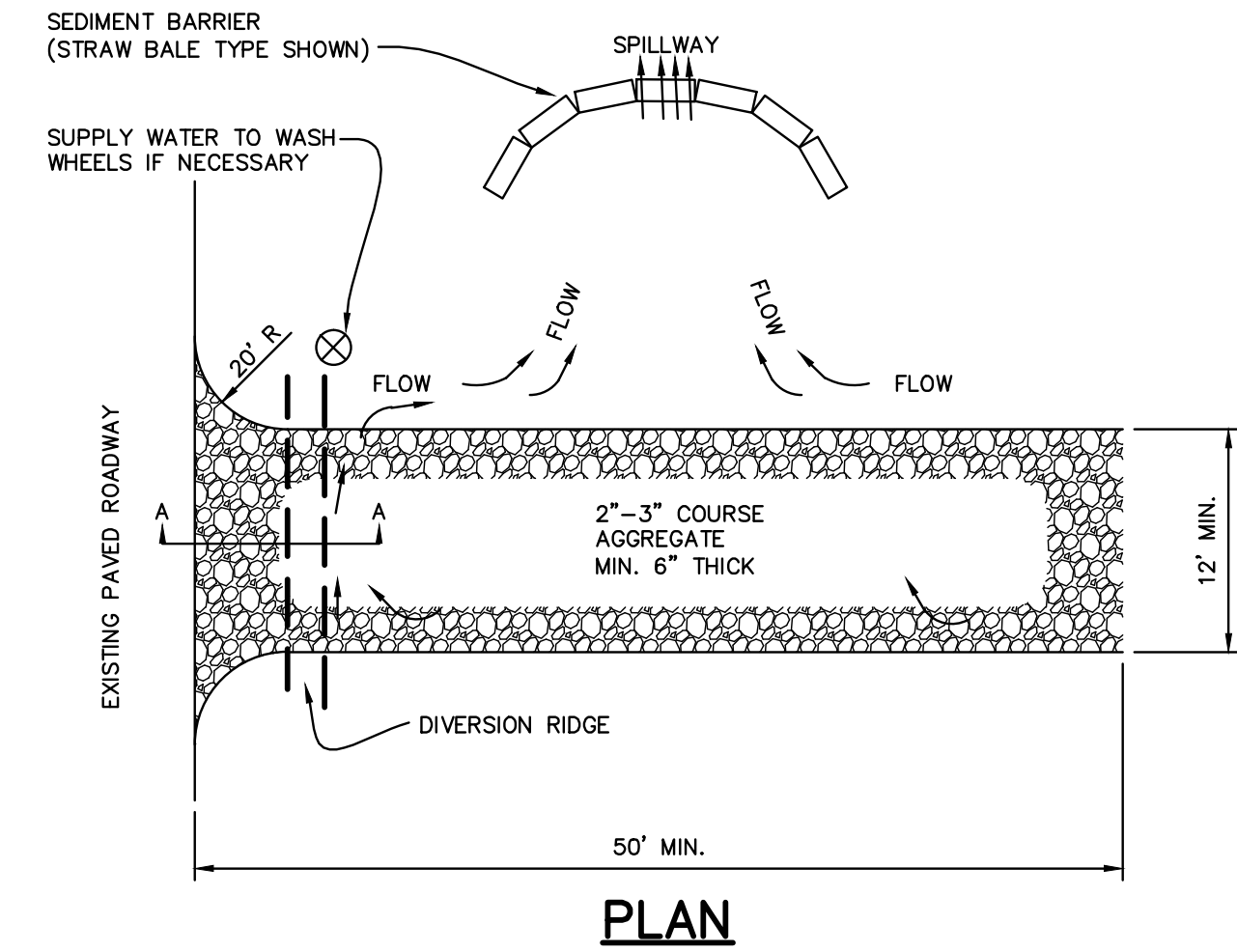
ENDWALL DIMENSIONS (EXCLUSIVE OF MULTIPLE PIPE SPACING)

DATA AND ESTIMATED QUANTITIES FOR ONE ENDWALL

Note: Use the guidelines of General Note No. 8 for selecting tabular quantities.

D	ROUND CONCRETE AND CORRUGATED METAL PIPE																								D																	
	Opening Area (SF)		Dimensions												Class I Concrete (CY)																											
															Number And Type Of Pipe And Skew Angle Of Pipe																											
	Number Of Pipes		Single		Double		Triple		Quadruple		Metal		Metal		Metal		Metal																									
15"	1.23	2.46	3.69	4.92	1'-1"	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	1.82	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"
24"	3.14	6.28	9.42	12.56	2'-8"	1'-4"	5'-6"	2'-0"	1'-4"	1'-6"	3'-2"	3'-2"	3'-3"	3'-8"	4'-6"	1.97	2.00	2.44	2.47	2.58	2.70	2.54	2.56	2.61	2.74	2.94	2.97	3.07	3.31	3.03	3.06	3.20	3.44	3.47	3.61	3.95	3.51	3.54	3.68	4.02	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	2.76	3.24	3.27	3.38	3.50	3.34	3.36	3.41	3.53	3.73	3.76	3.86	4.10	3.82	3.85	3.99	4.23	4.26	4.40	4.74	4.30	4.33	4.47	4.81	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"	3.26	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	6.91	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	7.91	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	11.38	10.39	10.52	10.98	11.99	11.68	11.87	12.51	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"	8.15	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	13.51	14.11	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'-11"	11.71	11.77	15.23	15.35	15.78	16.69	16.15	16.24	16.53	17.27	18.18	18.32	19.02	20.69	18.77	19.02	19.86	21.69	22.29	22.66	23.95	26.67	24.51	24.81	25.74	28.50	54"

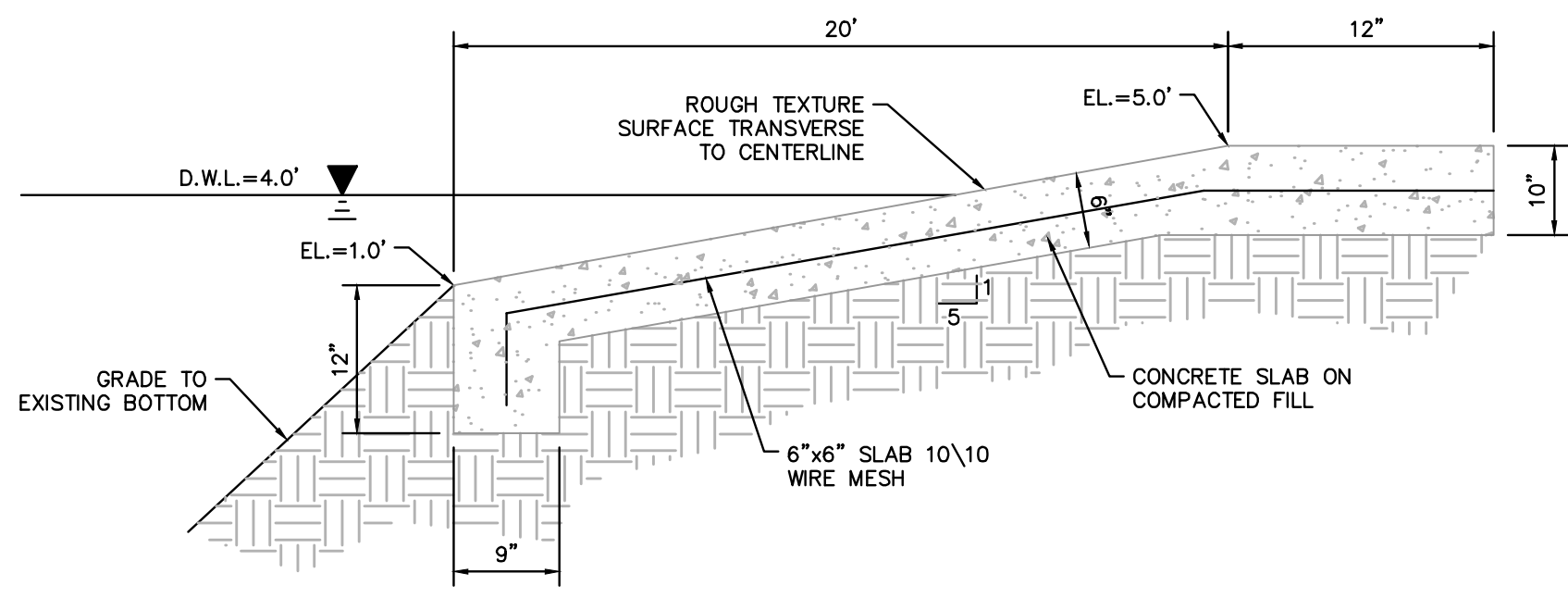
STRAIGHT CONCRETE ENDWALLS
SINGLE AND MULTIPLE PIPE
N.T.S. PER FOOT INDEX #250



PLAN

- NOTES:**
- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
 - WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
 - WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
N.T.S.

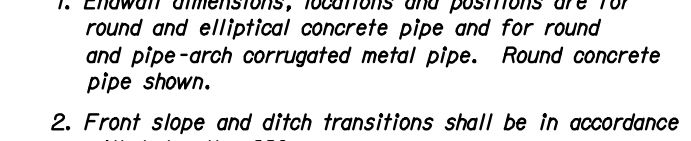


BOAT RAMP DETAIL
N.T.S.

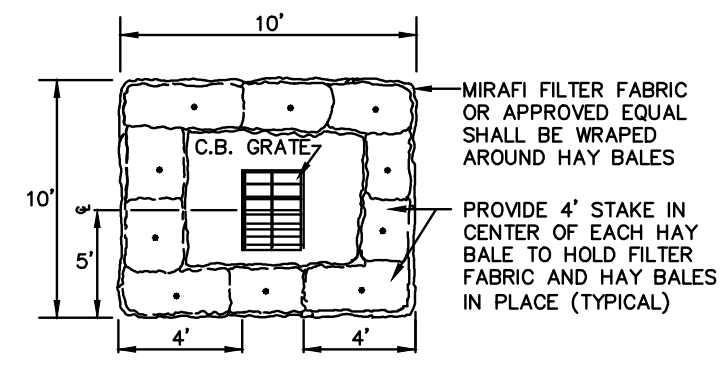
- All exposed corners and edges of concrete are to be chamfered 1/4".
- Concrete meeting the requirements of ASTM C-418 (4000 psi) may be used in lieu of Class I concrete in precast items manufactured in plants which are under the Standard Operating Procedures for the Inspection of precast drainage products.
- On outfall ditches with side slopes flatter than 1 1/2:1, provide 20' transitions from the endwall to the flatter side slopes, right of way permitting.
- For sodding around endwalls see Index No. 281.
- 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%
- Pipe length plan quantities shall be based on the pipe end locations shown in the standard location control and view, or lengths based on special endwall locations called for in the plans.
- Payment for pipe in pipe culverts shall be based on plan quantities, adjusted for endwall locations subsequently established by the Engineer.
- Endwalls to be paid for under the contract unit price for Class I Concrete (Endwalls), CY.

STANDARD LOCATION CONTROL



- GENERAL NOTES**
- 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.
 - Front slope and ditch transitions shall be in accordance with Index No. 280.
 - 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.



HAY BALE DETAIL
N.T.S.

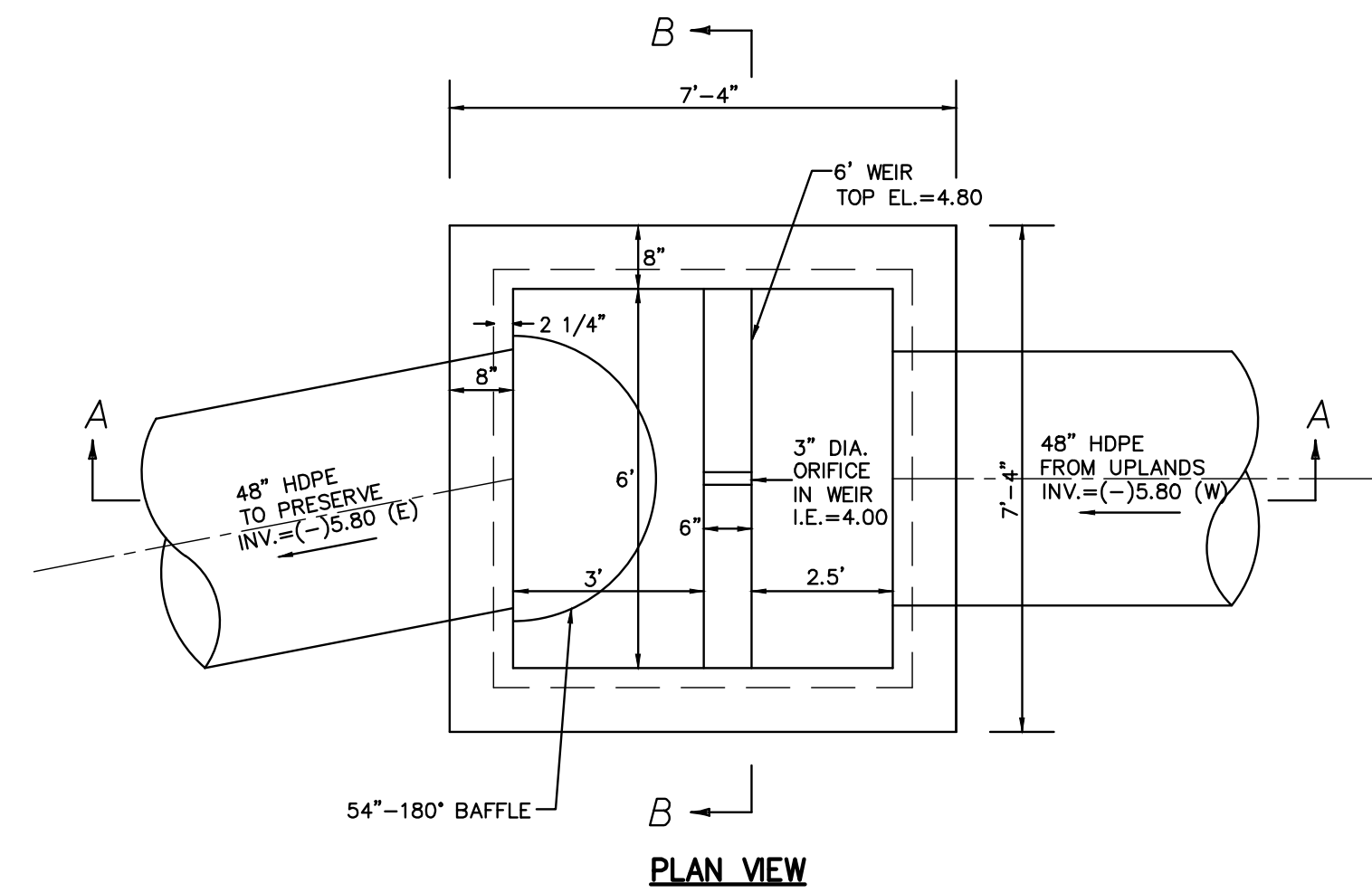
DATE:	10/28/16				
SCALE:	AS NOTED				
DESIGNED BY:	M.R.N.				
DRAWN BY:	E.H.M.				
CHECKED BY:	C.E.E.				
APPROVED BY:	C.E.E.				
DESCRIPTION:		BY:		DATE:	

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FLORIDA LICENSED ENGINEERING, SURVEYING & MAPPING BUSINESS NO. 271
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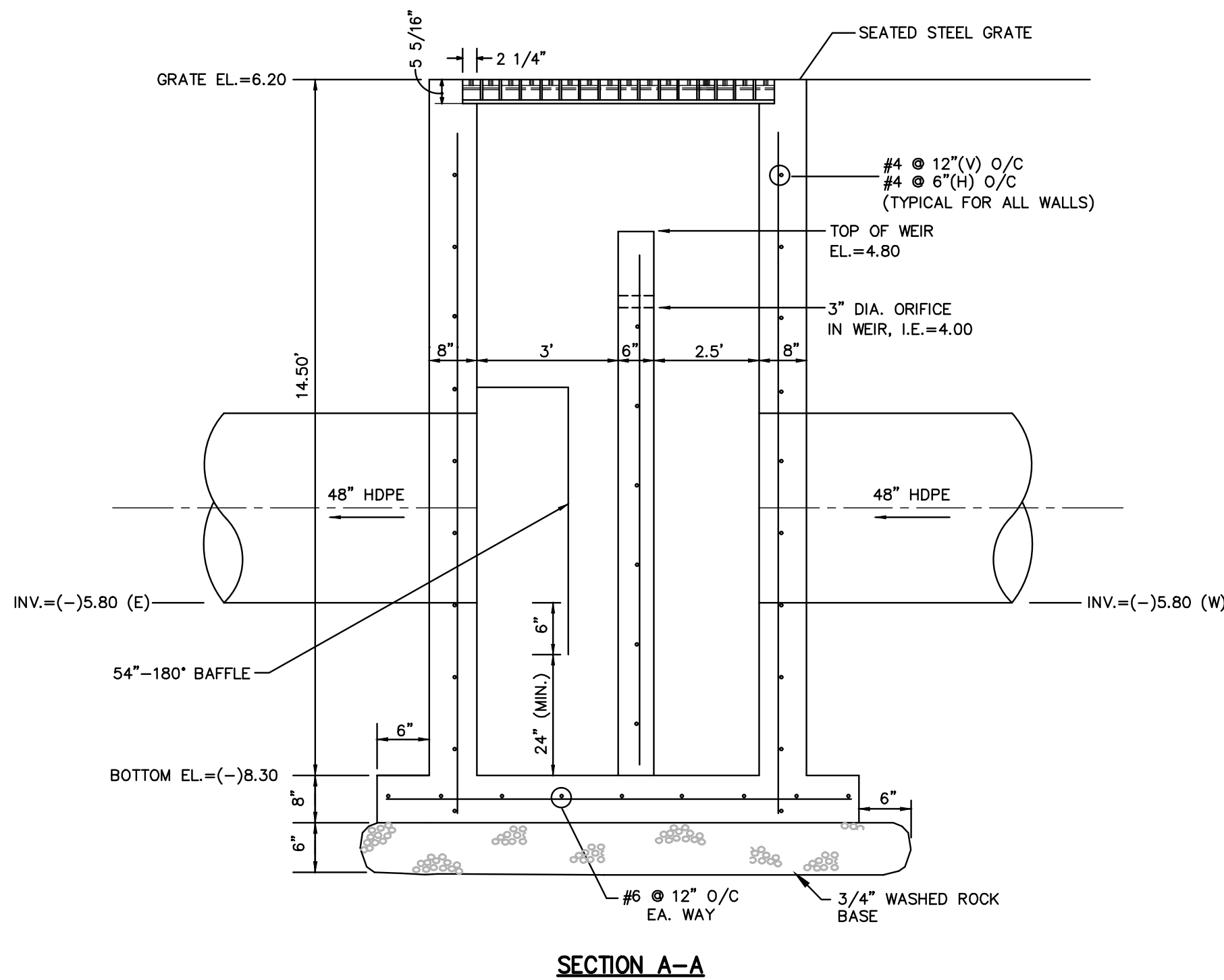
SIERRA RANCH
PREPARED FOR:
HOME DYNAMICS CORPORATION
4755 TECHNOLOGY WAY, SUITE 210
BOCA RATON, FLORIDA 33431

PAVING, GRADING AND DRAINAGE DETAILS

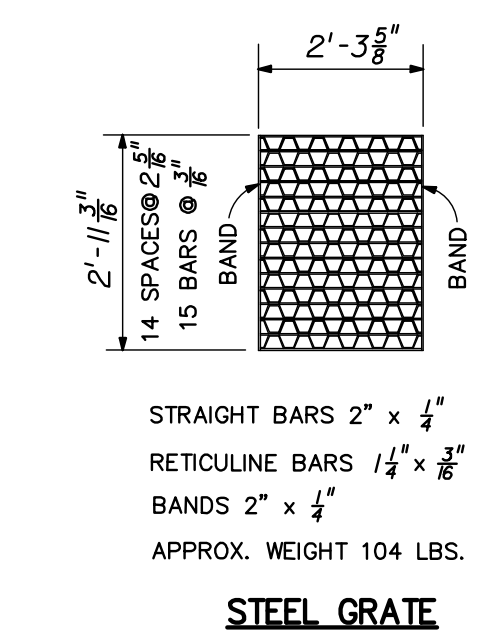
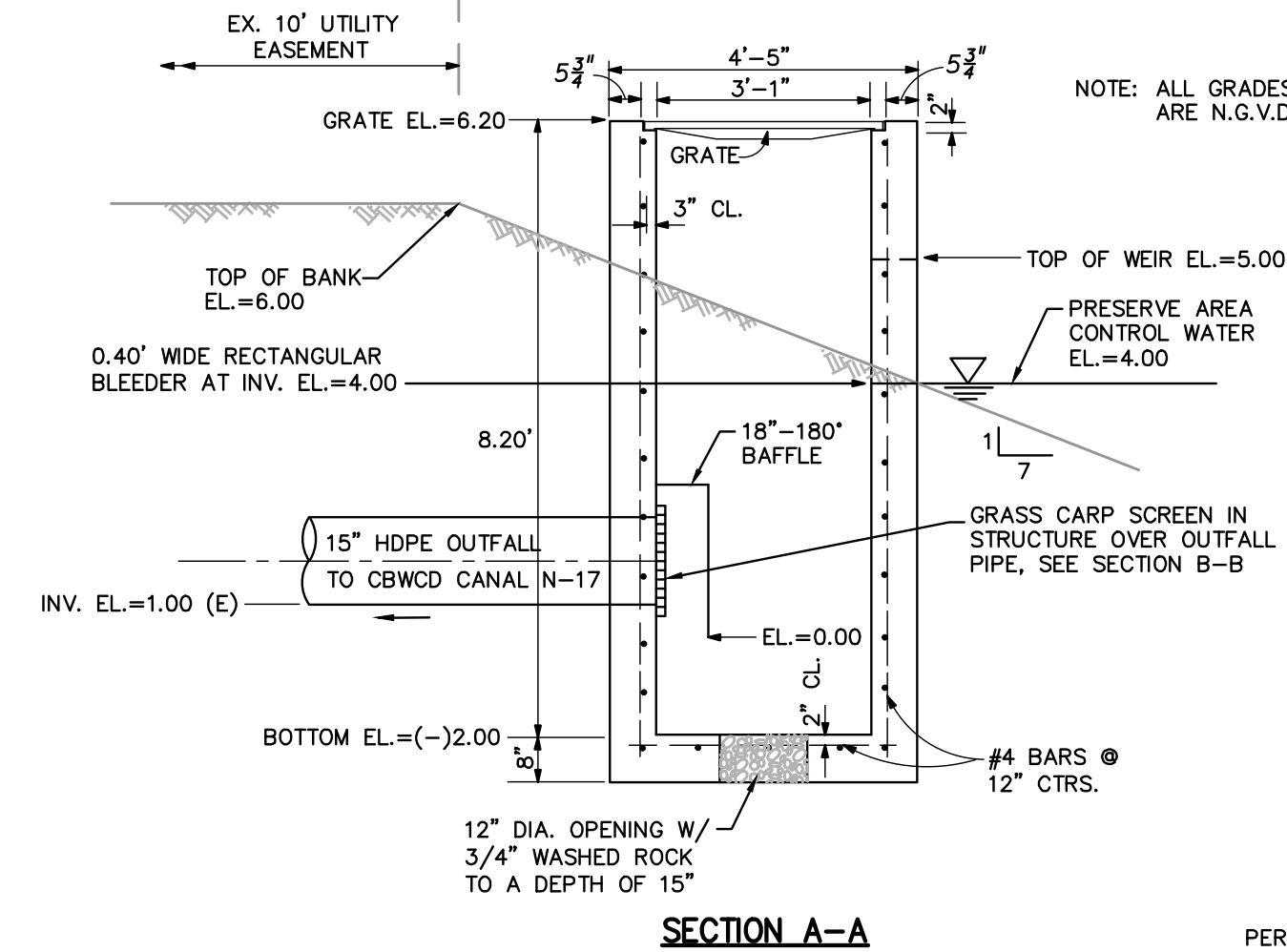
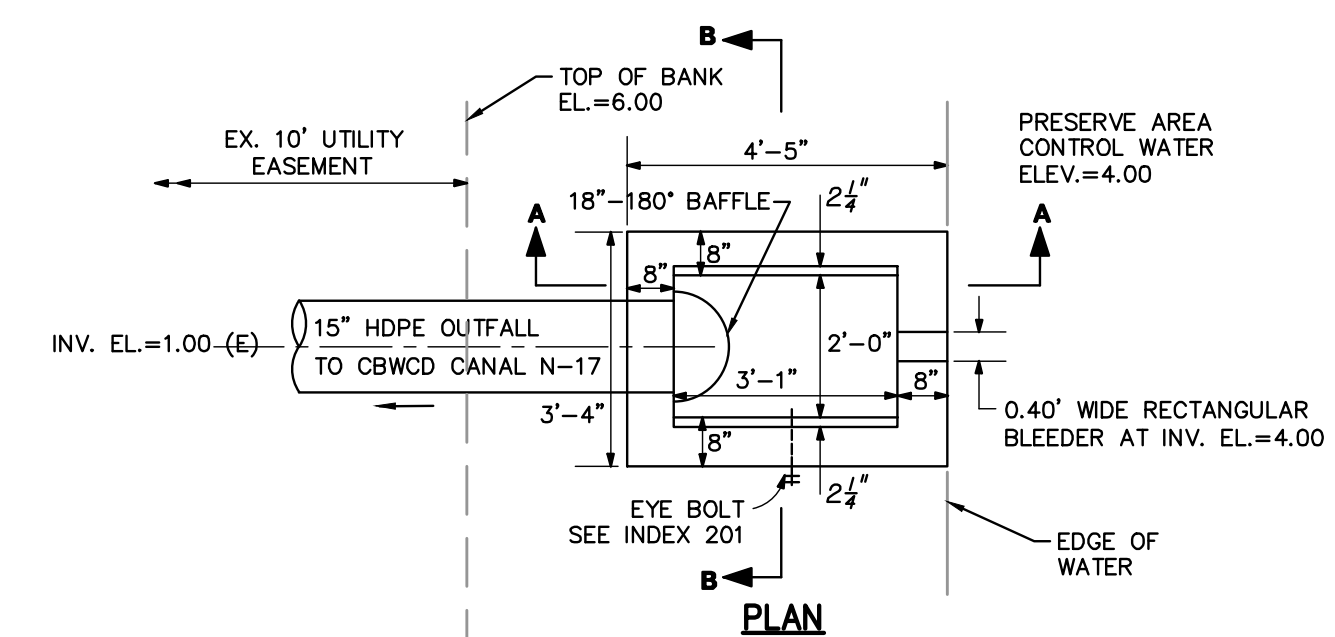
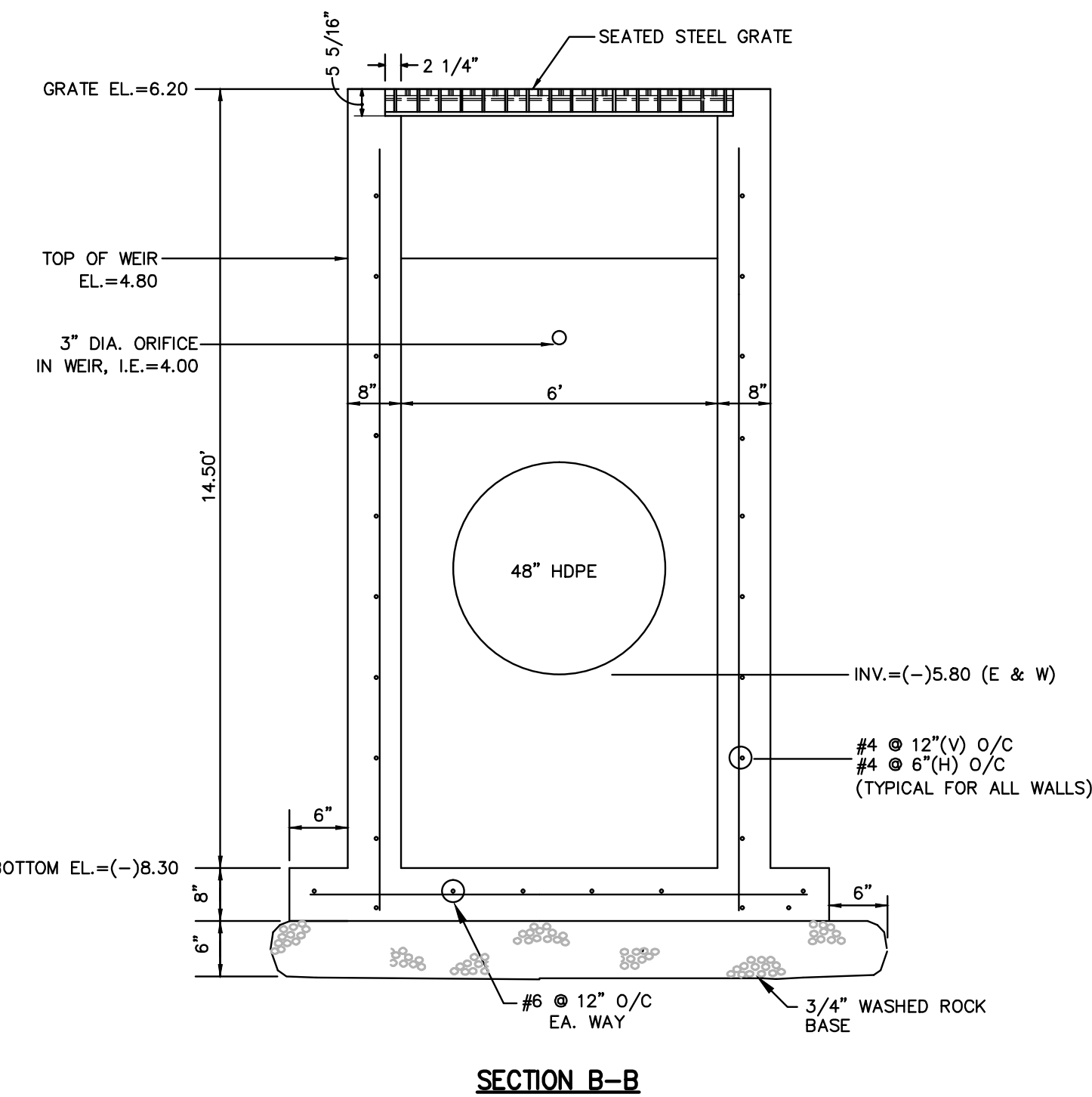
DATE:	10/28/16
DRAWING NO.:	C-22
PROJECT #:	12-0093-001-06



- NOTES:
- 6' X 6' STORM INLET PER U.S. PRECAST COMPANY
 - CONCRETE= 4000 PSI @ 28 DAYS.
 - HOLES FOR PIPING SHALL BE 6" LARGER THAN PIPE O.D. AND SHALL BE CAST AT TIME OF FABRICATION
 - WATER TABLE ELEVATION=4.0' N.G.V.D.
 - PROVIDE 4 ADDITIONAL (DIAGONAL) TYPE 'D' REINFORCEMENT AROUND PIPE OPENING



CONTROL STRUCTURE #1
6' X 6' INLET
STRUCTURE #66 SCALE: NONE

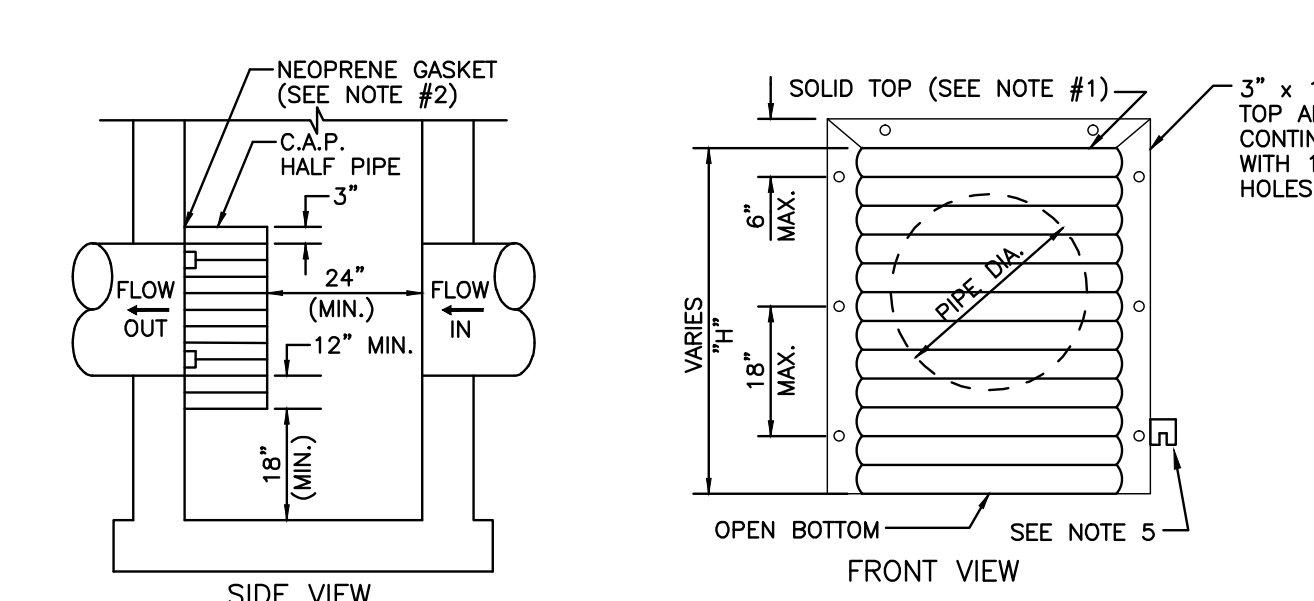


WALL DEPTH	SCHEDULE	AREA (IN ² /FT)	MAX. SPACING BARS	WWF
0'-15'	A12	0.20	12"	8"

HORIZONTAL WALL REINFORCING SCHEDULE

RECOMMENDED MAXIMUM PIPE SIZE:
 2'-0" WALL: 18" PIPE
 3'-1" WALL: 24" PIPE (18" IF AN 18" PIPE ENTERS THE 2'-0" WALL)

CONTROL STRUCTURE #2
FDOT TYPE C INLET
STRUCTURE # 74 SCALE: NONE



PIPE DIA.	W ¹ (IN)	W ² (IN)	T (GAUGE)	H (IN)
15"	21"	21"	16	VARIES
18"	24"	24"	16	VARIES
21"	30"	30"	16	VARIES
24"	30"	36"	16	VARIES
30"	36"	42"	14	VARIES
36"	42"	54"	14	VARIES

- NOTES:
- ALUMINUM SHEET OF SAME THICKNESS (GAUGE) AS PIPE SHALL BE WELDED TO CLOSE OPENING AT THE TOP.
 - NEOPRENE ADHESIVE BACKED GASKET, OR APPROVED EQUAL (1" x 2") SHALL BE INSTALLED ON THE SIDES AND TOP OF ALL BAFFLES.
 - POLLUTION RETARDANT BAFFLE TO BE FASTENED IN PLACE WITH 3/8"x4" STAINLESS STEEL "RED HEADS", OR APPROVED EQUAL.
 - FIBERGLASS BAFFLES ARE NOT PERMITTED.
 - MOUNTING BRACKETS MAY BE ADDED TO FLAT BARS TO EASE INSTALLATION IN ROUND STRUCTURES. SPACING TO MATCH HOLES IN FLAT BARS.

POLLUTION RETARDANT BAFFLE
SCALE: NONE

Always call 811 two full business days before you dig to have underground utilities located and marked.

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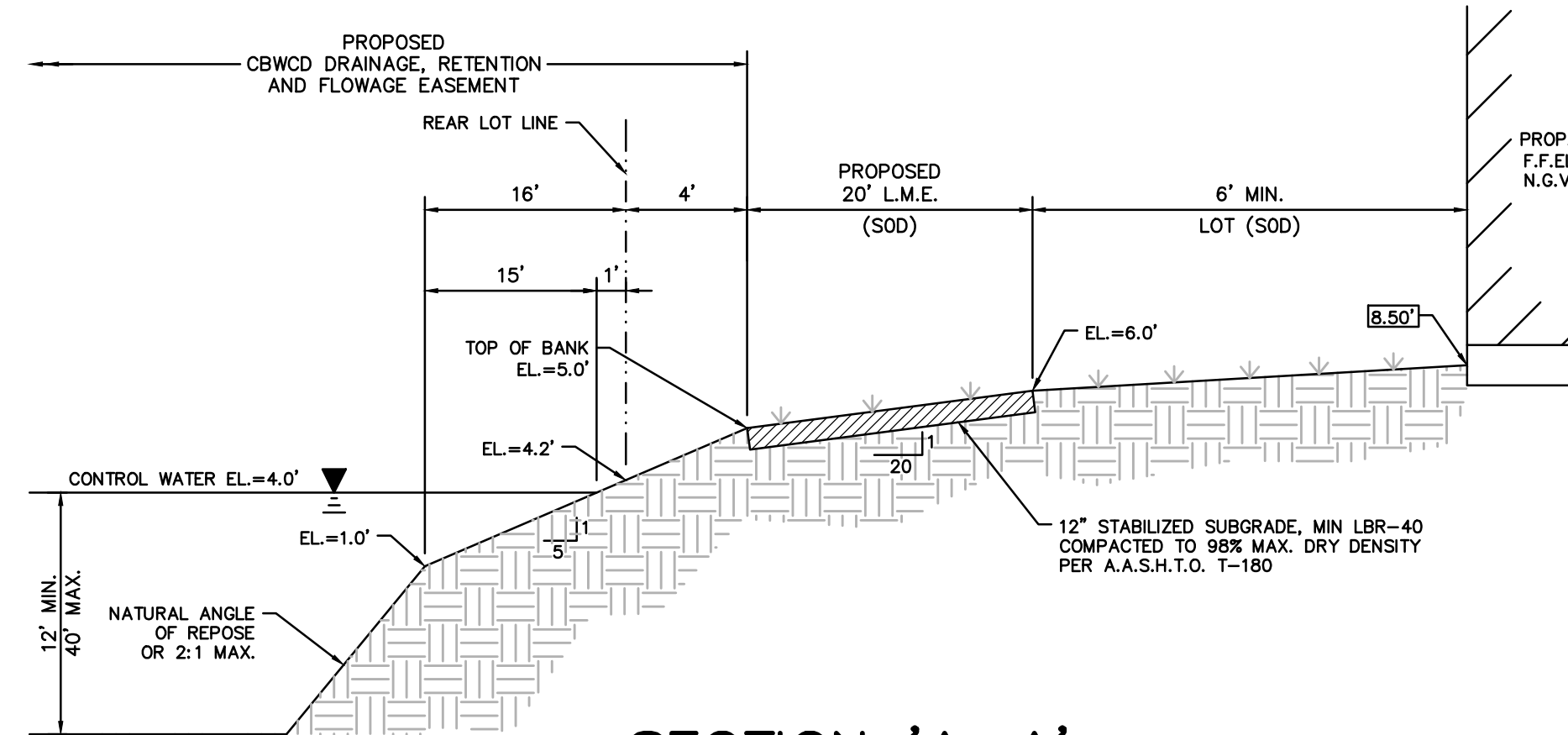
DATE:	10/28/16			
SCALE:	AS NOTED			
DESIGNED BY:	M.R.N.			
DRAWN BY:	E.H.M.			
CHECKED BY:	C.E.E.			
APPROVED BY:	C.E.E.			
DESCRIPTION		BY:	DATE:	

Craven Thompson and Associates, Inc.
 ENGINEERS • PLANNERS • SURVEYORS
 3563 N.W. 53RD STREET, FORT LAUDERDALE, FLORIDA 33309
 FAX: (954) 739-6409 TEL: (954) 739-6400
 FLORIDA LICENSED ENGINEERING, SURVEYING & MAPPING BUSINESS NO. 271
 FLORIDA LICENSED LANDSCAPE ARCHITECTURE BUSINESS NO. 5000114

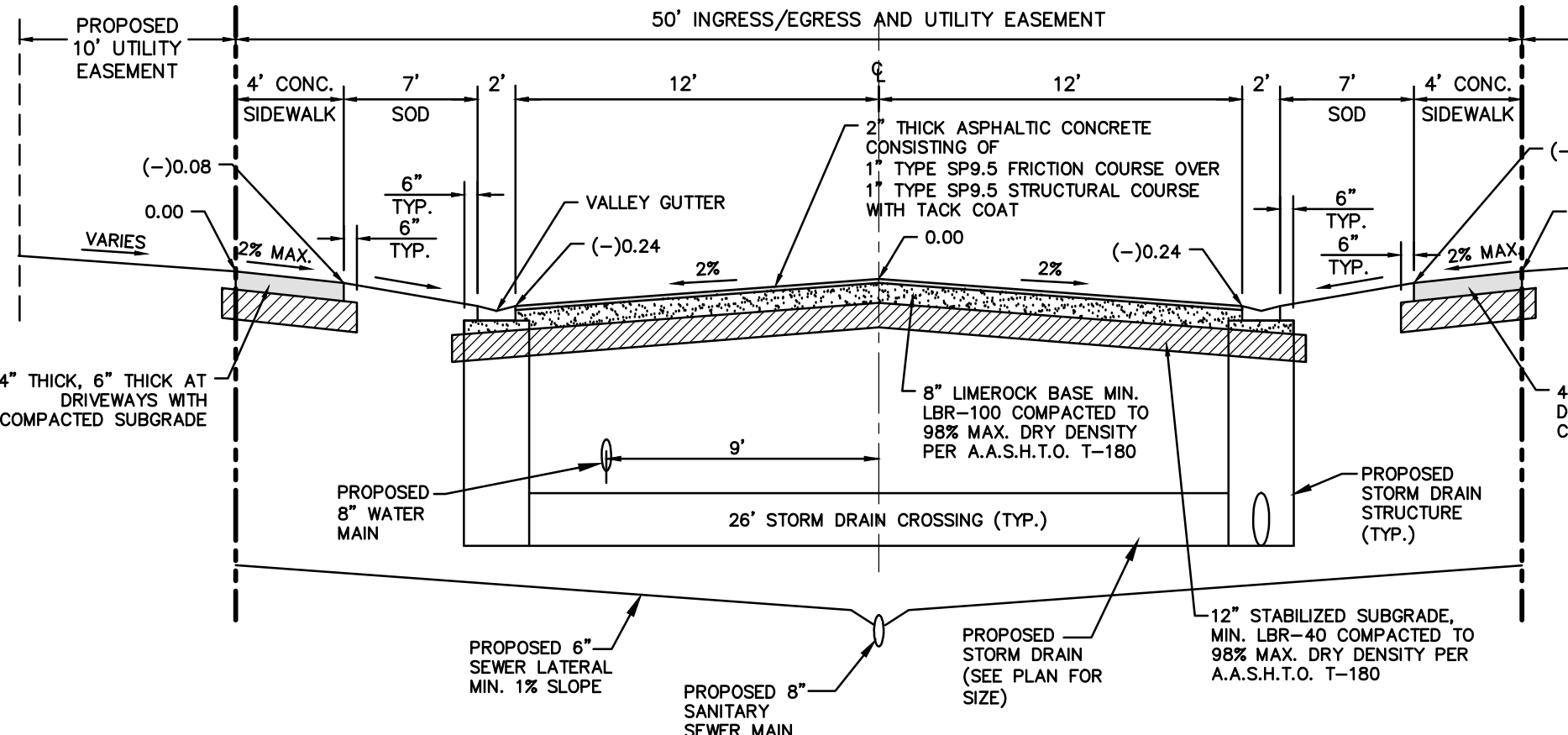
SIERRA RANCH
 PREPARED FOR:
 HOME DYNAMICS CORPORATION
 4755 TECHNOLOGY WAY, SUITE 210
 BOCA RATON, FLORIDA 33431

PAVING, GRADING AND DRAINAGE DETAILS

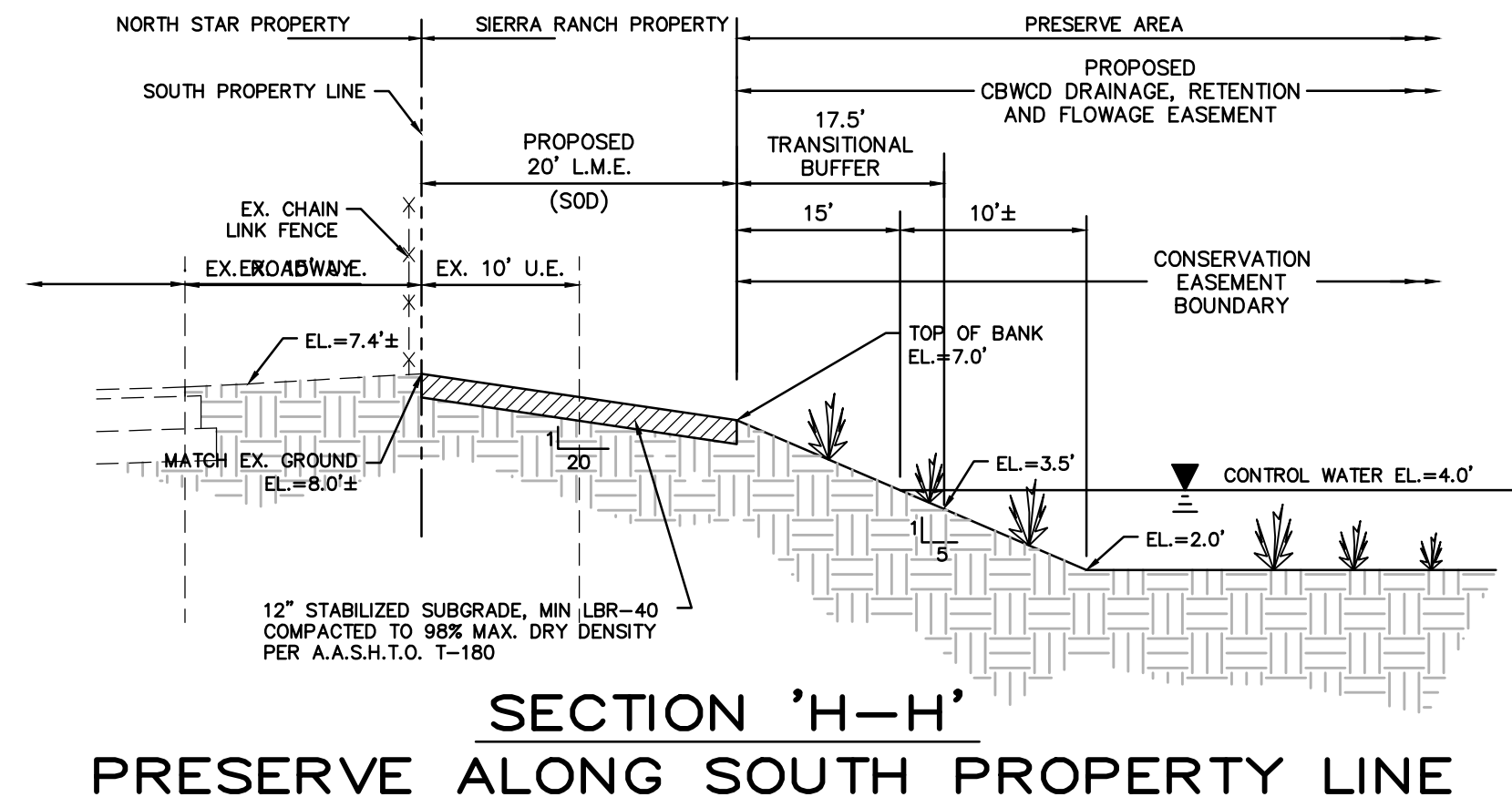
DATE:	10/28/16
DRAWING NO.:	C-23
PROJECT #:	12-0093-001-06



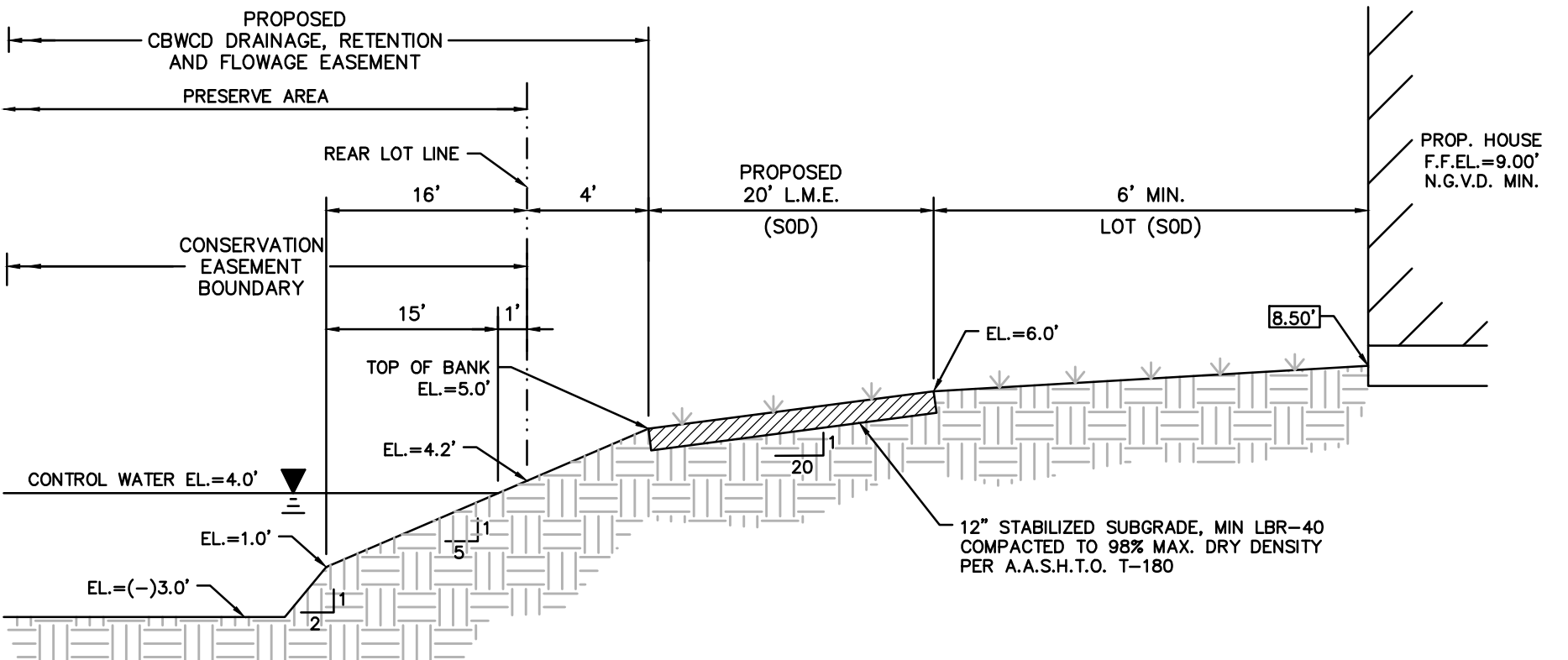
SECTION 'A-A'
TYPICAL LAKE BANK SECTION
N.T.S.



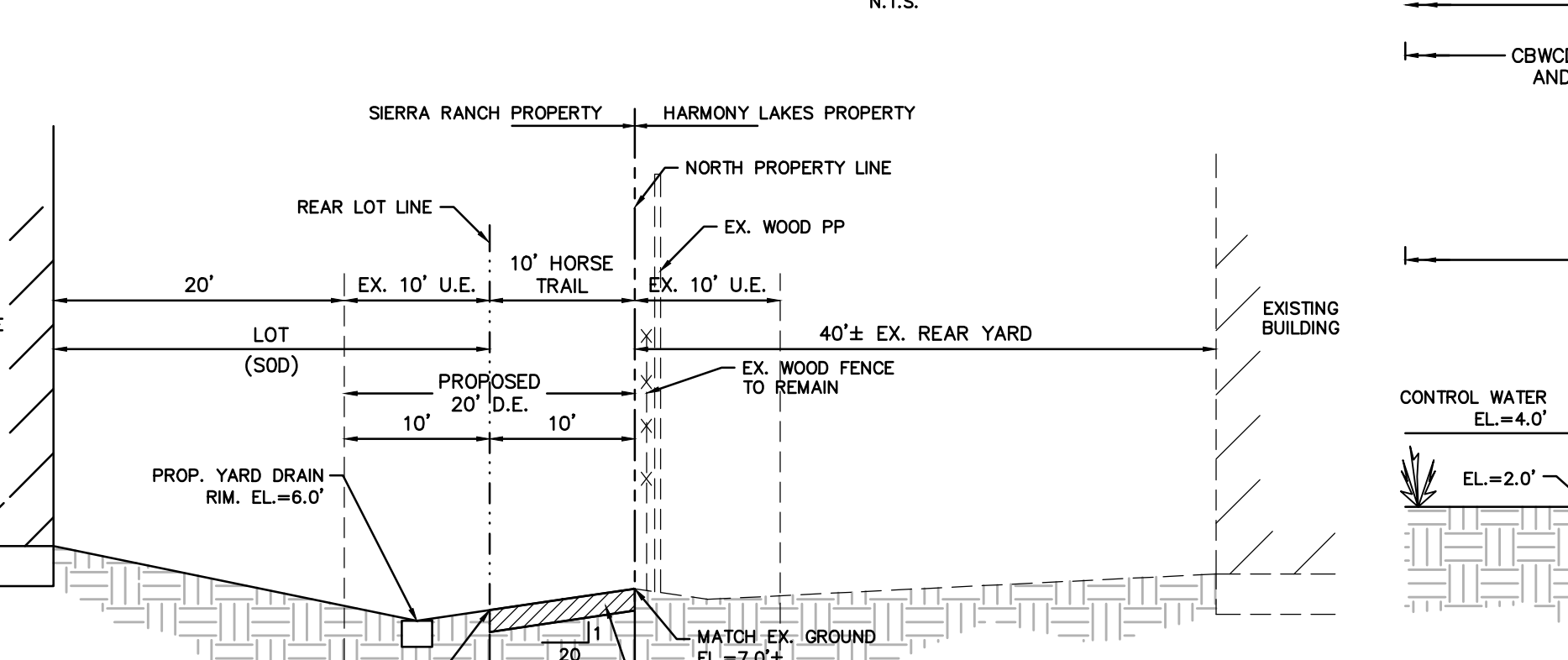
SECTION 'E-E'
TYPICAL ROADWAY SECTION
N.T.S.



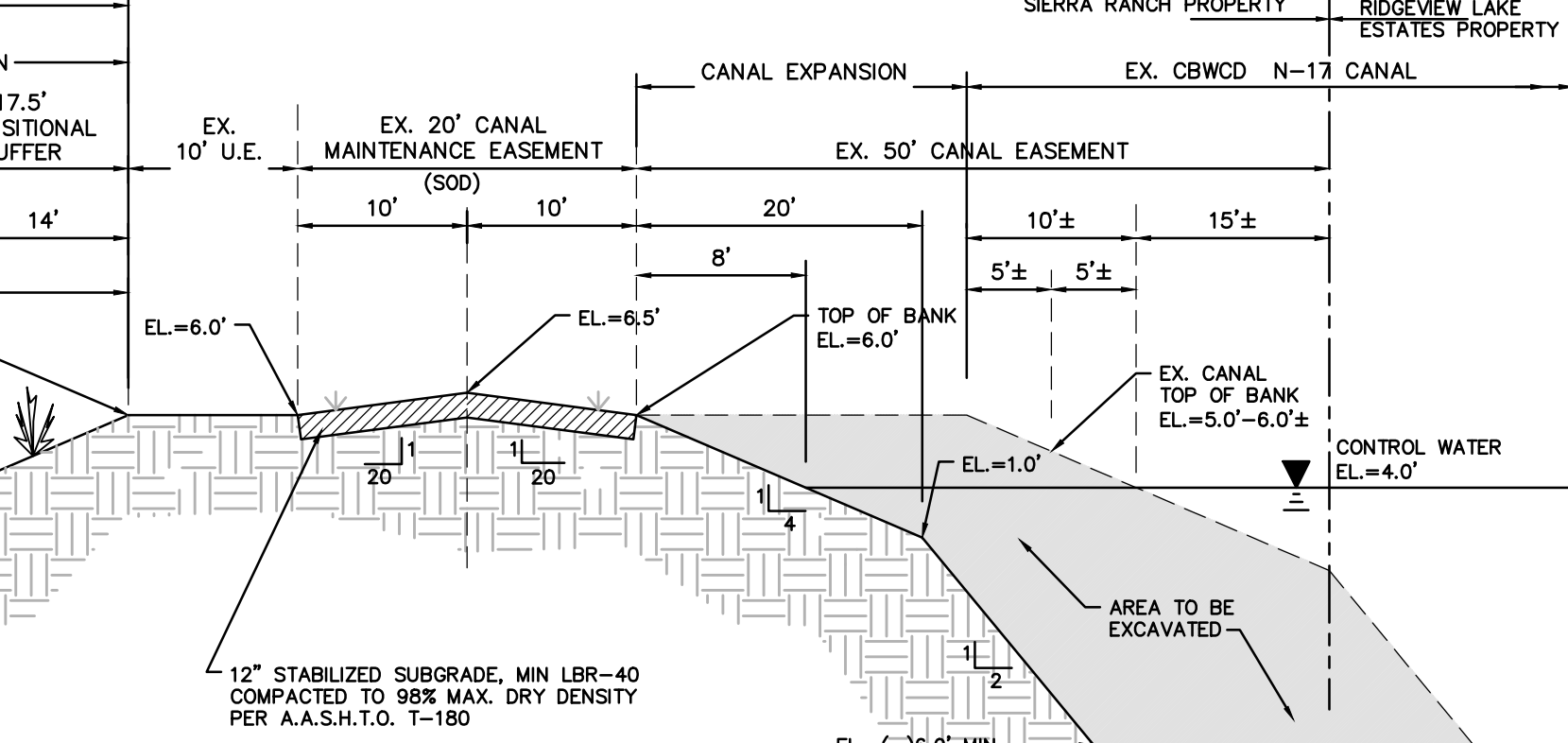
SECTION 'H-H'
PRESERVE ALONG SOUTH PROPERTY LINE
N.T.S.



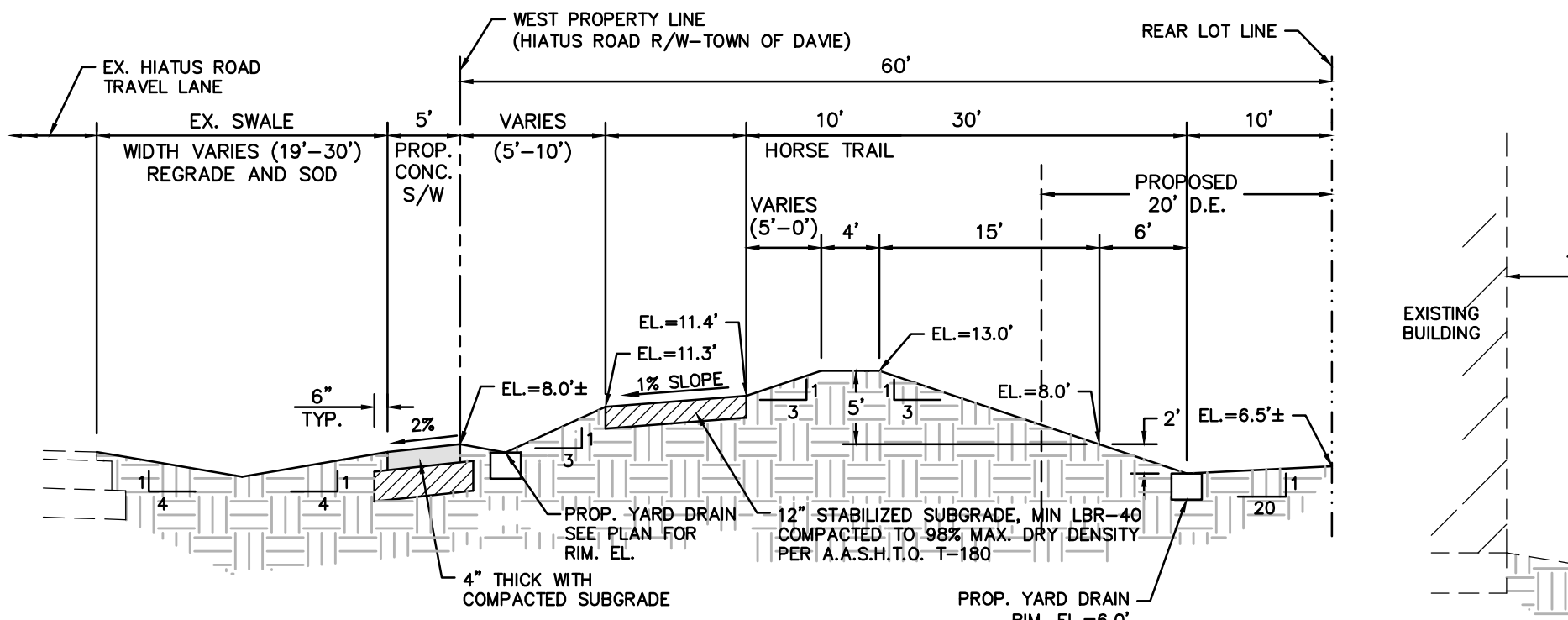
SECTION 'B-B'
TYPICAL PRESERVE BANK SECTION
N.T.S.



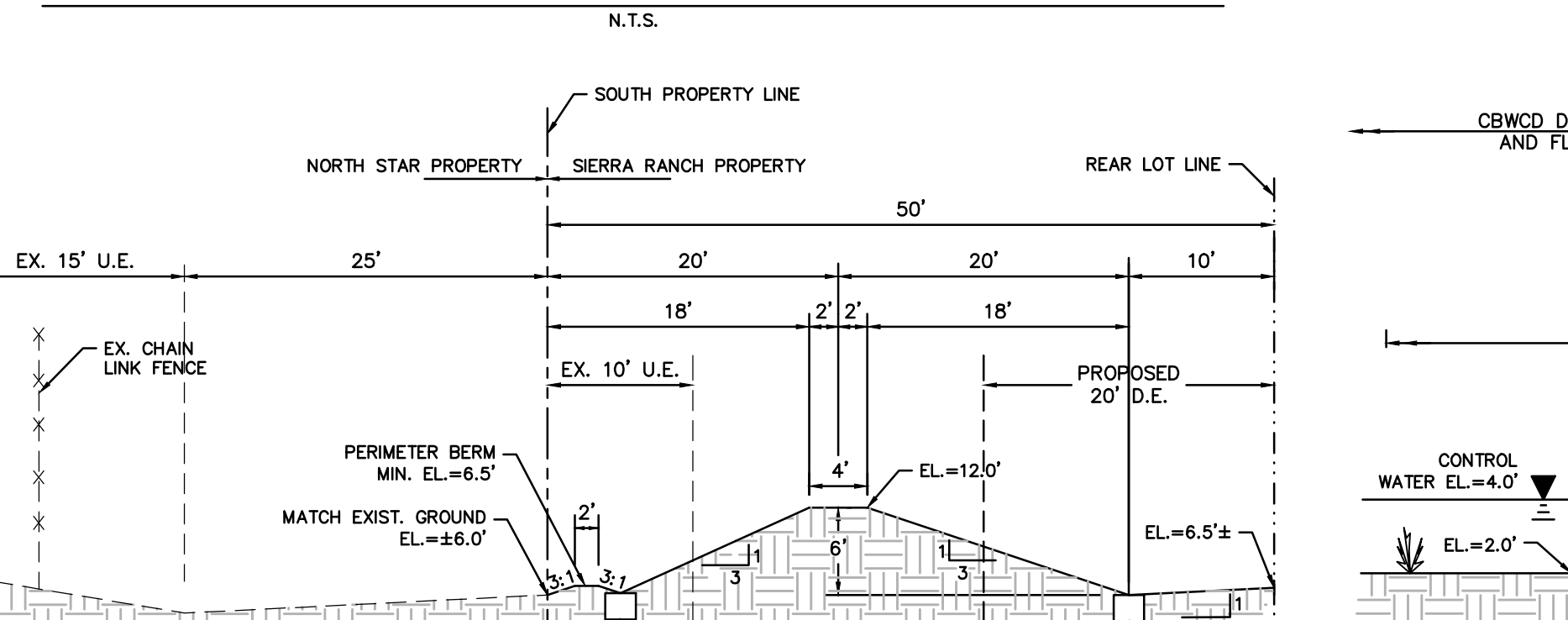
SECTION 'F-F'
SWALE ALONG NORTH PROPERTY LINE
N.T.S.



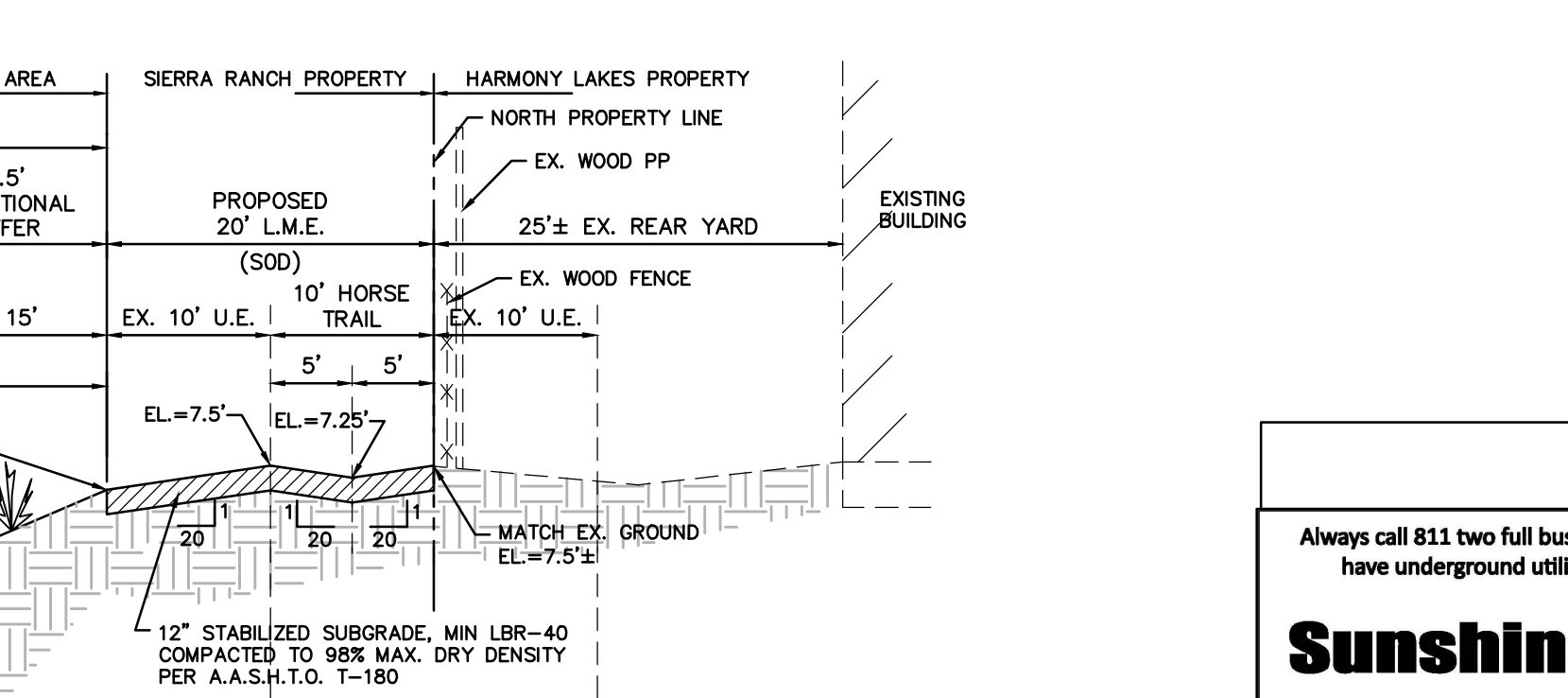
SECTION 'I-I'
PRESERVE ALONG EAST PROPERTY LINE
N.T.S.



SECTION 'C-C'
BERM ALONG WEST PROPERTY LINE
N.T.S.

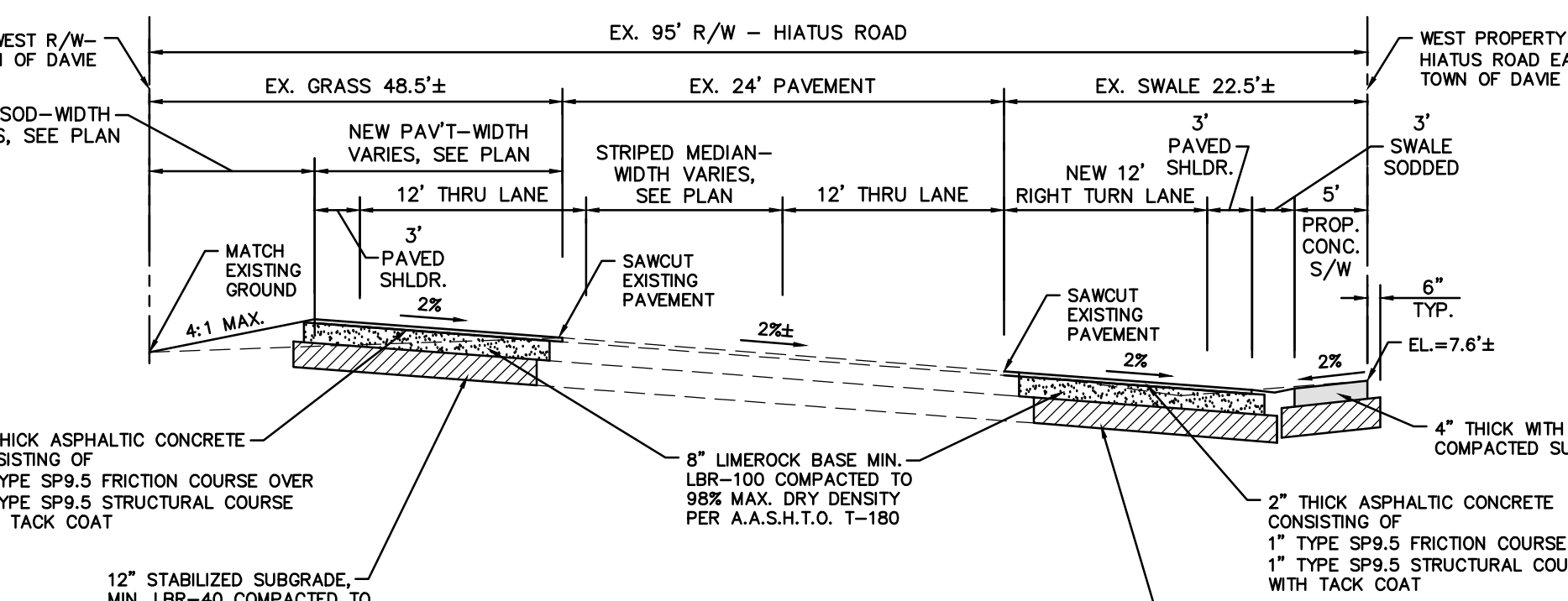


SECTION 'D-D'
BERM ALONG SOUTH PROPERTY LINE
N.T.S.



SECTION 'G-G'
PRESERVE ALONG NORTH PROPERTY LINE
N.T.S.

NOTE: HORSE TRAIL TO BE CONSTRUCTED BY THE DEVELOPER AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION. ALL DRAINAGE STRUCTURES, PIPES, LAKE AND PRESERVE AREA TO BE MAINTAINED BY THE HOMEOWNERS ASSOCIATION.



SECTION 'J-J'
HIATUS ROAD TURN LANES
N.T.S.

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DATE:	10/28/16
SCALE:	AS NOTED
DESIGNED BY:	M.R.N.
DRAWN BY:	E.H.M.
CHECKED BY:	C.E.E.
APPROVED BY:	C.E.E.
DESCRIPTION	BY: DATE:

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SIERRA RANCH
PREPARED FOR:
HOME DYNAMICS CORPORATION
4755 TECHNOLOGY WAY, SUITE 210
BOCA RATON, FLORIDA 33431

TYPICAL SECTIONS

Chad E. Edwards, P.E.
Florida P.E. No. 59306
August 16, 2017

PROJECT #:
12-0093-001-06

DATE:
10/28/16

DRAWING NO.
C-25

G:\2012\12-0093-001-06\Sierra Ranch\Current\12-0093-001-06-C-25 - Typical Sections.dwg, C-25 - Typical Sections, 8/16/2017, 8:14:42 AM, mironick.dwg to PDF.plt, ARCH expanded D (Oct 2016), 3600 (Metric), 11



**ENVIRONMENTAL SUPPORT FOR APPLICATION
OF THE
ENVIRONMENTAL RESOURCE PERMIT
AND
ENVIRONMENTAL RESOURCE LICENSE**

SIERRA RANCH

**TOWN OF DAVIE
BROWARD COUNTY, FLORIDA**

**June 2015
(Revised November 2015)
(Revised June 2016)
(Revised June 2017)**

Prepared by:

**EW CONSULTANTS, INC.
2581 Metrocentre Blvd, Suite 1
West Palm Beach, FL 33407
561-291-7950**

I. PROJECT DESCRIPTION

The subject parcel is undeveloped land located in Section 18, Township 50 South, Range 41 East, in Broward County, Florida and is depicted on the Location Maps (Figures 1 and 2) provided in the Appendix. The parcel is surrounded on the north and south by residential development, on the west by Southwest 112th Avenue (Hiatus Road) and on the east by the N-17 Canal and residential development.

The project involves the construction of a residential development on an approximately 89.1-acre site. An individual Environmental Resource Permit (ERP) is required from South Florida Water Management District (SFWMD) because wetland impacts are proposed. An individual permit will also be required from the U.S. Army Corps of Engineers (ACOE), and an Environmental Resource License is required from Broward County Environmental Protection and Growth Management Department.

II. TOPOGRAPHY/HYDROLOGY

The U.S. Geological Survey topographic quadrangle (Hialeah Quadrangle) shows the property is generally flat topographically, with approximate elevations of 5-6 feet NGVD. Field reconnaissance indicates that the topography is generally consistent with the USGS quadrangle. However, surface water hydroperiod on the site and project vicinity appears to have been substantially altered from historical conditions by surrounding development, regional drainage, and past land uses. The wetland areas on the site display signs of inappropriate hydrology such as soil subsidence and encroachment of exotic and transitional vegetative species.

III. SOILS

Mapped soils on the parcel comprise Hallandale fine sand, Lauderhill muck and Margate fine sand. Field tests confirmed the presence of mapped soils in some areas of the parcel. However, the majority of the property has been disturbed and the soils altered. A description of each soil type is listed below. This description is based upon the general characteristics for the soil type illustrated in the Soils Survey of Broward County Area, Florida and is not necessarily indicative of the exact characteristics found on this property. A soils map with the site boundary is attached as Figure 2.

Hallandale fine sand (12). Under natural conditions Hallandale fine sand is a nearly level, poorly drained, sandy soil that is underlain by lime-stone at a depth of 7 to 20 inches. Most of the areas of this soil is in natural vegetation or improved pasture. Typical natural vegetation includes scattered slash pine and saw palmetto, pineland three-awn, paspalum, blue panicum, blue maidencane, and bluestem.

Lauderhill muck (18). Under natural conditions Lauderhill muck is a nearly level, very poorly drained, organic soil underlain by limestone at a depth of 20 to 40 inches. It is in broad flats in the Everglades. Typical natural vegetation consists of sawgrass. In some places where the sawgrass has been burned, melaleuca has become established.

Margate fine sand (19). Under natural conditions Margate fine sand is a nearly level, poorly drained, sandy soil that is underlain by limestone at a depth of 20 to 40 inches but has solution holes as deep as 60 inches. It is on nearly level, low terraces between the Everglades and the low, sandy Coastal Ridge. Typical natural vegetation consists of native grasses, wax myrtle, and a few cypress trees.

While the above soil descriptions include dominant vegetation that may be found under natural conditions, observations of actual dominant vegetation on the property are different. Much of the property is dominated by exotic and nuisance vegetative species, which is likely a result of the long-term passive agricultural uses and fluctuations in the hydrological conditions in this region.

IV. SITE CONDITIONS

The site is mostly vacant and undeveloped. The site is surrounded by highway, undeveloped land, pasture, and a single-family residence. Much of the site was historically used for agricultural uses such as row crops and later as pasture land for cows. Pedestrian transects were conducted on the site and vegetative communities were mapped on a recent aerial photograph of the site. A description of each community type is provided in the Habitat/Land Use section of this report.

V. HABITAT/LAND USE

Field reconnaissance has been conducted on the property between February 2012 and the present time, during which four distinct land cover types were identified and mapped throughout the property. The observed land cover types and vegetative communities have been categorized in accordance with the Florida Land Use, Cover and Forms Classification System (FLUCFCS, January 1999) published by Florida DOT with a description of each land cover type provided below. Acreage figures provided are estimates based on aerial photo interpretation, survey information and field reconnaissance and mapping with the assistance of hand held GPS equipment. A map depicting the location and extent of the identified land cover types is provided in the Appendix as Figure 3 –FLUCFCS Map.

422 Brazilian Pepper – 16.2 acres

This vegetative community is found near and around the property boundaries. Brazilian pepper dominates the canopy and subcanopy in this community. Also present are scattered schefflera, black olive, live oak, bishopwood, seaside mahoe, queen palm, earleaf acacia, areca palm, woman's tongue, java plum, mango, carrotwood, wild coffee, and Surinam cherry. Caesar weed, shrubby false buttonweed, crowfoot, milkweed, ragweed, dog fennel, Bahia grass, smutgrass, oyster plant, elephant ear, philodendron, spanish needle, wedelia, grape vine, and wild poinsettia occur within the ground cover.

510 Ditches – 3.7 acres

This land use is found in several areas of the property. The ditches run east- west and north-south on the subject parcel. There does not appear to be connection to offsite waters.

619 Exotic Wetland Hardwoods – 65.5 acres

This vegetative community is found throughout the property. The majority of the canopy and subcanopy vegetation is dominated by Brazilian pepper. Also present are scattered wax myrtle, salt bush, Carolina willow, broomsedge, rushes, water pennywort, water hyssop, marsh fleabane, royal fern, giant leather fern, Old-world climbing fern, melaleuca and primrose willow.

641 Freshwater Marsh – 3.7 acres

Aerial photographs show what may have been freshwater marsh wetlands have decreased in size over time, due to the encroachment of exotic and nuisance species. The dominant vegetative species in the freshwater marsh include broomsedge, white top sedge, torpedo grass, spikerush, water pennywort, water hyssop, wax myrtle, cattails, royal fern, leather fern, primrose willow, marsh fleabane, smartweed, saltbush, melaleuca, Brazilian pepper and Carolina willow.

VI. CRITICAL HABITAT/LISTED SPECIES OBSERVATION

The project site was reviewed for the presence of habitat conducive to federal and state listed flora and fauna. Observations were made for the presence of any wildlife species listed as Endangered, Threatened, or Species of Special Concern by Florida Fish and Wildlife Conservation Commission (FWC) and/or United States Fish and Wildlife Service (FWS). The observation methodology included meandering pedestrian transects, including areas adjacent to wetlands.

No animal species listed as protected by federal, state, or local environmental regulatory agencies, nor any signs of such animals, were observed on the parcel.

No listed plant species protected by federal, state, or local environmental regulatory agencies were observed within the parcel.

Non-listed wildlife observed include Jesus lizard, eastern gray squirrel, mourning dove, mocking bird, blue jay, zebra longwing butterfly and dragonflies.

VII. WETLANDS

State, Federal and Broward County jurisdictional wetlands comprise 69.2 acres and other surface waters comprise 3.7 acres as shown on Figures 4 and 5. An informal wetland pre-application meeting was conducted with SFWMD, COE and Broward County in February 2013 to confirm the jurisdictional boundaries.

Primary wetland impacts resulting from fill and excavation for site development will occur over 48.9 acres of wetland and 3.7 acre of surface waters.

VIII. REDUCTION AND ELIMINATION OF WETLAND IMPACTS

The applicant reviewed site plan alternatives in an effort to eliminate and reduce impacts to the wetland areas.

The quality of the 69.2-acres of wetland is poor and has been highly impacted by exotic vegetation and altered hydrologic conditions resulting from previous agricultural uses and surrounding regional development.

So after careful consideration of wetland impact minimization and on-site mitigation options for this project, it was determined that the majority of the mitigation for wetland impacts will consist of on-site wetland enhancement and restoration. The restored areas will then be maintained and preserved in perpetuity.

IX. MITIGATION PLAN

As compensation for unavoidable direct wetland impacts, on-site wetland enhancement and restoration will occur within a 23.86-acre on-site area. Wetland impacts and mitigation for impacts occurring on-site were calculated using the Uniform Mitigation Assessment Method (UMAM) (See Attachments). The small deficit of mitigation will be compensated for at an off-site mitigation bank.

There will be 23.86 acres of wetlands that will be enhanced and restored on-site. This mitigation area will be excavated and graded to create herbaceous wetlands with higher areas of tree islands interspersed among the lower areas (Figures 6 and 6A). The proposed wetland enhancement and restoration involves reducing drainage and contouring the area to provide appropriate water levels for each habitat type. An appropriate hydroperiod within the wetland area will sustain native wetland plants and greatly increase the potential forage base for a variety of wetland dependent reptilian, amphibian, mammalian, and wading bird species. Avian perches and duck boxes will be incorporated also to promote avian utilization.

Habitat quality of the enhanced and restored wetland will be maintained by the removal of exotic and nuisance vegetation. After the wetland has been scraped down and contoured, the herbaceous portions of the wetland will be planted with appropriate native vegetation, two and a half feet on center. Tree islands will be planted with trees 10 feet on center and shrubs and grasses planted five feet on center. The plantings on the tree islands will be larger material to ensure diversity and survivability.

Planting Plan:

Common Name	Species	Size	Density	Quantity
<i>Marsh (elevation 1.0 to 2.0 NGVD) 17.4 acres</i>				
Pickeralweed	<i>Pontedaria cordata</i>	bare-root	3' oc	6,500
Duck potato	<i>Sagittaria latifolia</i>	bare-root	3' oc	6,000
Knotted spikerush	<i>Eleocharis interstincta</i>	bare-root	3' oc	12,000
Alligator flag	<i>Thalia geniculata</i>	bare-root	3' oc	6,000
Blue flag iris	<i>Iris virginica</i>	bare-root	3' oc	6,000
Beak rush	<i>Rhynchospora microcarpa</i>	bare-root	3' oc	6,000
Maidencane	<i>Panicum hemitomon</i>	bare-root	3' oc	8,000

Soft rush	<i>Juncus effuses</i>	bare-root	3' oc	12,000
Sawgrass	<i>Cladium jamaicense</i>	bare-root	3' oc	15,000
Soft stem bulrush	<i>Scirpus validus</i>	bare-root	3' oc	10,000
Giant bulrush	<i>Scirpus</i> spp.	bare-root	3' oc	10,000

Hydric Tree Islands (elevation 2.5 to 4.5 NGVD) 1.0 acre

Dahoon holly	<i>Ilex cassine</i>	10 gallon	10' oc	126
Red maple	<i>Acer rubrum</i>	10 gallon	10' oc	126
Red bay	<i>Persea borbonia</i>	7 gallon	10' oc	126
Pond apple	<i>Annona glabra</i>	7 gallon	10' oc	126
Wax myrtle	<i>Myrica cerifera</i>	3 gallon	5' oc	1,010
Coco plum	<i>Chrysobalanus icaco</i>	3 gallon	5' oc	1,010
Sand cordgrass	<i>Spartina bakeri</i>	1 gallon	3' oc	2,800
Fakahatchee grass	<i>Tripsacum floridanum</i>	1 gallon	3' oc	2,800

Transitional Buffer (elevation 3.5 to 7.0 NGVD) 1.0 acre

Slash pine	<i>Pinus elliottii</i>	10 gallon	10' oc	450
Cabbage palm	<i>Sabal palmetto</i>	10-12'	10' oc	160
Firebush	<i>Hamelia patens</i>	7 gallon	5' oc	815
Coco plum	<i>Chrysobalanus icaco</i>	3 gallon	5' oc	815
Wax myrtle	<i>Myrica cerifera</i>	3 gallon	5' oc	815
Sand cordgrass	<i>Spartina bakeri</i>	1 gallon	3' oc	3,390
Fakahatchee grass	<i>Tripsacum floridanum</i>	1 gallon	3' oc	3,390

The wetland mitigation area will be placed in a conservation easement. The preserve area will be posted with permanent signs and boundary markers. Boundary markers will be placed at the back of lots abutting the preserve area. Signs will be at least 11 x 14 inches in size and will be posted in conspicuous locations along the preserve area boundary, at a frequency of no less than one sign per 500 feet.

X. MAINTENANCE AND MONITORING

The enhanced and restored wetland will be maintained in perpetuity and monitored for a period of five years. Annual monitoring reports will include vegetation analysis along established transects, panoramic photographs and water level data.

Monitoring of the on-site mitigation area will ensure success of the mitigation activities. The survival rate of planted vegetation is expected to be maintained at least 80 percent. The vegetative coverage is expected to reach at least 80 percent areal coverage by the end of the second year monitoring period, with at least 40 percent coverage achieved in the first year. Maintenance will be conducted in perpetuity to ensure that the wetland is free of exotic vegetation (as currently defined by the Florida Exotic Pest Plan Council) immediately following a maintenance activity and that total coverage of exotic and nuisance plant species should constitute no more than 3 percent of the total preserve area between maintenance activities.

The preserve area will be posted with signage alerting adjacent property owners of the conservation status. Signs are depicted on the Mitigation Monitoring Plan Map. The property owner's association will be responsible for the maintenance and monitoring of the preserve area. Monitoring will occur in compliance with SFWMD and Broward County wetland monitoring guidelines with annual report for five years to SFWMD and quarterly reports for five years to Broward County to document wetland functional success. Upon completion of construction activities, a time zero baseline report will be filed. Anticipated transect and monitoring station locations are shown in Figure 7.

XI. CONSTRUCTION SEQUENCE

Mitigation activities will occur commensurate with site construction activities. Site construction and mitigation activities will occur immediately upon permit issuance. A time zero baseline monitoring report will be submitted upon completion of all mitigation activities. Estimated dates for completion of these activities are as follows:

August 2017	Permit Issuance
December 2017	Recorded Conservation Easement and Financial Assurances Submitted
March 2018	Mitigation Area Grading complete, As-Builts Submitted
May 2018	Completion of Mitigation Activities and Planting
May 2018	Time Zero Monitoring Report to SFWMD, Broward, and ACOE
May 2019	First Annual Monitoring Report to SFWMD, Broward and ACOE
May 2020	Second Annual Monitoring Report to SFWMD, Broward and ACOE
May 2021	Third Annual Monitoring Report to SFWMD, Broward and ACOE
May 2022	Fourth Annual Monitoring Report to SFWMD, Broward and ACOE
May 2023	Fifth Annual Monitoring Report to SFWMD, Broward and ACOE

XII. COST ESTIMATES

The estimated cost for mitigation activities including earthwork and grading, wetland enhancement, restoration and planting, buffer creation and planting, and required maintenance and monitoring is approximately \$718,744. The breakdown of these costs is as follows:

<u>Description</u>	<u>Unit*</u>	<u>Quantity</u>	<u>Unit Cost</u>	<u>Estimated Cost</u>
Wetland Earthwork / Scrape down	CY	116,644	\$ 3.50	\$ 408,254.00
Wetland Planting	AC	23.86	\$ 7,500	\$ 178,950.00
Wetland Maintenance	EA	20	\$ 2,500	\$ 50,000.00
Wetland Monitoring	EA	6	\$ 2,400	\$ 14,400.00
			Subtotal	\$ 651,604.00
			+10% =	<u>\$ 716,764.40</u>

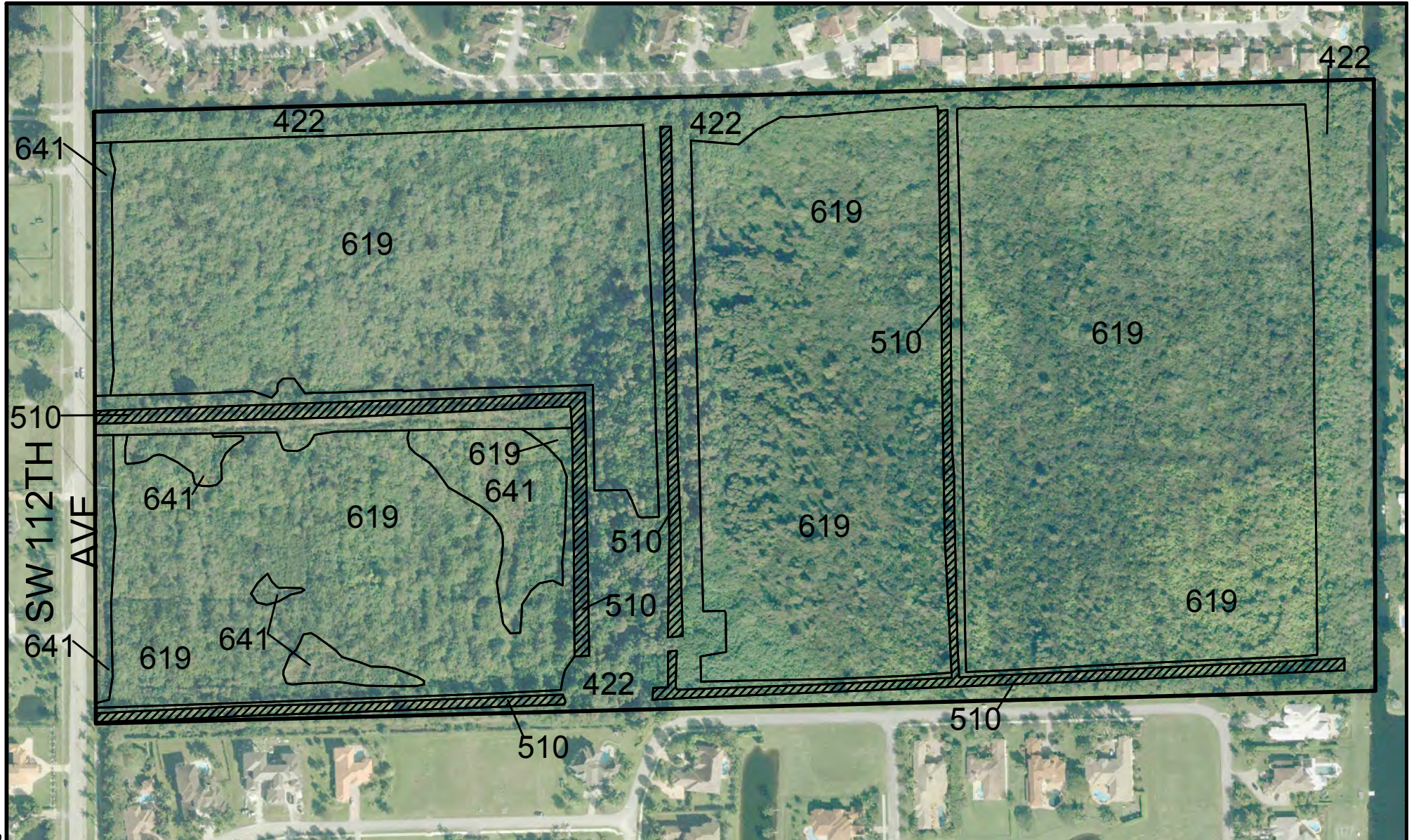
APPENDIX A

Maps and Figures:

- Figure 1: Location Map
- Figure 2: Quad Map
- Figure 3: Aerial Map
- Figure 4: FLUCFCS Map
- Figure 5: Wetland Impact Map
- Figure 6: Preserve Area Map
- Figure 6A: Preserve Area Cross Sections
- Figure 7: Wetland Monitoring Map



Attachments

- Soils Report
- UMAM Data Sheets and Summary



BROWARD COUNTY AERIALS DATED 2015

LEGEND

-  422 - BRAZILIAN PEPPER (16.2± AC)
-  510 - DITCHES (3.7± AC)
- 619 - EXOTIC WETLAND HARDWOODS (65.5± AC)
- 641 - FRESHWATER MARSHES (3.7± AC)
- TOTAL SITE (89.1± AC)**



SIERRA RANCH FLUCFCS MAP

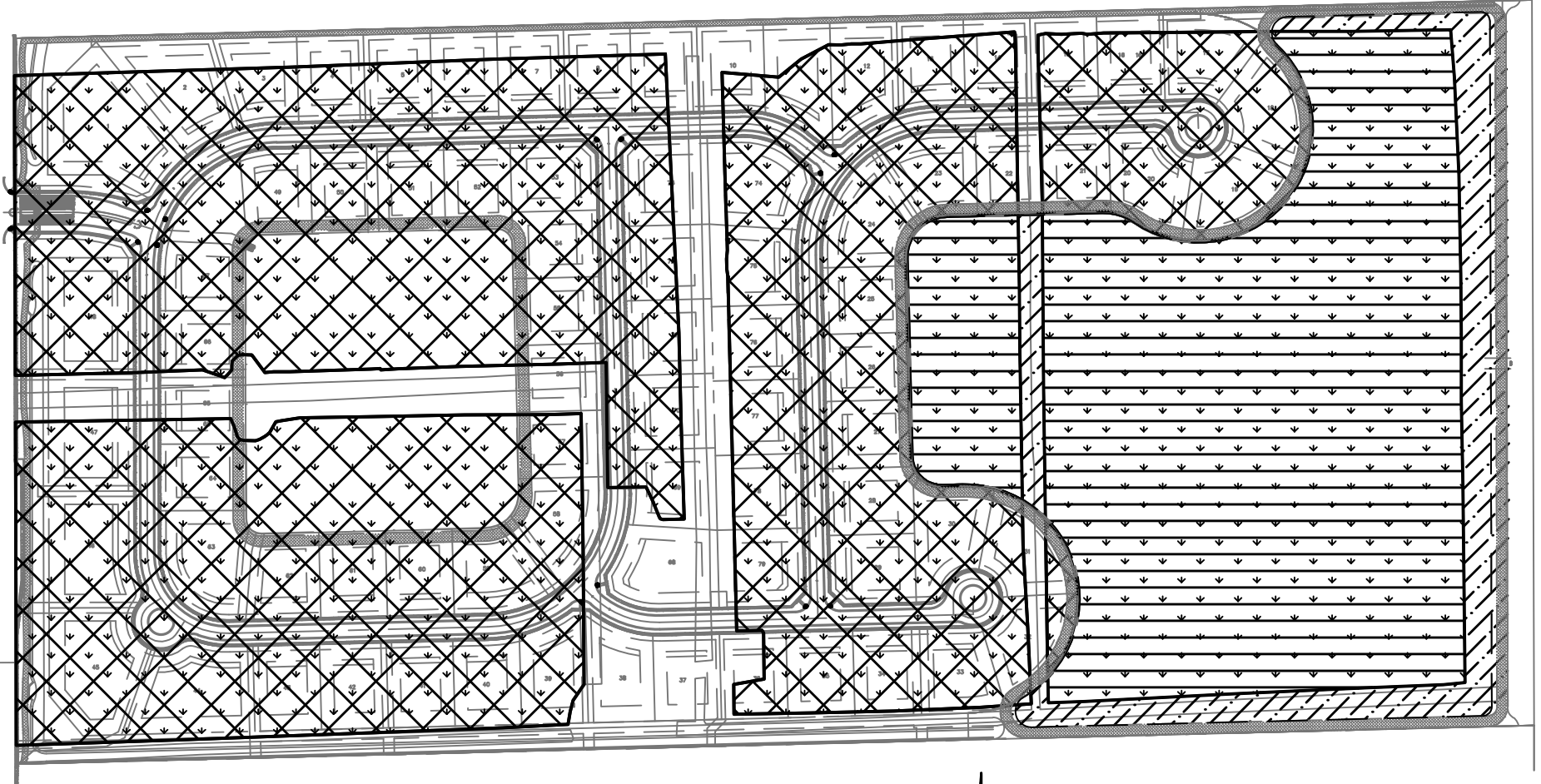


EW CONSULTANTS, INC.
 601 HERITAGE DRIVE, SUITE 124
 JUPITER, FLORIDA 33458
 561-623-5475 FAX 561-623-5481
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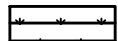
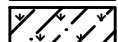

APRIL 2015
FIGURE
4

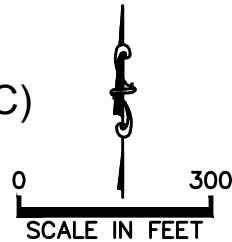
SIERRA_RANCH.dwg FLUCFCS

SW 112TH AVE



LEGEND

-  - WETLAND ENHANCEMENT (20.30± AC)
-  - WETLAND RESTORATION (3.56± AC)
-  - WETLAND IMPACT (48.90± AC)



SIERRA RANCH WETLAND IMPACT



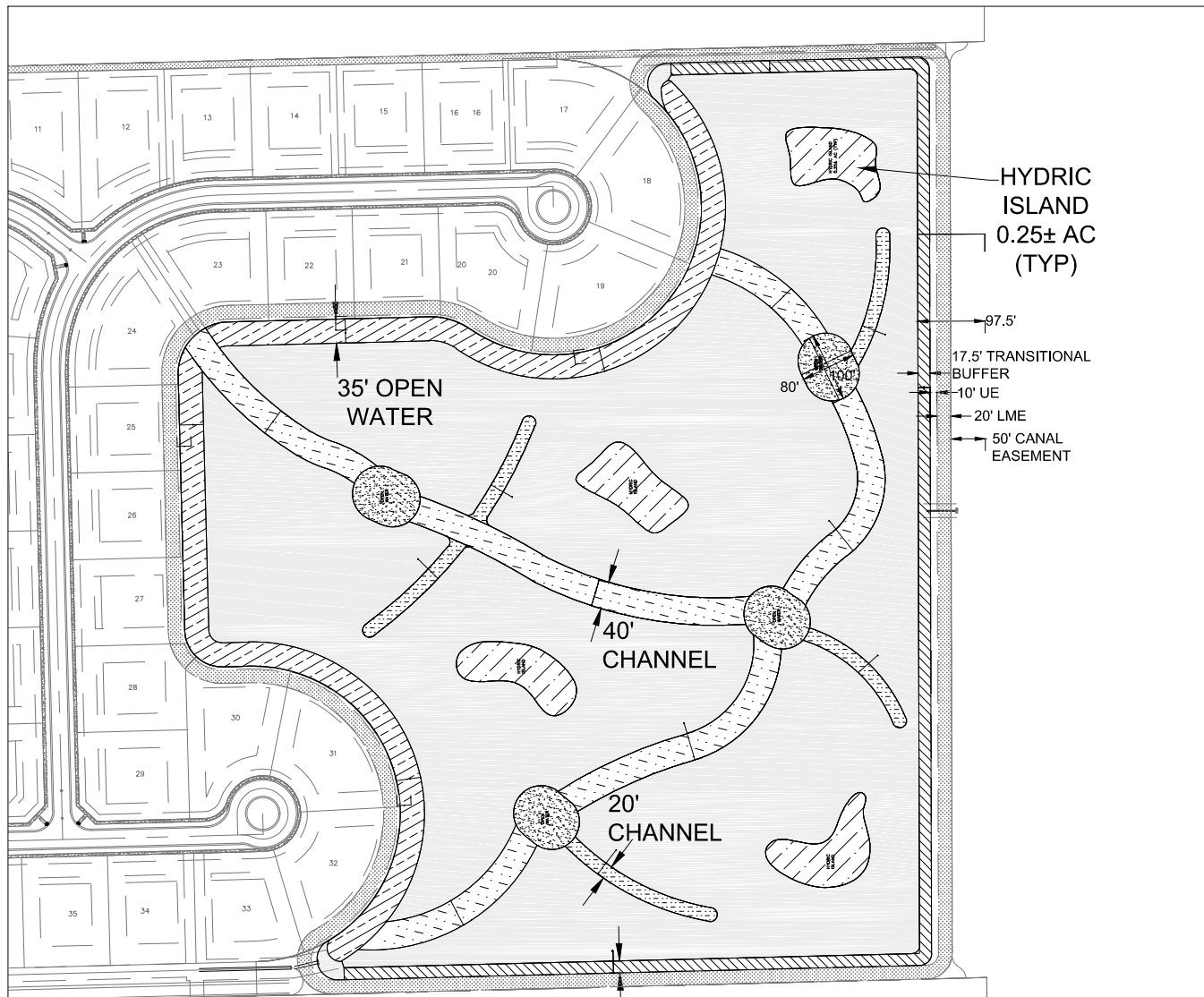
CONSULTANTS, INC. EW CONSULTANTS, INC.
 601 HERITAGE DRIVE, SUITE 124
 JUPITER, FLORIDA 33458
 561-623-5475 FAX 561-623-5481
 WWW.EWCONSULTANTS.COM

JUNE 2017

FIGURE

5

SIERRA RANCH 05-2017.dwg PRESERVE AREA LAYOUT 8.5x11



HYDRIC ISLAND
0.25± AC
(TYP)

35' OPEN WATER

40' CHANNEL

20' CHANNEL

17.5' TRANSITIONAL BUFFER

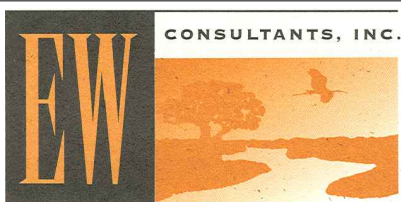
97.5'
17.5' TRANSITIONAL BUFFER
10' UE
20' LME
50' CANAL EASEMENT

LEGEND

- HYDRIC ISLAND (0.98± AC)
- 80' x 100' OPEN WATER (0.61± AC)
- 20' SECONDARY CHANNELS (0.46± AC)
- 40' PRIMARY CHANNELS (1.86± AC)
- 17.5' TRANSITIONAL BUFFER (1.01± AC)
- MARSH AREA (17.20± AC)
- 35' OPEN WATER (1.74± AC)
- TOTAL (23.86± AC)**



SIERRA RANCH PRESERVE AREA LAYOUT

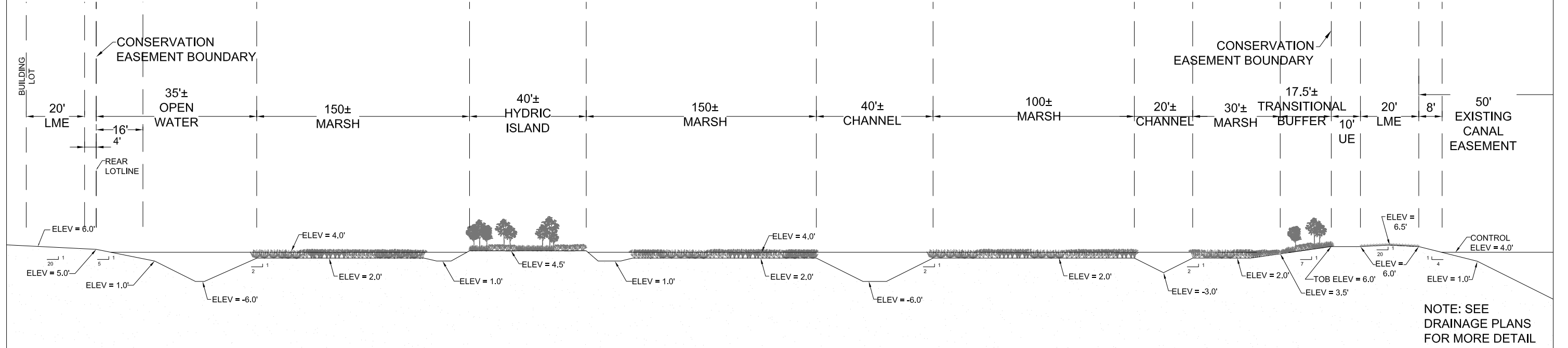


EW CONSULTANTS, INC.
2581 METROCENTRE BLVD., SUITE 1
WEST PALM BEACH, FL 33407
561-291-7950 PHONE 561-530-4908 FAX
WWW.EWCONSULTANTS.COM

JUNE 2017
FIGURE
6

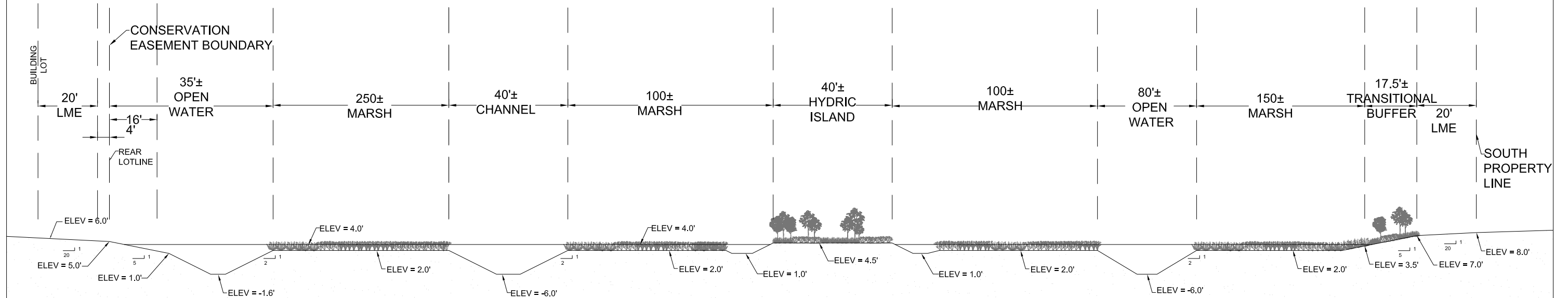
PRESERVE CROSS-SECTION A-A

NTS



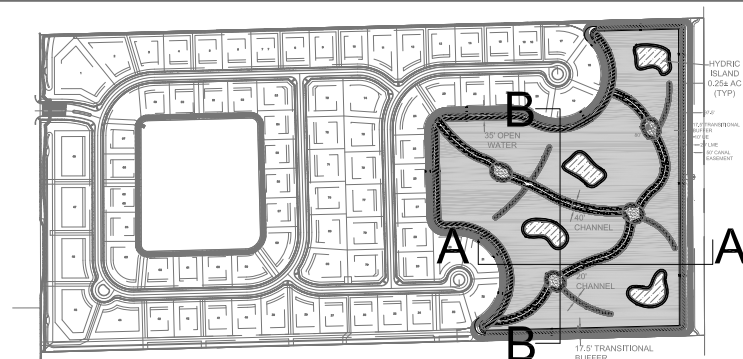
PRESERVE CROSS-SECTION B-B

NTS



KEY MAP

NTS



ALL ELEVATIONS SHOWN ARE IN NGVD 1929 DATUM



**SIERRA RANCH
PRESERVE AREA CROSS SECTION**



EW CONSULTANTS, INC.

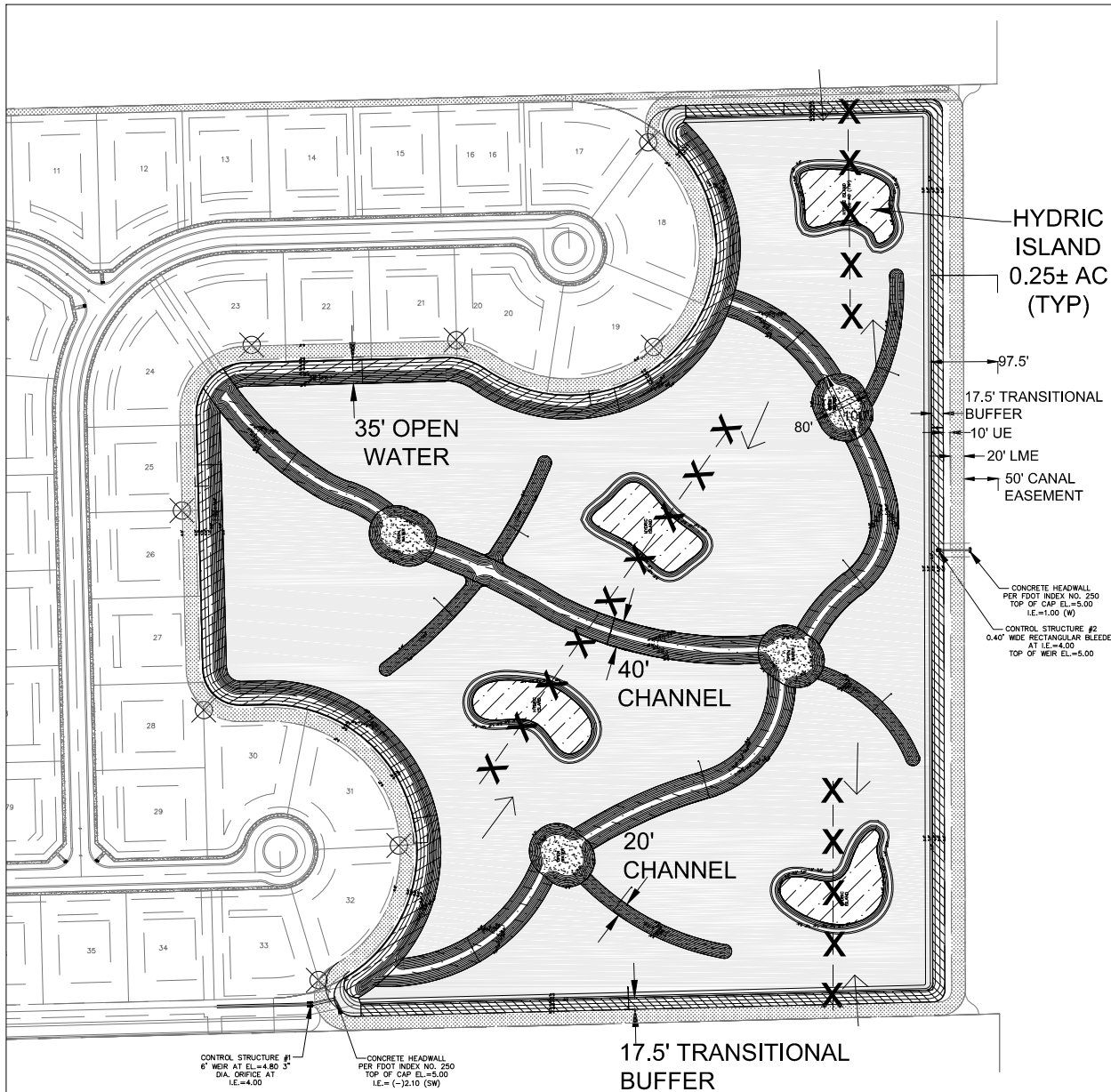
601 HERITAGE DRIVE, SUITE 124
JUPITER, FLORIDA 33458
561-623-5475 FAX 561-623-5481
WWW.EWCONSULTANTS.COM

MAR 2017

FIGURE

6A

SIERRA RANCH.dwg PRESERVE SECTION



TYPICAL PRESERVE SIGN



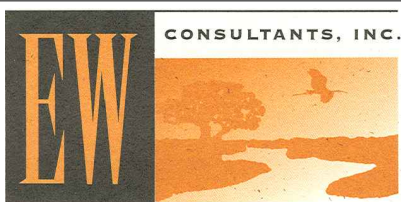
LEGEND

- ← - - - MONITORING TRANSECT WITH PHOTO STATIONS AT EACH END
- X - MONITORING QUADRAT
- ⊗ - PRESERVE SIGN
- - - CONTINUOUS-READ MONITORING WELL



**SIERRA RANCH
MONITORING MAP**

SIERRA RANCH 05-2017.dwg MONITORING MAP 8.5x11



EW CONSULTANTS, INC.
 2581 METROCENTRE BLVD., SUITE 1
 WEST PALM BEACH, FL 33407
 561-291-7950 PHONE 561-530-4908 FAX
 WWW.EWCONSULTANTS.COM

JUNE 2017
FIGURE
7



EVERGLADES
MITIGATION BANK

August 18, 2017

HD Sierra Ranch, LLC
4755 Technology Way, Suite 210
Boca Raton, FL 33431
Attn: David Schack, Director

**Re: Everglades Mitigation Bank Credit Reservation:
U. S. Army Corps of Engineers Permit Number SAJ-2004-01305,
South Florida Water Management District Permit Application Number
141223-14, Broward County Environmental Protection and Growth
Management Department Permit Number DF15-1259**

Please be advised that the Everglades Mitigation Bank (the "EMB") has reserved 10.86 Freshwater Herbaceous mitigation credits necessary to offset the unavoidable wetland impact for the above referenced project. Phase I of the EMB has a signed Mitigation Banking Instrument acknowledged by both FDEP and USACE and sufficient credits are currently available on the EMB ledger to offset the proposed impacts. **The EMB acknowledges receiving a deposit for the above referenced credits.**

Please contact me at 561-694-6388 for any additional information or questions regarding this matter.

Regards,

Joseph R. Sicbaldi
Everglades Mitigation Bank

Prepared by:

Return original or certified
recorded document to:

South Florida Water Management
District; and
Broward County Environmental
Protection and Growth
Management Department

**JOINT DEED OF CONSERVATION EASEMENT – STANDARD
(within Broward County)**

THIS JOINT DEED OF CONSERVATION EASEMENT ("Conservation Easement") is given this 2 day of June, 2017 by Amzak International, Inc. ("Grantor") whose mailing address is 4755 Technology Way, Suite 210 Boca Raton, FL 33431 to the South Florida Water Management District, 3301 Gun Club Road, West Palm Beach, Florida 33406 and Broward County, a political subdivision of the state of Florida, 115 South Andrews Avenue, Room 409, Fort Lauderdale, Florida 33301 (collectively referred to as "Grantees"). As used herein, the term "Grantor" shall include any and all heirs, successors or assigns of Grantor, and all subsequent owners of the "Conservation Easement Area" (as hereinafter defined) and the term "Grantees" shall include any successor or assignee of Grantees.

WITNESSETH

WHEREAS, Grantor is the fee simple owner of certain lands situated in Broward County, Florida, and more specifically described on the location map in Exhibit "A" attached hereto and incorporated herein (the "Property"); and

WHEREAS, South Florida Water Management District Permit No. _____ ("Permit") and Broward County License No. _____ ("License") (collectively "Permit and License") and any modifications thereto issued by the Grantees authorize certain activities which could affect wetlands, surface waters, or other aquatic resources in or of the State of Florida; and

WHEREAS, Grantor, in consideration of the consent granted by the Permit and License or other good and valuable consideration provided to Grantor, is agreeable to

granting and securing to the Grantees a perpetual Conservation Easement as defined in Section 704.06, Florida Statutes (F.S.), over the area of the Property described on Exhibit "B" ("Conservation Easement Area"); and

WHEREAS, Grantor grants this Conservation Easement as a condition of the Permit and License solely to off-set or prevent adverse impacts to natural resources, fish and wildlife, and wetland functions; and

WHEREAS, Grantor desires to preserve the Conservation Easement Area in perpetuity in its natural condition, or, in accordance with the Permit and License, in a preserved, enhanced, restored, or created condition,

NOW, THEREFORE, in consideration of the issuance of the Permit and License to construct and operate the permitted and licensed activity, and as an inducement to Grantees in issuing the Permit and License, together with other good and valuable consideration provided to Grantor, the adequacy and receipt of which are hereby acknowledged, Grantor hereby voluntarily grants, creates, conveys, and establishes a perpetual Conservation Easement for and in favor of Grantees upon the Conservation Easement Area described on Exhibit "B" which shall run with the land and be binding upon Grantor, and shall remain in full force and effect forever.

The scope, nature, and character of this Conservation Easement shall be as follows:

1. Recitals. The recitals hereinabove set forth are true and correct and are hereby incorporated into and made a part of this Conservation Easement.
2. Purpose. It is the purpose of this Conservation Easement to retain land or water areas in their existing, natural, vegetative, hydrologic, scenic, open, or wooded condition and to retain such areas as suitable habitat for fish, plants, or wildlife in accordance with Section 704.06, F.S. Those wetland and upland areas included in this Conservation Easement which are to be preserved, enhanced, restored, or created pursuant to the Permit and License (or any modifications thereto) and any Management Plan attached hereto as Exhibit "C" ("Management Plan") which has been approved in writing by Grantees, shall be retained and maintained in the preserved, enhanced, restored, or created condition required by the Permit and License (or any modifications thereto).

To carry out this purpose, the following rights are conveyed to Grantees by this Conservation Easement:

- a. To enter upon the Conservation Easement Area at reasonable times with any necessary equipment or vehicles to inspect, to determine compliance with the covenants and prohibitions contained in this Conservation Easement, and to enforce the rights herein granted in a manner that will not

unreasonably interfere with the use and quiet enjoyment of the Conservation Easement Area by Grantor at the time of such entry; and

- b. To proceed at law or in equity to enforce the provisions of this Conservation Easement and the covenants set forth herein, to prevent the occurrence of any of the prohibited activities set forth herein, and to require the restoration of such areas or features of the Conservation Easement Area that may be damaged by any activity or use that is inconsistent with this Conservation Easement.
3. Prohibited Uses. Except for activities that are permitted and licensed or required by the Permit and License (or any modification thereto) (which may include preservation, enhancement, restoration, creation, maintenance, and monitoring activities, or surface water management improvements) or other activities described herein or in the Management Plan (if any), any activity on or use of the Conservation Easement Area inconsistent with the purpose of this Conservation Easement is prohibited. Without limiting the generality of the foregoing, the following activities are expressly prohibited in or on the Conservation Easement Area:
- a. Construction or placing of buildings, roads, signs, billboards or other advertising, utilities, or other structures on or above the ground;
 - b. Dumping or placing of soil or other substance or material as landfill, or dumping or placing of trash, waste, or unsightly or offensive materials;
 - c. Removing, destroying or trimming trees, shrubs, or other vegetation, except:
 - i. The removal of dead trees and shrubs or leaning trees that could cause damage property is authorized;
 - ii. The destruction and removal of noxious, nuisance or exotic invasive plant species as listed on the most recent Florida Exotic Pest Plant Council's List of Invasive Species is authorized;
 - iii. Activities authorized by the Permit and License, described in the Management Plan, or otherwise approved in writing by Grantees are authorized; and
 - iv. Activities conducted in accordance with a wildfire mitigation plan developed with the Florida Forest Service that has been approved in writing by Grantees are authorized. No later than thirty (30) days before commencing any activities to implement the approved wildfire mitigation plan, Grantor shall notify Grantees in writing of its intent to commence such activities. All such activities may only be completed during the time period for which Grantees approved the plan;

- d. Excavation, dredging, or removal of loam, peat, gravel, soil, rock, or other material substance in such manner as to affect the surface;
 - e. Surface use except for purposes that permit the land or water area to remain in its natural, restored, enhanced, or created condition;
 - f. Activities detrimental to drainage, flood control, water conservation, erosion control, soil conservation, or fish and wildlife habitat preservation including, but not limited to, ditching, diking, clearing, and fencing;
 - g. Acts or uses detrimental to such aforementioned retention of land or water areas; and
 - h. Acts or uses which are detrimental to the preservation of the structural integrity or physical appearance of sites or properties having historical, archaeological, or cultural significance.
4. **Grantor's Reserved Rights.** Grantor reserves all rights as owner of the Conservation Easement Area, including the right to engage or to permit or invite others to engage in all uses of the Conservation Easement Area that are not prohibited herein and which are not inconsistent with the Permit and License (or any modifications thereto), Management Plan (if any), or the intent and purposes of this Conservation Easement.
 5. **No Dedication.** No right of access by the general public to any portion of the Conservation Easement Area is conveyed by this Conservation Easement.
 6. **Grantees' Liability.** Grantees' liability is limited as provided in Subsection 704.06(10) and Section 768.28, F.S. Additionally, Grantees shall not be responsible for any costs or liabilities related to the operation, upkeep, or maintenance of the Conservation Easement Area.
 7. **Enforcement.** Enforcement of the terms, provisions and restrictions of this Conservation Easement shall be at the reasonable discretion of Grantees, and any forbearance on behalf of Grantees to exercise their rights hereunder in the event of any breach hereof by Grantor, shall not be deemed or construed to be a waiver of Grantees' rights hereunder. Grantees shall not be obligated to Grantor, or to any other person or entity, to enforce the provisions of this Conservation Easement.
 8. **Taxes.** When perpetual maintenance is required by the Permit or License, Grantor shall pay before delinquency any and all taxes, assessments, fees, and charges of whatever description levied on or assessed by competent authority on the Conservation Easement Area, and shall furnish Grantees with satisfactory evidence of payment upon request.

9. Assignment. Grantees will hold this Conservation Easement exclusively for conservation purposes. Grantees will not assign their rights and obligations under this Conservation Easement except to another organization or entity qualified to hold such interests under the applicable state laws.
10. Severability. If any provision of this Conservation Easement or the application thereof to any person or circumstances is found to be invalid, the remainder of the provisions of this Conservation Easement shall not be affected thereby, as long as the purpose of the Conservation Easement is preserved.
11. Terms and Restrictions. Grantor shall insert the terms and restrictions of this Conservation Easement in any subsequent deed or other legal instrument by which Grantor divests itself of any interest in this Conservation Easement.
12. Written Notice. All notices, consents, approvals or other communications hereunder shall be in writing and shall be deemed properly given if sent by United States certified mail, return receipt requested, addressed to the appropriate party or successor-in-interest.
13. Modifications. This Conservation Easement may be amended, altered, released or revoked only by written agreement between the parties hereto or their heirs, assigns or successors-in-interest, which shall be recorded in the Official Records of Broward County, Florida.
14. Recordation. Grantor shall record this Conservation Easement in timely fashion in the Official Records of Broward County, Florida, and shall rerecord it at any time Grantees may require to preserve its rights. Grantor shall pay all recording costs and taxes necessary to record this Conservation Easement in the public records. Grantor will hold Grantees harmless from any recording costs or taxes necessary to record this Conservation Easement in the public records.

TO HAVE AND TO HOLD unto Grantees forever. The covenants, terms, conditions, restrictions and purposes imposed with this Conservation Easement shall be binding upon Grantor, and shall continue as a servitude running in perpetuity with the Conservation Easement Area.

Grantor hereby covenants with Grantees that Grantor is lawfully seized of said Conservation Easement Area in fee simple; that the Conservation Easement Area is free and clear of all encumbrances that are inconsistent with the terms of this Conservation Easement; all mortgages and liens on the Conservation Easement Area, if any, have been subordinated to this Conservation Easement; that Grantor has good right and lawful authority to convey this Conservation Easement; and that it hereby fully warrants and defends record title to the Conservation Easement Area hereby conveyed against the lawful claims of all persons whomsoever.

IN WITNESS WHEREOF, Amzak International, Inc. ("Grantor")
has hereunto set its authorized hand this 2 day of June, 2017.

A Florida corporation or _____ (choose one)

By: _____
(Signature)

Name: DAVID SCHACK
(Print)

Title: PRES.

Signed, sealed and delivered in our presence as witnesses:

By: _____
(Signature)

Name: ANJUNO PERLINO
(Print)

By: _____
(Signature)

Name: DENISE PARKS
(Print)

STATE OF FLORIDA

COUNTY OF BROWARD

On this 2 day of June, 2017, before me, the undersigned notary public, personally appeared David Schack, the person who subscribed to the foregoing instrument, as the President (title), of Amzak International, Inc. (corporation), a Florida corporation, or _____ (choose one) and acknowledged that he/she executed the same on behalf of said corporation, or _____ (choose one) and the he/she was duly authorized to do so. He/She is personally known to me or has produced a _____ (state) driver's license as identification.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

NOTARY PUBLIC, STATE OF FLORIDA

(Signature)


Teresa Peterson
(Name)

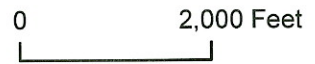
My Commission Expires: 8/25/19





LEGEND

 - SITE (89.1+/- AC)



**SIERRA RANCH
LOCATION MAP**



EW CONSULTANTS, INC.

601 HERITAGE DRIVE, SUITE 124
JUPITER, FLORIDA 33458
561-623-5475 FAX 561-623-5481
WWW.EWCONSULTANTS.COM

EXHIBIT

FIGURE

A

SKETCH AND DESCRIPTION

A PORTION OF PARCEL "A", "SIERRA ESTATES", RECORDED
IN PLAT BOOK 173, PAGE 150, OF THE PUBLIC RECORDS
OF BROWARD COUNTY, FLORIDA.

LEGAL DESCRIPTION: (CONSERVATION EASEMENT)

A PORTION OF PARCEL "A", "SIERRA ESTATES", ACCORDING TO THE PLAT THEREOF AS RECORDED IN PLAT BOOK 173, PAGE 152 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID PARCEL "A"; THENCE SOUTH 88°32'18" WEST, ALONG THE SOUTH LINE OF SAID PARCEL "A", A DISTANCE OF 26.65 FEET; THENCE NORTH 01°27'42" WEST A DISTANCE OF 20.00 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 88°32'18" WEST A DISTANCE OF 847.36 FEET TO A POINT OF CURVATURE OF A CURVE THAT IS CONCAVE TO THE EAST; THENCE WESTERLY, NORTHERLY AND NORTHEASTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 30.00 FEET, THROUGH A CENTRAL ANGLE OF 151°20'54", AN ARC DISTANCE OF 79.25 FEET TO A POINT OF REVERSE CURVATURE OF A CURVE THAT IS CONCAVE TO THE WEST; THENCE NORTHEASTERLY, NORTHERLY AND NORTHWESTERLY ALONG THE ARC OF LAST SAID CURVE, HAVING A RADIUS OF 215.00 FEET, THROUGH A CENTRAL ANGLE OF 151°20'11", AN ARC DISTANCE OF 567.88 FEET TO A POINT OF TANGENCY; THENCE SOUTH 88°33'01" WEST, A DISTANCE OF 37.61 FEET TO A POINT OF CURVATURE OF A CURVE THAT IS CONCAVE TO THE NORTHEAST; THENCE NORTHWESTERLY ALONG THE ARC OF LAST SAID CURVE, HAVING A RADIUS OF 54.00 FEET, THROUGH A CENTRAL ANGLE OF 90°00'00", AN ARC DISTANCE OF 84.82 FEET TO A POINT OF TANGENCY; THENCE NORTH 01°26'59" WEST, A DISTANCE OF 372.49 FEET TO A POINT OF CURVATURE OF A CURVE THAT IS CONCAVE TO THE SOUTHEAST; THENCE NORTHEASTERLY ALONG THE ARC OF LAST SAID CURVE, HAVING A RADIUS OF 75.00 FEET, THROUGH A CENTRAL ANGLE OF 90°00'00", AN ARC DISTANCE OF 117.81 FEET TO A POINT OF TANGENCY; THENCE NORTH 88°33'01" EAST, A DISTANCE OF 291.83 FEET TO A POINT OF CURVATURE OF A CURVE THAT IS CONCAVE TO THE SOUTHWEST; THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 100.00 FEET, THROUGH A CENTRAL ANGLE OF 35°57'02", AN ARC DISTANCE OF 62.75 FEET TO A POINT OF REVERSE CURVATURE OF A CURVE THAT IS CONCAVE TO THE NORTHWEST; THENCE EASTERLY, NORTHERLY AND NORTHWESTERLY ALONG THE ARC OF LAST SAID CURVE, HAVING A RADIUS OF 215.00 FEET, THROUGH A CENTRAL ANGLE OF 171°32'07", AN ARC DISTANCE OF 643.68 FEET TO A POINT OF REVERSE CURVATURE OF A CURVE THAT IS CONCAVE TO THE EAST; THENCE NORTHWESTERLY, NORTHERLY AND NORTHEASTERLY ALONG THE ARC OF LAST SAID CURVE, HAVING A RADIUS OF 30.00 FEET, THROUGH A CENTRAL ANGLE OF 135°35'05", AN ARC DISTANCE OF 70.99 FEET TO A POINT OF TANGENCY; THENCE NORTH 88°33'01" EAST A DISTANCE OF 362.35 FEET TO A POINT OF CURVATURE OF A CURVE THAT IS CONCAVE TO THE SOUTHWEST; THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 17.50 FEET, THROUGH A CENTRAL ANGLE OF 91°17'44", AN ARC DISTANCE OF 27.88 FEET TO A POINT OF TANGENCY; THENCE SOUTH 00°09'15" EAST A DISTANCE OF 1,286.62 FEET TO A POINT OF CURVATURE OF A CURVE THAT IS CONCAVE TO THE NORTHWEST; THENCE SOUTHWESTERLY ALONG THE ARC OF SAID CURVE, HAVING A RADIUS OF 17.50 FEET, THROUGH A CENTRAL ANGLE OF 88°41'33", AN ARC DISTANCE OF 27.09 FEET TO THE POINT OF BEGINNING.

SAID LANDS SITUATE, LYING AND BEING IN THE TOWN OF DAVIE, BROWARD COUNTY, FLORIDA AND CONTAINING 1,039,581 SQUARE FEET OR 23.866 ACRES, MORE OR LESS.

SURVEYOR'S CERTIFICATE:

I HEREBY CERTIFY THAT THIS "SKETCH AND DESCRIPTION" IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER CERTIFY THAT THIS SKETCH MEETS THE STANDARDS OF PRACTICE AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17.051, FLORIDA ADMINISTRATIVE CODE PURSUANT TO SECTION 472-027, FLORIDA STATUTES.

DATE: 6-2-17

BY: 

MICHAEL D. KLIMKIEWICZ
PROFESSIONAL SURVEYOR & MAPPER
FLORIDA REGISTRATION No. LS6611

SHEET 1 OF 2

PROJECT No.: 12274

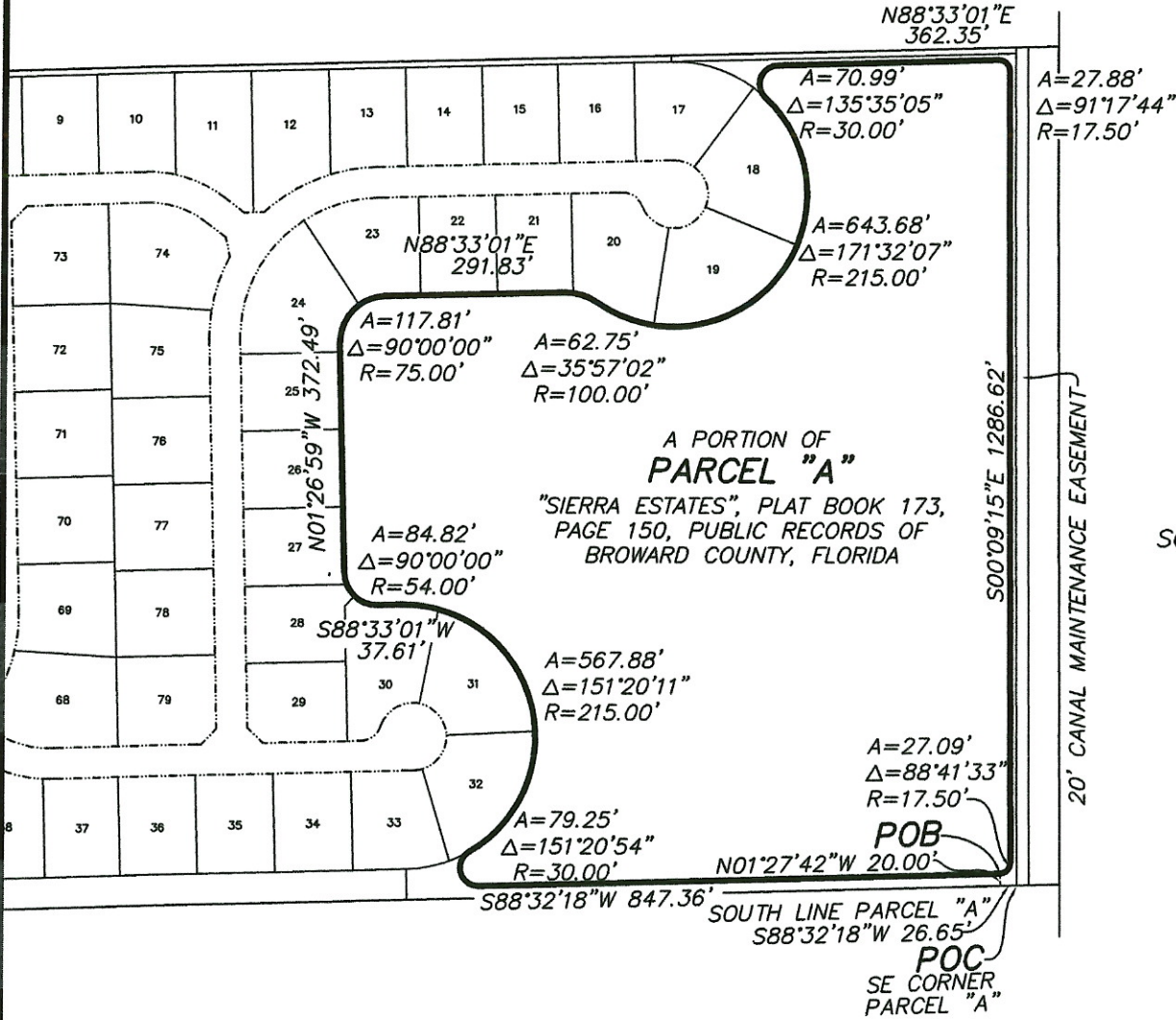
Radius 

PROFESSIONAL SURVEYOR & MAPPER, LLC
30 PINEHURST LANE
BOCA RATON, FL 33431
(561)244-5153 (561)961-4066
LICENSED BUSINESS No. LB7733

REVISION	DWN	DATE	FB/Pg.	CKD
SKETCH & DESCRIPTION	MM	7-24-15		MDK
REVISED SKETCH & DESCRIPTION	MM	8-10-15		MDK

SKETCH AND DESCRIPTION

A PORTION OF PARCEL "A", "SIERRA ESTATES", RECORDED IN PLAT BOOK 173, PAGE 150, OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA.



LEGEND:

- POB = POINT OF BEGINNING
- POC = POINT OF COMMENCEMENT
- R = RADIUS
- A = ARC LENGTH
- Δ = CENTRAL ANGLE

SURVEYOR'S NOTES:

1. NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR & MAPPER.
2. BEARINGS SHOWN HEREON ARE RELATIVE TO "SIERRA ESTATES", RECORDED IN PLAT BOOK 173, PAGE 150 OF THE PUBLIC RECORDS OF BROWARD COUNTY. BEARING REFERENCE LINE: SOUTH LINE PARCEL "A" - BEARING N88°32'18"E
3. THIS IS NOT A LAND SURVEY.

SHEET 2 OF 2

PROJECT No.: 12274



PROFESSIONAL SURVEYOR & MAPPER, LLC
 30 PINEHURST LANE
 BOCA RATON, FL 33431
 (561)244-5153 (561)961-4066
 LICENSED BUSINESS No. LB7733

REVISION	DWN	DATE	FB/Pg.	CKD
SKETCH & DESCRIPTION	MM	7-24-15		MDK
REVISED SKETCH & DESCRIPTION	MM	8-10-15		MDK

EXHIBIT C

[MANAGEMENT PLAN OR "INTENTIONALLY LEFT BLANK"]

**JOINT IRREVOCABLE LETTER OF CREDIT
TO DEMONSTRATE FINANCIAL ASSURANCE FOR MITIGATION**

(Name and Address of Issuing Institution)

Irrevocable letter of Credit No.
(Issuing Institution's Letter of Credit No.)

Dated (Date)

Beneficiaries:

County Administrator
Broward County Board of County
Commissioners
Governmental Center, Room 409
115 South Andrews Avenue
Fort Lauderdale, Florida 33301

and

Deputy Executive Director
South Florida Water Management District
3301 Gun Club Road
West Palm Beach, Florida 33406

and

Department of the Army
Jacksonville District Corps of Engineers
4400 PGA Boulevard, Suite 500
Palm Beach Gardens, Florida 33410

Dear Sir or Madam:

We hereby establish our Irrevocable Standby Letter of Credit No. (Issuing Institution's Letter of Credit No.) in your favor, at the request and for the account of Amzak International Inc. 4755 Technology Way, Suite 210, Boca Raton, FL 33431 up to the aggregate amount of Seven hundred eighteen thousand, seven hundred and forty-four dollars and forty cents. U.S. dollars \$718,744.40, available upon presentation of:

- (1) your sight draft, bearing reference to this letter of credit No. (Issuing Institution's Letter of Credit No.), and

Applicant: Amzak International Inc.
(Permittee/Licensee)

Amount: \$718,744.40
(In United States Funds)

Expiry: (Date)
(Date)

License No.: (County License No.)
(Broward County's Environmental
Resource License Number)

Permit No.: (SFWMD Permit No.)
(South Florida Water Management
District's Environmental Resource Permit
Number)

Permit No: (SAJ-2004-01305 SP-CF)
(U.S. Army Corps of Engineers Permit
Number)

- (2) your signed statement reading as follows "I certify that the amount of the draft is payable pursuant to that certain Permit No. (SFWMD Permit No.), dated (Date), issued by the South Florida Water Management District", or
- (3) your signed statement reading as follows "I certify that the amount of the draft is payable pursuant to that certain License No. (County License No.), dated (Date), issued by the Broward County Environmental Protection & Growth Management Department", or
- (4) your signed statement reading as follows "I certify that the amount of the draft is payable pursuant to that certain Permit No. SAJ-2004-01305 SP-CF, dated (Date), issued by the Jacksonville District Corps of Engineers".

This letter of credit is effective as of (Date) and shall expire on (Date) but such expiration date shall be automatically extended without amendment for additional periods of one year from the present or future expiration date unless, at least 120 days before the current expiration date, we notify both you and Amzak International Inc. by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and Amzak International Inc. as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the drawing beneficiary's account, in accordance with its instructions.

We certify that the wording of this letter of credit is in substantial conformance with that specified in Form No. 62-330.301(2) which has been incorporated by reference in paragraph 62-330.301(5)(b) of the Florida Administrative Code. Permittee/Licensee shall note all deviations from the form on the face of the instrument and identify to the agency such changes for Agency's review and approval.

This letter of credit is subject to the Uniform Commercial Code of Florida and the Uniform Customs and Practice for Documentary Credits, International Chamber of Commerce Publication No. 600 ("UCP 600"), excluding specifically Section 675.116(3), Florida Statutes, and UCP 600 provisions which would prevent Florida law from prevailing in the event of a conflict between Florida law and UCP 600. If a conflict between the law of another state or country and Florida law should arise, Florida law shall prevail.

 Signature(s), Title(s) of Official(s) of Issuing Institution (Date)
Date

South Florida Water Management District

Work Schedule Requirements

Application No : 141223-14

Page 1 of 1

Mitigation Plan ID: SIERRA RANCH

Activity	Due Date
SUBMIT RECORDED CONSERVATION EASEMENT	01-OCT-17
SUBMIT PAPER MAP OF CONSERVATION EASEMENT OVER AERIAL IMAGERY	01-OCT-17
SUBMIT GPS DISK OF BOUNDARIES OF CONSERVATION EASEMENT	01-OCT-17
SUBMIT MITIGATION BANK DOCUMENTATION	01-DEC-17
SUBMIT ORIGINAL FINANCIAL ASSURANCE DOCUMENTATION	01-DEC-17
EXCAVATION AND GRADING MITIGATION AREA	31-MAR-18
SUBMIT TIME ZERO MONITORING REPORT	31-MAY-18
SUBMIT FIRST MONITORING REPORT	31-MAY-19
SUBMIT SECOND MONITORING REPORT	31-MAY-20
SUBMIT THIRD MONITORING REPORT	31-MAY-21
SUBMIT FOURTH MONITORING REPORT	31-MAY-22
SUBMIT FIFTH MONITORING REPORT	31-MAY-23

STAFF REPORT DISTRIBUTION LIST

SIERRA RANCH

Application No: 141223-14

Permit No: 06-07569-P

INTERNAL DISTRIBUTION

- X Melinda Parrott
- X Rosalyn W. Ellington
- X Carlos A. de Rojas, P.E.
- X Barbara J. Conmy
- X A. Waterhouse, P.E.
- X J. Markle, P.E.

EXTERNAL DISTRIBUTION

- X Permittee - Amzak International, Inc.
- X Applicant - HD Sierra Ranch LLC
- X Engr Consultant - Craven Thompson & Associates, Inc.
- X Env Consultant - E.W. Consultants, Inc.
- X Project Site - Craven Thompson & Associates Inc.

GOVERNMENT AGENCIES

- X Broward County - Director, Water Mgmt Division
- X Central Broward Water Control District
- X City Engineer, City of Davie
- X City of Pembroke Pines Engineer
- X Div of Recreation and Park - District 5 - Miranda Cunningham, FDEP

OTHER INTERESTED PARTIES

- X Audubon of Florida - Charles Lee