DATE: 3/03/2010

INVITATION TO BID
THIS IS NOT AN ORDER

BID NO.: 50-00096896

SOLICITATION #B2010000061

JEFFERSON PARISH

PURCHASING DEPARTMENT
P.O. BOX 9
GRETNA, LA. 70054-0009
504-364-2678

VENDOR:

BUYER: S. Vasquez

BIDS WILL BE RECEIVED IN THE PURCHASING DEPARTMENT, SUITE 4400, JEFFERSON PARISH GENERAL GOVERNMENT BUILDING, 200 DERBIGNY STREET, GRETNA, LA 70053 UNTIL 2:00 PM, 4/06/2010 AND PUBLICLY OPENED UPON COMPLETION OF ADMINISTRATIVE TASKS.

LATE BIDS WILL NOT BE ACCEPTED

NOTE: ONLY BIDS WRITTEN IN INK OR TYPEWRITTEN, AND PROPERLY SIGNED BY A MEMBER OF THE FIRM OR AUTHORIZED REPRESENTATIVE, WILL BE ACCEPTED. PENCIL AND/OR PHOTOSTATIC FIGURES OR SIGNATURES DISQUALIFY BID.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

THE FOLLOWING INSTRUCTIONS APPLY TO ALL BIDS

All bids submitted are subject to these instructions and general conditions and any special conditions and specifications contained herein, all of which are made part of this bid proposal reference. THIS BID PACKAGE MUST BE RETURNED IN ITS ENTIRETY.

Questions on this bid are to be faxed to (504) 364-2693 no later than FIVE (5) working days prior to bid opening. Bid numbers should be mentioned in all requests.

The purpose and intention of this invitation to bid is to afford all suppliers an equal opportunity to bid on all construction, maintenance, repair, operating supplies and/or equipment listed in this bid proposal. JEFFERSON PARISH will accept one bid only from each vendor. Items bid must meet or exceed specifications.

JEFFERSON PARISH will accept one price for each item unless otherwise indicated. Two or more prices for one item will result in bid rejection.

If the bid exceeds $20,000.00 and the bidder is an agency, corporation, partnership, or other legal entity, the president, vice-president, secretary/treasurer, or an authorized agent, shall sign the proposal, and satisfactory evidence of the authority of the person signing for the agency, corporation, partnership, or other legal entity shall be attached to the proposal.

AWARD OF CONTRACT: JEFFERSON PARISH reserves the right to award contracts or place orders on a lump sum or individual item basis, or such combination, as shall in its judgment be in the best interest of JEFFERSON PARISH. Every contract or order shall be awarded to the LOWEST RESPONSIBLE BIDDER, taking into consideration the CONFORMITY WITH THE SPECIFICATIONS and the DELIVERY AND/OR COMPLETION DATE.

Preference is hereby given to materials, supplies, and provisions produced, manufactured or grown in Louisiana, quality being equal to articlesoffered by competitorsoutside the state. "LSA-R.S.38:2251-2261"

USE OF BRAND NAMES AND STOCK NUMBERS: Where brand names and stock numbers are specified, it is for the purpose of establishing certain minimum standards of quality. Bids may be submitted for products of equal quality, provided brand names and stock numbers are specified. Complete product data may be required prior to award.

CANCELLATION OF CONTRACT: JEFFERSON PARISH reserves the right to cancel all or any part if not shipped promptly. No charges will be allowed for parking or cartage unless specified in quotation. The order must not be filled at a higher price than quoted. JEFFERSON PARISH reserves the right to cancel any contract at anytime and for any reason by issuing a THIRTY (30) day written notice to the contractor.

For good cause and as consideration for executing a contract with Jefferson Parish, vendor conveys, sells, assigns and transfers to Jefferson Parish or its assigns all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of Louisiana, relating to the particular good or services purchased or acquired by Jefferson Parish.

Visit our website at WWW.JEFFPARISH.NET/BIDS

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

JEFFERSON PARISH requires a firm price. Quoted price will remain firm until _____

PRICES: Jefferson Parish is exempt from paying sales tax under LSA-RS 47:301 (8)(c). All prices for purchases by Jefferson Parish of supplies and materials shall be quoted in the unit measure specified and unless otherwise specified, shall be exclusive of state and Parish taxes. If a contractor is to act as Purchasing Agent for tax-exempt purposes, the Parish shall specifically state so within this bid specification. All quotations shall be based on F.O.B. Agency warehouse or job site, anywhere within the Parish as designated by the Purchasing Department.

Quantities listed are for bidding purposes only. Actual requirements may be more or less than quantities listed.

Bidders are not to exclude from particpation in, deny the benefits of, or subject to discrimination under any program or activity, any person in the United States on the grounds of race, color, national origin, or sex; nor discriminate on the basis of age under the Age Discrimination Act of 1975, or with respect to an otherwise qualified handicapped individual as provided in Section 504 of the Rehabilitation Act of 1973, or on the basis of religion, except that any exemption from such prohibition against discrimination on the basis of religion as provided in the Civil Rights Act of 1964, or Title VI and VII of the Act of April 11, 1968, shall also apply. This assurance includes compliance with the administrative requirements of the Revenue Sharing final handicapped discrimination provisions contained in Section 51.55 (c), (d), (e), and (k)(5) of the Regulations. New construction or renovation projects must comply with Section 504 of the 1973 Rehabilitation Act, as amended, in accordance with the American National Standard Institute's specifications (ANSI A117.1-1961).

RESPONSE TO INVITATION: If your company is unable to bid on this request, please state your reason on bid form, and return to this office before bid opening date. Failure to do so may result in the removal of your company from Jefferson Parish's vendors list.

The general specifications for construction projects and the purchase of materials, services and/or supplies are those adopted by the JEFFERSON PARISH Council by Resolution No. 105529 or 105530 dated 5/17/06. The general conditions adopted by this resolution shall be considered as much a part of this document as if they were written wholly herein. A copy may be obtained from the Office of the Parish Clerk, Suite 6700, Jefferson Parish General Government Building, 200 Derbigny Street, Gretna, LA 70053.

POSTING OF BIDS: Non-Advertised bids will be posted on bulletin board in Suite 4400, Jefferson Parish General Government Building, Gretna, LA, for a period of Five (5) working days after opening date.

Advertised bids will be tabulated and a copy forwarded to each responsive bidder.

ADDITIONAL REQUIREMENTS FOR THIS BID

PLEASE MATCH THE NUMBERS PRINTED IN THIS BOX WITH THE CORRESPONDING INSTRUCTIONS BELOW.

1,2,4,5,6,7,8,9,10,12,13,14,15,16

1. All bidders are invited to attend the pre-bid conference. Failure to attend the pre-bid conference shall not relieve the bidder of responsibility for information discussed at the conference. This conference is held to allow questions to be answered and inspect the site with owner's representative, etc. Failure to attend the pre-bid conference and inspection does not relieve the successful bidder from the necessity of furnishing materials or performing any work that may be required to complete the work in accordance with the specification (with no additional cost to the owner).

2. Contractor must hold current applicable JEFFERSON PARISH licenses with the Department of Inspection and Code Enforcement. Contractor shall obtain any and all permits required by the JEFFERSON PARISH Department of Inspection and Code Enforcement. The contractor shall be responsible for the payment of these permits. All permits must be obtained prior to the start of the project.

3. A Louisiana state contractor's license may be required in accordance with LSA-R.S. 37:2150 et seq.

INSTRUCTIONS FOR BIDDERS AND GENERAL CONDITIONS

4. It is the bidder's responsibility to visit the job site and evaluate the job before submitting a bid.

5. Job site must be clean and free of all litter and debris daily and upon completion of the contract. Passageways must be kept clean and free of material, equipment, and debris at all times. Flammable material must be removed from the job site daily because storage will not be permitted on the premises. Precautions must be exercised at all times to safeguard the welfare of JEFFERSON PARISH and the general public.

6. All awards in excess of $5,000.00 for the construction, alteration, or repair of any public works will b reduced to a formal contract which shall be recorded at the contractor's expense. A price list of recordation costs may be obtained from the Clerk of Court and Ex-officio Recorder of Mortgages for the Parish of Jefferson. All awards in excess of $25,000.00 reduced to formal contract will require a performance bond.

7. A performance bond will be required for this bid. The amount of the bond will be 100% of the contract price unless otherwise indicated in the specifications. Performance bond shall be supplied at the signing of the contract.

8. Please indicate if you have insurance: YES _____ NO _____
Successful bidder will be required to furnish proof of insurance to this office.
Successful bidder will be required to furnish Federal I.D. Number.

9. Minimum insurance requirements for this bid are as indicated on the attached sheet.

10. Each bid must be accompanied by a cashier's check, certified check, money order, or surety bid bond in the amount of 5% of the bid.

11. Affidavit required to be submitted with bids on all solicitations for construction, alteration or demolition of public building or project. (LSA-R.S. 38:2224)

12. This is a requirements contract to be provided on an as needed basis.

13. All prices must be held firm unless an escalation provision is requested in this bid. Jefferson Parish will allow one escalation during the term of the contract, which may not exceed the U.S. Bureau of Labor Statistics National Index for all Urban Consumers, unadjusted 12 month figure. The most recently published figure issued at the time an adjustment is requested will be used. A request must be made in writing by the vendor, and the escalation will only be appled to purchases made after the request is made.

    Are you requesting an escalation provision?

    YES _____ NO _____

    MAXIMUM ESCALATION PERCENTAGE REQUESTED _____%

    INITIAL BID PRICES WILL REMAIN FIRM THROUGH THE DATE OF _____.

    For the purposes of comparison of bids when an escalation provision is requested, Jefferson Parish will apply the maximum escalation percentage quoted by the bidder to the period to which it is applied in the bid. The initial price and the escalation will be used to calculate the total bid price. It will be assumed, for comparison of prices only, that an equal amount of material or labor is purchased each month throughout the entire contract.

14. In the event that the successful bidder cannot furnish a specific item or material and labor in the required time, JEFFERSON PARISH may purchase on an emergency basis from the next lowest bidder, or available source, until such time as the successful bidder has notified the PARISH in writing that his stock or labor capability has been replenished. The difference in price will be charged against the successful bidder of this contract, and evidence of purchases and price will be provided.

15. Vendor will be required to submit to the chief buyer of the JEFFERSON PARISH Purchasing Department a quarterly usage report by item of all items listed on this proposal.

16. Freight charges should be included in total cost when quoting. If not quoted FOB DELIVERED, freight must be quoted as a separate item. Bid may be disqualified if not quoted FOB DELIVERED or if freight charges are not indicated on bid form.

DELIVERY: FOB JEFFERSON PARISH

INDICATE DELIVERY DATE ON EQUIPMENT AND SUPPLIES _____

INDICATE STARTING TIME (IN DAYS) FOR CONSTRUCTION WORK _____

INDICATE COMPLETION TIME (IN DAYS) FOR CONSTRUCTION WORK _____

LOUISIANA CONTRACTOR'S LICENSE NO.: (if applicable) _____

*** ALL BIDDERS MUST COMPLETE SECTION BELOW ***	
FIRM NAME:	
SIGNATURE: (Must be signed here)	TITLE:
PRINT OR TYPE NAME:	
ADDRESS:	
CITY, STATE:	ZIP:
TELEPHONE: ( )	FAX: ( )
EMAIL ADDRESS:	

TOTAL PRICE OF ALL BID ITEMS: $ _____

THIS BID MUST BE SIGNED BY AN AUTHORIZED REPRESENTATIVE OF THE COMPANY/FIRM FOR BID TO BE VALID. BID PACKAGE, INCLUDING INSTRUCTIONS AND SPECIFICATIONS, MUST BE RETURNED IN ITS ENTIRETY FOR BID TO BE VALID. SIGNING INDICATES YOU HAVE READ AND COMPLY WITH THE INSTRUCTIONS AND CONDITIONS.

NOTE: All bids should be returned with the bid number and bid opening date indicated on the outside of the envelope submitted to the Purchasing Department.

INVITATION TO BID FROM JEFFERSON PARISH - continued

BID NO.: 50-00096896

SEALED BID

ITEM NUMBER	QUANTITY	U/M	DESCRIPTION OF ARTICLES	UNIT PRICE QUOTED	TOTALS
			A TWO (2) YEAR CONTRACT FOR CHEMICAL MAINTENANCE OF VETERANS BLVD., CPZ IMPROVEMENTS, PHASES I, II, III, FOR THE JEFFERSON PARISH DEPARTMENT OF PUBLIC WORKS, PARKWAYS		
1	1	JOB	0010 CHEMICAL MAINTENANCE OF VETERANS BLVD., CPZ IMPROVEMENTS, PHASES I, II, III - TWO (2) YEAR CONTRACT AS PER ATTACHED SPECIFICATIONS, DRAWINGS AND CHART PERFORMANCE BOND: 100% BID BOND: 5% ********** A PRE-BID CONFERENCE will be held at 10:30 A.M. on MONDAY, MARCH 22, 2010 in the PURCHASING DEPARTMENT, SUITE 4400 JEFFERSON PARISH GENERAL GOVERNMENT BLDG 200 DERBIGNY STREET, GRETNA, LA 70053 **********		

INSURANCE REQUIREMENTS

All insurance requirements shall conform to Jefferson Parish Resolution No. 113646 or No. 113647 dated 12/09/09.

The contractor shall not commence work under this contract until he has obtained all insurance and complied with the requirements of the specifications and Resolution No. 113646 or No. 113647.

WORKER'S COMPENSATION INSURANCE

As required by Louisiana State Statute, exception; Employer's Liability, Section B shall be $1,000,000 per occurrence when Work is to be over water and involves maritime exposures to cover all employees not covered under the State Worker's Compensation Act, otherwise this limit shall be no less than $500,000 per occurrence.

COMMERCIAL GENERAL LIABILITY

Shall provide limits not less than the following: $1,000,000.00 Combined Single Limit per Occurrence for bodily injury and property damage.

COMPREHENSIVE AUTOMOBILE LIABILITY

Bodily injury liability $1,000,000.00 each person; $1,000,000.00 each occurrence. Property Damage Liability $1,000,000.00 each occurrence.

DEDUCTIBLES

No insurance required shall include a deductible not greater that $10,000.00. The cost of the deductible be borne by the contractor.

UMBRELLA LIABILITY COVERAGE

An umbrella policy or excess may be used to meet minimum requirements.

CONSTRUCTION AND RENOVATION PROJECTS REQUIRE THE FOLLOWING:

OWNER'S PROTECTIVE LIABILITY

To be for the same limits of liability for bodily injury and property damage liability established for commercial general liability.

BUILDER'S RISK INSURANCE

The contractor shall maintain Builder's Risk Insurance at his own expense to insure both the owner (Parish of Jefferson) and contractor as their interest may appear.

Specifications
For
Chemical Maintenance
of Veterans Boulevard CPZ Improvements,
Phases I, II and III

Bid Number 50-96896

February 2010

Contents

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Section 1.0
Information for Bidders

1.1 Special Conditions

1.1.1 Contractor Qualifications – The Contractor must have as required by Louisiana State law: current Louisiana Horticultural Service license, certified chemical application license, Category 3 Turf and Ornamental License, Category 6 Right of Way License, Horticultural Services License, and necessary insurance as required by Jefferson Parish. Furthermore, the Contractor must have at least 5 years of related maintenance work experience and be able to provide credentials from a minimum of two (2) past jobs of at least 50,000 SF. Contractor shall provide references upon request.

1.1.2 Equipment Requirements – The Contractor shall determine the equipment that is to be used. The bid shall include equipment, operators, fuel, maintenance and transportation. All equipment shall be in a good state of operation and shall be maintained to work and perform the tasks it was designed for in an expedient time frame. Continual breakdown, repairs or work stoppage due to equipment failure will not be permitted. Any damage that occurs to the Site related to faulty equipment shall be repaired immediately at the Contractor's expense. All equipment required to complete the associated tasks shall be furnished upon request. The following information shall be included: type, make, model, manufacturer and quantity.

1.1.3 Work Compliance – The proposed work must comply with OSHA, DOT, Louisiana Department of Agriculture, Jefferson Parish and any other applicable agency requirements and regulations regarding this variety of work. The Contractor will present Jefferson Parish with all licenses and permits required to perform the work upon request.

1.1.4 Maintenance Reports – A monthly maintenance report is required to be kept, and will be provided to the Jefferson Parish Parkways Department and to Greg Cantrell, Inc. These reports are records used for tracking and quality assurance purposes. The Contractor is required to notify Jefferson Parish within 24 hours of any problems and/or restrictions that would prevent him from performing his duties. The Contractor shall provide his own form. In the event the Contractor's form is not acceptable, the Jefferson Parish Parkways Department will work with the Contractor to revise his form.

1.1.5 Inspections – Using the reports submitted by the Contractor, inspections of area of work performed shall be made by Jefferson Parish and Greg Cantrell, Inc. personnel to determine the acceptance of the work performed. In the event the work is considered unacceptable, the Contractor will be directed to immediately employ any and all methods or means to bring the area up to an acceptable level within five (5) days of notice, without any extra cost to Jefferson Parish. The discovery of any fraudulent activities associated

with this contract during the inspection process will be grounds for immediate contract termination without further compensation. In addition, such circumstances may initiate possible legal ramifications for the Contractor.

1.1.6 Traffic Control and Signs – The Contractor shall provide all necessary barricades, signs, lights and warning devices or any other item necessary in order to properly move traffic around or through his operations. Set up, removal and maintenance of all traffic control equipment shall be by the Contractor. Slow moving vehicle signs and flashing lights shall be installed on all moving equipment that will use the public rights-of-way for movement of equipment. In the event that a lane of traffic will need to be closed, the Contractor shall provide sufficient notification to the Jefferson Parish Traffic Engineer of necessity to close any portion of the roadway carrying vehicles or pedestrians. The Contractor will request final approval of such closings from the Department of Public Works, Traffic Engineering Division, at least ten (10) days in advance.

1.1.6.1 The Contractor shall be responsible for providing safe and expedient movement of traffic through the work Site. The Contractor must have in place prior to work, a method of recording, responding and repairing legitimately broken glass, windshields or any other kind of damage experienced due to the work being performed.

1.1.6.2 The Louisiana State Manual for Uniform Traffic Control shall be strictly enforced.

1.1.7 Work Periods – No work shall be done between 6:00 p.m. and 7:00 a.m., or on Saturdays, Sundays, or legal holidays without permission from Jefferson Parish. However, emergency work may be done without prior permission. In the event that the Contractor wishes to work weekends, holidays or outside the allowed times of the local governing bodies, he must secure permission from Jefferson Parish, and provide at least 72 hours notification of his intentions. Contractor must also be aware of any local event that may affect his scheduled maintenance operation.

1.1.8 Utility Service Interrupt – In the event of interruption of public or private utility service or general damage to public or private properties as a result of accidental breakage or any other actions by the Contractor, he shall immediately notify the proper authority and/or property owner and shall fully cooperate with said authority or owner until the service is restored to it's previous capacity.

1.1.9 Ongoing Contracts – It is possible that other Contractors may be working within close proximity of the locations of work. The Contractor shall coordinate his work with any other Contractors working in or around the locations. Should a conflict occur, a Parish representative will make all final decisions.

1.1.10 Nuisance Control – The Contractor shall include in his bid the control of dust, noise and odors created by his operations. All controls shall be completed in order that nuisances are minimized and occur within the standards of all governing bodies.

1.1.11 Transferring Contracts – Transfer of this contract shall not be allowed under any circumstances unless an amendment is passed by the Jefferson Parish council.

1.1.12 Subcontractors – There shall be no use of subcontractors with this contract. It is required that the company that submits the bid for this contract directly employs all workers and technicians involved with the tasks outlined in these specifications. Failure to adhere to this guideline may result in termination of the contract.

1.1.13 Safety Precautions – The Contractor shall strictly follow approved and normal safety practices during all operations. The Contractor shall follow the guidelines as noted in the OSHA requirements.

1.2 Bid Requirements

1.2.1 Contract Time and Bid Amount – The period of the contract shall be for two (2) – 12 month periods for a total contract time of two (2) years. The contract shall begin on 8/21/2010 and end on 8/20/2012. The bid is to be quoted as one lump sum price. Billing will be administered by the Contractor on a monthly basis.

1.2.2 Pre-bid Conference – A pre-bid conference will be held at **10:30 a.m.** on **MONDAY, MARCH 22, 2010,** at the Jefferson Parish Purchasing Department, Suite 4400, General Government Building, 200 Derbigny Street, Gretna, Louisiana. A site visit will follow, weather permitting. In addition to the pre-bid conference, a set of scaled landscape and irrigation plans will be available for viewing at the Purchasing Department. It is the contractor's responsibility to determine all units and quantities for bidding.

Section 2.0
Technical Specifications

2.1 Summary of Work

2.1.1 General - Jefferson Parish is soliciting bids from qualified Contractors for the turnkey operation for chemical maintenance of the Sites known as The Veterans Blvd. CPZ Beautification Project within Jefferson Parish. The expression turnkey shall include but may not be limited to all labor, material, equipment, transportation, insurances, licenses, qualifications, experience, removal and disposal, to accomplish the scope of work as defined in Section 2.2. Jefferson Parish will contract with a qualified Contractor capable of providing turnkey planning, management, implementation and the coordination of these efforts with Parish officials.

2.2 Scope of Work

2.2.1 General - The scope of work shall include all items as listed within Section 2.0 of these specifications. This shall include turnkey maintenance of the designated Site to include all aspects of chemical maintenance. All items enumerated within the Scope of Work shall be performed at the minimum frequency as that listed on the attached "Chemical Maintenance Chart".

2.2.1.1 Questions – All questions must be submitted in writing to the Jefferson Parish Purchasing Department a minimum of five (5) working days prior to the bid opening. All questions will be answered in writing, and submitted to all Contractors involved in the bidding process.

2.2.2 Bid Amount – The bid price includes insurance, products, equipment, labor, operator, fuel and transportation to and from the work Site. The Contractor shall be aware and shall be held responsible under this contract to the requirements prescribed by the following resolution and all the amendments. Contractor shall refer to resolution 113647 "Provides for a uniform set of general specifications and conditions for all Contractors engaged in performing works or services for the Parish of Jefferson".

2.2.3 Plant Bed Weed Control - All planting beds and tree wells shall be kept free of weeds and /or undesirable grasses at all times. Chemical weed removal shall include:

1. Fusalade II @ 24 oz./acre with a nonionic surfactant
2. Image 70 DG @ 11oz./acre
3. Roundup Pro (For non selective spray)
4. Baracade 4 FL Pre Emerge @ 48oz/acre (3 applications per year @ 16 oz. Per application)
5. Gallery 75 Dry Flowable @ 1.0 lb/acre per application (2 applications per year)

No substitutions will be allowed. See attached maintenance chart.

2.2.4 Fertilization – Ornamentals and Trees

2.2.4.1 Trees - All trees shall be fertilized by deep root injection once per year in the months of February or March (depending on weather conditions). The fertilizer shall be injected at a depth of 4"-6" depending on the specific plant material and site conditions. The fertilizer shall include slow release liquid Nitro 30 and potassium and the application rate shall be per manufacturer's labeled recommendations. Injections should begin two feet out from the trunk and be spaced 2 ½ feet apart, injected on a grid extending to one foot beyond the dripline.

2.2.4.2 Ornamentals – All shrubs and ground cover shall be fertilized by root injection once per year in February or March. Applications shall be made before the shrub and ground cover are fully leafed out with new foliage. The fertilizer shall include slow release liquid Nitro 30 and potassium and the application rate shall be per manufacturer's labeled recommendations. Injection holes should be 2 to 3 inches deep and twenty-three (23) inches apart. Begin injections from the trunk or main stem and extend to 6 inches beyond the dripline. Ground cover injection holes shall be 2 to 3 inches deep and 18" apart. Injections shall be throughout the ground cover bed area.

No product substitutions will be allowed. See attached maintenance chart.

2.2.5 Palm Tree Program

2.2.5.1 A – Two (**2**) fertilization applications are required; one (**I**) to be completed in the spring and the second (**II**) application to be completed in the summer with 8-10-19; special palm tree micronutrients @ a rate of 1 pound of product per 1" diameter.

2.2.5.2 B - Four (**4**) Banrot fungicide soil drench applications @ 8oz. Product/ 100 gals H20 (water) @ 100 gals mix/800 sq ft.

2.2.5.3 **C** – Four (**4**) Foliar fungicide applications with Bannor Max @ recommended label rates.

No product substitutions will be allowed. See attached maintenance chart.

2.2.6 **Insects and Diseases** - Consistent inspection of plant materials is required in order to detect insect and disease problems before they cause serious damage. The contractor will handle the insect and disease controls by a scheduled preventative spray program. Periodic inspection, diagnosis and spot spray treatment of insects and diseases will also be required.

2.2.6.1 **A** - The first (**I**) application shall take place in April or May and shall consist of an oil spray to control scale. Talstar insecticide/miticide to control the first emerging insects and mites. Horticultural Oil not to be mixed with Talstar.

2.2.6.2 **B** - The second (**II**) application shall take place in June or July and shall consist of Acephate and Merit for insects, Chlorothalonil DF - for fungus and Kelthane for mites. This application shall be applied with special attention given to Azaleas, Junipers, Oleanders and Indian Hawthorns.

2.2.6.3 **C** - The third (**III**) application shall take place in July or August and be the same as the second application (**II**). Particular emphasis should be paid to Azaleas, Junipers, Oleanders and Indian Hawthorns.

2.2.6.4 **D** - The fourth (**IV**) application shall take place in September or October and be the same as the first application (**I**).

2.2.6.5 **E** - The fifth (**V**) application shall take place in November or December and be the same as the first application (**I**).

No product substitutions will be allowed. See attached maintenance chart.

2.2.7 **Turf Applications** – All lawns shall be fertilized six (**6**) times per year to maintain a healthy, dense, green turf. There shall be at least seven (**7**) weeks between each fertilization. All applications to be made using liquid distribution methods. Care should be taken to apply complete, even applications of fertilization. Each application shall include insect, disease and weed treatment. Chemicals that shall be used are as followed:

Herbicides: Strike 3, Certainty, Sethoxdim;
Fungicide: PCNB, T-Storm, Cleary 3636, FORE80WSP;
Insecticide: Battle, Talstar.

2.2.7.1 **A -** The first (**I**) application shall take place in January or February and shall consist of Potassium. This will assist the turf roots to prepare for top growth in the spring and help strengthen the lawn against winter cold damage. Pre and post emergent herbicide for weed control. Pre-emerge herbicide shall be Baracade 4 FL @ 24 oz/acre.

2.2.7.2 **B -** The second (**II**) application shall take place in April or May, and shall consist of a slow release Nitro 30, Urea 46-0-0 and Fe (*Iron*) @ a rate of ½ lb Nitrogen per acre. Mole cricket application to be completed in May with Top Choice @ 86 lb/acre.

2.2.7.3 **C -** The third (**III**) application should take place in June or July, and shall consist of the same as the second application (**II**).

2.2.7.4 **D -** The fourth (**IV**) application shall take place in July or August, and shall consist of the same as the second application (**II**).

2.2.7.5 **E -** The fifth (**V**) application shall take place in late September or October and shall consist of Phosphorous and Potassium (0-15-30 or 0-20-20) @ ½ lb/1000 of Potassium. Pre and Post emergent herbicide for weed control. Pre-emerge shall be Baracade 4L@ 24 oz/acre.

2.2.7.6 **F -** The sixth (**VI**) application shall consist of Potassium @ ½ lb/1000.

Application rates for all fertilizers shall be in accordance with Louisiana State University Extension service recommendations.

No product substitutions will be allowed. See attached maintenance chart.

2.2.8 **Weed and Pest Control – Turf -** A weekly inspection of lawns for disease and insect problems must occur throughout the contract. If symptoms are found, they must be diagnosed and treated without delay. Follow up applications will be made as necessary to remedy the problem.

It is the sole responsibility of the contractor to see that all chemicals are mixed and applied in a safe manor, per manufacturer's recommendations, and in compliance with all local, and state and federal regulations.

No product substitutions will be allowed. See attached maintenance chart.

2.3 Locations of the Sites

2.3.1 **Site A –** Site A shall include the medians of Veterans Boulevard from Roberta Street to Elizabeth Street including the intersection of Club Drive. In addition, Site A includes the two intersections of Veterans Boulevard and Roberta Street and Elizabeth Street. The entire length of Site A is approximately 700 linear feet.

2.3.2 **Site B –** Site B shall include the east and west medians of Veterans Boulevard at the intersection of Clearview Parkway. Site B extends from Clearview Parkway west to the opening of the drainage canal (+/- 450 LF). Site B also extends from Clearview Parkway east to the first U-turn (+/- 500 LF). The entire length of Site B is approximately 950 linear feet.

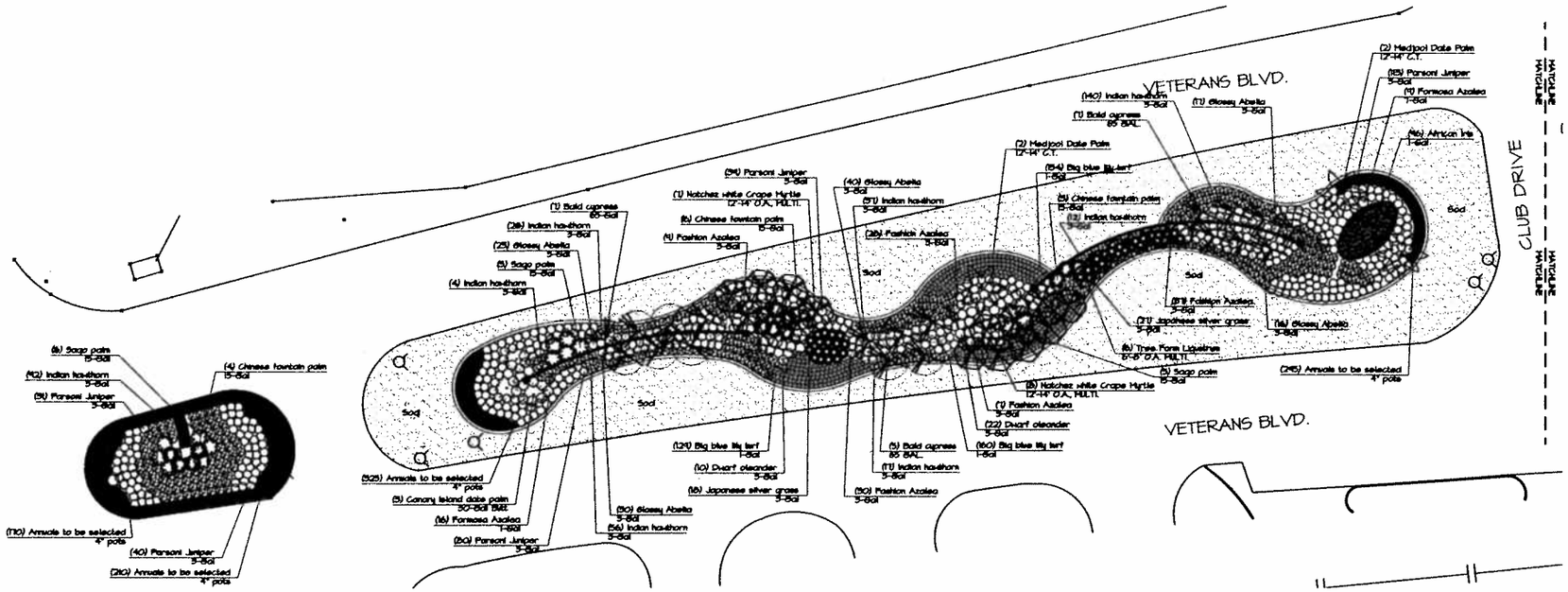
2.3.3 **Site C –** Site C extends from Severn Avenue east to the first U-turn (+/- 200 LF). The entire length of Site C is approximately 200 linear feet.

2.3.4 **Site D –** Site D shall include the median of Veterans Boulevard at the intersection of Bonnabel Boulevard. Site D extends west of the intersection (+/- 165 LF), includes the middle median of the intersection, and extends east of the intersection (+/- 165 LF). The entire length of Site D is approximately 525 linear feet.

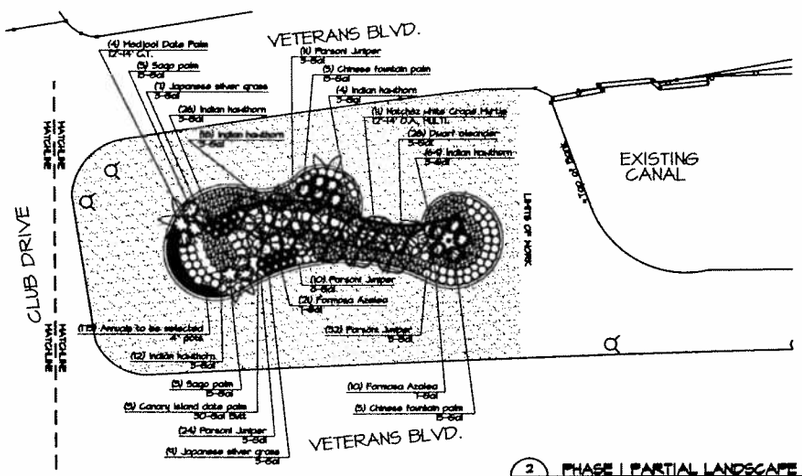
Chemical Maintenance Chart													
TASK	**MONTH**	**JAN.**	**FEB.**	**MAR.**	**APR.**	**MAY**	**JUN.**	**JUL.**	**AUG.**	**SEPT.**	**OCT.**	**NOV.**	**DEC.**
PLANT BED WEED CONTROL													
Fusalade II @ 24 oz. / acre (as needed)		x	x	x	x	x	x	x	x	x	x	x	x
Image 70 DG @ 11 oz. /acre (as needed)		x	x	x	x	x	x	x	x	x	x	x	x
Roundup Pro (as needed)		x	x	x	x	x	x	x	x	x	x	x	x
Baracade 4 FL Pre Emerge @ 48 oz. / acre		x				x				x			
Gallery 75 Dry Flowable @ 1.0 lb/acre per app.		x								x			
FERTILIZATION-ORNAMENTALS AND TREES													
Deep root injection			x										
PALM TREE PROGRAM													
Fertilization applications					x			x					
Banrot fungicide soil drench		x			x			x			x		
Foliar fungicide		x			x			x			x		
INSECTS AND DISEASES													
Horticultural oil spray				x						x		x	
Talstar insecticide / miticide						x		x					
Acephate and Merit						x		x					
Chlorothalonil DF			x										
Kelthane								x					
TURF APPLICATIONS													
Potassium			x										x
Phosphorous and Potassium (0-15-30 or 0-20-20)											x		
Baracade 4 FL Pre Emerge @ 48 oz. / acre			x							x			
Post emergent herbicide			x		x		x		x		x		x
Slow release Nitro 30 @ 1/2lb Nitrogen / acre					x		x		x				
Mole cricket application Top Choice @ 86lb / acre						x							
WEED AND PEST CONTROL-TURF													
Weekly Inspection		x	x	x	x	x	x	x	x	x	x	x	x

DRAWINGS

BID 50-96896



1 PHASE I PARTIAL LANDSCAPE PLAN
1" = 20'-0"
0 20' 40'



2 PHASE I PARTIAL LANDSCAPE PLAN
1" = 20'-0"
0 20' 40'

Sheet 1 Plant Schedule

Quantity	Symbol	Scientific Name	Common Name	Planting Size
126		Abelia x grandiflora	Glossy Abelia	5-Gal
175		Annuals to be selected	Annuals to be selected	4" pots
24		Cycas revoluta	Sago palm	15-Gal
46		Dietes spp.	African Iris	1-Gal
380		Juniperus chinensis 'Parsoni'	Parsoni Juniper	5-Gal
26		Lagerstroemia indica 'Natchez'	Natchez white Crape Myrtle	12'-14' O.A. MULTI.
6		Ligustrum japonicum	Tree Form Ligustrum	6'-8' O.A. MULTI.
445		Liriope muscari	Big blue lily turf	1-Gal
29		Livistona chinensis	Chinese fountain palm	15-Gal
61		Miscanthus sinensis	Japanese silver grass	5-Gal
60		Nerium oleander 'petite'	Dwart oleander	5-Gal
6		Phoenix canariensis	Canary Island date palm	30-Gal Bulb
8		Phoenix dactylifera 'Medjool'	Medjool Date Palm	12'-14' C.T.
510		Raphiolepis indica	Indian hawthorn	5-Gal
181		Rhododendron indica 'Fashion'	Fashion Azalea	5-Gal
96		Rhododendron indica 'Formosa'	Formosa Azalea	1-Gal
14		Taxodium distichum	Bald cypress	65 GAL.
+/-2,800 SY		Eremochloa ophiuroides	Class 'A' Centipede Sod	Squares

N

Feb 10, 2010 - 10:03am - Phase I LS.dwg

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VETERANS BLVD. CPZ BEAUTIFICATION PROJECT METAIRIE, LOUISIANA

Project No: MAINTENANCE

Revisions:

No:	Date:	Description:

Date: 2.10.10

Drawn by: BP

Checked by: AB

Sheet Title: PHASE I PARTIAL LANDSCAPE PLAN

Drawing No. 1

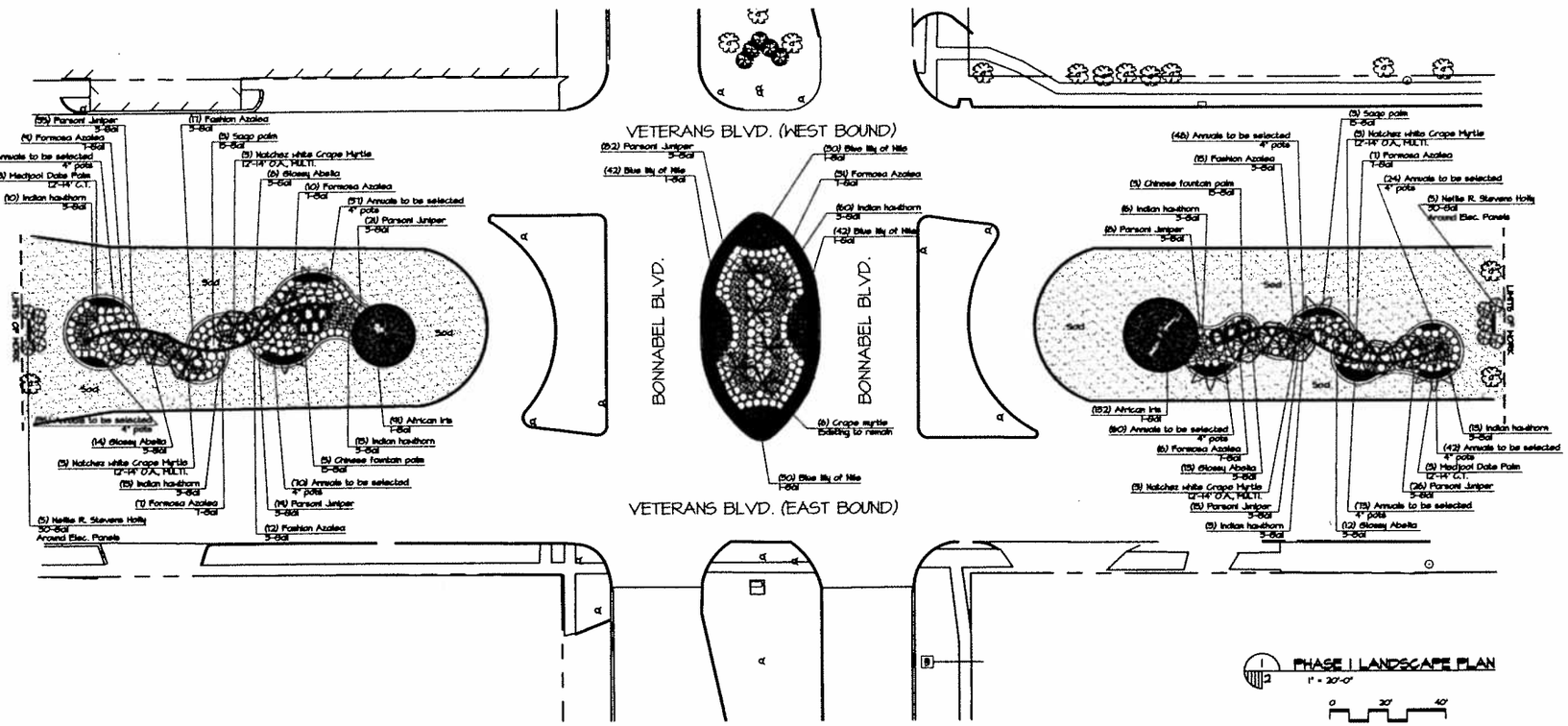
Sheet 1 of 18

DRAWINGS

BID 50-96896

Sheet 2 Plant Schedule

Quantity	Symbol	Scientific Name	Common Name	Planting Size
41		Abelia x grandiflora	Glossy Abelia	3-Gal
144		Agapanthus africanus	Blue lily of Nile	1-Gal
455		Annuals to be selected	Annuals to be selected	4" pots
6		Cycas revoluta	Sago palm	15-Gal
225		Dietes spp.	African Iris	1-Gal
10		Ilex cornuta 'Nellie R. Stevens'	Nellie R. Stevens Holly	30-Gal
205		Juniperus chinensis 'Parsoni'	Parsoni Juniper	3-Gal
6		Lagerstroemia indica	Crape myrtle	Existing to remain
12		Lagerstroemia indica 'Natchez'	Natchez White Crape Myrtle	12'-14' O.A., MULTI.
8		Livistona chinensis	Chinese fountain palm	15-Gal
6		Phoenix dactylifera 'Medjool'	Medjool Date Palm	12'-14' C.T.
120		Raphiolepis indica	Indian hawthorn	5-Gal
44		Rhododendron indica 'Fashion'	Fashion Azalea	5-Gal
70		Rhododendron indica 'Formosa'	Formosa Azalea	1-Gal
+/- 1,400 SY		Eremochloa ophiuroides	Class 'A' Centipede Sod	Squares



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Project No: MAINTENANCE

Revisions:

No:	Date:	Description:

Date: 2.10.10

Drawn by: BP

Checked by: AB

Sheet Title: PHASE I PARTIAL LANDSCAPE PLAN

Drawing No. 2

Sheet 2 of 18

SECTION 02900 - LANDSCAPING

1.1 GENERAL

A. Submittals: In addition to product certificates, submit the following where applicable:
1. Certification of grass seed from seed vendor for each seed mixture.
2. List of plant suppliers and anticipated delivery dates.
3. Provide sample or product data of planting mix, top soil, fertilizers, pre-emergent and mulch or any other amendment required for project.

B. Quality Assurance: Provide trees, shrubs, ground covers, and plants of quality, size, genus, species, and variety indicated, complying with applicable requirements of ANSI Z60.1 "American Standard for Nursery Stock." Materials that do not meet the afore mentioned requirements may be rejected.

C. Special Warranty: Warrant trees, shrubs and ground covers for a period of one year after date of Substantial Completion, against defects including death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, or abuse by Owner, abnormal weather conditions unusual for warranty period, or incidents which are beyond Contractor's control.
1. Remove and replace any unhealthy and dead trees and shrubs within the warranty period.

D. Maintain and establish lawns by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations to produce a uniformly smooth lawn for not less than the following:
1. Seeded Lawns: 60 days after date of Substantial Completion.
2. Sodded Lawns: 30 days after date of Substantial Completion.

1.2 PRODUCTS

A. Trees and Shrubs: Well-shaped, fully branched, healthy, vigorous nursery-grown stock of sizes and grades indicated, free of disease, insects, eggs, larvae, and defects, conforming to ANSI Z60.1.
1. Provide balled and burlapped trees and shrubs, or
2. Provide container grown trees and shrubs.

B. Ground Covers and Plants: Established and well rooted in removable containers or integral peat pots and with not less than the minimum number and length of runners required by ANSI Z60.1 for the pot size indicated.

C. Grass Seed: Fresh, clean, dry, new-crop seed complying with the Association of Official Seed Analysts' "Rules for Testing Seeds" for purity and germination tolerances.
1. Seed Mixture: Provide seed of grass species and varieties, proportions by weight, and minimum percentages of purity, germination, and maximum percentage of weed seed as indicated.

D. Sod: Certified turfgrass sod complying with ASPA specifications for machine-cut thickness, size, strength, moisture content, and mowed height, and free of weeds and undesirable native grasses. Provide viable sod of uniform density, color, and texture, strongly rooted, and capable of vigorous growth and development when planted.
1. Species: Provide sod of grass species and varieties, proportions by weight, and minimum percentages of purity, germination, and maximum percentage of weed seed as indicated.

E. Planting mix: ASTM D 5268, pH range of 5.5 to 7, 4 percent organic material minimum, free of stones 1 inch (25 mm) or larger in any dimension, and other extraneous materials harmful to plant growth.
1. Planting mix: Equal parts of sharp sand, peat moss and composted bark.

F. Lime: ASTM C 602, Class T, agricultural limestone.

G. Peat Humus: Finely divided or granular texture, with a pH range of 6 to 7.5, composed of partially decomposed moss peat (other than sphagnum), peat humus, or reed-sedge peat.

H. Sawdust or Ground-Bark Humus: Decomposed, nitrogen-treated, of uniform texture, free of chips, stones, sticks, soil, or toxic materials.

I. Bonemeal: Commercial, raw, finely ground; minimum of 4 percent nitrogen and 20 percent phosphoric acid.

J. Superphosphate: Commercial, phosphate mixture, soluble; minimum of 20 percent available phosphoric acid.

K. Lawn fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea-form, phosphorous, and potassium.

L. Planting bed fertilizer: Osmocote classic 15-15-15 8 to 9 month longevity or approved equal. Apply in accordance to manufacturer's specifications.

M. Pre-emergent Herbicide: Eptam 20-G or approved equal. Apply in according to manufacture's specifications.

N. Organic Mulch: Organic mulch, free from deleterious materials and suitable as a top dressing, consisting of ground or shredded bark, wood or bark chips, salt hay or threshed straw, or shredded hardwood.

O. Mineral Mulch: Hard, durable riverbed gravel or crushed stone, washed free of loam, sand, clay, and other foreign substances.
1. Size Range: 1-1/2 inches (38 mm) maximum, 3/4 inch (19 mm) minimum.

P. Steel Edging: ASTM A 569 (ASTM A 569M), rolled edge, standard painted steel edging and accessories, fabricated in sections with loops stamped from or welded to face of sections approximately 30 inches (760 mm) apart to receive stakes. Cuts required to install edging to be welded and painted to match factory finish.
1. Edging Size: 3/16 inch (4.8 mm) wide by 4 inches (102 mm) deep.

1.3 EXECUTION

A. Planting Mix Preparation: Before mixing, clean topsoil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful to plant growth. Mix soil amendments and fertilizers with topsoil at rates indicated.

B. Lawn Planting Preparation (Disturbed): Loosen subgrade to a minimum depth of 4 inches (100 mm). Remove stones larger than 1-1/2 inches (38 mm) in any dimension and sticks, roots, rubbish, and other extraneous materials.
1. Spread topsoil soil mixture to depth required to meet thickness, grades, and elevations shown, after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen.
2. Place approximately 1/2 the thickness of topsoil mixture required. Work into top of loosened subgrade to create a transition layer and then place remainder of topsoil mixture.

C. Lawn Planting Preparation (Undisturbed): Where lawns are to be planted in areas unaltered or undisturbed by excavating, grading, or surface soil stripping operations, remove and dispose of existing grass, vegetation, and turf.
1. Till surface soil to a depth of at least 6 inches (150 mm). Apply soil amendments and initial fertilizers and mix thoroughly into top 4 inches (100 mm) of soil. Trim high areas and fill in depressions. Till soil to a homogeneous mixture of fine texture.

D. Moisten prepared lawn areas before planting when soil is dry and allow surface to dry before planting.

E. Ground Cover and Plant Bed Preparation: Loosen subgrade of planting bed areas to a minimum depth of 6 inches (150 mm). Remove stones larger than 1-1/2 inches (38 mm) in any dimension and sticks, roots, rubbish, and other extraneous materials.
1. Spread planting soil mixture to depth required to meet thickness, grades, and elevations shown, after light rolling and natural settlement. Place approximately 1/2 the thickness of planting soil mixture required. Work into top of loosened subgrade to create a transition layer and then place remainder of planting soil mixture.

F. Excavation for Trees and Shrubs: Excavate pits with vertical sides and with bottom of excavation slightly raised at center to assist drainage. Excavate approximately 1-1/2 times as wide as ball diameter and deep enough to allow placing of root ball on a setting layer of planting soil. Loosen hard subsoil in bottom of excavation.

G. Planting Trees and Shrubs: Set stock plumb and in center of pit or trench with top of ball raised above adjacent finish grades.
1. Place a setting layer of compacted planting soil.
2. Remove burlap and wire baskets from tops of balls and partially from sides, but do not remove from under balls. Do not use planting stock if ball is cracked or broken before or during planting operation.
3. Place backfill around ball in layers, tamping to settle backfill and eliminate voids and air pockets.
4. Dish and tamp top of backfill to form a 3-inch- (75-mm-) high mound around the rim of the pit. Do not cover top of root ball with backfill.

H. Tree and Shrub Pruning: Prune, thin, and shape trees and shrubs according to standard horticultural practice. Prune trees to retain required height and spread. Do not cut tree leaders; remove only injured or dead branches from flowering trees. Prune shrubs to retain natural character. Shrub sizes indicated are size after pruning.

I. Planting Ground Cover and Plants: Plant spacing according to plan, unless otherwise indicated. Dig holes large enough to allow spreading of roots, and backfill with planting soil. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.

J. Planting Bed Fertilizer: Install per manufactures recommendations

K. Pre-Emergent Herbicide: Install per manufactures recommendations

L. Mulching: Completely cover area to be mulched. Apply mulch and finish level with adjacent finish grades. Do not place mulch against trunks or stems.
1. Mulch Type and Thickness: Cut pine straw, 4 inches (100 mm) thick as indicated on drawings.

M. Seeding Lawns: Sow seed with a spreader or a seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph (8 km/h). Evenly distribute seed by sowing equal quantities in 2 directions at right angles to each other. Rake seed lightly into top 1/8 inch (3 mm) of topsoil, roll lightly, and water with fine spray.
1. Seeding Rate: 3 to 4 lb per 1000 sq. ft. (1.5 to 2 kg per 100 sq. m).
2. Protect seeded areas with slopes less than 1:6 against erosion by spreading straw mulch after completion of seeding operations and anchor by crimping into topsoil. Spread uniformly at a minimum rate of 2 tons per acre (45 kg per 100 sq. m).

N. Sodding Lawns: Lay sod to form a solid mass with tightly fitted joints within 24 hours of stripping. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to subgrade or sod during installation. Tamp and roll lightly to ensure contact with subgrade, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.
1. Anchor sod on slopes exceeding 1:6 with wood pegs spaced as recommended by sod manufacturer.
2. Saturate sod with fine water spray within 2 hours of planting. During first week, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches (38 mm) below the soil.

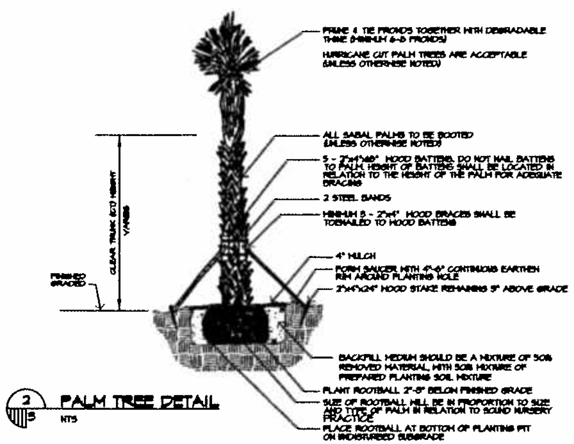
O. Edgings: Install edgings where indicated and anchor with stakes driven below top elevation of edging according to manufacturer's recommendations.

P. Disposal: Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of it off the Owner's property.

END OF SECTION 02900

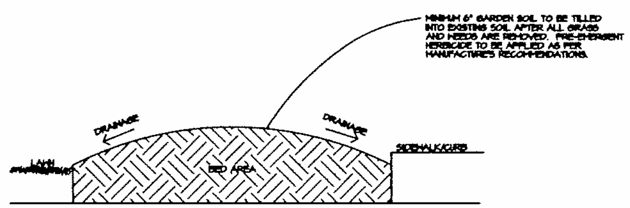
Overall Phase I Plant Schedule

Quantity	Symbol	Scientific Name	Common Name	Planting Size
115		Abelia x grandiflora	Glossy Abelia	3-Gal
144		Agapanthus africanus	Blue lily of Nile	1-Gal
1650		Annuals to be selected	Annuals to be selected	4" pots
50		Cycas revoluta	Sago palm	15-Gal
514		Dietes spp.	African Iris	1-Gal
10		Ilex cornuta 'Nellie R. Stevens'	Nellie R. Stevens Holly	30-Gal
568		Juniperus chinensis 'Parsonii'	Parsoni Juniper	3-Gal
6		Lagerstroemia indica	Crape myrtle	Existing to remain
58		Lagerstroemia indica 'Natchez'	Natchez white Crape Myrtle	12'-14' O.A., MULTI.
6		Ligustrum japonicum	Tree Form Ligustrum	6'-8' O.A. MULTI.
448		Liriope muscari	Big blue lily turf	1-Gal
51		Livistona chinensis	Chinese fountain palm	15-Gal
61		Miscanthus sinensis	Japanese silver grass	3-Gal
60		Nerium oleander 'petite'	Dwarf oleander	3-Gal
6		Phoenix canariensis	Canary Island date palm	30-Gal Butt
14		Phoenix dactylifera 'Medjool'	Medjool Date Palm	12'-14' C.T.
680		Raphiolepis indica	Indian hawthorn	3-Gal
55		Rhododendron indica 'Fashion'	Fashion Azalea	3-Gal
126		Rhododendron indica 'Formosa'	Formosa Azalea	7-Gal
14		Taxodium distichum	Bald cypress	65 GAL.
+/- 4,200 SY		Eremochloa ophiuroides	Class 'A' Centipede Sod	Squares



* PALMS WITH MARRED OR BURNED TRUNKS WILL NOT BE ACCEPTED

2 / 3 PALM TREE DETAIL
NTS



1 / 3 SOIL MOUNDING DETAIL
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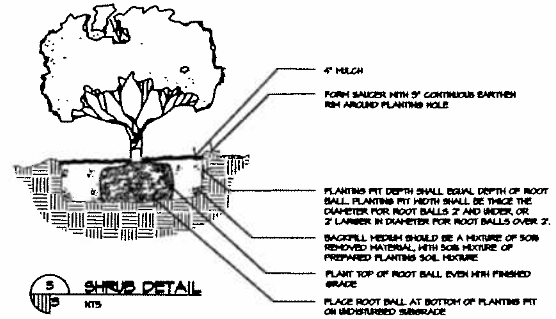
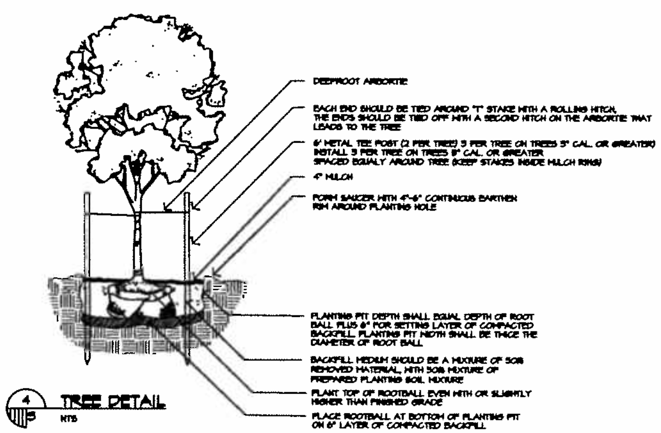


3 / 3 SHRUB DETAIL
NTS



4 / 3 TREE DETAIL
NTS

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VETERANS BLVD. CPZ
BEAUTIFICATION PROJECT
METAIRIE, LOUISIANA

Project No: MAINTENANCE

Revisions:

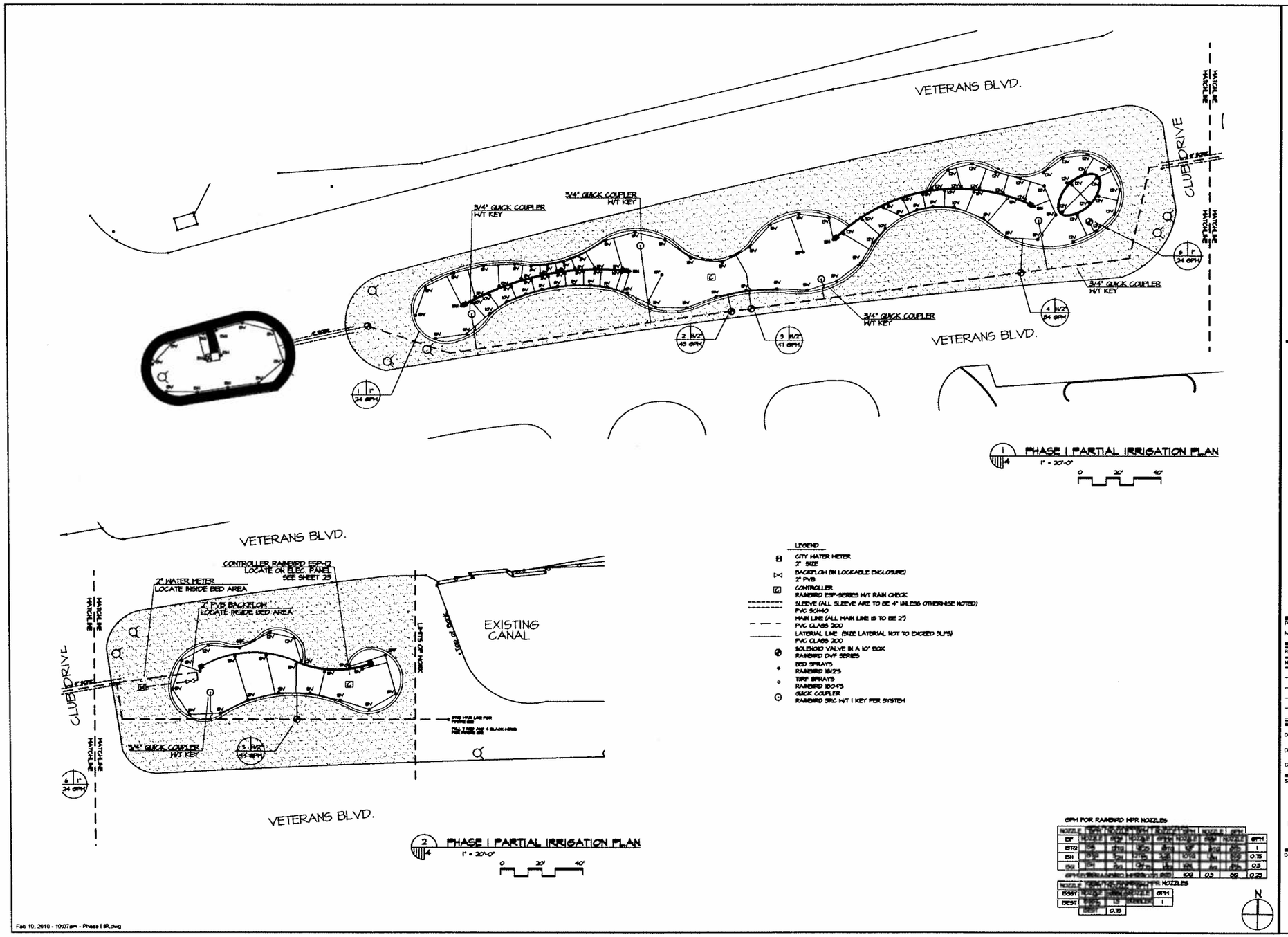
No:	Date:	Description:

Date: 2.10.10
Drawn by: BP
Checked by: AB

Sheet Title:
PHASE I PARTIAL LANDSCAPE PLAN

Drawing No.
3

Sheet
3 of 18



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METAIRIE, LOUISIANA

Project No: MAINTENANCE

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Date: 2.10.10

Drawn by: BP

Checked by: AB

Sheet Title: PHASE I PARTIAL IRRIGATION PLAN

Drawing No. 4

Sheet 4 of 18

GPM FOR RAINBIRD MPR NOZZLES

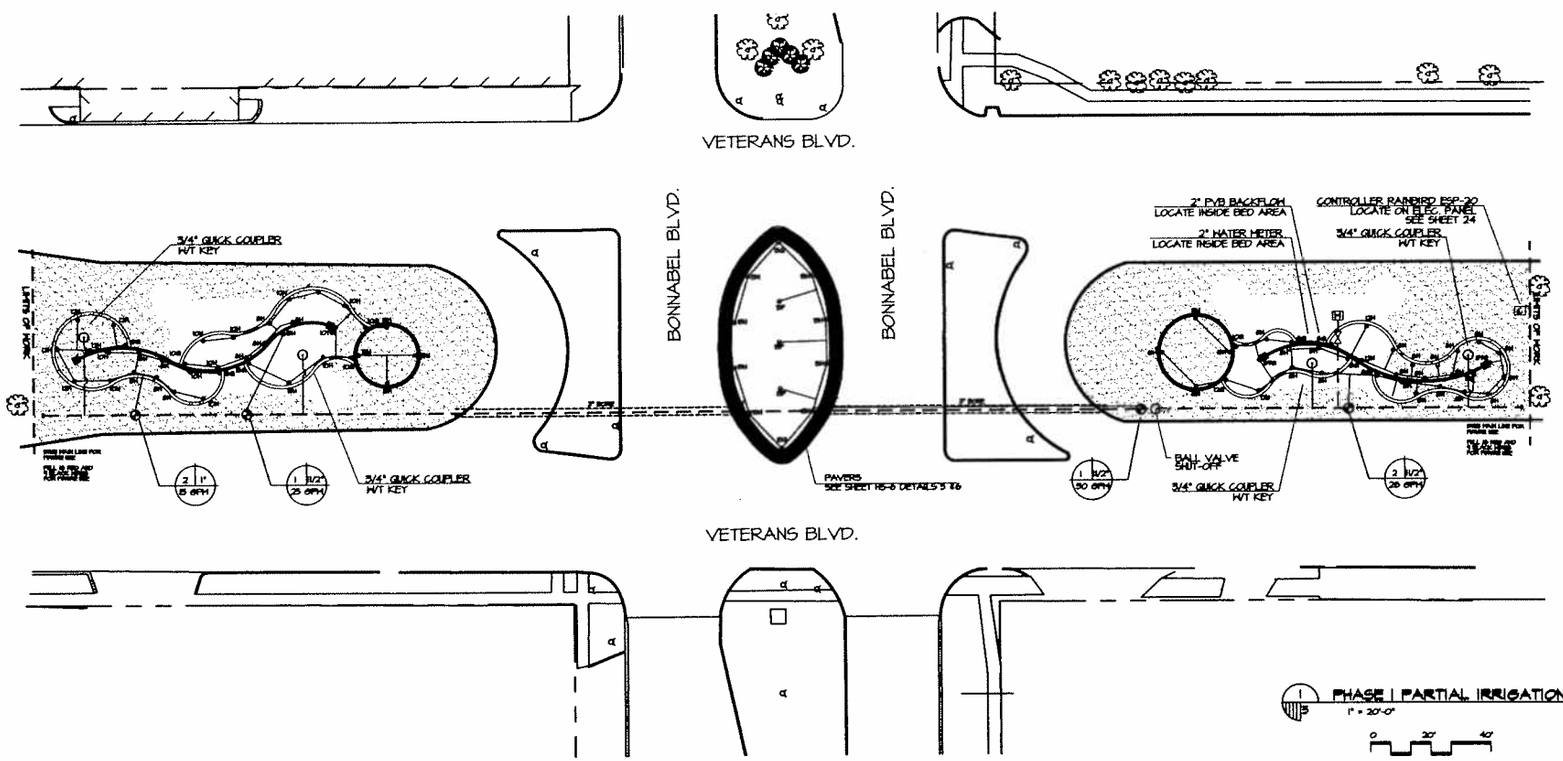
NOZZLE	GPM	NOZZLE	GPM	NOZZLE	GPM	NOZZLE	GPM
8F	4	12F	3	10F	2	8F	1
8TQ	3	12TQ	2.25	10TQ	1.5	8TQ	0.75
8H	2	12H	1.5	10H	1	8H	0.5
8Q	1	12Q	0.75	10Q	0.5	8Q	0.25

GPM FOR RAINBIRD MPR NOZZLES

NOZZLE	GPM	NOZZLE	GPM
BSST	1.5	BUBBLER	1
BEST	0.75		

LEGEND

- CITY WATER METER
  1" SIZE
- BACKFLOW (IN LOCKABLE ENCLOSURE)
  1" PVB
- CONTROLLER
  RAINBIRD ESP-SERIES W/T RAIN CHECK
- SLEEVE (ALL SLEEVE ARE TO BE 4" UNLESS OTHERWISE NOTED)
  PVC SCH40
- MAIN LINE (ALL MAIN LINE IS TO BE 2")
  PVC CLASS 200
- LATERAL LINE (SIZE LATERAL NOT TO EXCEED 5LPS)
  PVC CLASS 200
- SOLENOID VALVE IN A 10" BOX
  RAINBIRD DVF SERIES
- BED SPRAYS
  RAINBIRD 1812'S
- TURF SPRAYS
  RAINBIRD 1804'S
- QUICK COUPLER
  RAINBIRD 5RC W/T 1 KEY PER SYSTEM



PHASE I PARTIAL IRRIGATION PLAN
1" = 20'-0"

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METAIRIE, LOUISIANA

Project No: MAINTENANCE

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Date: 2.10.10
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Checked by: AB

Sheet Title: PHASE I PARTIAL IRRIGATION PLAN

Drawing No. 5

Sheet 5 of 18

DRAWINGS

BID 50-96896

SECTION 02810- LANDSCAPE IRRIGATION

1.0 GENERAL

1.1 DESCRIPTION OF WORK:

A. Furnish all labor, materials, equipment and services necessary for the complete installation of a landscape irrigation system to provide 100% coverage of the landscape areas identified on the plans as specified. The work includes, but is not limited to:
1. Trenching, backfill and compaction for irrigation lines.
2. Automatically controlled landscape irrigation system. Backflow prevention, water tap, water meter, pressure regulator, drain valves and isolation gate valves, piping and sleeves under paving and sidewalks, repair of paving, main and lateral lines, electrical valves and wiring, valve boxes and controllers, sprinklers, couplings, connectors and fittings.
3. Test all systems and make operative.
4. Submit Record Drawings.
5. One-year Guarantee Period.

1.2 QUALITY CONTROL:

A. Installer Qualifications: Firms experienced in the successful installation of a minimum of five projects within the past five years similar in scope, quality and contract value to that indicated for this project. Firm shall have sufficient manpower, equipment and financial resources to complete the Work of the Section.
B. The Owner and the Landscape Architect reserve the right to reject any and all materials and workmanship which they deem to be not in accordance with the Specifications. Rejected materials and work shall be removed from site immediately and replaced with that of the specified quality.
C. Applicable Standards:
ASTM
D2241-Poly (Vinyl Chloride) (PVC) Plastic Pipe, SDR/PR, Class 200 and 160.
D1785-Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedule 40.
D2464-Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Threaded, Schedule 40.
D2466-Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Socket Type, Schedule 40.
D2564-Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings.

D. Applicable Codes:
1. Most current edition of Uniform Plumbing Code.
2. Applicable Building Code.
3. All applicable local codes and ordinances.
4. National Electrical Code.
5. Should Specification's requirements differ from local requirements, consider Contract Document requirements to be minimum acceptable and comply with any more stringent local requirements.

E. Permits and Fees:
1. Obtain all permits and pay required fees to any agency having jurisdiction over the work.
2. Arrange inspections required by local ordinances during the course of construction.
3. Upon completion of the work, furnish satisfactory evidence to show that all work has been installed in accordance with the ordinances and code requirements.
F. Testing:
1. Perform testing and inspections required by specifications and by regulating authorities.
2. Give 24 hours notice that such tests are to be conducted.

1.3 SUBMITTALS:

A. Product Data: Include pressure rating, rated capacity, settings, and electrical data of selected models for the following:
1. Valves. Include aboveground and underground, general-duty, manual and automatic control, and quick-coupler types.
2. Valve boxes.
3. Sprinklers.
4. Specialties. Include emitters, drip tubes, and other devices.
5. Controllers. Include wiring diagrams.
B. Record Drawings:
1. Prepare and submit a reproducible Record Drawing showing the complete layout of the main line pipe, controller location, valve locations, and all sprinkler head locations. Record Drawings shall also indicate and show all materials, and manufacturer's name and catalog number and name.

1.5 SITE INSPECTION

A. Become familiar with all site conditions.
B. Locate all existing utilities prior to start of construction.
C. Make necessary adjustments in the layout as may be required, 1) to connect to existing stubouts (should such stubs not be located exactly as shown) or 2) to work around existing work. Such adjustments shall be made with no increase in cost to the Owner.

1.6 PROTECTION OF EXISTING CONDITIONS:

A. Take necessary precautions to protect site conditions to remain.
B. Should damage be incurred, repair the work to its original condition at no additional cost to the Owner.

2.0 PRODUCTS

2.1 PIPE AND FITTINGS:

A. Pipe sizes shall conform to those shown on the drawings. No substitutions of smaller pipe sizes will be permitted, but substitutions of larger size may be approved. All pipe damaged or rejected because of defects shall be removed from the site at the time of said rejection.

B. All Piping (3") three inch and larger will be equipped with gaskets.
C. All fittings for pipes three inches or larger will be equipped with gaskets.
D. All piping downstream of electric valves, sizes (3) inches and smaller, shall be rigid unplasticized PVC 200 PSI working pressure extruded from virgin parent material of the type specified on the drawings. The pipe shall be homogeneous throughout and free from visible cracks, holes, foreign materials, blisters, wrinkles and permanently marked with the manufacturer's name, material size, and schedule type. Pipe must bear the NFS seal.

E. All mainline piping and underground piping under continuous pressure shall be rigid unplasticized PVC-Class 200 PSI working pressure extruded from virgin parent material of the type specified on the drawings. The pipe shall be homogeneous through out and free from visible cracks, holes, and foreign materials, blisters, wrinkles and dents.
F. All plastic fittings to be installed shall be molded fittings manufactured of the same material as the pipe and shall be suitable for solvent weld, slip joint ring tight seal, or screwed connections. NO fitting made of other material shall be used except as hereinafter specified.
G. Slip fitting socket tapers shall be so sized that a dry unsoftened pipe end conforming to these special provisions can be inserted no more than halfway into the socket. Plastic saddle and flange fittings will not be permitted. Only schedule 80 pipe may be threaded.

2.2 SLEEVES:

A. All sleeves shall be Schedule 40 PVC or stronger. All sleeves are required at every crossing indicated on drawings. (Size Noted)
B. All sleeves shall be installed under proposed pavement areas prior to subgrade and base construction.
C. Sleeves shall have a minimum horizontal separation of 18" and a maximum of twenty-four (24) inch clearance below bottom of curb.
D. The location of all sleeves shown on the plans is schematic. The contractor shall make any adjustments necessary to accommodate existing vegetation, utilities, or other existing conditions.
E. If the road crossings are designated as being bore locations the bore must be ample size to accommodate the size sleeve specified.

2.3 CONTROL SYSTEM:

A. The automatic controllers shall be made by the same manufacturer as valves.
B. Install Rain Check or Mini-Click type shut off device to override the control timer in the event of rain.
C. 120-volt power shall be supplied by General Contractor as part of the electrical panel installation.

2.4 CONTROL WIRE:

A. Control wire shall be type UF, UL approved, for direct burial and shall be gauge 14 or larger for the control wire and gauge 12 or larger for common wire.
B. Joining of underground wires shall be made with watertight connectors in valve boxes. No splicing between boxes is acceptable.
C. All wire connections in valve boxes.

2.5 IRRIGATION VALVES:

A. Zone Control Valves
1. Globe-type diaphragm valves of normally closed design, with PVC bodies and covers. Operation accomplished by means of an integrally mounted heavy-duty 24 volt AC solenoid complying with National Electrical Code, Class II Circuit, solenoid coil potted in epoxy resin within a plastic-coated stainless steel housing. Solenoids shall be completely waterproof, suitable for direct underground burial. Provide a flow stem adjustment in each valve.

2.6 VALVE BOXES:

A. All valves shall be installed in thermoplastic valve access boxes of the size required to permit access to the valve. Valve boxes shall include black thermoplastic locking covers. Manufacturer- Ametek or approved equal.
B. All valve boxes shall be installed on at least a two (2) cubic foot gravel base to provide foundation and drainage.
C. All valve box elevations shall be 1/2" below finished grade.

2.7 THRUST BLOCKS:

A. Place one cubic ft. of concrete for each inch of pipe diameter for thrust block. Thrust shall not allow vertical or horizontal movement of pipe in any direction unless otherwise noted on design. Thrust blocking shall be provided on all piping three (3) inch diameter and larger.

2.8 SURGE PROTECTION: Contractor to provide electrical surge protection for the system controller.

2.9 BACKFLOW PREVENTION: As determined by Municipality/Local regulations.

2.10 PRESSURE REGULATOR: As determined by Contractor.

3.0 EXECUTION

3.1 EXCAVATION AND BACKFILL:

A. Trenches for pipe sprinkler lines shall be excavated of sufficient depth and width to permit proper handling and installation by any other method the Contractor may desire if approved by the Owner, pipe manufacturer, and Designer. The backfill shall be thoroughly compacted and evened off with the adjacent soil level. Selected fill dirt or sand shall be used if soil conditions are rocky. In rocky areas the trenching depth shall be two (2) inches below normal trenching depth to allow for this bedding. The fill dirt or sand shall be used in filling (4) inches above the pipe. The remainder of the backfill shall contain no lumps or rocks larger than three (3) inches. The top twelve (12) inches of backfill shall be topsoil, free of rocks, subsoil, or trash. Any open trenches or partially backfilled trenches left overnight or left unsupervised shall be barricaded to prevent undue hazard to the public space.
B. The Contractor shall backfill in six (6) inch compacted lifts as needed to bring the soil to its original density.

3.2 INSTALLATION OF PLASTIC PIPE:

A. Plastic pipe shall be installed in a manner that permits expansion and contraction as recommended by the manufacturer.
B. Plastic pipe shall be cut with a handsaw or hacksaw with the assistance of a square in sawing vice or in a manner so as to ensure a square cut. Burrs at cut ends shall be removed prior to installation so that a smooth unobstructed flow will be obtained.
C. All plastic-to-plastic joints shall be solvent weld joints or slip seal joints. Only the solvent recommended for the pipe and fittings shall be installed as outlined and instructed by the pipe manufacturer. The Contractor shall assume full responsibility for the correct installation.
D. The joints shall be allowed to set at least twenty-four (24) hours before pressure is applied to the system on PVC pipe.

3.3 CONTROLLER AND ELECTRICAL CONNECTIONS:

A. All electrical connections shall conform to the National Electrical Code, latest edition.
B. Control wires installed beneath walks, drives, or other permanent surfaces shall be placed in sleeves.
C. Wires shall be spliced only at valve boxes.
D. Leave twenty-four (24) inch loop of wire at each valve for expansion/contraction and servicing.
E. Controllers and valves shall be from the same company e.g. Rain Bird, Toro or approved equal.
F. 120 VAC electrical power supply to the controller location shall be supplied by others.

3.4 FLUSHING AND TESTING:

A. After all new sprinkler piping and risers are in place and connected for a given section and all necessary division work has been completed and prior to the installation of sprinkler heads all control valves shall be opened and a full head of water used to flush out the system.
B. Sprinkler main shall be tested under normal water pressure for a period of twelve (12) hours. If leaks occur, repair and repeat the test. Give Landscape Architect forty-eight hours notice prior to testing.
C. Testing of the system shall be performed after completion of the entire installation and any necessary repairs shall be made at the Contractor's expense to put the system in good working order before final payment by the Owner.
D. Adjustment of the sprinkler heads and automatic equipment will be done by the Contractor upon completion of installation to provide optimum performance. Minor adjustments during the guarantee period will be made by the Owner.
E. After completion, testing, and acceptance of the system, the Contractor will instruct the Owner's personnel in the operation and maintenance of the system.

4.0 ACCEPTANCE AND GUARANTEE

4.1 SUBSTANTIAL COMPLETION

A. Submit request for inspection for Substantial completion to the Landscape Architect at least forty-eight hours prior to anticipated date of inspection and testing (refer to Paragraph 3.4 TESTING, herein).
B. Submit Record Drawings and Maintenance Manual to the Landscape Architect with request for inspection (refer to Paragraph 3.4 FLUSHING AND TESTING, herein).
C. Review the work jointly with the Owner and Landscape Architect for Substantial Completion.
D. Upon completion of repairs and replacements found necessary at time of review, the Owner and Landscape Architect will confirm the date of Substantial Completion of the work.
E. The date of Substantial Completion will constitute the beginning date of the One-Year Guarantee.

4.2 GUARANTEE:

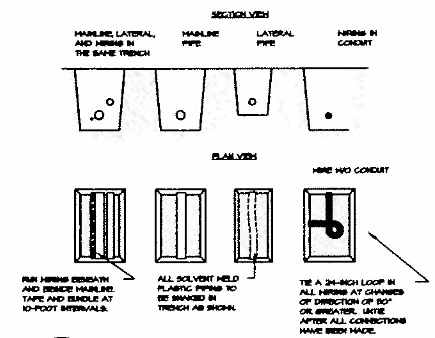
A. Guarantee all work, products, equipment, and materials for one(1) year, beginning at Date of Substantial Completion.
B. During the period of the Guarantee, replace immediately, with no additional compensation, all work not functioning correctly, make adjustments as necessary to maintain complete coverage, make good any other damage, loss, destruction, or failure. Repairs and replacements shall be done promptly and at no additional cost to the Owner.
C. Repair damage to grade, plants, and other work or property as necessitated due to irrigation defects, repairs, replacement or adjustment.
D. If the replacement is not acceptable during or at the end of the Guarantee Period, the owner may elect either subsequent replacement or credit. Replacement products shall have a similar one-year guarantee from time of replacement.
E. Guarantee applies to all losses with the exception of those due to Acts of God, vandalism, or Owner neglect, as determined by the Landscape Architect.

4.3 FINAL INSPECTION AND ACCEPTANCE

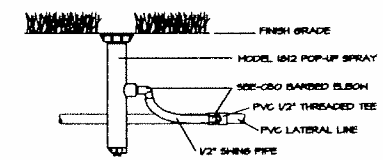
A. At end of Guarantee Period and upon request for inspection, jointly review all guaranteed work for Final Acceptance.
B. Submit written request for inspection for Final Acceptance to the Landscape Architect at least two weeks prior to anticipated date of inspection. Include list of work previously accepted and list of work replaced during Guarantee Period.
C. Upon completion by the Contractor of all required repairs and replacements, the Owner and the Landscape Architect will confirm the date of Final Acceptance of the work.

END OF SECTION 02810.

GENERAL NOTES:
A. Contractor shall be responsible for minor adjustments in the field. Contractor to ensure irrigation does not spray on the foundation of buildings, and shall have minimum overspray on all sidewalks and driveways.
B. Contractor to verify locations of meter, backflow, and controller in the field, and make necessary adjustments.
C. Backflow to be installed according to all local codes. Contractor is responsible for acquiring necessary permits, inspections and approvals.



4 / 6 PIPING DIAGRAM
N.T.S.



5 / 6 12" POP-UP SHRUB SPRAY
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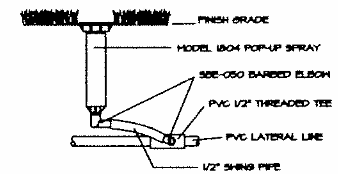

6 / 6 4" POP-UP TURF SPRAY
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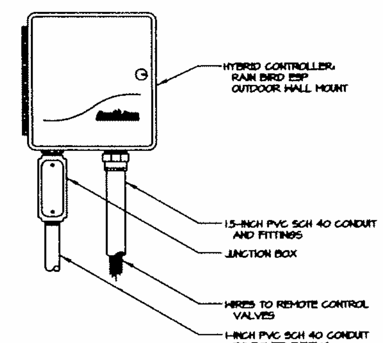

7 / 6 HYBRID CONTROLLER
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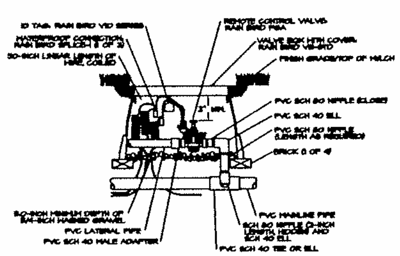

1 / 6 PGA VALVE DETAIL
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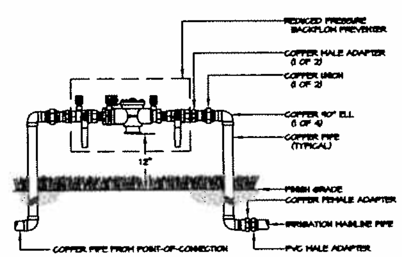
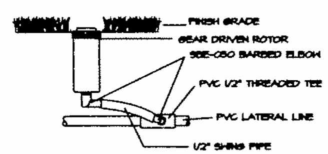


NOTE:
1. INSTALL BACKFLOW PREVENTER AS REQUIRED BY LOCAL CODES AND HEALTH DEPARTMENT. VERIFY LOCAL REQUIREMENTS PRIOR TO INSTALLATION.

2 / 6 BACKFLOW PREVENTER DETAIL
N.T.S.



3 / 6 GEAR DRIVEN ROTOR
N.T.S.

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VETERANS BLVD. CPZ
BEAUTIFICATION PROJECT
METAIRIE, LOUISIANA

Project No: MAINTENANCE

Revisions:

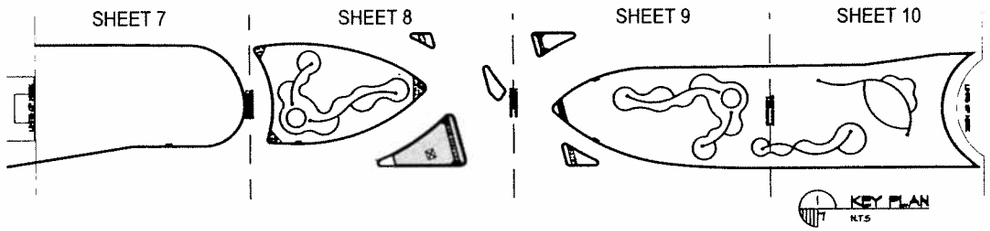
No:	Date:	Description:

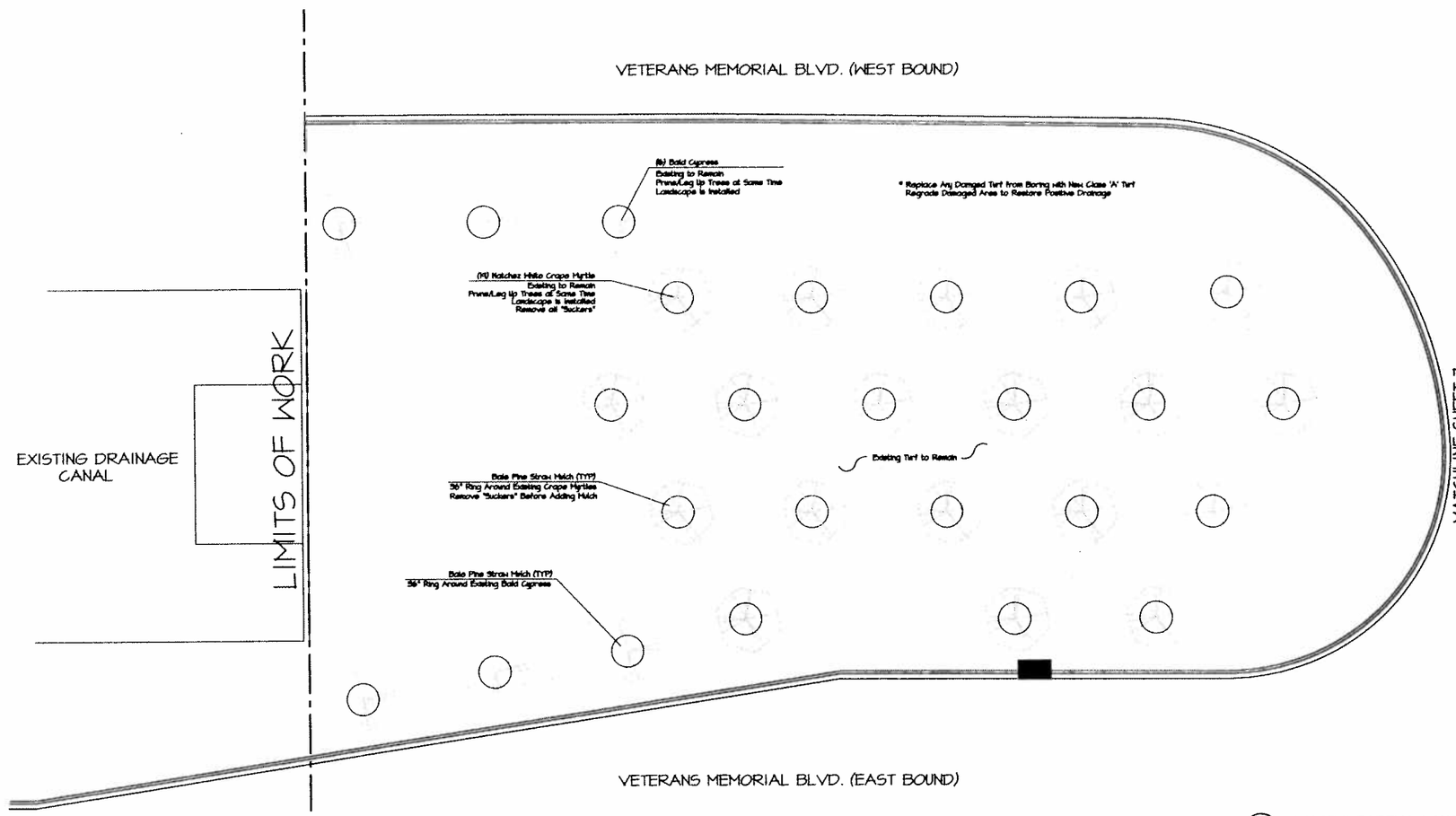
Date: 2.10.10
Drawn by: BP
Checked by: AB

Sheet Title:
PHASE I IRRIGATION SPECS/ DETAILS

Drawing No.
6

Sheet
6 of 18





PHASE II PARTIAL LANDSCAPE PLAN
1" = 10'-0"

0 5' 10' 20'

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VETERANS BLVD. CPZ
BEAUTIFICATION PROJECT
METAIRIE, LOUISIANA

Project No: MAINTENANCE

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Drawing No.

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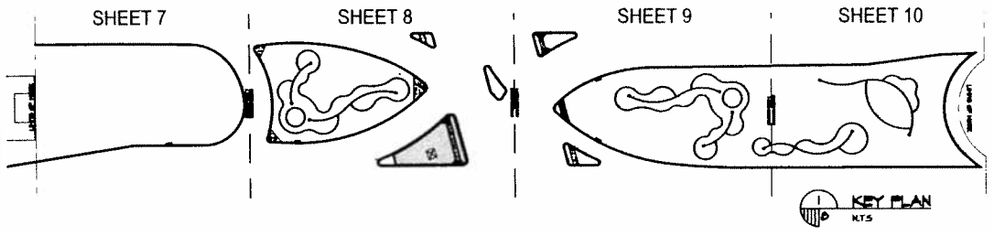
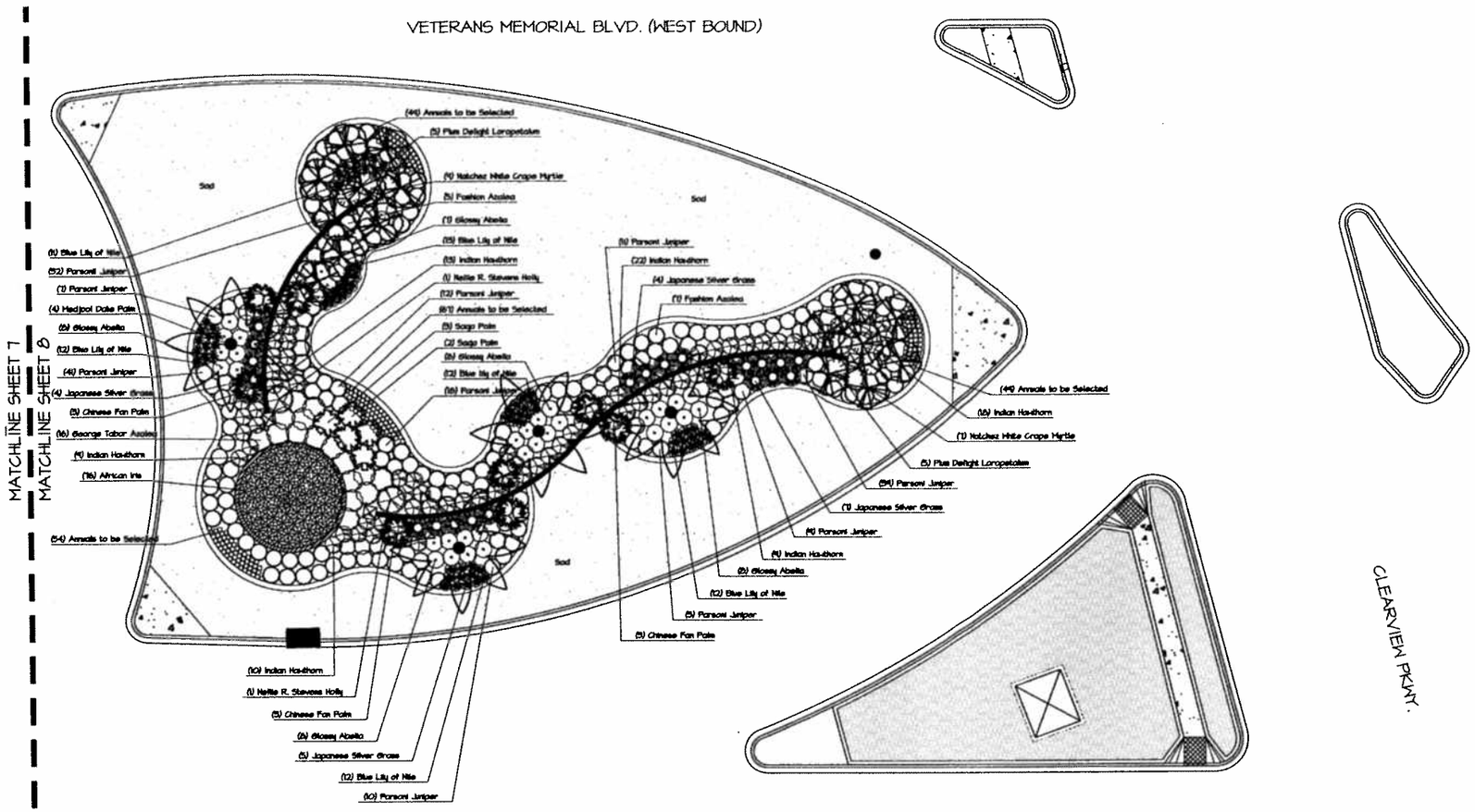
Sheet 7 of 18



Sheet 8 Plant Schedule

Quantity	Symbol	Scientific Name	Common Name	Planting Size
591		Abelia x grandiflora	Glossy Abelia	3-Gal
72		Agapanthus africanus	Blue Lily of Nile	1-Gal
214		Annuals to be selected	Annuals to be Selected	4" pots
2		Cycas revoluta	Sago Palm	15-Gal 30"x30" Min.
3		Cycas revoluta	Sago Palm	30-Gal 30"x36" Min.
76		Dietes spp.	African Iris	1-Gal
2		Ilex 'Nellie R. Stevens'	Nellie R. Stevens Holly	45-Gal 5' Min. Height, 3' Min. Spread Canopy
124		Juniperus horizontalis 'Parsoni'	Parsoni Juniper	3-Gal
16		Lagerstroemia indica 'Natchez'	Natchez White Crape Myrtle	65-Gal 14'-16' Min. Height, 8' Min. Spread, 2"-2.5" Min. Cal. Canes
9		Livistona chinensis	Chinese Fan Palm	30-Gal 6' O.A. Min. Height
10		Loropetalum chinensis 'Plum Delight'	Plum Delight Loropetalum	7-Gal 14"x20" Min.
20		Miscanthus sinensis	Japanese Silver Grass	3-Gal
4		Phoenix dactylifera 'Medjool'	Medjool Date Palm	12'-14' C.T., 12'-14' Min. Spread Canopy, Notarized Certification
61		Raphiolepis indica	Indian Hawthorn	7-Gal 15"x20" Min.
12		Rhododendron indica 'Fashion'	Fashion Azalea	3-Gal
16		Rhododendron indica 'G.Tabor'	George Tabor Azalea	7-Gal 24"x24" Min.
+/- 850 SY		Bremachloa ophiuroides 'Oakleaf'	Class 'A' Centipede Sod	Square



2 PHASE II PARTIAL LANDSCAPE PLAN
1" = 10'-0"

0 5' 10' 20'

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Project No: MAINTENANCE

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No:	Date:	Description:

Date: 2.10.10

Drawn by: BP

Checked by: AB

Sheet Title: PHASE II PARTIAL LANDSCAPE PLAN

Drawing No. 8

Sheet 8 of 18

DRAWINGS

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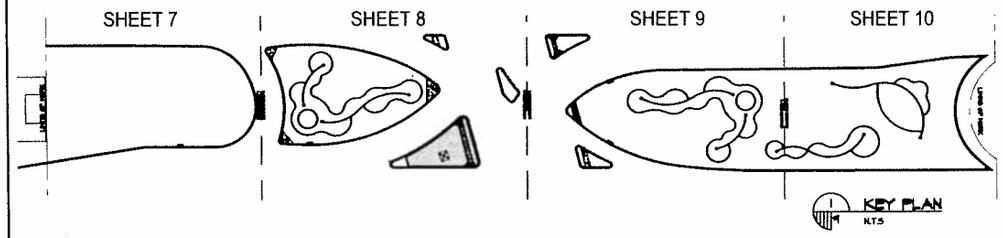
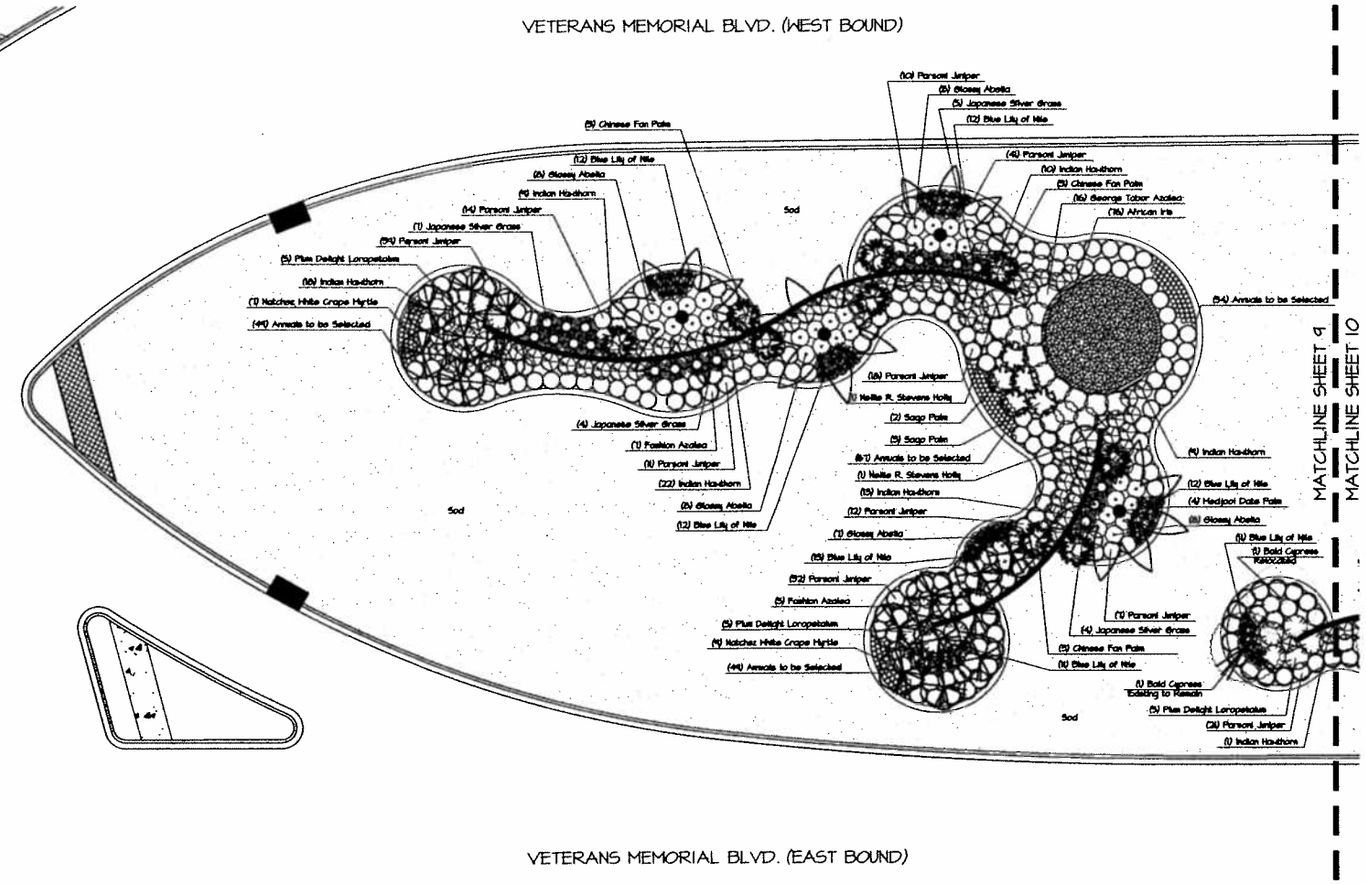


Sheet 9 Plant Schedule

Quantity	Symbol	Scientific Name	Common Name	Planting Size
94		Abelia x grandiflora	Glossy Abelia	3-Gal
86		Agapanthus africanus	Blue Lily of Nile	1-Gal
214		Annuals to be Selected	Annuals to be Selected	4" pots
2		Cycas revoluta	Sago Palm	15-Gal 30"x30" Min.
5		Cycas revoluta	Sago Palm	30-Gal 30"x36" Min.
16		Dietes spp.	African Iris	1-Gal
1		Existing Bald Cypress	Relocated	Existing
1		Existing Bald Cypress	Existing to Remain	Existing
2		Ilex 'Nellie R. Stevens'	Nellie R. Stevens Holly	45-Gal 3' Min. Height, 3' Min. Spread Canopy
205		Juniperus chinensis 'Parsoni'	Parsoni Juniper	3-Gal
16		Lagerstroemia indica 'Natchez'	Natchez White Crape Myrtle	65-Gal 14'-16' Min. Height, 8' Min. Spread, 2"-2.5" Min. Cal. Canes
4		Livistona chinensis	Chinese Fan Palm	30-Gal 6' O.A. Min. Height
15		Loropetalum chinensis	Plum Delight Loropetalum	7-Gal 14"X20" Min.
20		Miscanthus sinensis	Japanese Silver Grass	3-Gal
4		Phoenix dactylifera 'Medjool'	Medjool Date Palm	12'-14' C.T., 12'-14' Min. Spread Canopy, Notarized Certification
82		Raphiolepis indica	Indian Hawthorn	7-Gal 15"x20" Min.
12		Rhododendron indica 'Fashion'	Fashion Azalea	3-Gal
16		Rhododendron indica 'G.Tabor'	George Tabor Azalea	7-Gal 24"x24" Min.
+/- 1,500 SY		Eremochloa ophiuroides 'Oakland'	Class 'A' Centipede Sod	Squares



PHASE II PARTIAL LANDSCAPE PLAN
1" = 10'-0"

0 5' 10' 20'

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Sheet Title: PHASE II PARTIAL LANDSCAPE PLAN

Drawing No. 9

Sheet 9 of 18

DRAWINGS

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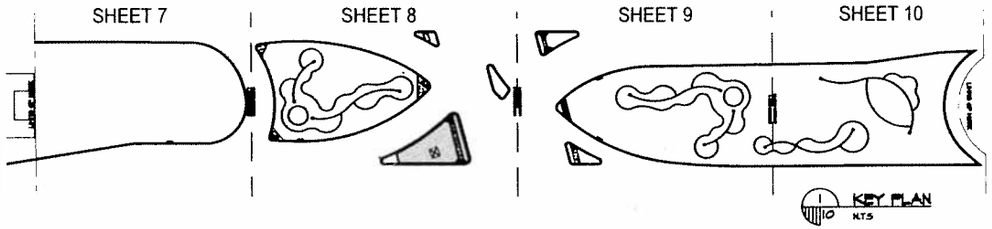
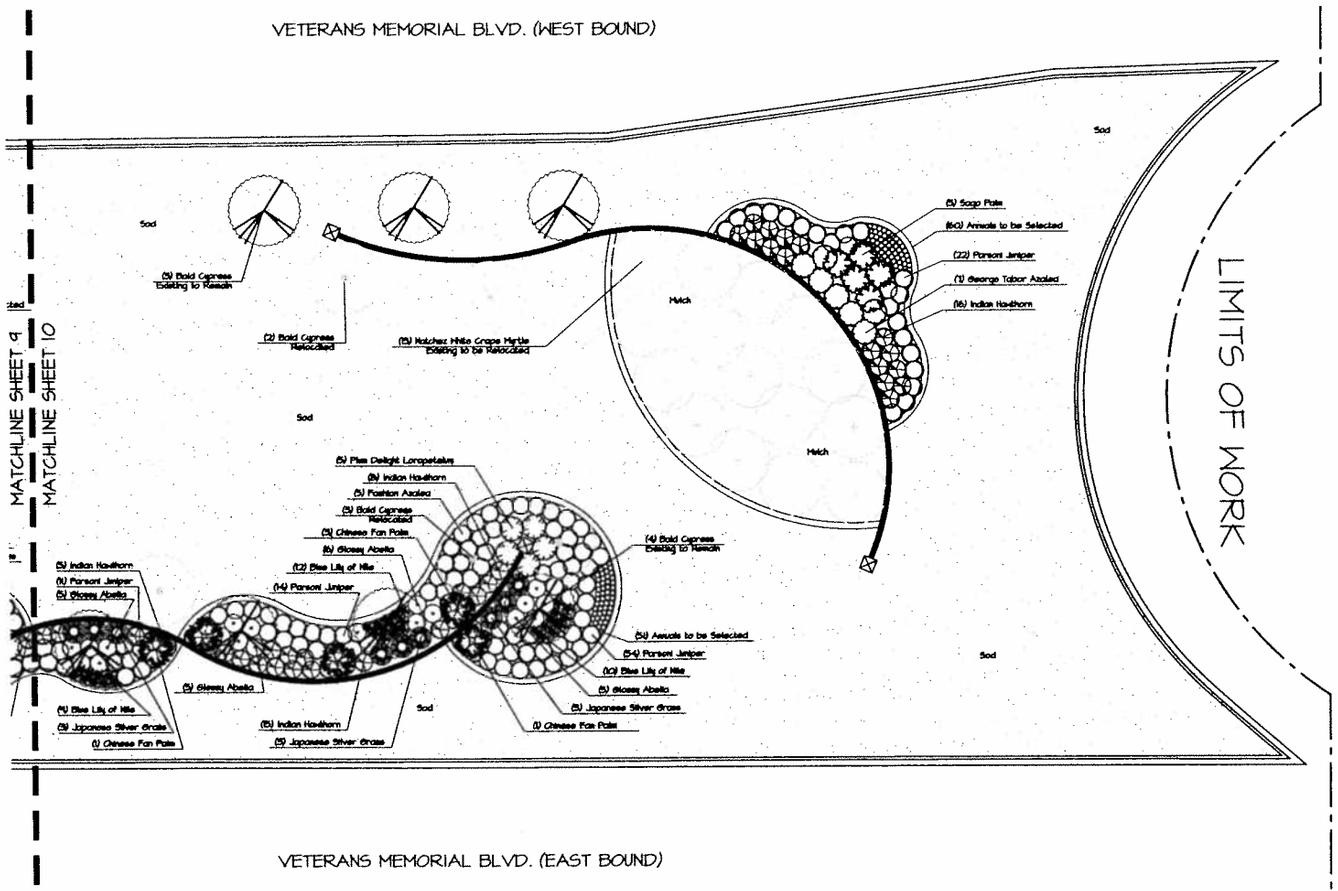


KEY PLAN
N.T.S.

Sheet 10 Plant Schedule

Quantity	Symbol	Scientific Name	Common Name	Planting Size
21		Abelia x grandiflora	Glossy Abelia	3-Gal
31		Agapanthus africanus	Blue Lily of Nile	1-Gal
18		Annuals to be selected	Annuals to be Selected	4" pots
2		Cycas revoluta	Sago Palm	15-Gal 30"x30" Min.
5		Cycas revoluta	Sago Palm	30-Gal 50"x96" Min.
5		Existing Bald Cypress	Relocated	Existing
7		Existing Bald Cypress	Existing to Remain	Existing
15		Existing Crape Myrtle	Relocated	Existing
101		Juniperus chinensis 'Parsoni'	Parsoni Juniper	3-Gal
5		Livistona chinensis	Chinese Fan Palm	30-Gal 6' O.A. Min. Height
5		Loropetalum chinensis	Plum Delight Loropetalum	7-Gal 14"x20" Min.
4		Miscanthus sinensis	Japanese Silver Grass	3-Gal
44		Raphiolepis indica	Indian Hawthorn	7-Gal 15"x20" Min.
5		Rhododendron indica 'Fashion'	Fashion Azalea	3-Gal
7		Rhododendron indica 'G.Tabor'	George Tabor Azalea	7-Gal 24"x24" Min.
+/- 1,750 SY		Eremochloa ophiuroides 'Oakleaf'	Glass 'A' Centipede Sod	Squares



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Drawing No. 10

Sheet 10 of 18

SECTION 02900 - LANDSCAPING

1.1 GENERAL

A. Submittals: In addition to product certificates, submit the following where applicable:

1. Certification of grass seed/sod from seed/sod vendor for each seed mixture, or for sod.
2. List of plant suppliers and anticipated delivery dates.
3. Provide sample or product data of planting mix, top soil, fertilizers, pre-emergent and mulch or any other amendment required for project.

B. Quality Assurance: Provide trees, shrubs, ground covers, and plants of quality, size, genus, species, and variety indicated, complying with applicable requirements of ANSI Z60.1 "American Standard for Nursery Stock." Materials that do not meet the afore mentioned requirements may be rejected.

C. Special Warranty: Warrant trees, shrubs and ground covers for a period of one year after date of Substantial Completion, against defects including death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, or abuse by Owner, abnormal weather conditions unusual for warranty period, or incidents which are beyond Contractor's control.

1. Remove and replace any unhealthy and dead trees and shrubs within the warranty period.

D. Maintain and establish lawns by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations to produce a uniformly smooth lawn for not less than the following:

~~1. Seeded Lawns: 60 days after date of Substantial Completion.~~
2. Sodded Lawns: 30 days after date of Substantial Completion.

1.2 PRODUCTS

A. Trees and Shrubs: Well-shaped, fully branched, healthy, vigorous nursery-grown stock of sizes and grades indicated, free of disease, insects, eggs, larvae, and defects, conforming to ANSI Z60.1.

1. Provide balled and burlapped trees and shrubs, or
2. Provide container grown trees and shrubs.

B. Ground Covers and Plants: Established and well rooted in removable containers or integral peat pots and with not less than the minimum number and length of runners required by ANSI Z60.1 for the pot size indicated.

~~C. Grass Seed: Fresh, clean, dry, new-crop seed complying with the Association of Official Seed Analysts' "Rules for Testing Seeds" for purity and germination tolerances.~~

~~1. Seed Mixture: Provide seed of grass species and varieties, proportions by weight, and minimum percentages of purity, germination, and maximum percentage of weed seed as indicated.~~

D. Sod: Certified turfgrass sod complying with ASPA specifications for machine-cut thickness, size, strength, moisture content, and mowed height, and free of weeds and undesirable native grasses. Provide viable sod of uniform density, color, and texture, strongly rooted, and capable of vigorous growth and development when planted.

1. Species: Provide sod of grass species and varieties, proportions by weight, and minimum percentages of purity, germination, and maximum percentage of weed seed as indicated.

E. Planting mix: ASTM D 5268, pH range of 5.5 to 7, 4 percent organic material minimum, free of stones 1 inch (25 mm) or larger in any dimension, and other extraneous materials harmful to plant growth.

1. Planting mix: Equal parts of sharp sand, peat moss and composted bark.

F. Lime: ASTM C 602, Class T, agricultural limestone.

G. Peat Humus: Finely divided or granular texture, with a pH range of 6 to 7.5, composed of partially decomposed moss peat (other than sphagnum), peat humus, or reed-sedge peat.

H. Sawdust or Ground-Bark Humus: Decomposed, nitrogen-treated, of uniform texture, free of chips, stones, sticks, soil, or toxic materials.

I. Bonemeal: Commercial, raw, finely ground; minimum of 4 percent nitrogen and 20 percent phosphoric acid.

J. Superphosphate: Commercial, phosphate mixture, soluble; minimum of 20 percent available phosphoric acid.

K. Lawn fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea-form, phosphorous, and potassium.

L. Planting bed fertilizer: Osmocote classic 18-18-18 8 to 9 month longevity or approved equal. Apply in accordance to manufacturer's specifications.

M. Pre-emergent Herbicide: Eptam 20-G or approved equal. Apply in according to manufacturer's specifications.

N. Organic Mulch: Organic mulch, free from deleterious materials and suitable as a top dressing, consisting of ground or shredded bark, wood or bark chips, salt hay or threshed straw, or shredded hardwood.

O. Mineral Mulch: Hard, durable riverbed gravel or crushed stone, washed free of loam, sand, clay, and other foreign substances.

1. Size Range: 1-1/2 inches (38 mm) maximum, 3/4 inch (19 mm) minimum.

~~P. Steel Edging: ASTM A 569 (ASTM A 569M), rolled-edge, standard painted steel edging and accessories, fabricated in sections with loops stamped from or welded to face of sections approximately 30 inches (760 mm) apart to receive stakes. Size required to install edging to be welded and painted to match factory finish.~~

~~1. Edging Size: 3/16 inch (4.8 mm) wide by 4 inches (102 mm) deep.~~

1.3 EXECUTION

A. Planting Mix Preparation: Before mixing, clean topsoil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful to plant growth. Mix soil amendments and fertilizers with topsoil at rates indicated.

B. Lawn Planting Preparation (Disturbed): Loosen subgrade to a minimum depth of 4 inches (100 mm). Remove stones larger than 1-1/2 inches (38 mm) in any dimension and sticks, roots, rubbish, and other extraneous materials.

1. Spread topsoil soil mixture to depth required to meet thickness, grades, and elevations shown, after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen.
2. Place approximately 1/2 the thickness of topsoil mixture required. Work into top of loosened subgrade to create a transition layer and then place remainder of topsoil mixture.

C. Lawn Planting Preparation (Undisturbed): Where lawns are to be planted in areas unaltered or undisturbed by excavating, grading, or surface soil stripping operations, remove and dispose of existing grass, vegetation, and turf.

1. Till surface soil to a depth of at least 6 inches (150 mm). Apply soil amendments and initial fertilizers and mix thoroughly into top 4 inches (100 mm) of soil. Trim high areas and fill in depressions. Till soil to a homogenous mixture of fine texture.

D. Moisten prepared lawn areas before planting when soil is dry and allow surface to dry before planting.

E. Ground Cover and Plant Bed Preparation: Loosen subgrade of planting bed areas to a minimum depth of 6 inches (150 mm). Remove stones larger than 1-1/2 inches (38 mm) in any dimension and sticks, roots, rubbish, and other extraneous materials.

1. Spread planting soil mixture to depth required to meet thickness, grades, and elevations shown, after light rolling and natural settlement. Place approximately 1/2 the thickness of planting soil mixture required. Work into top of loosened subgrade to create a transition layer and then place remainder of planting soil mixture.

F. Excavation for Trees and Shrubs: Excavate pits with vertical sides and with bottom of excavation slightly raised at center to assist drainage. Excavate approximately 1-1/2 times as wide as ball diameter and deep enough to allow placing of root ball on a setting layer of planting soil. Loosen hard subsoil in bottom of excavation.

G. Planting Trees and Shrubs: Set stock plumb and in center of pit or trench with top of ball raised above adjacent finish grades.

1. Place a setting layer of compacted planting soil.
2. Remove burlap and wire baskets from tops of balls and partially from sides, but do not remove from under balls. Do not use planting stock if ball is cracked or broken before or during planting operation.
3. Place backfill around ball in layers, tamping to settle backfill and eliminate voids and air pockets.
4. Dish and tamp top of backfill to form a 3-inch- (75-mm-) high mound around the rim of the pit. Do not cover top of root ball with backfill.

H. Tree and Shrub Pruning: Prune, thin, and shape trees and shrubs according to standard horticultural practice. Prune trees to retain required height and spread. Do not cut tree leaders; remove only injured or dead branches from flowering trees. Prune shrubs to retain natural character. Shrub sizes indicated are size after pruning.

I. Planting Ground Cover and Plants: Plant spacing according to plan, unless otherwise indicated. Dig holes large enough to allow spreading of roots, and backfill with planting soil. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.

J. Planting Bed Feirtilizer: Install per manufactures recommendations

K. Pre-Emergent Herbicide: Install per manufactures recommendations

L. Mulching: Completely cover area to be mulched. Apply mulch and finish level with adjacent finish grades. Do not place mulch against trunks or stems.

1. Mulch Type and Thickness: Cut pine straw (bags), 4 inches (100 mm) thick as indicated in all bed areas on drawings (inside of mow curbs).
2. Mulch Type and Thickness: Whole pine needles (bales), 4 inches (100 mm) thick as indicated around all trees on drawings (outside of mow curbs).

~~M. Seeding Lawns: Sow seed with a spreader or a seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph (8 km/h). Evenly distribute seed by sowing equal quantities in 2 directions at right angles to each other. Rake seed lightly into top 1/8 inch (3 mm) of topsoil, roll lightly and water with fine spray.~~

~~1. Seeding Rate: 3 to 4 lb per 1000 sq. ft. (1.5 to 2 kg per 100 sq. m).~~
~~2. Protect seeded areas with slopes less than 1:6 against erosion by spreading straw mulch after completion of seeding operations and anchor by crimping into topsoil. Spread uniformly at a minimum rate of 2 tons per acre (42 kg per 100 sq. m).~~

N. Sodding Lawns: Lay sod to form a solid mass with tightly fitted joints within 24 hours of stripping. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to subgrade or sod during installation. Tamp and roll lightly to ensure contact with subgrade, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.

1. Anchor sod on slopes exceeding 1:6 with wood pegs spaced as recommended by sod manufacturer.
2. Saturate sod with fine water spray within 2 hours of planting. During first week, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches (38 mm) below the sod.

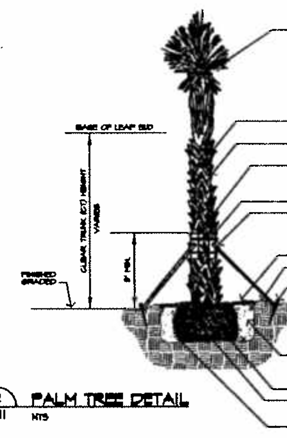
~~O. Edgings: Install edgings where indicated and anchor with stakes driven below top elevation of edging according to manufacturer's recommendations.~~

P. Disposal: Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of it off the Owner's property.

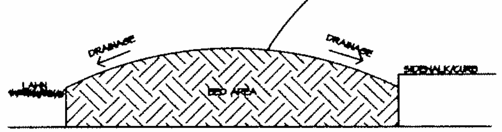
END OF SECTION 02900

Phase II Overall Plant Schedule

Quantity	Symbol	Scientific Name	Common Name	Planting Size
44		Abelia x grandiflora	Glossy Abelia	3-Gal
186		Agapanthus africanus	Blue Lily of Nile	1-Gal
544		Annuals to be selected	Annuals to be Selected	4" pots
6		Cycas revoluta	Sago Palm	15-Gal 30"x30" Min.
9		Cycas revoluta	Sago Palm	30-Gal 30"x36" Min.
152		Dietes spp.	African Iris	1-Gal
6		Existing Bald Cypress	Relocated	Existing
8		Existing Bald Cypress	Existing to Remain	Existing
15		Existing Crape Myrtle	Relocated	Existing
4		Ilex 'Nellie R. Stevens'	Nellie R. Stevens Holly	45-Gal 5' Min. Height, 5' Min. Spread Canopy
490		Juniperus chinensis 'Parsonii'	Parsoni Juniper	3-Gal
52		Lagerstroemia indica 'Natchez'	Natchez White Crape Myrtle	65-Gal 14'-16' Min. Height, 8' Min. Spread, 2"-2.5" Min. Cal. Canes
23		Livistona chinensis	Chinese Fan Palm	30-Gal 6' O.A. Min. Height
30		Loropetalum chinensis	Plum Delight Loropetalum	7-Gal 14"x20" Min.
44		Miscanthus sinensis	Japanese Silver Grass	3-Gal
8		Phoenix dactylifera 'Medjool'	Medjool Date Palm	12'-14' C.T., 12'-14' Min. Spread Canopy, Notarized Certification
207		Raphiolepis indica	Indian Hawthorn	7-Gal 15"x20" Min.
24		Rhododendron indica 'Fashion'	Fashion Azalea	3-Gal
34		Rhododendron indica 'G.Tabor'	George Tabor Azalea	7-Gal 24"x24" Min.
+/- 4,100 SY		Eremochloa ophiuroides 'Oaklawn'	Class 'A' Centipede Sod	Squares



2 PALM TREE DETAIL
NTS



1 SOIL MOUNDING DETAIL
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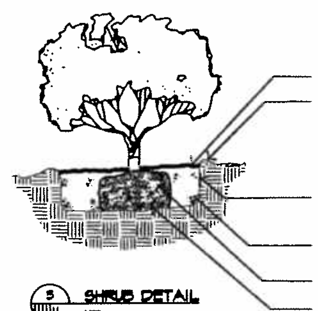

3 SHRUB DETAIL
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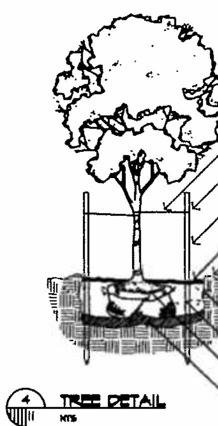

4 TREE DETAIL
NTS

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VETERANS BLVD. CPZ
BEAUTIFICATION PROJECT
METAIRIE, LOUISIANA

Project No: MAINTENANCE

Revisions:

No:	Date:	Description:

Date: 2.10.10

Drawn by: BP

Checked by: AB

Sheet Title:

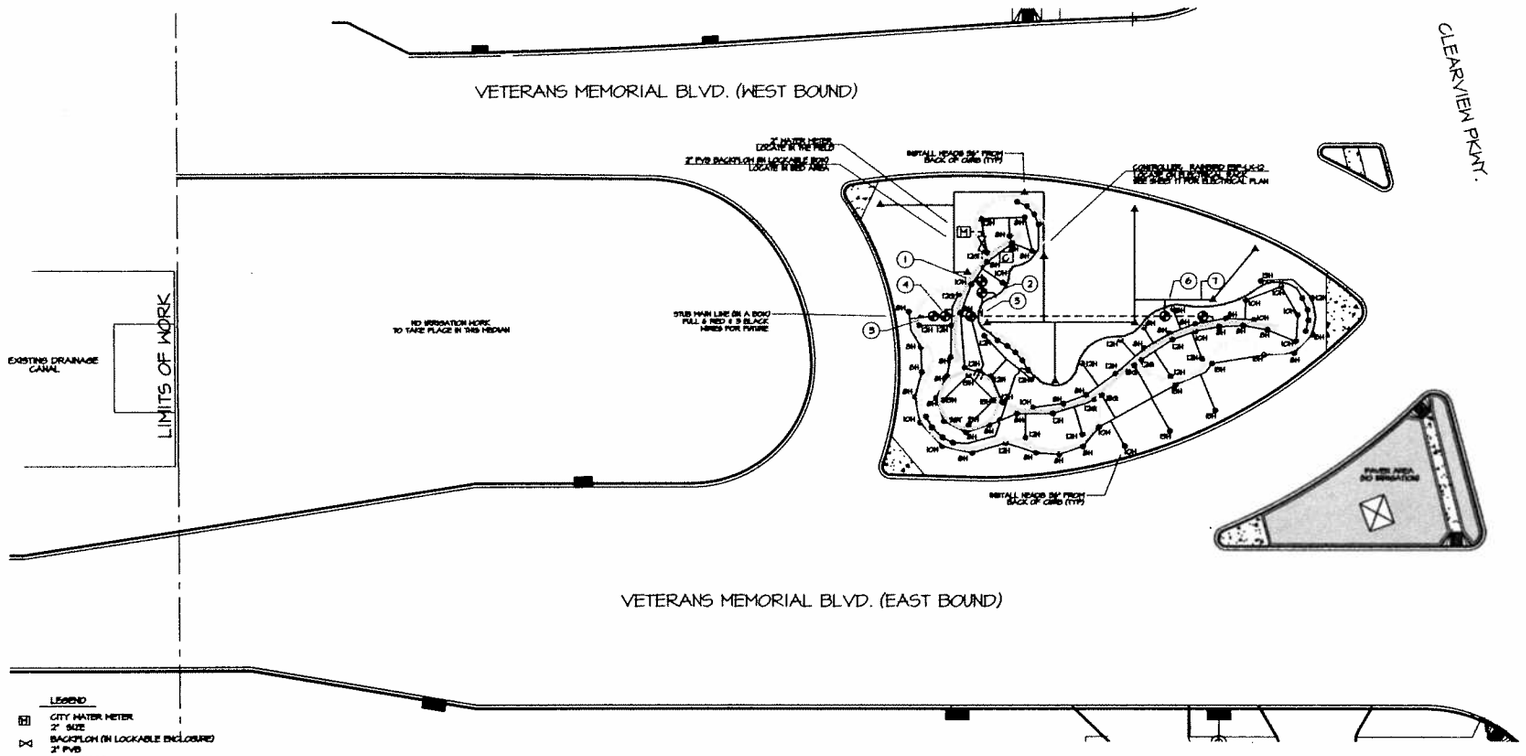
PHASE II LANDSCAPE SPECS/ DETAILS

Drawing No.

11

DRAWINGS

BID 50-96896



VALVE CHART

VALVE NUMBER	SIZE	GPM
1	1"	5
2	1"	3
3	1-1/2"	26
4	1"	21
5	1"	4
6	1-1/2"	30
7	1"	23

NOTES:

1. CONTRACTOR TO COORDINATE WITH JEFFERSON PARISH HANDY DRAINAGE FOR LANDSCAPE ROCK, SOD, TREES, ETC. PRIOR TO INSTALLATION. (PLANS, LOCATION, SCHEDULE & INSPECTION)
2. NOTIFY LANDSCAPE ARCHITECT 48 HOURS IN ADVANCE OF INSTALLATION. CONTRACTOR TO WAIT FOR TO ACCEPTANCE AND BILLING CAN BE SET UP.
3. ANNUAL PLANTING BEDS SHALL BE ON A SEPARATE ZONE. RAISED PLANTING BEDS SHALL BE ON A SEPARATE ZONE.

LEGEND

- CITY WATER METER 2" SIZE
- BACKFLOW (IN LOCKABLE ENCLOSURE) 2" PVB
- CONTROLLER RAINBIRD ESP-LX SERIES OUTDOOR W/ RAIN CHECK
- SLEEVE (ALL SLEEVES ARE TO BE 4" PVC SCH40 UNLESS OTHERWISE NOTED). SLEEVES TO BE 18" MIN. BELOW GRADE UNDER WALLS. SLEEVES TO BE 12" MIN. BELOW GRADE UNDER MOW CURB.
- MAIN LINE (ALL MAIN LINE IS TO BE 2") PVC CLASS 200
- LATERAL LINE (SIZE LATERAL NOT TO EXCEED SUPS) PVC CLASS 200
- SOLENOID VALVE IN A 10" BOX RAINBIRD PGA SERIES INSTALL ALL VALVES INSIDE BED AREA
- BED SPRAYS RAINBIRD 1804'S
- TURF SPRAYS RAINBIRD 1804'S
- ADJ TURF ROTORS HUNTER PGP'S ADJ
- FULL TURF ROTORS HUNTER PGP'S FULL
- LANDSCAPE WALL
- LANDSCAPE RETAINING WALL
- LANDSCAPE COLUMN
- MOW CURB
- EXISTING CONCRETE CURB
- EXISTING CONCRETE SIDEWALK

PHASE II PARTIAL IRRIGATION PLAN

1" = 20'-0"

0 20' 40'

GPM FOR RAINBIRD MPR NOZZLES

NOZZLE	GPM	NOZZLE	GPM	NOZZLE	GPM	NOZZLE	GPM
8P	4	12P	3	10P	2	5P	1
8TQ	5	12TQ	2.25	10TQ	1.5	5TQ	0.75
8H	2	12H	1.5	10H	1	5H	0.5
8Q	1	12Q	0.75	10Q	0.5	5Q	0.25

GPM FOR RAINBIRD MPR NOZZLES

NOZZLE	GPM	NOZZLE	GPM
8SST	1.5	BUBBLER	1
8SST	0.75		

N

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VETERANS BLVD. CPZ BEAUTIFICATION PROJECT METAIRIE, LOUISIANA

Project No:
MAINTENANCE

Revisions:

No:	Date:	Description:

Date: 2.10.10

Drawn by: BP

Checked by: AB

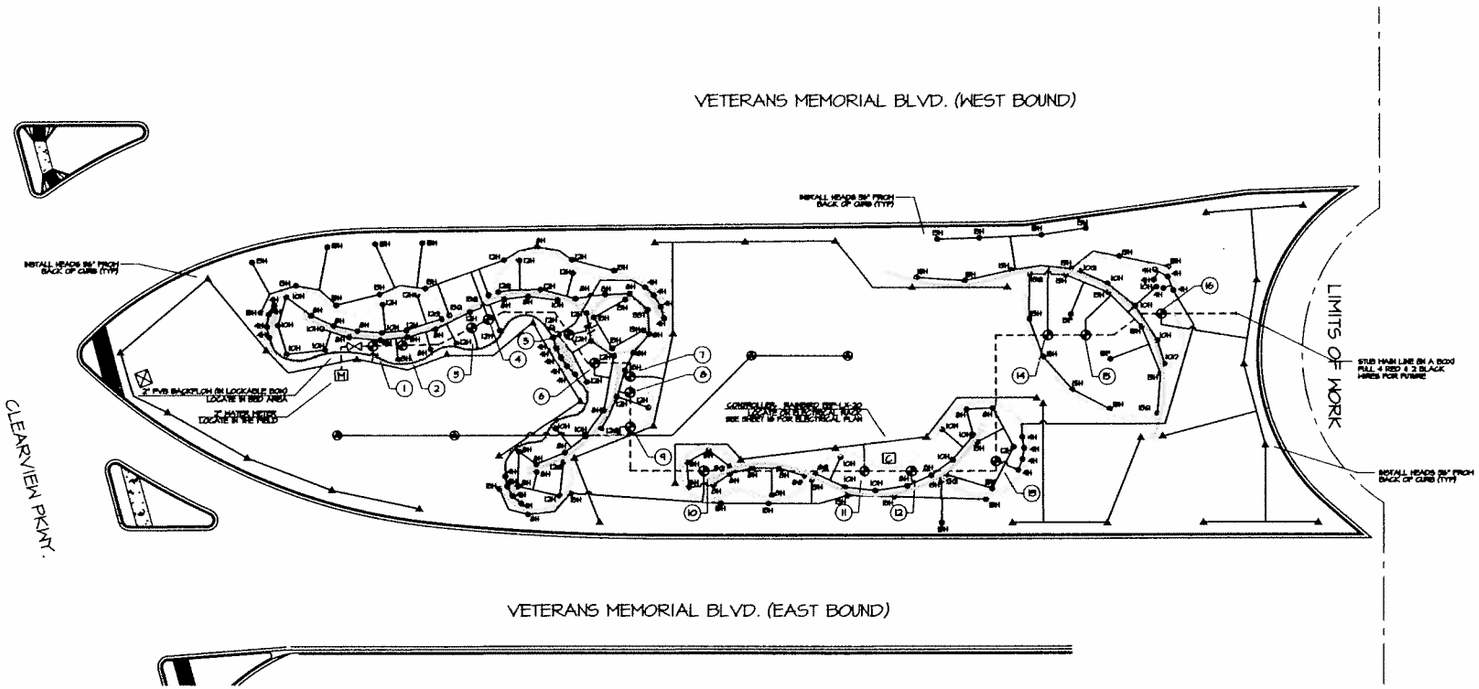
Sheet Title:
PHASE II PARTIAL IRRIGATION PLAN

Drawing No.
12

Sheet
12 of 18

DRAWINGS

BID 50-96896



LEGEND

- CITY WATER METER 2" SIZE
- BACKFLOW (IN LOCKABLE ENCLOSURE) 2" PVB
- CONTROLLER RAINBIRD ESP-LX SERIES OUTDOOR W/T RAIN CHECK
- SLEEVE (ALL SLEEVES ARE TO BE 4" PVC SCH40 UNLESS OTHERWISE NOTED). SLEEVES TO BE 18" MIN. BELOW GRADE UNDER HALLS. SLEEVES TO BE 12" MIN. BELOW GRADE UNDER MOH CURB.
- MAIN LINE (ALL MAIN LINE IS TO BE 2") PVC CLASS 200
- LATERAL LINE (SIZE LATERAL NOT TO EXCEED SLIPS) PVC CLASS 200
- SOLENOID VALVE IN A 10" BOX RAINBIRD PGA SERIES INSTALL ALL VALVES INSIDE BED AREA
- BED SPRAYS RAINBIRD 1812S
- TURF SPRAYS RAINBIRD 1804S
- ADJ TURF ROTORS HUNTER P50PS ADJ
- FULL TURF ROTORS HUNTER P50PS FULL
- LANDSCAPE WALL
- LANDSCAPE RETAINING WALL
- LANDSCAPE COLUMN
- MOH CURB
- EXISTING CONCRETE CURB
- EXISTING CONCRETE SIDEWALK

VALVE CHART

VALVE NUMBER	SIZE	GPM
1	1-1/2"	36
2	1"	28
3	1"	3
4	1-1/2"	26
5	1"	8
6	1"	15
7	1-1/2"	36
8	1"	14
9	1"	24
10	1"	21
11	1-1/2"	36
12	1"	20
13	1"	3
14	1"	20
15	1-1/2"	31
16	1"	24

NOTES:

1. CONTRACTOR TO COORDINATE WITH JEFFERSON PARISH WATER DEPARTMENT DURING SERVICE OR WATER METER INSTALLATION. (PLAN LOCATION SCHEDULING & INSPECTIONS)
2. CONTRACTOR SHALL CONTACT LA 1 CALL 72 HOURS IN ADVANCE OF PLAN FOR UNDERGROUND UTILITIES. LA 1 CALL 72 HOURS AND BELOW CAN BE SET UP.
3. ANNUAL PLANTING BEDS SHALL BE ON A SEPARATE ZONE. RAISED PLANTING BEDS SHALL BE ON A SEPARATE ZONE.

15 PHASE II PARTIAL IRRIGATION PLAN

1" = 20'-0"

0 20' 40'

GPM FOR RAINBIRD MPR NOZZLES

NOZZLE	GPM	NOZZLE	GPM	NOZZLE	GPM	NOZZLE	GPM
8P	4	12P	3	10P	2	8P	1
8TQ	3	12TQ	2.25	10TQ	1.5	8TQ	0.75
8H	2	12H	1.5	10H	1	8H	0.5
8Q	1	12Q	0.75	10Q	0.5	8Q	0.25

GPM FOR RAINBIRD MPR NOZZLES

NOZZLE	GPM	NOZZLE	GPM
8SST	1.5	BUBBLER	1
8SST	0.75		

N

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VETERANS BLVD. CPZ BEAUTIFICATION PROJECT METAIRIE, LOUISIANA

Project No: MAINTENANCE

Revisions:

No:	Date:	Description:

Date: 2.10.10

Drawn by: BP

Checked by: AB

Sheet Title: PHASE II PARTIAL IRRIGATION PLAN

Drawing No. 13

Sheet 13 of 18

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DRAWINGS

BID 50-96896

SECTION 02810- LANDSCAPE IRRIGATION

1.0 GENERAL

1.1 DESCRIPTION OF WORK.

A. Furnish all labor, materials, equipment and services necessary for the complete installation of a landscape irrigation system to provide 100% coverage of the landscape areas identified on the plans as specified. The work includes, but is not limited to:
1. Trenching, backfill and compaction for irrigation lines.
2. Automatically controlled landscape irrigation system. Backflow prevention, water tap, water meter, pressure regulator, drain valves and isolation gate valves, piping and sleeves under paving and sidewalks, repair of paving, main and lateral lines, electrical valves and wiring, valve boxes and controllers, sprinklers, couplings, connectors and fittings.
3. Test all systems and make operative.
4. Submit Record Drawings.
5. One-year Guarantee Period.

1.2 QUALITY CONTROL.

A. Installer Qualifications. Firms experienced in the successful installation of a minimum of five projects within the past five years similar in scope, quality, and contract value to that indicated for this project. Firm shall have sufficient manpower, equipment and financial resources to complete the Work of the Section.
B. The Owner and the Landscape Architect reserve the right to reject any and all materials and workmanship which they deem to be not in accordance with the Specifications. Rejected materials and work shall be removed from site immediately and replaced with that of the specified quality.
C. Applicable Standards.
ASTM
D2241-Poly (Vinyl Chloride) (PVC) Plastic Pipe, SDR-PR, Class 200 and 160.
D1785-Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedule 40.
D2464-Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Threaded, Schedule 40.
D2466-Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Socket Type, Schedule 40.
D2564-Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings.

D. Applicable Codes.
1. Most current edition of Uniform Plumbing Code.
2. Applicable Building Code.
3. All applicable local codes and ordinances.
4. National Electrical Code.
5. Should Specification's requirements differ from local requirements, consider Contract Document requirements to be minimum acceptable and comply with any more stringent local requirements.

E. Permits and Fees.
1. Obtain all permits and pay required fees to any agency having jurisdiction over the work.
2. Arrange inspections required by local ordinances during the course of construction.
3. Upon completion of the work, furnish satisfactory evidence to show that all work has been installed in accordance with the ordinances and code requirements.
F. Testing.
1. Perform testing and inspections required by specifications and by regulating authorities.
2. Give 24 hours notice that such tests are to be conducted.

1.3 SUBMITTALS.

A. Product Data. Include pressure rating, rated capacity, settings, and electrical data of selected models for the following:
1. Valves. Include aboveground and underground, general-duty, manual and automatic control, and quick-coupler types.
2. Valve boxes.
3. Sprinklers.
4. Specialties. Include emitters, drip tubes, and other devices.
5. Controllers. Include wiring diagrams.
B. Record Drawings.
1. Prepare and submit a reproducible Record Drawing showing the complete layout of the main line pipe, controller location, valve locations, and all sprinkler head locations. Record Drawings shall also indicate and show all materials, and manufacturer's name and catalog number and name.

1.5 SITE INSPECTION

A. Become familiar with all site conditions.
B. Locate all existing utilities prior to start of construction.
C. Make necessary adjustments in the layout as may be required, 1) to connect to existing stubouts (should such stubs not be located exactly as shown) or 2) to work around existing work. Such adjustments shall be made with no increase in cost to the Owner.

1.6 PROTECTION OF EXISTING CONDITIONS.

A. Take necessary precautions to protect site conditions to remain.
B. Should damage be incurred, repair the work to its original condition at no additional cost to the Owner.

2.0 PRODUCTS

2.1 PIPE AND FITTINGS.

A. Pipe sizes shall conform to those shown on the drawings. No substitutions of smaller pipe sizes will be permitted, but substitutions of larger size may be approved. All pipe damaged or rejected because of defects shall be removed or the site at the time of said rejection.

B. All Piping (3") three inch and larger will be equipped with gaskets.
C. All fittings for pipes three inches or larger will be equipped with gaskets.
D. All piping downstream of electric valves, sizes (3) inches and smaller, shall be rigid unplasticized PVC 200 PSI working pressure extruded from virgin parent material of the type specified on the drawings. The pipe shall be homogeneous throughout and free from visible cracks, holes, foreign materials, blisters, wrinkles and permanently marked with the manufacturer's name, material size, and schedule type. Pipe must bear the NFS seal.
E. All mainline piping and underground piping under continuous pressure shall be rigid unplasticized PVC-Class 200 PSI working pressure extruded from virgin parent material of the type specified on the drawings. The pipe shall be homogeneous through out and free from visible cracks, holes, and foreign materials, blisters, wrinkles and dents.
F. All plastic fittings to be installed shall be molded fittings manufactured of the same material as the pipe and shall be suitable for solvent weld, slip joint ring tight seal, or screwed connections. NO fitting made of other material shall be used except as hereinafter specified.
G. Slip fitting socket tapers shall be so sized that a dry unsoftened pipe end conforming to these special provisions can be inserted no more than halfway into the socket. Plastic saddle and flange fittings will not be permitted. Only schedule 80 pipe may be threaded.

2.2 SLEEVES.

A. All sleeves shall be Schedule 40 PVC or stronger. All sleeves are required at every crossing indicated on drawings. (See Notes)
B. All sleeves shall be installed under proposed pavement areas prior to subgrade and base construction.
C. Sleeves shall have a minimum horizontal separation of 18" and a maximum of twenty-four (24) inch clearance below bottom of curb.
D. The location of all sleeves shown on the plans is schematic. The contractor shall make any adjustments necessary to accommodate existing vegetation, utilities, or other existing conditions.
E. If the road crossings are designated as being bore locations the bore must be ample size to accommodate the size sleeve specified.

2.3 CONTROL SYSTEM.

A. The automatic controllers shall be made by the same manufacturer as valves.
B. Install Rain Check or Mini-Click type shut off device to override the control timer in the event of rain.
C. 120-volt power shall be supplied by General Contractor as part of the electrical panel installation.

2.4 CONTROL WIRE.

A. Control wire shall be type UF, UL approved, for direct burial and shall be gauge 14 or larger for the control wire and gauge 12 or larger for common wire.
B. Joining of underground wires shall be made with watertight connectors in valve boxes. No splicing between boxes is acceptable.
C. All wire connections in valve boxes.

2.5 IRRIGATION VALVES.

A. Zone Control Valves
1. Globe-type diaphragm valves of normally closed design, with PVC bodies and covers. Operation accomplished by means of an integrally mounted heavy-duty 24 volt AC solenoid complying with National Electrical Code, Class II Circuit, solenoid coil potted in epoxy resign within a plastic-coated stainless steel housing. Solenoids shall be completely waterproof, suitable for direct underground burial. Provide a flow stem adjustment in each valve.

2.6 VALVE BOXES.

A. All valves shall be installed in thermoplastic valve access boxes of the size required to permit access to the valve. Valve boxes shall include black thermoplastic locking covers. Manufacturer- Ametek or approved equal.
B. All valve boxes shall be installed on at least a two (2) cubic feet gravel base to provide foundation and drainage.
C. All valve box elevations shall be 1/2" below finished grade.

2.7 THRUST BLOCKS.

A. Place one cubic ft. of concrete for each inch of pipe diameter for thrust block. Thrust shall not allow vertical or horizontal movement of pipe in any direction unless otherwise noted on design. Thrust blocking shall be provided on all piping three (3) inch diameter and larger.

2.8 SURGE PROTECTION. Contractor to provide electrical surge protection for the system controller.

2.9 BACKFLOW PREVENTION. As determined by Municipality/Local regulations.

2.10 PRESSURE REGULATOR. As determined by Contractor.

3.0 EXECUTION

3.1 EXCAVATION AND BACKFILL.

A. Trenches for pipe sprinkler lines shall be excavated of sufficient depth and width to permit proper handling and installation by any other method the Contractor may desire if approved by the Owner, pipe manufacturer, and Designer. The backfill shall be thoroughly compacted and evened off with the adjacent soil level. Selected fill dirt or sand shall be used if soil conditions are rocky. In rocky areas the trenching depth shall be two (2) inches below normal trenching depth to allow for the bedding. The fill dirt or sand shall be used in filling (4) inches above the pipe. The remainder of the backfill shall contain no lumps or rocks larger than three (3) inches. The top twelve (12) inches of backfill shall be topsoil, free of rocks, subsoil, or trash. Any open trenches or partially backfilled trenches left overnight or left unsupervised shall be barricaded to prevent undue hazard to the public space.
B. The Contractor shall backfill in six (6) inch compacted lifts as needed to bring the soil to its original density.

3.2 INSTALLATION OF PLASTIC PIPE.

A. Plastic pipe shall be installed in a manner that permits expansion and contraction as recommended by the manufacturer.
B. Plastic pipe shall be cut with a hacksaw or hacksaw with the assistance of a square in sawing vice or in a manner so as to ensure a square cut. Burrs at cut ends shall be removed prior to installation so that a smooth unobstructed flow will be obtained.
C. All plastic-to-plastic joints shall be solvent weld joints or slip seal joints. Only the solvent recommended for the pipe and fittings shall be installed as outlined and instructed by the pipe manufacturer. The Contractor shall assume full responsibility for the correct installation.
D. The joints shall be allowed to set at least twenty-four (24) hours before pressure is applied to the system on PVC pipe.

3.3 CONTROLLER AND ELECTRICAL CONNECTIONS.

A. All electrical connections shall conform to the National Electrical Code, latest edition.
B. Control wires installed beneath walks, drives, or other permanent surfaces shall be placed in sleeves.
C. Wires shall be spliced only at valve boxes.
D. Leave twenty-four (24) inch loop of wire at each valve for expansion/contraction and servicing.
E. Controllers and valves shall be from the same company e.g. (Rain Bird, Toro or approved equal).
F. 120 VAC electrical power supply to the controller location shall be supplied by others.

3.4 FLUSHING AND TESTING.

A. After all new sprinkler piping and risers are in place and connected for a given section and all necessary division work has been completed and prior to the installation of sprinkler heads all control valves shall be opened and a full head of water used to flush out the system.
B. Sprinkler main shall be tested under normal water pressure for a period of twelve (12) hours. If leaks occur, repair and repeat the test. Give Landscape Architect forty-eight hours notice prior to testing.
C. Testing of the system shall be performed after completion of the entire installation and any necessary repairs shall be made at the Contractor's expense to put the system in good working order before final payment by the Owner.
D. Adjustment of the sprinkler heads and automatic equipment will be done by the Contractor upon completion of installation to provide optimum performance. Minor adjustments during the guarantee period will be made by the Owner.
E. After completion, testing, and acceptance of the system, the Contractor will instruct the Owner's personnel in the operation and maintenance of the system.

4.0 ACCEPTANCE AND GUARANTEE

4.1 SUBSTANTIAL COMPLETION.

A. Submit request for inspection for Substantial completion to the Landscape Architect at least forty-eight hours prior to anticipated date of inspection and testing (refer to Paragraph 3.3 TESTING, herein).
B. Submit Record Drawings and Maintenance Manual to the Landscape Architect with request for inspection (refer to Paragraph 3.4 FLUSHING AND TESTING, herein).
C. Review the work jointly with the Owner and Landscape Architect for Substantial Completion.
D. Upon completion of repairs and replacements found necessary at time of review, the Owner and Landscape Architect will confirm the date of Substantial Completion of the work.
E. The date of Substantial Completion will constitute the beginning date of the One-Year Guarantee.

4.2 GUARANTEE.

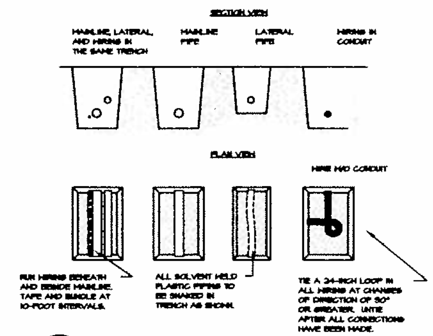
A. Guarantee all work, products, equipment, and materials for one(1) year, beginning at Date of Substantial Completion.
B. During the period of the Guarantee, replace immediately, with no additional compensation, all work not functioning correctly, make adjustments as necessary to maintain complete coverage, make good any other damage, loss, destruction, or failure. Repairs and replacements shall be done promptly and at no additional cost to the Owner.
C. Repair damage to grade, plants, and other work or property as necessitated due to irrigation defects, repairs, replacement or adjustment.
D. If the replacement is not acceptable during or at the end of the Guarantee Period, the owner may elect either subsequent replacement or credit. Replacement products shall have a similar one-year guarantee from time of replacement.
E. Guarantee applies to all losses with the exception of those due to Acts of God, vandalism, or Owner neglect, as determined by the Landscape Architect.

4.3 FINAL INSPECTION AND ACCEPTANCE.

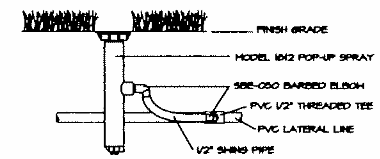
A. At end of Guarantee Period and upon request for inspection, jointly review all guaranteed work for Final Acceptance.
B. Submit written request for inspection for Final Acceptance to the Landscape Architect at least two weeks prior to anticipated date of inspection. Include list of work provisionally accepted and list of work replace during Guarantee Period.
C. Upon completion by the Contractor of all required repairs and replacements, the Owner and the Landscape Architect will confirm the date of Final Acceptance of the work.

END OF SECTION 02810.

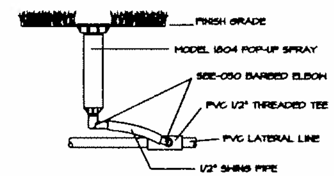
GENERAL NOTES:
A. Contractor shall be responsible for minor adjustments in the field. Contractor to ensure irrigation does not spray on the foundation of buildings, and shall have minimum overspray on all sidewalks and driveways.
B. Contractor to verify locations of meter, backflow, and controller in the field, and make necessary adjustments.
C. Backflow to be installed according to all local codes. Contractor is responsible for acquiring necessary permits, inspections and approvals.



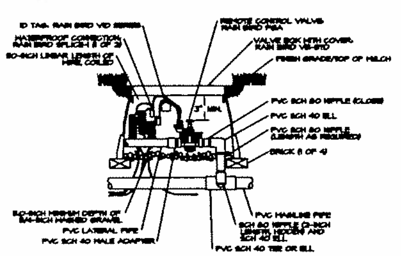
4 PIPING DIAGRAM
14 N.T.S.



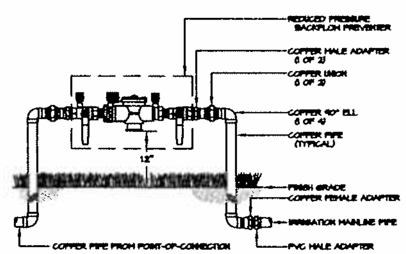
5 12" POP-UP SHRUB SPRAY
14 N.T.S.



6 4" POP-UP TURF SPRAY
14 N.T.S.

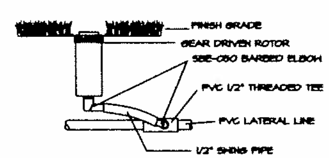


1 PGA VALVE DETAIL
14 N.T.S.

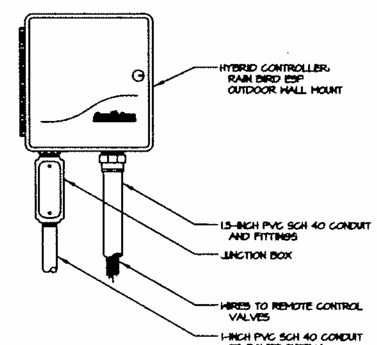


NOTE:
1. INSTALL BACKFLOW PREVENTER AS REQUIRED BY LOCAL CODES AND HEALTH DEPARTMENT. VERIFY LOCAL REQUIREMENTS PRIOR TO INSTALLATION.

2 BACKFLOW PREVENTER DETAIL
14 N.T.S.



3 GEAR DRIVEN ROTOR
14 N.T.S.



7 HYBRID CONTROLLER
14 N.T.S.

Feb 10, 2010 - 10:18am - Phase II IR.dwg

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VETERANS BLVD. CPZ
BEAUTIFICATION PROJECT
METAIRIE, LOUISIANA

Project No:
MAINTENANCE

Revisions:

No:	Date:	Description:

Date: 2.10.10
Drawn by: BP
Checked by: AB

Sheet Title:
PHASE II IRRIGATION SPECS/ DETAILS

Drawing No.
14

DRAWINGS

BID 50-96896

Phase III Plant Schedule

Quantity	Symbol	Scientific Name	Common Name	Planting Size
28		Abelia x grandiflorla	Glossy Abelia	3-Gal
85		Agapanthus africanus	Blue Lily of Nile	1-Gal
220		Annuals to be selected	Annuals to be Selected	4" pots
1		Cycas revoluta	Sago Palm	10-Gal 24"x24" Min.
4		Cycas revoluta	Sago Palm	20-Gal 30"x30" Min.
15		Dietes spp.	African Iris	1-Gal
15		Ilex 'Nellie R. Stevens'	Nellie R. Stevens Holly	30-Gal 6' Min. Ht.
162		Juniperus horizontalis 'Parsonii'	Parsonii Juniper	3-Gal
5		Lagerstroemia indica 'Natchez'	Natchez Crape Myrtle	30-Gal 12' Min. Height, 3' Min. Spread, 1.5"-2" Min. Cal. Canes
84		Liriope Muscari	Big Blue Liriope	1-Gal
4		Livistona chinensis	Chinese Fan Palm	30-Gal
25		Loropetalum chinensis 'Plum Delight'	Plum Delight Loropetalum	7-Gal 14"x20" Min.
6		Miscanthus sinensis	Japanese Silver Grass	3-Gal
1		Phoenix dactylifera 'Medjool'	Medjool Date Palm	25' C.T. Min., 12'-14' Min. Spread Canopy, Notarized Certification
2		Phoenix dactylifera 'Medjool'	Medjool Date Palm	10' C.T. Min., 12'-14' Min. Spread Canopy, Notarized Certification
14		Raphiolepis indica 'Snow White'	Snow White Indian Hawthorn	3-Gal
40		Rhododendron indica 'Fashion'	Fashion Azalea	3-Gal
12		Rhododendron indica 'G.Tabor'	George Tabor Azalea	7-Gal
+/- 1,200 SY		Bremodlea ophrldes 'Oakleaf'	Class 'A' Centipede Sod	Square

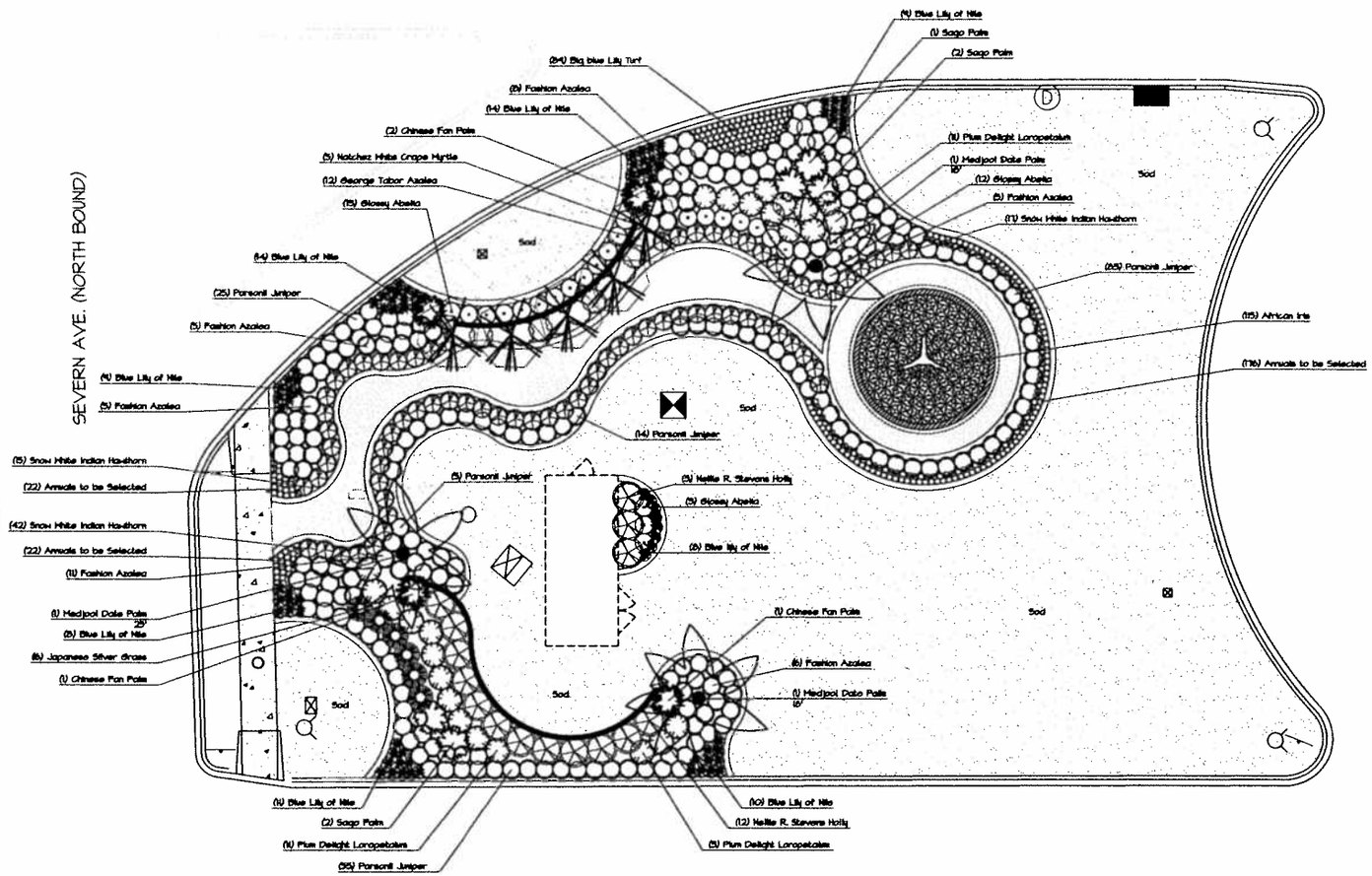
LEGEND:

- EXISTING LANDSCAPE WALL
- EXISTING RETAINING WALL
- EXISTING COLUMN
- EXISTING CONCRETE EDGING
- EXISTING CONCRETE CURB
- EXISTING CONCRETE SIDEWALK
- EXISTING SIGNAL BOX
- EXISTING LIGHT POLE
- EXISTING SIGN
- EXISTING ELECTRICAL ENCLOSURE
- EXISTING CATCH BASIN (IN MEDIAN)
- EXISTING CATCH BASIN (ROADWAY)

VETERANS MEMORIAL BLVD. (WEST BOUND)

SEVERN AVE. (SOUTH BOUND)

SEVERN AVE. (NORTH BOUND)



VETERANS MEMORIAL BLVD. (EAST BOUND)

1/L15 PHASE III LANDSCAPE PLAN
1" = 10'-0"
0 5' 10' 20'

Feb 10, 2010 - 10:20am - Phase III LS.dwg

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VETERANS BLVD. CPZ BEAUTIFICATION PROJECT METAIRIE, LOUISIANA

Project No: MAINTENANCE

Revisions:

No:	Date:	Description:

Date: 2.10.10

Drawn by: BP

Checked by: AB

Sheet Title:

PHASE III LANDSCAPE PLAN

Drawing No.

15

Sheet 15 of 18

DRAWINGS

BID 50-96896

SECTION 02900 - LANDSCAPING

1.1 GENERAL

A. Submittals: In addition to product certificates, submit the following where applicable:

1. Certification of grass seed/sod from seed/sod vendor for each seed mixture, or for sod.
2. List of plant suppliers and anticipated delivery dates.
3. Provide sample or product data of planting mix, top soil, fertilizers, pre-emergent and mulch or any other amendment required for project.

B. Quality Assurance: Provide trees, shrubs, ground covers, and plants of quality, size, genus, species, and variety indicated, complying with applicable requirements of ANSI Z60.1 "American Standard for Nursery Stock." Materials that do not meet the afore mentioned requirements may be rejected.

C. Special Warranty: Warrant trees, shrubs and ground covers for a period of one year after date of Substantial Completion, against defects including death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, or abuse by Owner, abnormal weather conditions unusual for warranty period, or incidents which are beyond Contractor's control.

1. Remove and replace any unhealthy and dead trees and shrubs within the warranty period.

D. Maintain and establish lawns by watering, fertilizing, weeding, mowing, trimming, replanting, and other operations to produce a uniformly smooth lawn for not less than the following:

~~1. Seeded Lawns: 60 days after date of Substantial Completion.~~
2. Sodded Lawns: 30 days after date of Substantial Completion.

1.2 PRODUCTS

A. Trees and Shrubs: Well-shaped, fully branched, healthy, vigorous nursery-grown stock of sizes and grades indicated, free of disease, insects, eggs, larvae, and defects, conforming to ANSI Z60.1.

1. Provide balled and burlapped trees and shrubs, or
2. Provide container grown trees and shrubs.

B. Ground Covers and Plants: Established and well rooted in removable containers or integral peat pots and with not less than the minimum number and length of runners required by ANSI Z60.1 for the pot size indicated.

~~C. Grass Seed: Fresh, clean, dry, new-crop seed complying with the Association of Official Seed Analysts' "Rules for Testing Seeds" for purity and germination tolerances.~~

~~1. Seed Mixture: Provide seed of grass species and varieties, proportions by weight, and minimum percentages of purity, germination, and maximum percentage of weed seed as indicated.~~

D. Sod: Certified turfgrass sod complying with ASPA specifications for machine-cut thickness, size, strength, moisture content, and mowed height, and free of weeds and undesirable native grasses. Provide viable sod of uniform density, color, and texture, strongly rooted, and capable of vigorous growth and development when planted.

1. Species: Provide sod of grass species and varieties, proportions by weight, and minimum percentages of purity, germination, and maximum percentage of weed seed as indicated.

E. Planting mix: ASTM D 5268, pH range of 5.5 to 7, 4 percent organic material minimum, free of stones 1 inch (25 mm) or larger in any dimension, and other extraneous materials harmful to plant growth.

1. Planting mix: Equal parts of sharp sand, peat moss and composted bark.

F. Lime: ASTM C 602, Class T, agricultural limestone.

G. Peat Humus: Finely divided or granular texture, with a pH range of 6 to 7.5, composed of partially decomposed moss peat (other than sphagnum), peat humus, or reed-sedge peat.

H. Sawdust or Ground-Bark Humus: Decomposed, nitrogen-treated, of uniform texture, free of chips, stones, sticks, soil, or toxic materials.

I. Bonemeal: Commercial, raw, finely ground; minimum of 4 percent nitrogen and 20 percent phosphoric acid.

J. Superphosphate: Commercial, phosphate mixture, soluble; minimum of 20 percent available phosphoric acid.

K. Lawn Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea-form, phosphorous, and potassium.

L. Planting bed fertilizer: Osmocote classic 18-18-18 8 to 9 month longevity or approved equal. Apply in accordance to manufacture's specifications.

M. Pre-emergent Herbicide: Eptam 20-G or approved equal. Apply in according to manufacture's specifications.

N. Organic Mulch: Organic mulch, free from deleterious materials and suitable as a top dressing, consisting of ground or shredded bark, wood or bark chips, salt hay or threshed straw, or shredded hardwood.

O. Mineral Mulch: Hard, durable riverbed gravel or crushed stone, washed free of loam, sand, clay, and other foreign substances.

1. Size Range: 1-1/2 inches (38 mm) maximum, 3/4 inch (19 mm) minimum.

~~P. Steel Edging: ASTM A 569 (ASTM A 569M), rolled edge, standard painted steel edging and accessories, fabricated in sections with loops stamped from or welded to face of sections approximately 30 inches (760 mm) apart to receive stakes. Color required to match; edging to be standard and painted to match factory finish.~~

~~1. Edging Size: 3/16 inch (4.8 mm) wide by 4 inches (100 mm) deep.~~

1.3 EXECUTION

A. Planting Mix Preparation: Before mixing, clean topsoil of roots, plants, sods, stones, clay lumps, and other extraneous materials harmful to plant growth. Mix soil amendments and fertilizers with topsoil at rates indicated.

B. Lawn Planting Preparation (Disturbed): Loosen subgrade to a minimum depth of 4 inches (100 mm). Remove stones larger than 1-1/2 inches (38 mm) in any dimension and sticks, roots, rubbish, and other extraneous materials.

1. Spread topsoil soil mixture to depth required to meet thickness, grades, and elevations shown, after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen.
2. Place approximately 1/2 the thickness of topsoil mixture required. Work into top of loosened subgrade to create a transition layer and then place remainder of topsoil mixture.

C. Lawn Planting Preparation (Undisturbed): Where lawns are to be planted in areas unaltered or undisturbed by excavating, grading, or surface soil stripping operations, remove and dispose of existing grass, vegetation, and turf.

1. Till surface soil to a depth of at least 6 inches (150 mm). Apply soil amendments and initial fertilizers and mix thoroughly into top 4 inches (100 mm) of soil. Trim high areas and fill in depressions. Till soil to a homogenous mixture of fine texture.

D. Moisten prepared lawn areas before planting when soil is dry and allow surface to dry before planting.

E. Ground Cover and Plant Bed Preparation: Loosen subgrade of planting bed areas to a minimum depth of 6 inches (150 mm). Remove stones larger than 1-1/2 inches (38 mm) in any dimension and sticks, roots, rubbish, and other extraneous materials.

1. Spread planting soil mixture to depth required to meet thickness, grades, and elevations shown, after light rolling and natural settlement. Place approximately 1/2 the thickness of planting soil mixture required. Work into top of loosened subgrade to create a transition layer and then place remainder of planting soil mixture.

F. Excavation for Trees and Shrubs: Excavate pits with vertical sides and with bottom of excavation slightly raised at center to assist drainage. Excavate approximately 1-1/2 times as wide as ball diameter and deep enough to allow placing of root ball on a setting layer of planting soil. Loosen hard subsoil in bottom of excavation.

G. Planting Trees and Shrubs: Set stock plumb and in center of pit or trench with top of ball raised above adjacent finish grades.

1. Place a setting layer of compacted planting soil.
2. Remove burlap and wire baskets from tops of balls and partially from sides, but do not remove from under balls. Do not use planting stock if ball is cracked or broken before or during planting operation.
3. Place backfill around ball in layers, tamping to settle backfill and eliminate voids and air pockets.
4. Dish and tamp top of backfill to form a 3-inch- (75-mm-) high mound around the rim of the pit. Do not cover top of root ball with backfill.

H. Tree and Shrub Pruning: Prune, thin, and shape trees and shrubs according to standard horticultural practice. Prune trees to retain required height and spread. Do not cut tree leaders; remove only injured or dead branches from flowering trees. Prune shrubs to retain natural character. Shrub sizes indicated are size after pruning.

I. Planting Ground Cover and Plants: Plant spacing according to plan, unless otherwise indicated. Dig holes large enough to allow spreading of roots, and backfill with planting soil. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.

J. Planting Bed Fertilizer: Install per manufactures recommendations

K. Pre-Emergent Herbicide: Install per manufactures recommendations

L. Mulching: Completely cover area to be mulched. Apply mulch and finish level with adjacent finish grade. Do not place mulch against trunks or stems.

1. Mulch Type and Thickness: Cut pine straw (bags), 4 inches (100 mm) thick as indicated in all bed areas on drawings (inside of mow curbs).

~~M. Seeding Lawns: Sow seed with a spreader or a seeding machine. Do not broadcast or drop seed when wind velocity exceeds 5 mph (8 km/h). Evenly distribute seed by sowing equal quantities in 2 directions at right angles to each other. Rake seed lightly into top 1/8 inch (3 mm) of topsoil, roll lightly, and water with fine spray.~~

~~1. Seeding Rate: 3 to 4 lb per 1000 sq. ft. (1.5 to 2 kg per 100 sq. m).~~
~~2. Protect seeded areas with slopes less than 1:6 against erosion by spreading straw mulch after completion of seeding operations and anchor by crimping into topsoil. Spread uniformly at a minimum rate of 2 tons per acre (42 kg per 100 sq. m).~~

N. Sodding Lawns: Lay sod to form a solid mass with tightly fitted joints within 24 hours of stripping. Butt ends and sides of sod; do not stretch or overlap. Stagger sod strips or pads to offset joints in adjacent courses. Avoid damage to subgrade or sod during installation. Tamp and roll lightly to ensure contact with subgrade, eliminate air pockets, and form a smooth surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass.

1. Anchor sod on slopes exceeding 1:6 with wood pegs spaced as recommended by sod manufacturer.
2. Saturate sod with fine water spray within 2 hours of planting. During first week, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches (38 mm) below the sod.

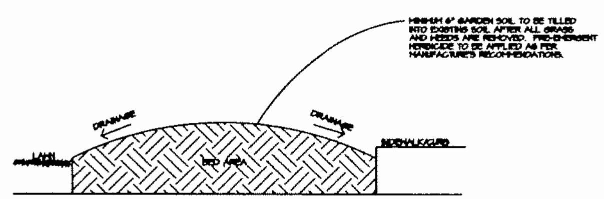
~~O. Edgings: Install edgings where indicated and anchor with stakes driven below top elevation of edging according to manufacturer's recommendations.~~

P. Disposal: Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of it off the Owner's property.

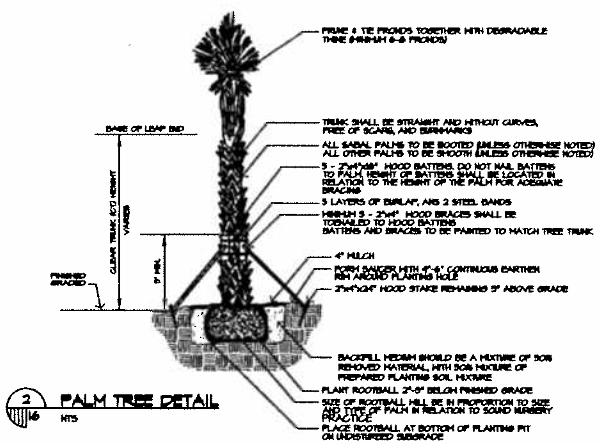
END OF SECTION 02900

Phase III Plant Schedule

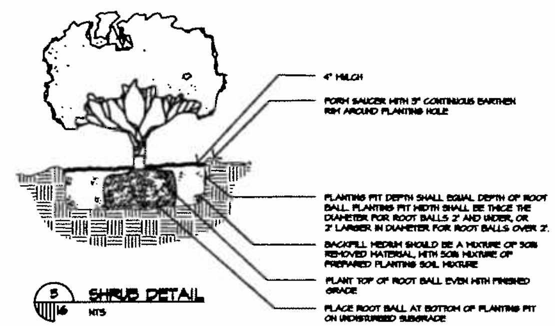
Quantity	Symbol	Scientific Name	Common Name	Planting Size
28		Abelia x grandiflora	Glossy Abelia	3-Gal
88		Agapanthus africanus	Blue Lily of Nile	1-Gal
220		Annuals to be selected	Annuals to be Selected	4" pots
1		Cycas revoluta	Sago Palm	10-Gal 24"x24" Min.
4		Cycas revoluta	Sago Palm	20-Gal 30"x30" Min.
115		Dietes spp.	African Iris	1-Gal
15		Ilex 'Nellie R. Stevens'	Nellie R. Stevens Holly	30-Gal 6' Min. Ht.
182		Juniperus horizontalis 'Parsonii'	Parsonii Juniper	3-Gal
5		Lagerstroemia indica 'Natchez'	Natchez Crape Myrtle	30-Gal 12' Min. Height, 5' Min. Spread, 1.5"-2" Min. Cal. Canes
84		Liriope Muscari	Big Blue Liriope	1-Gal
4		Livistona chinensis	Chinese Fan Palm	30-Gal
25		Loropetalum chinensis 'Plum Delight'	Plum Delight Loropetalum	7-Gal 14"x20" Min.
6		Miscanthus sinensis	Japanese Silver Grass	3-Gal
1		Phoenix dactylifera 'Medjool'	Medjool Date Palm	25' C.T. Min., 12'-14' Min. Spread Canopy, Notarized Certification
2		Phoenix dactylifera 'Medjool'	Medjool Date Palm	18' C.T. Min., 12'-14' Min. Spread Canopy, Notarized Certification
74		Raphiolepis indica 'Snow White'	Snow White Indian Hawthorn	3-Gal
40		Rhododendron indica 'Fashion'	Fashion Azalea	3-Gal
12		Rhododendron indica 'G.Tabor'	George Tabor Azalea	7-Gal
+/- 1,200 SY		Eremochloa ophiuroides 'Oaklawn'	Class 'A' Centipede Sod	Squares



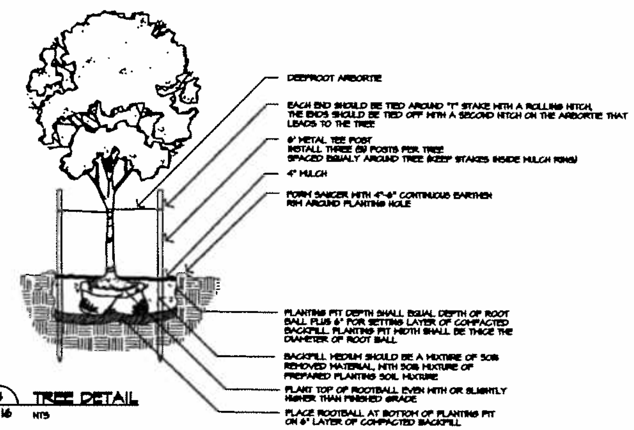
1 SOIL MOUNDING DETAIL
16 NTS



2 PALM TREE DETAIL
16 NTS



5 SHRUB DETAIL
16 NTS



4 TREE DETAIL
16 NTS

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VETERANS BLVD. CPZ
BEAUTIFICATION PROJECT
METAIRIE, LOUISIANA

Project No:
MAINTENANCE

Revisions:

No:	Date:	Description:

Date: 2.10.10
Drawn by: BP
Checked by: AB

Sheet Title:
PHASE III
LANDSCAPE
SPECS/
DETAILS

Drawing No.
16

Sheet
16 of 18

BID 50-96896 DRAWINGS

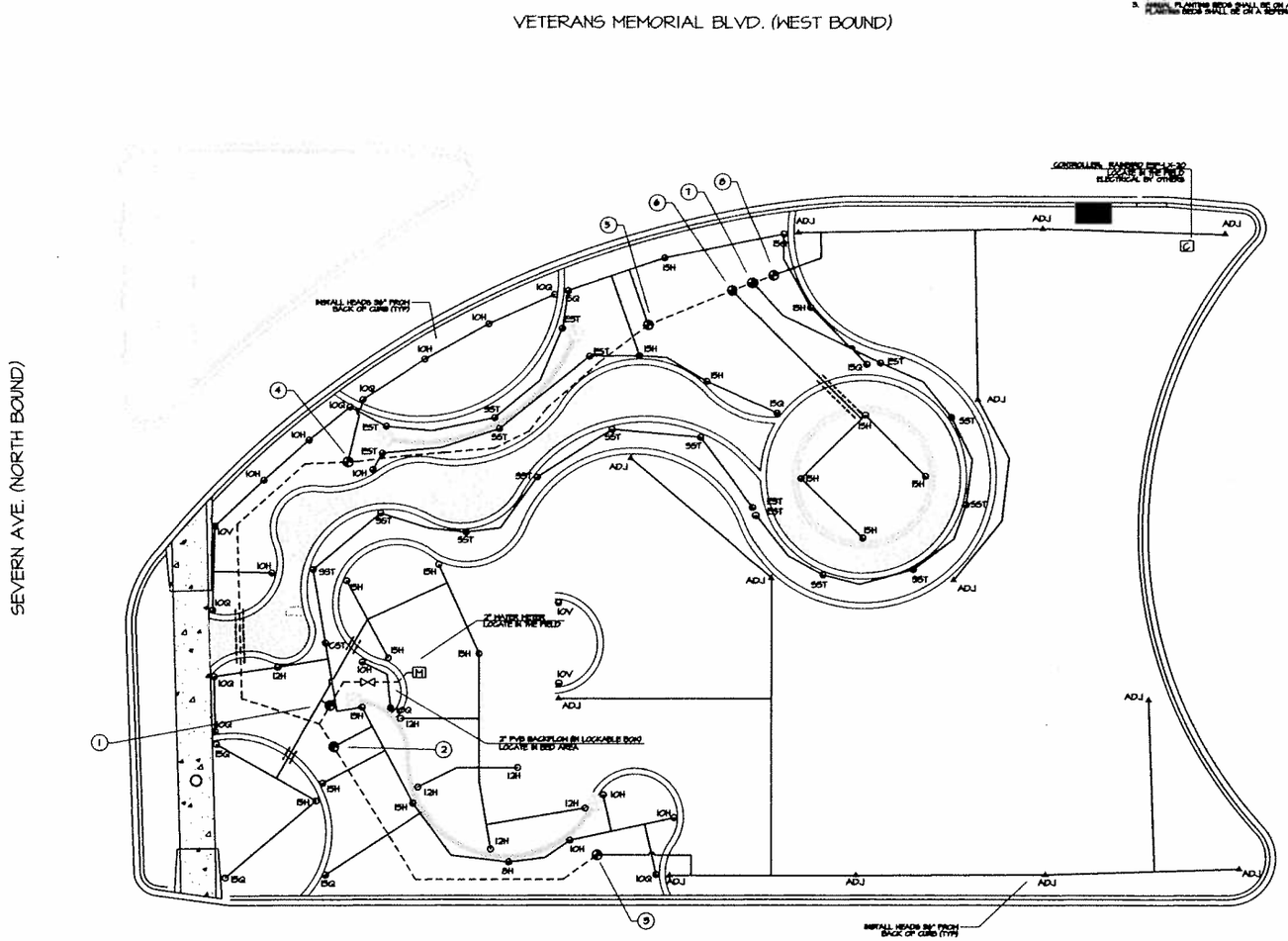
LEGEND:

- CITY WATER METER
  2" SIZE
- BACKFLOW (IN LOCKABLE ENCLOSURE)
  2" RPA
- CONTROLLER
  RAINBIRD ESP-LX SERIES OUTDOOR W/T RAIN CHECK
- SLEEVE (BY OTHERS)
- MAIN LINE (ALL MAIN LINE IS TO BE 2")
  PVC CLASS 200
- LATERAL LINE (SIZE LATERAL NOT TO EXCEED SLPS)
  PVC CLASS 200
- SOLENOID VALVE IN A 10" BOX
- RAINBIRD PGA SERIES
  INSTALL ALL VALVES INSIDE BED AREA
- BED SPRAYS
  RAINBIRD 1812'S
- TURF SPRAYS
  RAINBIRD 1804'S
- ADJ TURF ROTORS
  HUNTER PGP'S ADJ
- FULL TURF ROTORS
  HUNTER PGP'S FULL
- EXISTING LANDSCAPE WALL
- EXISTING RETAINING WALL
- EXISTING COLUMN
- EXISTING CONCRETE EDGING
- EXISTING CONCRETE CURB
- EXISTING CONCRETE SIDEWALK
- EXISTING SIGNAL BOX
- EXISTING LIGHT POLE
- EXISTING SIGN
- EXISTING ELECTRICAL ENCLOSURE
- EXISTING CATCH BASIN (IN MEDIAN)
- EXISTING CATCH BASIN (ROADWAY)

VALVE CHART

VALVE NUMBER	SIZE	GPM
1	1"	20
2	1-1/2"	28
3	1"	24
4	1"	5
5	1-1/2"	27
6	1"	8
7	1"	8
8	1"	15

NOTES:
1. CONTRACTOR TO COORDINATED WITH JEFFERSON PARISH WATER DEPARTMENT OUTSIDE SERVICES ON WATER METER INSTALLATION. (FILING, LOCATION, SCHEDULING & INSPECTION)
2. NOTIFY LANDSCAPE ARCHITECT AT LEAST 72 HOURS IN ADVANCE OF FILING FOR WATER METER SO THAT THE ACCOUNT AND BILLING CAN BE SET UP.
3. ANNUAL PLANTING BEDS SHALL BE ON A SEPARATAE ZONE. RAISED PLANTING BEDS SHALL BE ON A SEPERATE ZONE.



GPM FOR RAINBIRD MPR NOZZLES

NOZZLE	GPM	NOZZLE	GPM	NOZZLE	GPM	NOZZLE	GPM
8P	4	12P	9	10P	2	8P	1
8TQ	5	12TQ	2.25	10TQ	1.5	8TQ	0.75
8H	2	12H	1.5	10H	1	8H	0.5
8Q	1	12Q	0.75	10Q	0.5	8Q	0.25

GPM FOR RAINBIRD MPR NOZZLES

NOZZLE	GPM	NOZZLE	GPM
8SST	1.5	BUBBLER	1
8EST	0.75		

PHASE III IRRIGATION PLAN
1" = 10'-0"
0 5' 10' 20'

Feb 10, 2010 - 10:24am - Phase III IR.dwg

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VETERANS BLVD. CPZ
BEAUTIFICATION PROJECT
METAIRIE, LOUISIANA

Project No:
MAINTENANCE

Revisions:

No:	Date:	Description:

Date: 2.10.10
Drawn by: BP
Checked by: AB

Sheet Title:
PHASE III IRRIGATION PLAN

Drawing No.
17

Sheet
17 of 18

DRAWINGS

BID 50-96896

SECTION 02810- LANDSCAPE IRRIGATION

1.0 GENERAL

1.1 DESCRIPTION OF WORK.

A. Furnish all labor, materials, equipment and services necessary for the complete installation of a landscape irrigation system to provide 100% coverage of the landscape areas identified on the plans as specified. The work includes, but is not limited to:
1. Trenching, backfill and compaction for irrigation lines.
2. Automatically controlled landscape irrigation system. Backflow prevention, water tap, water meter, pressure regulator, drain valves and isolation gate valves, piping and sleeves under paving and sidewalks, repair of paving, main and lateral lines, electrical valves and wiring, valve boxes and controllers, sprinklers, couplings, connectors and fittings.
3. Test all systems and make operative.
4. Submit Record Drawings.
5. One-year Guarantee Period.

1.2 QUALITY CONTROL.

A. Installer Qualifications. Firms experienced in the successful installation of a minimum of five projects within the past five years similar in scope, quality, and contract value to that indicated for the project. Firm shall have sufficient manpower, equipment and financial resources to complete the Work of the Section.
B. The Owner and the Landscape Architect reserve the right to reject any and all materials and workmanship which they deem to be not in accordance with the Specifications. Rejected materials and work shall be removed from site immediately and replaced with that of the specified quality.
C. Applicable Standards.
ASTM
D2241-Poly (Vinyl Chloride) (PVC) Plastic Pipe, SDR/PR, Class 200 and 160.
D1785-Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedule 40.
D2464-Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Threaded, Schedule 40.
D2466-Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Socket Type, Schedule 40.
D2564-Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings.

D. Applicable Codes.
1. Most current edition of Uniform Plumbing Code.
2. Applicable Building Code.
3. All applicable local codes and ordinances.
4. National Electrical Code.
5. Should Specification's requirements differ from local requirements, consider Contract Document requirements to be minimum acceptable and comply with any more stringent local requirements.

E. Permits and Fees.
1. Obtain all permits and pay required fees to any agency having jurisdiction over the work.
2. Arrange inspections required by local ordinances during the course of construction.
3. Upon completion of the work, furnish satisfactory evidence to show that all work has been installed in accordance with the ordinances and code requirements.
F. Testing.
1. Perform testing and inspections required by specifications and by regulating authorities.
2. Give 24 hours notice that such tests are to be conducted.

1.3 SUBMITTALS.

A. Product Data. Include pressure rating, rated capacity, settings, and electrical data of selected models for the following:
1. Valves. Include above-ground and underground, general-duty, manual and automatic control, and quick-coupler types.
2. Valve boxes.
3. Sprinklers.
4. Specialties. Include emitters, drip tubes, and other devices.
5. Controllers. Include wiring diagrams.
B. Record Drawings.
1. Prepare and submit a reproducible Record Drawing showing the complete layout of the main line pipe, controller location, valve locations, and all sprinkler head locations. Record Drawings shall also indicate and show all materials, and manufacturer's name and catalog number and name.

1.5 SITE INSPECTION

A. Become familiar with all site conditions.
B. Locate all existing utilities prior to start of construction.
C. Make necessary adjustments in the layout as may be required, 1) to connect to existing stubouts (should such stubs not be located exactly as shown) or 2) to work around existing work. Such adjustments shall be made with no increase in cost to the Owner.

1.6 PROTECTION OF EXISTING CONDITIONS.

A. Take necessary precautions to protect site conditions to remain.
B. Should damage be incurred, repair the work to its original condition at no additional cost to the Owner.

2.0 PRODUCTS

2.1 PIPE AND FITTINGS.

A. Pipe sizes shall conform to those shown on the drawings. No substitutions of smaller pipe sizes will be permitted, but substitutions of larger size may be approved. All pipe damaged or rejected because of defects shall be removed from the site at the time of said rejection.

B. All Piping (3") three inch and larger will be equipped with gaskets.
C. All fittings for pipes three inches or larger will be equipped with gaskets.
D. All piping downstream of electric valves, sizes (3) inches and smaller, shall be rigid unplasticized PVC 200 PSI working pressure extruded from virgin parent material of the type specified on the drawings. The pipe shall be homogenous throughout and free from visible cracks, holes, foreign materials, blisters, wrinkles and permanently marked with the manufacturer's name, material size, and schedule type. Pipe must bear the NPS seal.
E. All mainline piping and underground piping under continuous pressure shall be rigid unplasticized PVC-Class 200 PSI working pressure extruded from virgin parent material of the type specified on the drawings. The pipe shall be homogenous through out and free from visible cracks, holes, and foreign materials, blisters, wrinkles and dents.
F. All plastic fittings to be installed shall be molded fittings manufactured of the same material as the pipe and shall be suitable for solvent weld, slip joint ring tight seal, or screwed connections. NO fitting made of other material shall be used except as hereinafter specified.
G. Slip fitting socket tapers shall be so sized that a dry unsoftened pipe and conforming to these special provisions can be inserted no more than halfway into the socket. Plastic saddle and flange fittings will not be permitted. Only schedule 80 pipe may be threaded.

2.2 SLEEVES.

A. All sleeves shall be Schedule 40 PVC or stronger. All sleeves are required at every crossing indicated on drawings. (See Notes)
B. All sleeves shall be installed under proposed pavement areas prior to subgrade and base construction.
C. Sleeves shall have a minimum horizontal separation of 18" and a maximum of twenty-four (24) inch clearance below bottom of curb.
D. The location of all sleeves shown on the plans is schematic. The contractor shall make any adjustments necessary to accommodate existing vegetation, utilities, or other existing conditions.
E. If the road crossings are designated as being bore locations the bore must be ample size to accommodate the size sleeve specified.

2.3 CONTROL SYSTEM.

A. The automatic controllers shall be made by the same manufacturer as valves.
B. Install Rain Check or Mini-Click type shut off device to override the control timer in the event of rain.
C. 120-volt power shall be supplied by General Contractor as part of the electrical panel installation.

2.4 CONTROL WIRE.

A. Control wire shall be type UF, U.L. approved, for direct burial and shall be gauge 14 or larger for the control wire and gauge 12 or larger for common wire.
B. Joining of underground wires shall be made with watertight connectors in valve boxes. No splicing between boxes is acceptable.
C. All wire connections in valve boxes.

2.5 IRRIGATION VALVES.

A. Zone Control Valves
1. Globe-type diaphragm valves of normally closed design, with PVC bodies and covers. Operation accomplished by means of an integrally mounted heavy-duty 24 volt AC solenoid complying with National Electrical Code, Class 2 Circuit, solenoid coil potted in epoxy resign within a plastic-coated stainless steel housing. Solenoids shall be completely waterproof, suitable for direct underground burial. Provide a flow stem adjustment in each valve.

2.6 VALVE BOXES.

A. All valves shall be installed in thermoplastic valve access boxes of the size required to permit access to the valve. Valve boxes shall include black thermoplastic locking covers. Manufacturer- Ametek or approved equal.
B. All valve boxes shall be installed on at least a two (2) cubic foot gravel base to provide foundation and drainage.
C. All valve box elevations shall be 1/2" below finished grade.

2.7 THRUST BLOCKS.

A. Place one cubic ft. of concrete for each inch of pipe diameter for thrust block. Thrust shall not allow vertical or horizontal movement of pipe in any direction unless otherwise noted on design. Thrust blocking shall be provided on all piping three (3) inch diameter and larger.

2.8 SURGE PROTECTION. Contractor to provide electrical surge protection for the system controller.

2.9 BACKFLOW PREVENTION. As determined by Municipality/Local regulations.

2.10 PRESSURE REGULATOR. As determined by Contractor.

3.0 EXECUTION

3.1 EXCAVATION AND BACKFILL.

A. Trenches for pipe sprinkler lines shall be excavated of sufficient depth and width to permit proper handling and installation by any other method the Contractor may desire if approved by the Owner, pipe manufacturer, and Designer. The backfill shall be thoroughly compacted and evened off with the adjacent soil level. Selected fill dirt or sand shall be used if soil conditions are rocky. In rocky areas the trenching depth shall be two (2) inches below normal trenching depth to allow for the bedding. The fill dirt or sand shall be used in filling (4) inches above the pipe. The remainder of the backfill shall contain no lumps or rocks larger than three (3) inches. The top twelve (12) inches of backfill shall be topsoil, free of rocks, subsoil, or trash. Any open trenches or partially backfilled trenches left overnight or left unsupervised shall be barricaded to prevent undue hazard to the public space.
B. The Contractor shall backfill in six (6) inch compacted lifts as needed to bring the soil to its original density.

3.2 INSTALLATION OF PLASTIC PIPE.

A. Plastic pipe shall be installed in a manner that permits expansion and contraction as recommended by the manufacturer.
B. Plastic pipe shall be cut with a handsaw or hacksaw with the assistance of a square in sawing vise or in a manner so as to ensure a square cut. Burrs at cut ends shall be removed prior to installation so that a smooth unobstructed flow will be obtained.
C. All plastic-to-plastic joints shall be solvent weld joints or slip seal joints. Only the solvent recommended for the pipe and fittings shall be installed as outlined and instructed by the pipe manufacturer. The Contractor shall assume full responsibility for the correct installation.
D. The joints shall be allowed to set at least twenty-four (24) hours before pressure is applied to the system on PVC pipe.

3.3 CONTROLLER AND ELECTRICAL CONNECTIONS.

A. All electrical connections shall conform to the National Electrical Code, latest edition.
B. Control wires installed beneath walks, drives, or other permanent surfaces shall be placed in sleeves.
C. Wires shall be spliced only at valve boxes.
D. Leave twenty-four (24) inch loop of wire at each valve for expansion/contraction and servicing.
E. Controllers and valves shall be from the same company e.g. (Rain Bird, Toro or approved equal).
F. 120 VAC electrical power supply to the controller location shall be supplied by others.

3.4 FLUSHING AND TESTING.

A. After all new sprinkler piping and risers are in place and connected for a given section and all necessary division work has been completed and prior to the installation of sprinkler heads all control valves shall be opened and a full head of water used to flush out the system.
B. Sprinkler main shall be tested under normal water pressure for a period of twelve (12) hours. If leaks occur, repair and repeat the test. Give Landscape Architect forty-eight hours notice prior to testing.
C. Testing of the system shall be performed after completion of the entire installation and any necessary repairs shall be made at the Contractor's expense to put the system in good working order before final payment by the Owner.
D. Adjustment of the sprinkler heads and automatic equipment will be done by the Contractor upon completion of installation to provide optimum performance. Minor adjustments during the guarantee period will be made by the Owner.
E. After completion, testing, and acceptance of the system, the Contractor will instruct the Owner's personnel in the operation and maintenance of the system.

4.0 ACCEPTANCE AND GUARANTEE

4.1 SUBSTANTIAL COMPLETION.

A. Submit request for inspection for Substantial completion to the Landscape Architect at least forty-eight hours prior to anticipated date of inspection and testing (refer to Paragraph 3.3 TESTING, here).
B. Submit Record Drawings and Maintenance Manual to the Landscape Architect with request for inspection (refer to Paragraph 3.4 FLUSHING AND TESTING, here).
C. Review the work jointly with the Owner and Landscape Architect for Substantial Completion.
D. Upon completion of repairs and replacements found necessary at time of review, the Owner and Landscape Architect will confirm the date of Substantial Completion of the work.
E. The date of Substantial Completion will constitute the beginning date of the One-Year Guarantee.

4.2 GUARANTEE.

A. Guarantee all work, products, equipment, and materials for one(1) year, beginning at Date of Substantial Completion.
B. During the period of the Guarantee, replace immediately, with no additional compensation, all work not functioning correctly, make adjustments as necessary to maintain complete coverage, make good any other damage, loss, destruction, or failure. Repairs and replacements shall be done promptly and at no additional cost to the Owner.
C. Repair damage to grade, plants, and other work or property as necessitated due to irrigation defects, repairs, replacement or adjustment.
D. If the replacement is not acceptable during or at the end of the Guarantee Period, the owner may elect either subsequent replacement or credit. Replacement products shall have a similar one-year guarantee from time of replacement.
E. Guarantee applies to all losses with the exception of those due to Acts of God, vandalism, or Owner neglect, as determined by the Landscape Architect.

4.3 FINAL INSPECTION AND ACCEPTANCE.

A. At end of Guarantee Period and upon request for inspection, jointly review all guaranteed work for Final Acceptance.
B. Submit written request for inspection for Final Acceptance to the Landscape Architect at least two weeks prior to anticipated date of inspection. Include list of work provisionally accepted and list of work replace during Guarantee Period.
C. Upon completion by the Contractor of all required repairs and replacements, the Owner and the Landscape Architect will confirm the date of Final Acceptance of the work.

END OF SECTION 02810.

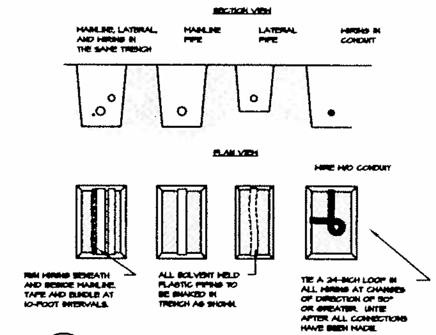
GENERAL NOTES:
A. Contractor shall be responsible for minor adjustments in the field. Contractor to ensure irrigation does not spray on the foundation of buildings, and shall have minimum overspray on all sidewalks and driveways.
B. Contractor to verify locations of meter, backflow, and controller in the field, and make necessary adjustments.
C. Backflow to be installed according to all local codes. Contractor is responsible for aquiring necessary permits, inspections and approvals.

GPH FOR RAINBIRD MPR NOZZLES

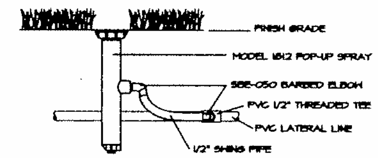
NOZZLE	GPH	NOZZLE	GPH	NOZZLE	GPH	NOZZLE	GPH
15F	4	12F	3	10F	2	8F	1
15TQ	3	12TQ	2.25	10TQ	1.5	8TQ	0.75
15H	2	12H	1.5	10H	1	8H	0.5
15Q	1	12Q	0.75	10Q	0.5	8Q	0.25

GPH FOR RAINBIRD MPR NOZZLES

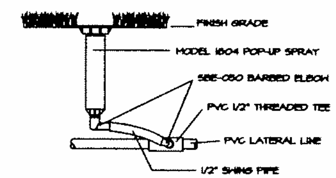
NOZZLE	GPH	NOZZLE	GPH
15SST	1.5	BUBBLER	1
15EST	0.75		



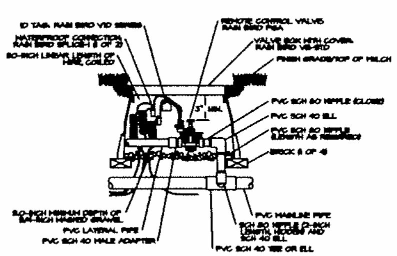
4 / 18 PIPING DIAGRAM
N.T.S.



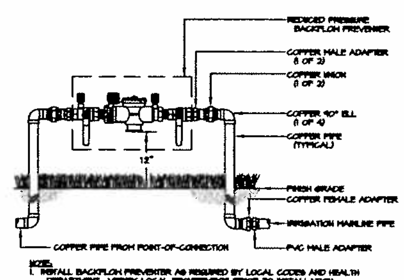
5 / 18 12" POP-UP SHRUB SPRAY
N.T.S.



6 / 18 4" POP-UP TURF SPRAY
N.T.S.

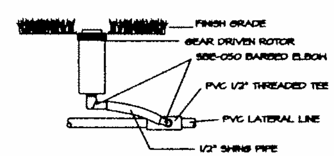


1 / 18 PGA VALVE DETAIL
N.T.S.

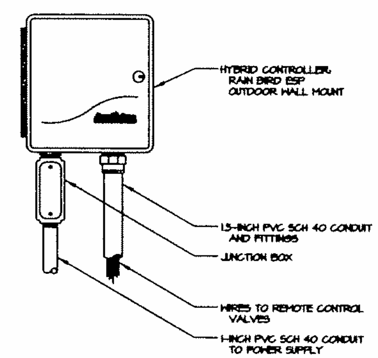


NOTE:
1. INSTALL BACKFLOW PREVENTER AS REQUIRED BY LOCAL CODES AND HEALTH DEPARTMENT. VERIFY LOCAL REQUIREMENTS PRIOR TO INSTALLATION.

2 / 18 BACKFLOW PREVENTER DETAIL
N.T.S.



3 / 18 GEAR DRIVEN ROTOR
N.T.S.



7 / 18 HYBRID CONTROLLER
N.T.S.

Feb 10, 2010 - 10:26am - Phase III IR.dwg

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VETERANS BLVD. CPZ
BEAUTIFICATION PROJECT
METAIRIE, LOUISIANA

Project No: MAINTENANCE

Revisions:

No:	Date:	Description:

Date: 2.10.10
Drawn by: BP
Checked by: AB

Sheet Title:
PHASE III IRRIGATION SPECS/ DETAILS

Drawing No.
18