SEWERAGE and WATER BOARD
of
NEW ORLEANS

SPECIFICATIONS

FOR

RESTORATION OF EXISTING GRAVITY SEWER MAINS DAMAGED BY HURICANE KATRINA BY EXCAVATION AND REPLACEMENT FROM MANHOLE TO MANHOLE, CIPP LINING FROM MANHOLE TO MANHOLE AND POINT REPAIRS AT VARIOUS SITES THROUGHOUT ORLEANS, PARISH.

CONTRACT 30002

PROPOSALS TO BE OPENED

11:00 O'CLOCK A.M., LOCAL TIME, ON APRIL 19, 2013
SEWERAGE AND WATER BOARD OF NEW ORLEANS

ADVERTISEMENT AND DESCRIPTION

CONTRACT 30002

Sealed proposals will be received by the Sewerage and Water Board of New Orleans, at the office of its Purchasing Agent, Room 133, 625 St. Joseph Street, New Orleans, Louisiana 70165, up to 11:00 o'clock A.M., Local Time, of April 19, 2013 and publicly opened immediately thereafter, for:

CONTRACT 30002

RESTORATION OF EXISTING GRAVITY SEWER MAINS DAMAGED BY HURRICANE KATRINA BY EXCAVATION AND REPLACEMENT FROM MANHOLE TO MANHOLE, CIPP LINING FROM MANHOLE TO MANHOLE AND POINT REPAIRS AT VARIOUS SITES THROUGHOUT ORLEANS, PARISH.

The work to be performed under this contract consists of furnishing all labor, materials, supervision, construction equipment, tools, appurtenances, mechanical equipment, electrical equipment, travel, utilities, transportation, and supplies, all as necessary and required for the restoration of existing gravity sanitary sewer mains damaged by Hurricane Katrina.

Contract drawings, specifications and proposal forms are available gratis from:
www.swbno.org
(Click on Bids and Business, then Bids Ads & Spec)

OR

Sewerage & Water Board’s Purchasing Department
625 St. Joseph St. Room 133
New Orleans, LA 70165

Contract drawings, specifications and proposal forms will be issued only to Contractors and/or Subcontractors who are licensed by Louisiana State Licensing Board for Contractors, under Louisiana Revised Statutes 37:2150 through 37:2163 as amended. Bids will be accepted from only those Contractors who possess a Municipal and Public Works license.

Bids must be submitted on forms provided by the Owner. Envelopes containing bids and bid guarantee must be sealed, marked with the project name and with the Contract name, the Contractor’s name as it appears on the license and the Louisiana Contractor’s License number.
The right is reserved to reject any and all bids or proposals for just cause and to waive informalities.

A MANDATORY pre-bid conference will be held at 9:00 A.M. of April 5, 2013 in the Sewerage and Water Board Training Department Auditorium, 8800 South Claiborne Avenue, New Orleans, Louisiana. Any Bidder failing to attend this pre-bid conference shall be considered a non-responsive bidder.

The Drawings governing the work of this Contract will be Drawing No. 8465-S

One set of specifications will be issued at no charge to each qualified bidder. Additional sets may be obtained for a non-refundable charge of thirty dollars ($30.00) each.

Deposit or Bid Bond amount for Contract 30002 shall be not less than five percent (5%) of the total proposal amount as required in Paragraph No. 1, Section A of the General Specifications.

MARCIA ST. MARTIN                   JOSEPH BECKER
EXECUTIVE DIRECTOR                             GENERAL SUPERINTENDENT

*** END OF ADVERTISEMENT AND DESCRIPTION ***
CONTRACT AND BOND
BETWEEN

…………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………
…………………………………………………………………………………………………………………

AND

THE SEWERAGE AND WATER BOARD
OF NEW ORLEANS

UNITED STATES OF AMERICA,
STATE OF LOUISIANA,
PARISH OF ORLEANS,
CITY OF NEW ORLEANS

BE IT KNOWN

That on this……………………………………...day of the month of……………………………..in the
year of our LORD, two thousand and…………………………………, before
me……………………………………a Notary Public in and for the Parish of Orleans, State of Louisiana, duly
qualified and commissioned, and Official Notary for the Sewerage and Water Board of New Orleans of New
Orleans, and in the presence of the witnesses hereinafter named and undersigned,

PERSONALLY CAME AND APPEARED:

1. The Honorable ……………………………………………………………………………………………
……………………………………………………………………………………………………………………….
……………………………………………………………………………………………………………………….
……………………………………………………………………………………………………………………….

Which said appearers declared:

That the said ……………………………………………………………………………………………….
……………………………………………………………………………………………………………………….
……………………………………………………………………………………………………………………….

……Contractor, has……….agreed and do ………by these presents agree for the consideration mentioned
and contained herein, to furnish at…………………………………………………own proper cost and expense all the
necessary labor and equipment and all materials (except those specifically designated as to be furnished by the
Sewerage and Water Board) and to do all the work of every kind required under this contract, complete
and in the manner, within the time under the conditions herein specified in strict accordance with the
Information for Bidders and the Plans and the Specifications, both General and Special, hereto annexed

A
and made part of this contract as fully as if written at length herein and paragraphed for identification with
this contract by me, Notary, which Plans and Specifications are intended to govern the said work without
any extra charge whatsoever.

A copy of the proposal of said Contractor filed with the Sewerage and Water Board on the
………………day of ……………………………………., 20…, and marked “Proposal”, is annexed to and
made part of this contract, all of which are hereby identified by me, Notary.

And in consideration of the faithful and complete performance by the contractor of all and singular the
obligations by, ……………………….herein assumed, the Honorable ……………………………on behalf of
Sewerage and Water Board, hereby agrees to pay unto said Contractor, his heirs, legal representatives and
assigns, at times and in the manner set forth in the specifications above referred to,
the prices for the work to be done under this contract in accordance with the proposal of said Contractor as
accepted by resolution of said Sewerage and Water Board on the ……………………….day of
……………………, 20……….

And now to these presents intervened………………………………………….herein appearing by
and through………………………………………….its Attorney-in-fact, …………………………………….who,
acknowledging to have taken cognizance of the foregoing, hereby consents to the terms and conditions
thereof and firmly and truly binds itself, its legal successors, representatives, and assigns, as surety, together
with………………………………………….as principle, unto the Sewerage and Water Board of New
Orleans, its legal successors, representatives and assigns in the full sum of ………………………………….
………………………………………………………………………………………………………………. for
the true and faithful performance of said contract, and the payment of all sub-contractors, journeymen,
cartmen, truckmen, workmen, laborers, mechanics, and furnishers of material, for which payment well and
truly to made to said Sewerage and Water Board, its legal successors, representatives and assigns the
……………………………………………………………………………………………………………………
……………………………………... its successors and representatives are hereby fully bound.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH, That if the above bounden Principle
shall faithfully perform said contract according to its terms, covenants and conditions, and if the Principle and all
subcontractors of the Principle shall pay for all work done, labor performed, or material furnished in the
performance of said contract and shall pay for all material or supplies furnished for use in machines used in
the performance of said contract and shall deliver all said work to said Sewerage and Water Board free from
all claims, liens, and expenses, then this obligation shall be null and void; otherwise to remain in full force
and effect.

No modification, omission, addition in or to the terms of said contract, in the plans or specifications, or in the
manner and mode of payment, shall in any manner affect the obligation of the Surety hereunder. It is
expressly understood and agreed by and between the parties to this bond that the same is given in accordance
with R. S. 38:2241 through 38:2248, of the Louisiana Revised Statutes of 1950, as amended.

Moreover,…………………………………………………………………………………………………………
party of the second part, and ……………………………………………his surety, do, by act of signing this
Contract and Bond, consent and yield to the jurisdiction of Civil District Court of the Parish of Orleans of
the State of Louisiana and do formally waive any plea of lack of jurisdiction, on account of their residence
elsewhere in the event of suit under this Contract and Bond.

B
Thus done and passed and signed and delivered in my office at New Orleans the aforesaid day, month and year first written, in the presence of …………………………………………………… and …………………………………………………………………………………………………………… witness, both of lawful age and domiciled in this City, who hereunto sign these presents, together with the parties and me, Notary, after the reading of the whole.

SEWERAGE AND WATER BOARD OF NEW ORLEANS

BY:

…………………………………………………………………………..………..
…………………………………………………………………………….……..
…………………………………………………………………………….……..
…………………………………………………………………………….……..
…………………………………………………………………………….……..
…………………………………………………………………………….……..

WITNESSES:

………………………………………………………….
………………………………………………………….
……………………………………………..……

NOTARY PUBLIC

The foregoing contract is approved as to form.
New Orleans, La.,

……………………………………., 20…………………

……………………………………………….., SPECIAL COUNSEL
SEWERAGE AND WATER BOARD OF NEW ORLEANS
SPECIAL SPECIFICATIONS

CONTRACT 30002

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## GENERAL SPECIFICATIONS

### SECTION A1

### INFORMATION FOR BIDDERS AND GENERAL PROVISIONS

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INFORMATION FOR BIDDERS

FORM OF PROPOSALS

1. All proposals must be made upon the Form of Proposal embodied in the Special Specifications for each contract and this form must not be detached from the Specifications. A cashier's check, a certified check, U. S. currency or a bid bond acceptable to the Sewerage and Water Board must be enclosed with each proposal and no proposal will be considered which does not comply with this requirement. Said bid bond shall be written in the same name of the party, firm or corporation offering the proposal. The amount of this deposit or bid bond shall be five percent (5%) of the total amount of the proposal.

2. Each proposal shall contain the full name and address of each person interested therein if made by an individual, a firm or a co-partnership; if made by a corporation it must be signed in the name of the corporation by some duly authorized officer or agent thereof who shall also subscribe his own name and office. If possible, the seal of the corporation shall be affixed. All prices must be written in full in words and also in figures; if there is a difference between the words and the figures in any price bid, the price written in words will be considered to be the true bid. No proposal will be considered unless prices are given for all items for which prices are asked, except when specifically provided otherwise in the special specifications.

PROPOSALS

3. Proposal from any person, firm or corporation in default upon any contract with the Sewerage and Water Board will neither be received nor considered. Any proposal which does not fully comply with all of the provisions of the “Information for Bidders” and of the specifications will be considered informal and may be rejected.

4. Permission will not be given to withdraw, alter or add to any proposal after the final time set for the receipt of sealed proposals.

5. If two or more proposals are received, equal in amount and lower than any other proposal, the Board reserves the right to evaluate these proposals, item by item, and to decide which proposal will be accepted. Unless otherwise specified, the contract will be let as a whole to one bidder. Preference will be given to home contractors, all conditions being equal.

6. The Sewerage and Water Board reserves the right to reject all proposals, and may exercise that right if doing so should appear to be to the best interests of the Board.

DEPOSITS OR BID BONDS

7. The deposits or bid bonds called for in paragraph No. 1, above, will be retained by the Sewerage and Water Board as the property of the bidders until the contract is awarded or all proposals are rejected. Upon the award of the contract, the deposits or bid bonds of all bidders, other than the lowest two (2) formal bidders will be returned. The return of the deposit or bid bond of the bidder to whom the contract is awarded is conditioned upon the successful bidder furnishing the insurance required in the specifications and his appearing before the Notary for the Sewerage and Water Board of New Orleans within ten (10) consecutive calendar days after notice by the Executive Director or the director of Administrative Services of the award of the contract and executing a contract and furnishing bond for the faithful fulfillment thereof according to the attached specifications. The deposit or bid bond of the next lowest bidder will be returned as soon as the successful bidder has executed his contract and furnished Bond. If all proposals are rejected, all deposits and bid bonds will be returned immediately.

BOND

8. The said Bond for faithful fulfillment of the contract shall be for the full amount of the contract; it shall be executed by a surety company legally authorized to do business in the State of Louisiana, satisfactory to the Sewerage and Water Board. Should the bidder to whom the contract is awarded fail to appear within the specified period and execute the aforesaid Contract and Bond as herein set forth, his deposit or bid bond shall be forfeited and shall become the property of the Sewerage and Water Board as liquidated damages, and the said bidder shall cease to have any further rights to or in the contract. The Sewerage and Water Board may then proceed to advertise for new bids or to award the contract to the next-lowest bidder.

SIGNING OF CONTRACT AND BOND

9. The Contract and Bond shall be signed in the City of New Orleans, before the Notary for the Sewerage and Water Board of New Orleans, by the Contractor in person or by a duly authorized representative. The notarial fee for the execution of the contract shall be paid by the Contractor in accordance with the Notarial Fee Schedule attached to these specifications. Contractor shall also be responsible for payment of all recordation costs.
QUANTITIES IN PROPOSAL

(10) Where the quantities given in the Form of Proposal, though determined with as much accuracy as deemed necessary, are approximate only, these quantities, however, at the price bid for each item, shall determine the relative value of each proposal. The quantity of each individual item is not a binding feature of the bid or of the contract, however, the Sewerage and Water Board does not, either expressly or by implication, agree that the actual amount of work to be done will correspond to the quantities given in the Form of Proposal. Bidders must bear this in mind and should check the quantities by examination of the drawings, the contract requirements and the actual conditions at the site of the work. Unbalanced bids may be rejected.

BIDDER TO EXAMINE LOCATION

(11) Each bidder must thoroughly examine the location of the contract work and satisfy himself as to the surrounding conditions, the nature of the soil and the obstructions therein and all other difficulties to be overcome and must judge for himself the character of the work to be performed; the Sewerage and Water Board will in no wise be responsible for any errors, oversights or misjudgment of the bidder, nor will the Board make any allowance therefore. The Sewerage and Water Board is not to be held responsible for any oral information by any officer or employee of the Board concerning the nature of the soil strata or the obstacles to be encountered.

INTERPRETATIONS OF SPECIFICATIONS

(12) If any person contemplating submitting a proposal for a contract is in doubt as to the true meaning of any part of plans, specifications or other proposed contract documents, he may submit to the Purchasing Agent of the Sewerage and Water Board a written request for an interpretation thereof; the said request must be delivered at the office of the Purchasing Agent of the Board not less than seventy-two (72) hours before the time set for the opening of the proposals, and the person submitting the request shall be responsible for its prompt delivery. Any interpretation of the proposed documents will be made only by Addendum, duly issued, and a copy of such Addendum will be mailed or delivered to each person receiving a set of such documents. The Sewerage and Water Board will not be responsible for any other explanation or interpretation of the proposed documents.

LABOR REGULATIONS

(13) All work carried out under this contract shall comply with all laws, ordinances, regulations, etc., of the State of Louisiana and the City of New Orleans, relative to licenses, permits, approvals, etc., required by law or ordinarily secured under recognized good practice, which said licenses, permits, approvals, etc., shall be secured by the Contractor at his own expense.

INSURANCE

(16) The Contractor shall maintain, at his own cost and expense, such insurance as will protect him from all claims for damages to public or private property or for personal injury, including death, to employees or to the public, which may arise from any operations under this contract or any of its subcontracts. The following are the types of insurance policies and the minimum limits of insurance coverage which shall be maintained by the Contractor during the entire term of the contract:

(a) WORKMEN'S COMPENSATION INSURANCE, as will protect him from claims under Workmen's Compensation Acts. The limit of liability under the Employers' Liability Section of the policy shall be in the amount of $100,000. Whenever any vessel or floating equipment is involved, the insurance shall afford coverage under Federal Longshoremen's and Harbor Workers' Act, and shall also include protection for injuries and/or death to Masters and Members of the crews of vessels (Jones Act), with limits of $100,000 each person and $500,000 each accident.

(b) COMPREHENSIVE GENERAL LIABILITY INSURANCE, with limits of liability for bodily injury and/or death of not less than $500,000 for all injuries and/or deaths arising out of any one occurrence. The limits of liability for property damage shall not be less than $100,000 for each occurrence and not less than $500,000 aggregate, including Explosion, Collapse, and Underground Property Damage Hazards.

(c) OWNER'S PROTECTIVE LIABILITY INSURANCE, in the name of the Sewerage and Water Board of New Orleans and the City of New Orleans, as Named Insureds. The limits of liability shall be the same as specified in Paragraph (b) above, and shall include Explosion, Collapse and Underground Property Damage Hazards. Subcontractors need not provide the insurance required by this Paragraph (c).
(d) COMPREHENSIVE AUTOMOBILE LIABILITY INSURANCE, which shall include Hired Cars and Non-Ownership Coverage. The limits of liability for bodily injury and/or death shall not be less than $100,000 for any one person and not less than $500,000 for all injuries and/or death resulting from any one occurrence. The limit of liability for property damage shall not be less than $100,000 for each occurrence.

(e) PROPERTY INSURANCE, required on all work except sewer and water drainage pipelines, reinforced concrete canals, work completely underground, and similar work (however Contractor is not relieved of responsibility therefore).

1. BUILDERS RISK INSURANCE (covering Fire, Extended Coverage, Vandalism and Malicious Mischief) will be carried on a completed value or reporting form, for not less than 100% of the value of the work, including foundations.

2. In addition, INSTALLATION FLOATER INSURANCE (on an "All Risks" form) will be carried on all machinery and equipment to be installed, whether furnished by the Sewerage and Water Board or by Contractor, for not less than 100% of the installed value of the machinery and equipment. This insurance shall be written in the same Insurance Company carrying the Builder's Risk Insurance (where possible), shall include testing, and shall terminate only when installation has been accepted by the Sewerage and Water Board.

(NOTE: "ALL RISKS" Builder's Risk Insurance will be acceptable in lieu of Builder's Risk and Installation Floater Insurance, and must meet the requirements of the Property Insurance above). The Builder's Risk and Installation Floater Policies required above shall include the names of the Sewerage and Water Board of New Orleans, and the City of New Orleans, and will cover the interests of all sub-contractors without specifically naming them. If the insurance is written subject to a deductible clause, Contractor assumes responsibility for the amount of the deductible.

The furnishing of insurance as provided above shall not relieve the Contractor of his responsibility for losses not covered by insurance. Prior to the signing of the contract, evidence of all such applicable insurance satisfactory to the Board shall be filed with the Executive Director of the Sewerage and Water Board. All polices shall be in insurance companies authorized to do business in Louisiana and shall remain in full force and effect until the final completion of the work and acceptance thereof by the authority of the Board. The Contractor and/or his insurer shall notify the Executive Director of the Sewerage and Water Board at least thirty (30) days in advance of any insurance coverage to be cancelled or of any insurance coverage that will expire. The Contractor shall then simultaneously furnish the Board evidence of new coverage to be effective the same day and hour of the expired or cancelled coverage. In the event the Contractor fails to submit this evidence of new coverage five (5) days prior to cancellation date or expiration date of any policy or policies, the Sewerage and Water Board will obtain the required coverage to be effective on date of cancellation or expiration of said polices. The cost of such new coverage shall be at the expense of the Contractor and any expenditures incurred by the Board for this coverage will be deducted from any balance due to the Contractor. Should the Board be unable to secure new coverage to take the place of the expired or cancelled policy or policies, a "stop work" order will be issued and all work on the contract shall cease on the same date and hour as the coverage ceases. Should the Contractor fail or refuse to secure coverage within five (5) days after the date of the "stop work" order, then in such case the Contractor shall be declared to be in default, and the contract between the parties shall be considered cancelled and of no force or effect between the parties reserving all rights of the Board against the Contractor and his surety.

LIENS

(17) The Contractor shall furnish the Sewerage and Water Board with satisfactory evidence that all persons who have done work or furnished materials under this Contract and are entitled to a lien therefore under any law of the State of Louisiana, have been fully paid or are no longer entitled to such a lien, and in case such evidence is not furnished, as aforesaid, such amounts as the Sewerage and Water Board may consider necessary to meet the lawful claims of the persons aforesaid, shall be retained from the money due the Contractor under this Contract, until the aforesaid liabilities have been fully discharged and the evidence thereof furnished to said Sewerage and Water Board. In lieu thereof, the Board may accept a Lien Bond.

PATENT RIGHTS

(18) The Contractor shall be liable for any and all royalties for any patented article or appliance furnished or used by him in the execution of this contract, and whenever the Sewerage and Water Board is formally notified or has reason to believe that a claim exists for royalty, damage, or loss of profits growing out of the use of any patents in the prosecution of such work, it shall have a right to retain out of any balance due to the said Contractor, an
amount necessary, in its judgment, to satisfy such claim. The Contractor obligates himself to defend all claims or suits brought against the Sewerage and Water Board for infringement of patents, and in case he should neglect to do so, and his surety should fail to do so for him, the Sewerage and Water Board shall have the right to take all necessary proceedings at his expense.

CONTRACTOR NOT AN AGENT

(19) It is well understood, that the right of supervision by the General Superintendent and other employees of the Board, does not make the Contractor an agent of the Board, and that the liability of the Contractor for all damages to persons or public or private property arising from the Contractor's execution of the work, is not lessened because of such right of supervision. This also applies when the Contractor's employees are employed on extra work or force account. Such right of supervision is retained in order to ensure to the Board the completion of the work, according to specifications, and to insure the public, in general, from all unnecessary inconvenience during the construction of the work.

GENERAL PROVISIONS

AUTHORITY OF GENERAL SUPERINTENDENT

(20) The Sewerage and Water Board (herein frequently called "The Board") will, in general, exercise its authority through its General Superintendent (herein frequently called "The Engineer"). The Engineer will assign to the work such assistants in the way of engineers, inspectors and other employees as are necessary to the proper conduct of the work and the inspection of materials and workmanship. All explanations or directions necessary for carrying out and completing satisfactorily the different descriptions of work contemplated and provided for under the plans and specifications, will be given by the said engineers, and the General Superintendent will finally decide all matters of dispute between the engineers and the Contractor, involving the character of the work, its quantity, and the compensation therefor.

All work under this contract, shall be done to satisfaction of the General Superintendent, who shall in all cases determine the amount, quality, acceptability and fitness of the several kinds of work and materials which are to be paid for hereunder and shall decide all questions which may arise as to the fulfillment of this contract on the part of the Contractors.

INCREASE OR DIMINUTION OF QUANTITIES

(21) At any time or times, prior to the Engineer's making recommendation to the Board that the contract be accepted as competed, (see paragraph No. 59, below) he shall have the right to increase or diminish the quantities of the items of work to be done or materials, etc., to be furnished under this contract; the increase or diminution may be applied to any one item, or to any number of items, in the Form of Proposal; some items may be increased while others are diminished; new items of the same general character may be added, or any item or items may be eliminated entirely.

The total net dollar value of increase of diminution allowable in any contract under the terms of this paragraph, shall not exceed ten per cent (10%) of the total amount of the contract, as bid on in the Form of Proposal, unless otherwise stated in the Special Specifications; it shall in no case exceed twenty per cent (20%) of the said total amount of the contract, except with the written consent of the Contractor.

(22) It may be the intent of the Board to expend a certain fixed sum, within close limits, on any contract. The right is reserved, therefore, to increase the extent of the work, if bids be lower than was anticipated or to decrease the extent of work if bids be high. Any increase of work, under this clause, will be of the same nature as that bid on. The increase or diminution mentioned in paragraph No. 21, is at the option of the Board and is to be made for the best interests of the Board; the increase or diminution mentioned just above in this paragraph, on account of low or high bids, may be made in addition to the other, and independent of it.

If the Board shall decide to exercise the rights reserved in this paragraph No. 22, it must so notify the Contractor within five (5) consecutive calendar days after the date of the signing of the contract, and must at that same time, inform him as to the amount of the certain fixed sum which the Board intends to expend on this contract.

CHANGES IN LOCATION, ETC.

(23) The Sewerage and Water Board reserves the right to change the locations of the structures to be built under this contract if for any reason the Engineer deems satisfactory, whether to avoid obstructions, either on the surface or underground, to avoid cutting expensive pavements (whether intrinsically expensive or expensive because of an excessive price bid), to make better connection with other structures, or for any other reason tending toward greater economy or better construction. Should such changes in the location, alignment, grade, form or
dimensions of any part of the work under the contract, be made by the Engineer, either before or after the
commencement of the work, the Contractor shall have no claim against the Sewerage and Water Board on account
of such changes, but shall accept as full compensation the price bid for each unit of work which he is required to do
regardless of whether or not the location of said unit of work shall be as shown in the plans upon which proposals
are invited and compared, provided that such changes of location shall not involve any additional burden or hazard
to the Contractor. The Contractor will be compensated for any such additional unavoidable burden or hazards in an
amount to be fixed by the Engineer.

ASSIGNMENT OR SUBLETTING OF CONTRACT
(24) The contractor shall not sublet, sell, transfer, assign, or otherwise dispose of the contract or contracts,
or any portion thereof, or of his right title, or interest therein, without written consent of the Engineer. In case such
consent is given, the Contractor will be permitted to sublet a portion thereof, but shall perform with his own
organization, work amounting to not less than fifty per cent (50%) of the total contract cost, except that any items
designated in the contract as "specialty items" may be performed by subcontract and the cost of any such "specialty
items" so performed by subcontract may be deducted from the total cost before computing the amount of work
required to be performed by the contractor with his own organization. No subcontracts, or transfer of contract, shall
in any case release the contractor of his liability under the contract and bonds.

TRANSFERRING INTEREST IN CONTRACT
(25) No interest in this contract shall be transferred by the party or parties to whom the contract is awarded,
and no assignment of the same, shall be made without the consent of the Sewerage and Water Board. Any transfer
or assignment not approved by the Board, in writing, shall be null and void, and the Board can thereupon call upon
the Contractor to complete his contract, call upon the bondsmen to take over, and complete the contract or cause
the work to be given to other parties for completion, whichever may seem best to the Board.

FAILURE TO START, FAILURE TO COMPLETE
(26) The date of starting, the rate of progress and the time for completion of the work to be done under this
contract, are understood and agreed to be essential conditions of the contract. If the Contractor shall fail to start
work with an adequate force and adequate equipment and materials at the time required in the work order and at
the place ordered by the Engineer, or if he shall fail to deliver materials in the required quantities and at the required
time, he shall, for such failure, pay to the Sewerage and Water Board liquidated damages in the sum named in the
Special Specifications, for each consecutive calendar day of delay in starting, beginning with the day named in the
work order as the required day for starting work or for delivering materials and ending with the last day on which he
shall not have complied with the order.

If the Contractor shall not have completed his work or completed delivery of his materials, as the case may
be, within the time set in the Specials Specifications, he shall, for such failure to complete his contract at the
required time, pay to the Sewerage and Water Board liquidated damages in the sum named in the Special
Specifications, for each consecutive calendar day that the work of the contract shall remain uncompleted beyond the
time specified in the contract.

The Board shall retain liquidated damages for failure to start or failure to complete (and for failure to
maintain proper progress, if the Special Specifications shall so provide) from any money due or to become due the
Contractor under the operations of this contract and shall have the right to withhold the said money without being
required formally to put the Contractor or his Surety, either or both, in default; if the money due the Contractor and
available in the hands of the Board is not enough to cover the liquidated damages, the deficiency shall be supplied
by his Surety. Is specifically understood and agreed that the said liquidated damages constitute compensation to
the Board for actual damage suffered and not an arbitrary penalty.

However, the Contractor shall not be charged with liquidated damages or any excess cost for delay in
starting or completing work or in making deliveries of material when the said delay is due to unforeseeable causes
beyond the control of the Contractor and without fault or negligence on his part, such unforeseeable causes
including (but not restricted to) inability to obtain supplies and materials, Acts of God, acts of the public enemy, acts
of the Sewerage and Water Board, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes or
delays of subcontractors caused by such conditions. The relief of the Contractor from the charge of liquidated
damages for delays due to the said causes is contingent, however, on his notifying the Sewerage and Water Board,
in writing, of the causes of the delay within seven (7) consecutive calendar days after the beginning of such delay;
the Board will then ascertain the facts and the probable extent of the delay and will, within a reasonable time, inform
the Contractor of its decision in the matter.
FAILURE TO MAKE PROGRESS, BOARD’S RIGHT TO TAKE OVER

(27) If the work to be done under this contract shall be abandoned by the Contractor, or if at any time the Engineer shall be of the opinion that the performance of the contractor is being unnecessarily delayed, or that the Contractor is wilfully violating any of the conditions of these specifications, or of this contract, or that he is executing the said conditions in bad faith, the Engineer will notify the Contractor in writing, to that effect. Within the five (5) consecutive calendar days following the delivery of such notice to the Contractor, no tools, material or machinery shall be removed from the site of the work or from their accustomed storage place. If the Contractor does not, within the said five (5) days, take such measures as will, in the judgment of the Engineer, ensure the satisfactory continuation and completion of the work, the Engineer may then, by and with the consent of the Board, notify the Contractor to discontinue work on this contract, or either the whole contract or on some specified part or parts thereof, at the discretion of the Engineer. The Contractor shall immediately respect such notice and shall stop work and shall cease to have any right to possession of the ground, of the tools, machinery or materials upon the ground. The Engineer shall then have the power, under the direction of the Board, to place such and so many persons as he may deem advisable, by contract or otherwise, to work at and complete the work above referred to, and to use such tools, machinery and materials as he may find on the site of the said work or to procure other tools, machinery and materials as he may deem necessary to the proper carrying-on of the work, and to charge the expense of said labor, tools, machinery and materials to the Contractor. The expenses so charged shall be paid by the Sewerage and Water Board out of any money then due, or that may later become due the Contractor under the terms of this contract, and in case the said expenses are greater than the sum that would have been payable to the Contractor under the terms of this contract, if the said work had been completed by the Contractor, then the Contractor or this surety, shall promptly reimburse the Board for the excess expense.

(28) The Contractor shall be prompt in issuing orders for the purchase of any machinery, equipment, or other articles, which he is obligated to furnish under this contract and he shall notify the Engineer as soon as these orders have been issued. If, in the opinion of the Engineer, there is undue delay on the part of the Contractor in issuing the said purchase orders, the Engineer will notify the Contractor to that effect. If within ten (10) consecutive calendar days after the date of the Engineer's notice to the Contractor, the Engineer has not received satisfactory evidence of compliance therewith, the Engineer shall have the right to purchase for the Contractor's account, the said machinery, equipment or other articles and to have such work done in connection therewith, in his opinion, may be necessary for the prompt and proper performance of this part of the Contractor's obligations under this contract; he shall pay for the said machinery, etc., and for the work done in connection therewith, out of any monies due or to become due the Contractor under this Contract, and the Board shall not be held liable for any loss or damage claimed by the Contractor for materials purchased or work done under the provisions of this paragraph.

EXTENSION OF TIME

(29) The Sewerage and Water Board may, at its discretion, and for any cause which it may deem sufficient, extend the times set for starting and for completing this contract, either or both.

BONDSMEN WAIVE RIGHT TO SPECIAL NOTICE

(30) It is distinctly understood and agreed that the bondsmen have familiarized themselves with the wording of this contract and that they waive the right of special notification of changes in the plan contemplated in this contract, of extensions of time, of decreased or increased work, of the cancellation of the contract, or of any other act or acts by the Sewerage and Water Board or its authorized agents under the terms of this contract; failure to notify bondsmen of changes shall in no way relieve the bondsmen from their obligation under the contract.

EXTRA WORK

(31) When, for the proper prosecution of a contract, work becomes necessary which has not been provided for in any clause of the contract, the Engineer will issue an order, and the Contractor shall perform the work stated in the order. Such work, frequently called "Extra Work" may be paid for in any or all of the following ways as determined by the Engineer in each case:

(a) On A Unit Price Basis:

Such items of Extra Work, as are covered by unit prices bid or fixed in the Contractor's proposal, will be paid for at the said prices; for such items of Extra Work as are not covered by unit prices bid or fixed in the proposal payment, will be made at unit prices agreed on by the Engineer and the Contractor before the order is issued. These unit prices shall be written into the contract as unit prices for added items and these prices shall apply to
similar items in any subsequent Extra Work. Payments will be made and retainers withheld on these added items the same as on the items bid on in the original proposal.

(b) On A Lump Sum Basis:

A lump sum price for the whole proposed piece of Extra Work will be agreed on by the Engineer and the Contractor before the order is issued. This lump sum price shall be written into the contract as a price for an added item. Payments will be made and retainers withheld on such added items the same as on the items bid on in the original proposal.

(c) On A Force Account:

This method of payment is to be used only where it is impracticable to use either method (a) or method (b). The Contractor will be paid for all general foremen, foremen, labor, teams and trucks actually engaged on such specific work for the time actually so employed at the rates actually paid, but not exceeding the rates paid similar workmen, etc., on similar work on the remainder of the contract and for all materials and insurance involved in the Extra Work at the actual cost thereof. For the use of power equipment and machinery he will be paid a reasonable rental, calculated either on the rent-per-day rates, or the rent-per-month rates, whichever is the lesser, which shall include the cost of fuel, lubricants, etc., to be determined in advance by agreement between the Engineer and the Contractor.

In addition to the above stated payment for labor, materials, insurance and equipment rental, the Contractor will be paid a fee for his superintendence, general expense and profit. This fee paid to the Contractor shall be understood also to reimburse him for any sub-contractor's general expense and profit which the Contractor may allow to one or more sub-contractors, if any such "force account" extra work is done under sub-contract. This fee shall be twenty (20) per cent of the cost of the labor, materials, insurance, and equipment rental incurred in doing the Extra Work. Payment for Extra Work done on this basis will be made month by month as the bills are rendered by the Contractor for the work done during each calendar month; the payment will be complete, no retainer will be withheld. Where Extra Work is to be done by force account the Engineer shall have the right to appoint a timekeeper to represent the Board and the Contractor shall furnish this timekeeper all facilities for obtaining a correct record of the time and the rates of the men and the equipment employed.

LABORATORY INSPECTION

(32) If the Engineer shall require laboratory inspection and testing, either or both, of any of the materials entering into the work being done under this contract, the Board will designate a laboratory of recognized standing for this purpose. The laboratory so designated will render bills for the inspection and the testing direct to the Sewerage and Water Board, the Contractor will not bear any part of the cost of the inspection and testing service, except that he must furnish, free of charge, the samples of materials required by the laboratory for the tests.

DRAWINGS AND SPECIFICATIONS

(33) The Contractor will be furnished with a set of drawings showing the details and dimensions necessary to carry out the work; dimensions given in figures shall have preference over the scale, and the Contractor shall verify these figures. The plans of the work and a copy of these specifications shall be kept constantly at the work by the Contractor or his authorized foreman. No deviation from the drawings will be allowed without the written direction of the Engineer. The drawings and specifications are intended to be explanatory of each other but should any discrepancy appear, or dispute arise as to the true meanings of the drawings and specifications in any point, the decision of the Engineer shall be final and conclusive. The plans and drawings furnished prospective bidders are intended to give a closely approximated idea of the proposed works, but are subject to such revision as the Engineer may deem necessary, or to the working out of fuller details where such may be needed to obtain the results desired as each particular point is reached in the progress of the work.

(34) The plans and specifications are intended to show the materials and methods to be used to complete the contract thoroughly and well but it is not intended that every detail of construction shall be shown. The Board cannot be held responsible for the lack of any detail the Contractor may require, nor for failure to provide in advance for any special construction which may be found necessary as the work progresses; plans showing such details or special construction, will be made and furnished the Contractor as occasion arises. No extra compensation above that for the additional quantity of the items involved, will be allowed the Contractor, unless it can be clearly shown that such special construction is beyond the scope and intent of the original plans and specifications. The Engineer shall have full power to decide as to the proper compensation for such work. The Engineer shall have the right to
correct any clerical, mathematical or minor errors or omission in the contract, specifications or drawings, when such correction is necessary for the proper fulfillment of the contract. The Contractor does not warrant the plans and specifications to be in compliance with applicable laws, ordinances, regulations or building requirements or to be sufficient to perform the work required under this contract.

**INSPECTION BY ENGINEER**

(35) The Engineer shall have the right of access, at all times, to all work being constructed for this contract and to measure, inspect and test all work or material, either at the shops where it is made, or on the ground, and the Contractor shall provide safe and reasonable facilities therefore and prepare such customary samples as may be required.

**DEFECTIVE WORK**

(36) The inspection of the work at any time shall not relieve the Contractor of any of his obligations to fulfill his contract as herein described, and any defective work shall be made good, and any unsuitable materials may be rejected, notwithstanding that such work and material have been previously overlooked by the Engineer and accepted or estimated for payment.

**QUALITY OF WORK**

(37) All material and work, whether the quantity, dimensions and quality, are shown on the plans or fully specified in the specifications or not, are to be furnished in sufficient quantity and of sufficient dimensions for the proper execution of the work, and the quality and workmanship are to be the best throughout.

**REJECTED MATERIAL**

(38) The Engineer shall have the power to condemn any material or work which he considers is not in accordance with the plans or specifications, and the Contractor shall remove such rejected material from the site of the work immediately and not offer it again for inspection.

**PATENTED ARTICLES AND ALTERNATES**

(39) In any case, under these specifications where articles are specified as of a stated manufacture, or equal, or where in describing any stated item a patented process or device is included, the General Superintendent shall have the right to accept other devices processes which will, in his judgment, accomplish the same objects with equally good results and which are of equal durability and value. If articles, products or processes are to be offered as "equal" to those specifically mentioned, they shall be presented for consideration and approval by the Engineer within two (2) weeks after the award of the contract and the decision of the Engineer shall be final.

**RESPONSIBILITY OF CONTRACTOR**

(40) The Contractor shall furnish all transportation, scaffolding, bracing, apparatus, ways, works, machinery, paint and appliances requisite for the proper construction of his work under this contract. He shall cover or otherwise protect his work from loss or damage until the final acceptance of the contract, and shall repair promptly any injury done to it. All such loss or damage or injury is entirely his responsibility, whether the said work be completed or uncompleted, including any loss or damage to property of the Contractor or to materials in his possession, whether furnished by himself or by the Board.

He is responsible to the Board for damage caused by settlement of the ground due to his work caused by improper, illegal or negligent conduct of himself, his employees or his sub-contractors or by the improper use of any scaffolding, bracing, or apparatus, whether such damage is done to persons or to property including buildings in or near which his work is being done--whether the property be privately or publicly owned. He shall save harmless the Board from all claims relating to labor and material furnished for the work, or to inventions, patents and patent rights for articles and methods used in the work or in doing the work.

**OFFICE AND RESIDENCE OF CONTRACTOR**

(41) Any Contractor whose contract involves the furnishing and installing of materials in place in New Orleans, shall maintain an office in New Orleans, during the full terms of his responsibility under this contract, where mail can be received and notices served and received by the Contractor or his authorized agent. Communications forwarded by the United States mail are to be considered as having been delivered and received. The Contractor,
or his authorized agent, shall also keep the Board advised of his place of residence and mail, addressed to the said residence, or notice delivered at the same said residence, shall have the same effect and force as if delivered at the aforesaid office of the Contractor.

SUPERVISION BY CONTRACTOR
(42) The Contractor shall give his personal supervision to the faithful prosecution of the work and shall keep it under his personal control. In his absence, he shall have a competent representative or foreman on the work, who shall follow, without delay, all instructions of the Engineer or his assistants in connection with this contract, and shall have full authority to supply equipment, material and labor immediately.

RESPONSIBILITY FOR DAMAGES
(43) The Contractor shall be responsible for any damage or loss of material during the progress of the work, until its final acceptance; he shall also be responsible for any damage by fire or the elements up to the time of the acceptance of the contract.

CONTRACTOR’S NEGLECT
(44) When the Contractor has been notified in writing by the Engineer of any requirements or precautions neglected or omitted or any work improperly constructed, he shall attend to them at such times as directed; if he fails to do so, the Engineer may perform such work at the Contractor’s expense and deduct the cost thereof from any amounts due, or to become due, the Contractor.

COOPERATION WITH OTHER CONTRACTORS
(45) The Engineer will require the Contractor to cooperate with other Contractors having contracts adjoining his own, and to give them necessary facilities in building and completing the work at the junctions of the contracts, to such an extent as to avoid any undue burden on either Contractor.

LINES, GRADES, ETC.
(46) The Engineer will give all the necessary lines, levels, grades, etc., for the guidance of the Contractor, and the Contractor shall be responsible for the conformity of the work thereto. The Contractor shall provide suitable stakes and forms and shall render such assistance to the Engineer, at his own expense, as may be necessary to establish lines and grades for the guidance of his work, and shall carefully preserve the points so established at all times. Work done without lines, levels, and instructions having been given by the Engineer, or done during the absence of an inspector, will not be estimated nor paid for.

COMPETENT, ORDERLY WORKMEN REQUIRED
(47) Only competent men shall be employed on the work; if the Engineer shall notify the Contractor that any man on the work is incompetent, unfaithful or disorderly, or that he is abusive or threatening to inspectors, engineers, etc., such man shall be removed from the work at once.

NIGHT OR SUNDAY WORK
(48) No night or Sunday work requiring the presence of an engineer or inspector, will be permitted except in cases of emergency, and then only to such an extent as is absolutely necessary, and with the written permission of the Engineer; however, this clause does not operate in case of a gang, organized with the approval of the Engineer, for regular and continuous night work.

POLICE AND HEALTH REGULATIONS
(49) The Contractor shall comply with all police and health regulations of the City and State.

SIGNS, LIGHTS, WATCHMEN
(50) Wherever the Contractor’s excavations are open, he shall keep conspicuously posted a sign bearing the words "Sewerage and Water Board Work" and the name of the Contractor, together with his office address, all in plain letters legible 100 feet away. The Contractor shall place sufficient lights on or near the work, and keep them burning from twilight to sunrise, shall erect a suitable railing or protection about all open trenches and other dangerous places, and provide on the work, day or night, all watchmen and flagmen, when necessary for the safety of the public.
CLEARING SITE

(51) The Contractor shall, at his own expense, clear away brush, weeds or other surface obstructions along the line of work, sufficiently for its proper prosecution, and so as to afford facilities for staking out the work and inspecting it.

WORK STRUCTURES

(52) The Contractor may build such sheds, storehouses, shops, etc., as may be necessary, provided such structures do not interfere with the reasonable public use of the streets or sidewalks. The location and construction of these are subject to the approval of the Engineer.

SANITARY ARRANGEMENTS

(53) Necessary sanitary conveniences for the use of the laborers on the work, shall be constructed by the Contractor wherever needed, secluded from public observation and maintained in a proper sanitary condition and in accordance with the regulations of the Sewerage and Water Board and the directions of the Engineer.

CLEANING UP

(54) On or before completion of the work, the Contractor shall, without charge therefore, carefully clean up all work executed by him, shall tear down and remove all temporary structures built by him and shall remove all rubbish of all kinds from any of the ground which he has occupied and leave them in first class condition. Before final acceptance each part shall be in condition and order at the expense of the Contractor.

MONTHLY PAYMENTS TO CONTRACTOR

(55) Neither the Sewerage and Water Board nor any member or agent thereof, shall be liable for, or be held to pay any money to the Contractor, except as provided in these specifications, and on making the last payment therein, provided the Sewerage and Water Board and every agent thereof, shall be released from all claims or liability to the Contractor, for anything done or unfinished relating to the work of this contractor or for any act or neglect of the Sewerage and Water Board, relating to or affecting the work of the contract, except the claim against the Sewerage and Water Board for any remainder of the amounts retained as provided in these specifications.

(56) The Contractor shall accept payment for the quantities of work actually performed, at the prices bid in his proposal, plus whatever payments for extra work may be approved and less any deductions provided for in the contract, as full compensation for furnishing all the labor, materials, tools, equipment, etc., needed to complete the whole work of the contract, well and faithfully done, in accordance with the drawings and specifications, and meeting the requirements of the Engineer; also as full compensation for all loss, damages or risks of every description, connected with or resulting from the nature of the work, or from any obstructions or difficulties encountered, of any sort or nature whatsoever, or from the action of the elements; also for all expenses in consequence of the suspension or discontinuance of the work as provided for in the contract.

(57) On or about the last day of each calendar month during construction, the Board's Engineer will estimate the total amount to date of the work done and acceptable according to the specifications, and the value of the said work at the prices bid or fixed in the contract, including such extra work as may have been approved and completed according to the provisions of sections (a) and (b) of paragraph No. 31, above. In the Special Specifications for each contract, there will be designated a percentage of the said value of the work done which will be retained by the Board as is specified below in paragraph No. 60. The said percentage will be deducted from the amount earned, and the remainder of the amount earned, less all legal deductions and all previous payments, will be paid to the Contractor.

ADVANCES FOR MATERIALS DELIVERED

(58) If it is so provided in the Special Specifications for any contract, the Board will make allowances for materials delivered but not yet used as is set forth below:

On or about the last day of each calendar month, during construction, the Board's Engineer will estimate the quantities of the several materials actually delivered to the site of the work, and as yet unused. The Sewerage and Water Board will advance to the Contractor in the monthly estimate, an amount equal to Ninety (90) per cent of their value, as represented by invoices verified by the Engineer. Each monthly advance on materials delivered, will in the next monthly estimate, be treated as a part of the amount already paid, and will be deducted from the amount then due on the contract.

COMPLETION OF CONTRACT AND FINAL PAYMENT
(59) When the contract has been completed and tendered for acceptance, the Engineer will have it carefully inspected for defects and re-measured to verify the quantities. If no defects are discovered, or when any defects found to exist have been repaired by the Contractor at his own expense, so that all the structures built by him, under this contract, and all the paved or unpaved surfaces disturbed by the work of this contract, are in acceptable conditions, as may be more fully set forth in that Section of the General Specifications covering the class of work done under this contract, or in the Special Specifications for this contract, either or both, the Engineer will recommend that the contract be accepted by the Board.

FINAL PAYMENT AND LIEN PERIOD

(60) The percentage of the value of the work done, as stated in Paragraph 57 above and particularly specified in the special specifications, will be withheld by the Board for a period of not less than forty-five (45) consecutive calendar days after the contract has been accepted by the Board, and such acceptance has been recorded in the Office of the Recorder of Mortgages for the Parish of Orleans. At the end of the forty-five (45) day period, the percentage withheld by the Board, will be paid to the Contractor, less any sums that may be legally deducted under any provisions of this contract, upon the Contractor furnishing the Board with a certificate from the Recorder of Mortgages for the Parish of Orleans, certifying that the contract is clear of all liens and privileges.

MAINTENANCE PERIOD

(61) The maintenance period under this contract, except as otherwise specifically provided for herein, shall be for a period of forty-five (45) consecutive calendar days beginning from the day after the contract has been accepted by the Board, and such acceptance has been recorded in the Office of the Recorder of Mortgages for the Parish of Orleans. During the maintenance period the Contractor will repair, at his own expense, all defects in the work that may arise, to the satisfaction of the Engineer. The Contractor shall restore all surfaces for which he is responsible under the specifications, whether unimproved, partially improved, or paved surfaces (See Section B of the General Specifications), and maintain them in good condition to the satisfaction of the Engineer. If the Contractor should fail or refuse to repair, at his own expense, any defects in structures or surfaces developing before the expiration of the aforesaid forty-five (45) days or to adjust satisfactorily any claims for damages to public or private property, the Board shall have the right to continue to hold the retainer and to make the necessary repairs and to satisfy the claims for damages, by such means as the Board shall elect, and to reimburse itself for the cost of these repairs and satisfied claims, out of the said retainer. Any surplus of this retainer will then be paid the Contractor, under the conditions above stated, any deficiency shall be made good by the surety.

UNSATISFACTORY WORK

(62) The Contractor shall re-execute any work that fails to conform to the requirements of the contract, and any defective work that appears during the progress of the work, and shall remedy any defects due to faulty materials or workmanship, which appear, within a period of one (1) year from the date of acceptance of the contract is recorded in the Office of the Recorder of Mortgages for the Parish of Orleans. The provisions of this paragraph apply to work done by direct employees of the Contractor and by subcontractors as well.

RIGHT TO MODIFY PREVIOUS ESTIMATES

(63) It is expressly understood and agreed, that until the final payment on this contract has been made, the Sewerage and Water Board shall not be precluded or stopped by any estimate, return of certificate, previously made or given by any engineer, inspector or other officer, agent or appointee of said Sewerage and Water Board, from ascertaining and showing the true and correct amount and character of the work which shall have been done, and the materials which shall have been furnished by the Contractor under this contract, nor from correcting any errors or omissions in any previous estimates, returns or certificates. Any money due or to become due the Contractor under this contract, may be retained by the Board to make correction of such errors or omissions, and if the said money shall be insufficient the Surety shall make the amount good.

CONTRACT TO BE IN ACCEPTABLE CONDITION AT TIME OF FINAL PAYMENT

(64) It is the intent of these specifications, and of the essence of this contract, that the Contractor shall deliver to the Board, at the end of the aforesaid maintenance period of forty-five (45) calendar days, all the work done under this contract free from defects and acceptable in all respects, conforming to the Special Specifications for this contract and to the General Specifications covering the class of work done under this contract.
WAIVER OF JURISDICTION

(65) The Contractor and his Surety will consent and yield to the jurisdiction of the Civil District Court of the Parish of Orleans, State of Louisiana and will formally waive any plea of lack of jurisdiction on account of their residence or domicile elsewhere, in the event of suit under the Contract or Bond.

NOTARIAL FEE SCHEDULE

Notarial work for all Sewerage and Water Board of New Orleans construction contracts, requiring to be notarized:

<table>
<thead>
<tr>
<th>Contract Value</th>
<th>Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under $1,000.00</td>
<td>$162.00</td>
</tr>
<tr>
<td>$1,000.00 to $49,999.99</td>
<td>$297.00</td>
</tr>
<tr>
<td>$50,000.00 to $499,999.99</td>
<td>$756.00</td>
</tr>
<tr>
<td>$500,000.00 to $999,999.99</td>
<td>$1,623.00</td>
</tr>
<tr>
<td>$1,000,000.00 or over</td>
<td>$3,247.00</td>
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</tbody>
</table>

In addition to the above fees, the contractor shall pay the actual costs of recording all acts.
SPECIAL SPECIFICATIONS

FOR

CONTRACT 30002

SECTION 01

CONTRACT DOCUMENTS AND SPECIAL CONTRACT SPECIFICATIONS

1-01 CONTRACT DOCUMENTS

The Contract Documents governing this Contract 3002, consist of the following papers, which are bound together under the one cover, namely:

Advertisement and Description of Contract 30002;
Contract and Bond;
Section A of the General Specifications, including Information for Bidders and General Provisions;
* Section B of the General Specifications, covering general matters pertaining to construction;
* Section C of the General Specifications, covering materials;
These Special Specifications for Contract 30002 including the Form of Proposal, also
The Drawings listed in Paragraph 1-02 are not bound with the other contract documents.

** The City of New Orleans Department of Public Work General Specifications.

* The Sewerage and Water Board has discontinued the policy of issuing the "applicable sections" of the General Specifications with each contract specification. In implementing this system, each prospective bidder is given a complete set of the "General Specifications", without charge, with the first set of contractual drawings and bid data he receives. If he has previously received his complimentary set, he will not be entitled to additional sets without cost. This set of specifications is for his use on this Contract, and future Board Contracts. Additional copies are available to all at the office of the Purchasing Agent at a cost of $5.00 per copy. Holders of the "General Specifications" will be kept informed of any changes that may occur.

** The Department of Public Works General Specifications may be obtained from the City of New Orleans Department of Public Works, 1300 Perdido Street, Room 6W02.
1-02  CONTRACT DRAWINGS

The Sewerage and Water Board Standard Drawings governing the work which will be performed under this Contract 30002 are the following:

3143-E-1  Details of sewer and water manhole castings.
4697-E5-A  Typical standard and non standard sheeting and open trench sections for sewer pipe installation
6178-B-6  Typical sewer brick manhole and drop manhole
6178-B-6A  Typical pre-cast concrete manhole
6312-E5-A  Typical sewer service connection for sewer main less than or equal to 8’ deep.
6312-E5-B  Typical sewer service connection for sewer main greater than or equal to 8’ deep.
7007-SWD  Roadway restoration over pipe trenches.
7260-SWD  Specifications for installation of sewer, water and drain mains.
8178-SD  Typical sewer and drain siphon & pipe/wall connectors

The City of New Orleans Department of Public Works Standard Drawings (Latest Revision) governing the work which will be performed under this Contract 30002 are STD 1 through STD 12.

1-03  SCOPE AND EXTENT OF CONTRACT

A. The work to be performed under this contract consists of furnishing and delivering all labor, materials, supervision, construction equipment, mechanical and electrical equipment not furnished by the Board, travel utilities, transportation, supplies, tools and services necessary for performing all work as specified in the Contract Documents, plus whatever work may be
added as extra work under the provisions stated in Paragraphs No. 21 and No. 22 of Section A of the General Specifications.

The intent of the work is sewer main replacement, associated service connections, point repairs, service repairs, CIPP Lining, interim and final restoration, control, traffic maintenance and control, labor, equipment, tools and materials as necessary to perform the work as specified in the Contract Documents.

B. This contract shall also include the excavation, demolition, backfilling, replacement, and repair to condition existing prior to disturbance by the Contractor, of all bridges, ditches, drains, culverts, curbs, fences, sidewalks, pavements or other structures or obstacles the removal of which is necessary for the execution of this contract.

C. Provide all items, articles, materials, equipment, etc., mentioned herein or scheduled or shown on the drawings, and all labor, workmanship, tools, appliances, etc., required for the proper installation thereof, to accomplish the intention. In general, this Contract shall provide any item of labor or material which is obviously necessary for a completed system to accomplish the intention, whether specifically mentioned or not.

D. This contract includes, but is not limited to the following items of work:

Removal and disposal of roadways, driveways, sidewalks or unpaved surface areas.

Restoration of roadways, driveways, sidewalks or unpaved surface areas.

Removal and disposal of existing gravity flow sanitary sewers and related material, and restoration of gravity flow sanitary sewers and direct replacement from manhole to manhole.

Installation of cured in place pipe (CIPP) liners in the existing sewer mains from manhole to manhole.

Installation of cured in place pipe (CIPP) liners in the existing sewer mains from manhole to manhole.

Reinstatement of sanitary sewer service connections on CIPP liners.

Removal and disposal of existing sewer house connections on the restored Sewer main.

Replacement and tie-in of sewer house connections from the main to property line.
1-04 LOCATION OF CONTRACT WORK

The location of the work site will be at scattered locations throughout Orleans Parish. It is mandatory that all prospective bidders acquaint themselves with the local conditions.

1-05 OTHER CONTRACTORS

Other Contractors and Sewerage and Water Board personnel may be working in the vicinity of the job site during the execution of this contract. The Contractor shall cooperate with other Contractors and/or Sewerage and Water Board workmen in the area and shall organize his work so as not to interfere with or delay in any way, the work of the other Contractors and/or Sewerage and Water Board workmen. The Engineer reserves the right (should it be the best interest of the Board) to arbitrate questions of conflict between Contractors and/or between Contractors and Sewerage and Water Board workmen and his decision shall be final.

1-06 COMPLETION TIME

A. The Lump Sum portion of the work of this contract shall be completed in all respects and tendered to the Board for acceptance within 365 calendar days from the date of “Notice to Proceed”. There will be no renewal option on Contract 30002.

B. The work performed within the time frame stated above shall also include repair of damages to public or private property, complete cleanup of the premises, and completion of all punch list items generated by the Engineer's final inspection.

C. Contractor shall direct the full force of his efforts toward completion of the work within the time stipulated. Liquidated Damages, as defined in paragraph 2-09 of the Supplemental Special Contract Provisions will be rigidly enforced for failure to start work or failure to complete work on time.

D. The Contractor shall have on hand sufficient materials to perform the work that is listed within ten days of the Notice to Proceed. Work should progress continuously until the job is complete with the exception of nights, weekends, and holidays.

1-07 CITY AND STATE SALES TAXES

Applicable state and local sales and use taxes for purchase of materials and supplies furnished under this contract shall be paid by the Contractor. Such
taxes shall be included in the Total Base Bid for the work of this contract. The board shall be relieved of any obligation to pay these taxes.

1-08 PROPOSAL FORM

All blank spaces in the Proposal shall be filled. A bid price shall be indicated for each bid item. Bids received without all such items completed will be considered non-responsive. The bid shall contain an acknowledgement of receipt of all Addenda in space provided. The Louisiana Uniform Public Work Bid Form & Unit Price Form (if applicable) & the amount of Deposit or Bid Bond five percent (5%) of the total amount of the proposal is REQUIRED to be submitted in a sealed envelope bid opening date. The two (2) lowest numerical bidders have three (3) days after the bid opening (exclusive of Saturdays, Sundays and Holidays) to submit any additional information such as (Voluntary Extension Sheet, Affidavit, Economically Disadvantage Business Summary Sheet if applicable)

1-09 BID PRICE

A. The Total Base Bid amount shall include and cover the performance of all labor and the furnishing of all materials requisite and proper for the work named herein and in the manner set forth, including mobilization, all as described in the Contract Documents.

B. There are no Alternate bids associated with this contract.

1-10 Louisiana Revised Statute 9:2716

Any contract between the Sewerage and Water Board of New Orleans and a person or entity entered into as a result of fraud, bribery, corruption, or other criminal acts, for which a final conviction has been obtained, shall be absolutely null and shall be void and unenforceable as contrary to public policy. Any person whose conviction causes the nullity of the contract as provided shall be responsible for payment of all costs, attorneys’ fees, and damages incurred in the re-bidding of the contract.

1-11 BID EVALUATION

A. All bids received will be evaluated on the basis of the Total Base Bid in the Form of Proposal.

B. The Total Base Price shall be the arithmetic sum of any and all unit prices designated “Base Bid”.

C. Bidders shall provide prices, where required in the form of proposal, for all work. Any bids received without prices submitted for all required items will be rejected and will not be considered.
D. If two or more proposals are received equal in amount and lower than any other proposal, the Sewerage and Water Board reserves the right to evaluate these proposals and to decide which proposal will be accepted. Preference will be given to home contractors, all conditions being equal.

1-12 ACT 318 OF 1958

A. Under the terms of Act 318 of 1958, of the Regular Session of the Legislature of the State of Louisiana, all things being equal, preference must be given to either (1) firms doing business in the State of Louisiana or (2) to products produced (or) grown (or) manufactured in the state.

B. Before any bill for supplies used shall be paid to any non-resident firm, a statement in writing shall be submitted by the seller to the effect that his firm has paid all taxes duly assessed by the State of Louisiana and its political subdivisions, including franchise taxes, to the state and its political subdivisions.

1-13 MOBILIZATION

This work consists of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to the project site; the establishment of all offices, buildings and other facilities necessary for work on the project and the costs of bonds and any required insurance, and any other pre-construction expense necessary for the start of the work, excluding the cost of construction materials.

Contract 30002 does not include a pay item for mobilization.

1-14 TRAFFIC MAINTENANCE

A. The Contractor shall maintain fifty (50%) percent of the roadway accessible to vehicular traffic at all times, and for major streets shall maintain 100% of roadway accessible to vehicular traffic between the hours of 7-9 A.M. and 4-6 P.M. A traffic control plan indicating, in detail, the location of all signs, lights, and barricades must be prepared by the Contractor for the written approval of the City of New Orleans Department of Public Works Traffic Engineer, no less than two, nor more than ten working days in advance of implementation. It shall be the Contractor’s responsibility to obtain these approvals in writing. There is no direct pay for this requirement.

B. The Police Department, Fire Department, all affected utilities as well as any and all residents and/or businesses affected must be informed a minimum
of twenty four (24) hours in advance of anticipated closures and the duration thereof.

C. Construction traffic control signs, barricades, warning lights, devices, and methods, shall comply with Part VI of Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) unless otherwise directed by the Traffic Engineering Division of the City of New Orleans Department of Public Works. There is no direct pay for this.

D. All traffic control devices (roadway markings, signs, signals, signal controls, etc.) destroyed as a result of construction shall be replaced per City of New Orleans specifications at no cost to the Sewerage and Water Board.

E. The Contractor shall notify the City of New Orleans Department of Public Works Traffic Engineer immediately if the project requires changes or modifications to existing traffic control signs, parking meters, etc.

1-15 BID DISPUTES

Staff recommended awards based on bid results will be posted on a bulletin board located outside the office of the Sewerage and Water Board Purchasing Department within 72 hours (excluding Saturdays, Sundays, and Holidays) after the Bid opening. Bidders may also telephone the Purchasing Department to determine the bid results. Objection by a bidder to any recommended award must be made in writing to the Purchasing Agent or Assistant Purchasing Agent within 72 hours (excluding Saturdays, Sundays, and Holidays) after the recommended bid award has been posted.

1-16 BID CONFLICTS

A. Prices bid in the proposal must be written in full in words also in figures. If there is a difference between the words and the figures in any price bid, the price written in words shall be considered to be the true bid.

B. Erasures or other changes in the Bid Prices must be initialed by the Bidder.

NOTE: ONLY BIDS WRITTEN IN INK OR TYPEWRITTEN AND PROPERLY SIGNED BY A MEMBER OF THE FIRM OR AUTHORIZED REPRESENTATIVE WILL BE ACCEPTED. PENCIL FIGURES OR PENCIL SIGNATURES WILL DISQUALIFY BIDDER.
C. BIDS MUST BE ENTERED ON PROPOSAL FORMS EMBODIED IN THESE SPECIFICATIONS AND SHALL REMAIN ATTACHED THERETO, OR BIDS WILL NOT BE CONSIDERED.

1-17 ESCALATION

Firm Proposals Are Desired and no proposal containing an escalation clause will be considered unless the limits of escalation are clearly defined.

1-18 INFORMALITIES

Paragraph (6) of Section A - General Specifications is hereby amended to read, "The Sewerage and Water Board reserves the right to reject any and all bids or proposals for just cause. The Board may waive informalities in the lowest bid or proposal and accept that bid or proposal, if this should appear to be in the best interest of the Board."

1-19 DEPOSIT OR BID BOND

The amount of the deposit or bid bond for this contract as required in Paragraph No. 1, in Section "A" of the General Specifications shall be five percent (5%) of the total lump sum amount of the proposal made payable to the Sewerage and Water Board of New Orleans and subject to forfeiture upon failure to sign contract and execute bond within ten (10) days after official award of the contract.

1-19 PERFORMANCE BOND

Bidders attention is called to Paragraph 8 of Section A of the General Specifications, relating to the furnishing of 100% performance bond, which shall be amended by adding to it the following statements: (R.S. 38: 2219) "Any surety bond written for a public works project shall be written by a surety or insurance company currently on the U. S. Department of the Treasury Financial Management Service List of Approved Bonding Companies which is published annually and in the Federal Register, or by a Louisiana Domiciled Insurance Company with at least A minus (A-) rating in the latest printing of the A.M. Best's Key Rating Guide to write individual bonds up to ten percent of policyholder's surplus as shown in the A.M. Best's Key Rating Guide, or by an insurance company that is either domiciled in Louisiana or owned by Louisiana residents and is licensed to write surety bonds. In addition, any surety bond written for a public works project shall be written by a surety or insurance company that is currently licensed to do business in the State of Louisiana."
A MANDATORY Pre-Bid Conference will be held at 9:00 a.m. on Friday, April 5, 2013 at the Sewerage and Water Board Training Department Auditorium, 8800 S. Claiborne Avenue, New Orleans, Louisiana. Any Bidder failing to attend this Pre-Bid Conference will be considered a Non-Responsive Bidder.

DOMESTIC MANUFACTURE

A. All equipment to be furnished and components of all items specified herein, except bearings, shall be of domestic produce, manufacture and assembly, i.e., manufactured and assembled within the limits of the United States. Parts must be available from suppliers that manufacture components in the USA. The Board reserves the right to waive this requirement if, in the opinion of the Engineer, it appears to be in the best interests of the Board.

B. The name of a certain brand, make, model, catalog number, manufacturer or definite specifications indicated on the contract plans and/or included in specifications is used only to establish the standard for quality and/or function desired, and that the bidder is not restricted to a specific brand, make, manufacturer or specification named but that the brand, make manufacturer or definite specifications is used only to set forth and convey to prospective bidders the general style, type, character, and quality of product desired and that equivalent products will be acceptable as judged by the Board Engineer. (See Paragraph 2-21)
SECTION 2
SUPPLEMENTAL SPECIAL CONTRACT PROVISIONS

2-01 BIDDERS TO EXAMINE LOCATION AND PLANS

A. Each Bidder shall make a personal examination of the location of the proposed work and of the surrounding area. He shall thoroughly acquaint themselves with the details of the work to be done and all the conditions and obstacles likely to be encountered, including soil conditions, in the performance and completion of work. Bidders shall inform themselves as to the facilities for the transportation, handling, and storage of equipment and materials.

B. Each bidder shall carefully study the plans, specifications and other contract documents and thoroughly satisfy themselves as to the conditions under which the work is to be done, and as to the character, qualities and quantities of work to be performed, and materials to be furnished, and be prepared to execute a finished job in every particular.

C. No extra charge will be accepted except as may be specifically provided for elsewhere in these Contract Documents.

2-02 BIDDERS QUALIFICATIONS

Bidders shall be known to be skilled and reputable Contractors qualified to do the type of work described by the Contract Documents. Proposals from others will not be considered. These qualifications shall be in addition to those required by the Louisiana State Licensing Board for Contractors under LA-R.S. 37:2150 through 37:2163, as amended.

2-03 PROPOSALS FROM LICENSED CONTRACTORS

Proposals will be received from only those Contractors who are licensed by the Louisiana State Licensing Board for Contractors under Louisiana Revised Statutes 37:2150 through 37:2163 as amended and are qualified under the provisions of the said act to perform the work called for in these specifications. Any bid in the amount of $50,000.00 or more that does NOT show the Contractor's license number on the bid envelope will be automatically rejected, and will be returned to the bidder stamped "REJECTED" and will NOT be read aloud at the public bid opening.

2-04 EXECUTION, CORRELATION AND INTENT OF DOCUMENTS

It is understood that except as otherwise specially stated in the Contract Documents, the Contractor shall provide and pay for all materials, labor, tools, equipment, light, power, transportation, superintendence, temporary construction of every nature, and all other services and facilities of every nature whatsoever necessary to execute, complete, and deliver within the specified time.
2-05 **ORGANIZATION OF SPECIFICATIONS**

The Specifications are separated into sections for convenience of reference. These separations do not establish limits to the Contract between the Contractor and Subcontractors or between Subcontractors.

2-06 **INFORMATION AND CLARIFICATION FOR PROSPECTIVE BIDDERS**

Prospective bidders may obtain clarification regarding questions arising from the interpretation of the Contract Documents by contacting the Sewerage and Water Board Purchasing Agent, Room 133, 625 St. Joseph Street, New Orleans, LA, 70165, (504) 585-2124.

2-07 **AWARD AND SIGNING OF CONTRACT**

A. The proposal submitted by the lowest bidder will be tentatively selected by the Sewerage and Water Board at its next scheduled Finance Committee meeting of the Board after the date of opening bids provided that the lowest proposal is acceptable to the Sewerage and Water Board. The final award of the contract will be made at the subsequent Board meeting. All prices bid must be held firm for 120 days or until final award of contract by the Board. The Board reserves the right to reject any one or all bids for just cause and to waive informalities in Bidding.

B. After submittal of required Insurance and Bonds, in form acceptable to the Sewerage and Water Board, the selected Bidder will be authorized by the Executive Director of the Board to appear before the Notary for the Sewerage and Water Board of New Orleans to sign the contract within ten (10) consecutive calendar days from the date of the notice.

2-08 **ORDER TO START WORK AND COMPLETION OF WORK**

A. Sometime after the contract has been signed, the Engineer will issue a "Work Order" directing the Contractor to start work at a point or points designated within 25 calendar days after the date of the "Work Order". The "Work Order" shall be the Contractor's authority to purchase materials for use on this contract; materials ordered by the Contractor before the "Work Order" has been issued are ordered at his own risk and the Board has no obligation concerning them.

B. The Contract shall be completed in every respect, including the repair of all damaged public or private property resulting from the work of this contract, within the specified number of calendar days.

2-09 **LIQUIDATED DAMAGES FOR FAILURE TO START OR COMPLETE ON TIME**

A. The Contractor shall pay to the Board the sum of $500.00 liquidated damages for each calendar day beyond the times specified should the Contractor fail to commence or start the work within the time allotted or fail to complete individual phases of the work within the times allotted for said individual phases.

B. The Board shall retain the amount of such damages from any money due or to become due the Contractor under this contract without the necessity of the Board putting the Contractor or his Surety, either or both, in default.
C. Special notice is hereby given to all Contractors that the terms stipulated in Paragraph 26 of Section A of the General Specifications, titled "FAILURE TO START, FAILURE TO COMPLETE" as well as the liquidated damages specified in the above subparagraphs will be strictly interpreted and rigidly enforced.

2-10 BEFORE STARTING CONSTRUCTION

A. Before undertaking each part of the work, the Contractor shall carefully study and compare the contract documents and check and verify pertinent figures shown thereon including all pertinent field measurements. Contractor shall promptly report in writing to the Engineer any conflict, error or discrepancy that the Contractor may discover. Prior to commencement of work under this Contract or the continuance of any work hereunder or under any modification to the Contract Documents, Contractor shall provide written notice to the Engineer of any defects in the plans and specifications and the specific engineering reasons thereof, and of any prospective damages to persons or property that could be or would be caused by the work and/or duties to be performed under this contract.

B. Prior to beginning the work, Contractor shall submit to the Engineer an estimated progress schedule indicating the starting and completion dates of the various stages of the work, a preliminary schedule of Shop Drawing submissions and a preliminary schedule of values of the work.

2-11 PRECONSTRUCTION CONFERENCE

A. After the time specified in the Notice to Proceed, or as agreed by the parties, but before Contractor starts any portion of the work at the site, a conference will be held for review and acceptance of the schedules referred to in Section 2-10, to establish procedures for handling Shop Drawings and other submittals, securing of Permits, and for processing applications for payment, and to establish a working understanding among the parties as to the work, protection of existing facilities, conflicts with other utilities or owners, and other pertinent items associated with the Contract.

B. Conference shall be attended by the Board Engineer, the Contractor and his jobsite Superintendent, principal Subcontractors, representatives of principal suppliers as deemed necessary and appropriate, the Design Engineer and his Project Manager and others as deemed advisable by the Contractor, the Board or the Design Engineer.

2-12 PERMITS AND CERTIFICATES

A. Before commencing work, the Contractor shall obtain at his own expense any permits from the City of New Orleans, and Louisiana Department of Transportation and Development (LaDOTD) that are necessary. The Contractor shall also secure at his own expense any necessary inspection certificates required after the work is done.

B. Evidence of compliance shall be furnished to the Board prior to starting work in the case of permits or within 10 calendar days after completion of that work requiring inspection certificates.
2-13 GENERAL SPECIFICATIONS AND THEIR APPLICATION

The fact that certain paragraphs of the General Specifications have been specified as applying to this contract does not in any way imply that paragraphs not quoted do not apply; in all cases where the General Specifications are not directly contradicted by these Special Specifications, the General Specifications shall have full force and effect; nor shall the fact that certain clauses of the General Specifications refer to operations not constituting a part of the work of this contract be construed as in any way weakening the binding force of the General Specifications in the remaining clauses.

2-14 CONFLICT BETWEEN THE GENERAL AND SPECIAL SPECIFICATIONS

In case of any conflict between the "General Specifications" herein, and these "Special Specifications", the latter shall govern.

2-15 CONFLICT BETWEEN DRAWINGS AND/OR SPECIFICATIONS

A. In case of the conflict between the bid documents (drawings and the specifications), the Engineer shall be the sole authority in determining which of the two shall take precedence in the Contract Documents. Such conflict shall not be a basis for an extra expense to the Board or time extension to the contract.

B. The Contractor is hereby cautioned to base his price and work upon the more costly item in event of conflicts, which may exist within either the specifications or the contract drawings, and no claim for extra expense will be entertained on this basis.

2-16 CONTRACT DRAWINGS AND SPECIFICATIONS FROM THE BOARD

A. The Engineer will furnish to the Contractor free of charge, one (1) set of specifications and one (1) set of reproducible drawings for the Contractor's use. Reproduction costs shall be borne by the contractor. The Engineer will also furnish five (5) copies of any revised drawings.

B. The work shall be executed in strict conformity with the contract specifications, and the Contractor shall do no work without proper instructions.

C. Contract drawings are descriptive of the work to be performed and are to be used for General Guidance only. Contractor shall take and verify all measurements and dimensions in the field. Do not scale. Contractor shall assume all responsibility for failure to take proper and accurate measurements.

D. These plans and specifications shall be considered to be complimentary, one to the other, and work indicated in/on one shall be as binding as if indicated in both. Discrepancies between drawings and specifications or any clarifications deemed necessary shall be brought to the attention of the Engineer prior to the submission of a bonafide bid. Submission of a bonafide bid indicates that the Contractor has been adequately informed on all phases of the work and that he can and will perform in accordance with these plans and specifications.

E. All equipment shall be installed in accordance with the manufacturer's recommendation and any conflicting data shall be verified before bids.
F. After award of contract, the Engineer's interpretation of these documents shall be final.

2-17 CHANGES

A. Minor changes or additions to the contract (defined as those changes or additions which do not change the total cost of the contract or those which do not increase or decrease the total cost of the contract by an amount exceeding 5% of the base bid of the original contract), or $100,000.00, whichever is less) may be made by the Engineer upon written notice to the Contractor.

B. Changes of greater extent or value may be made only by resolution of the Board, when such changes are deemed necessary or desirable to improve the quality or efficiency of the work, or to make these specifications operative, or to facilitate the Contractor without injury to the interests of the Board. Any work done by the Contractor without such resolution is done at his own risk, and the Board assumes no responsibility therefore.

C. No notice of such change shall be required to be made to the Contractor's Surety and neither the Contractor nor his Surety shall be, in any manner, relieved of any obligation which they have assumed under this contract by or through such change or changes as may be made.

D. Increase or Diminution of Quantities

The Board reserves the right to alter the quantities of work included in this Contract as may be found to be necessary or desirable. Such increases, decreases and/or other alterations shall not invalidate the Contract nor release the Surety and the Contractor. The Contractor agrees to accept the work as altered, the same as if it had been part of the original Contract. No claims shall be made by the Contractor for any loss of anticipated profits because of any such alteration, nor shall such alteration be considered as waiving or invalidating any conditions or provisions of the Contract.

2-18 PAYMENTS

A. Payments for work to be done under this contract will be made by the Board in accordance with Paragraphs (55) through (58) of Section A of the General Specifications.

B. Initial payment to the Contractor will be predicated upon his compliance with Paragraph 2-10 of these specifications relative to securing of all necessary permits.

C. Credits to be allowed the Board by the Contractor for work abandoned or not to be done shall be calculated on the same basis as "Extra work".

D. Payments for extra work, whether unit price work, lump sum work, or force account work will be made and retainers will be withheld on items of extra work in the same manner as on the items bid on the original proposal.

E. Retainer: "The percentage of the value of the work done..." which will be retained by the Board as referred to Paragraph (60) of Section "A" of the General Specifications is defined as follows:
1. On contracts that are priced $500,000.00 or more, the Board shall withhold 5% of the total amount earned, as billed, until the contract is finally accepted and a clear Lien and Privilege Certificate is submitted. Payment for material stored shall be made at 90% of the paid invoice value and 5% retainage will be withheld from this amount.

2. On contracts priced less than $500,000.00, the Board shall withhold 10% retainage.

F. At the close of each month, the Contractor shall submit to the Engineer for review an Application for Payment filled out and signed by the Contractor covering the work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.

G. Submit Progress Payment Applications using the AIA Form 702 and -Continuation Sheets 703 and provides itemized data on continuation sheet.

H. Substantiating Data for Progress Payments: Provide substantiating data, containing suitable information for review of costs requested with a cover letter identifying: the Project and Contract Number, Application Number and Date and a Detailed list of enclosures. Submit one copy of data and cover letter for each copy of application. If payment is requested on the basis of materials and equipment not incorporated into the Work, but delivered and suitably stored at the appropriate site, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that the materials and equipment have been received free and clear of all liens and evidence that the materials are covered by appropriate property insurance and other arrangements to protect the Board’s interest therein, all of which shall be satisfactory to the Board. As a prerequisite for payment, the Contractor shall submit, in writing, a narrative indicating the work completed, any unforeseen problems, and the Contractor’s plan to resolve the problems. As a prerequisite for payment, the Contractor shall submit an updated project schedule.

I. Submittal Procedure: Submit applications for Payment to the Engineer at the times stipulated in the General Specifications. Submit four (4) original copies of each Application. When the Engineer finds the Application properly completed and correct, the Engineer will transmit the certificate for payment to the Board.

2-19 PAYMENT FOR MATERIAL DELIVERED TO JOB SITE

The Board may make allowance for material delivered to the job site but not yet used in construction, in accordance with Paragraph 58 of Section A of the General Specifications, provided that conditions of security and areas for storage on the jobsite are judged suitable by the Engineer to adequately protect the interest of the Board. The allowance will be in the form of advanced payment for the material, as defined in Paragraph 58. Ninety (90%) percent of the value of the materials as delivered, as represented by invoices, will be included in the estimate. The amount of the retainer will then be subtracted from the total estimate (composed of the work done plus 90% of the invoice price of the material).
2-20 CONTRACTOR'S PLANS, SAMPLES, AND DATA

A. The Contractor shall submit for approval, with such promptness as to cause no delay in this work or that of the Board, six (6) copies each of all shop, assembly, or erection drawings and lists of material and equipment for erection, together with other information in such detail as to permit the Engineer to judge whether the proposed material, equipment, or arrangement will meet the requirements of the drawings and specifications. The Engineer will return two (2) annotated copies of each drawing to the Contractor. When the drawings have received final approval, the Contractor shall forward two (2) copies of each to the Engineer for his files.

B. All submittals, regardless of origin, shall be stamped with the approval of the Contractor and identified with the name and number of the contract, Contractor's name, and references to applicable specifications paragraphs and contract drawings. Each submittal shall indicate the intended use of the item in the work. When catalog pages are submitted, applicable items shall be clearly identified. The current revision, issue number, and date shall be indicated on all drawings and other descriptive data.

C. The Contractor shall accept full responsibility for the completeness of each submission and shall verify that all exceptions previously noted by the Engineer have been taken into account.

D. The Engineer shall be allowed 28 working days to process the above listed drawings, lists, and diagrams. The Engineer's approval shall not relieve the Contractor of responsibility for correctness of his submittals. The Contractor shall bear any costs or expense incurred to revise or replace material or equipment, furnished in accordance with his submittals, so as to bring the work into conformance with the drawings and specifications.

E. Any need for more than one resubmission, or any other delay in obtaining the Engineer's review of submittals, will not entitle the Contractor to extension of contract time unless delay of the work is directly caused by a change in the work authorized by a Change Order or by failure of the Engineer to return any submittal within 28 working days after its receipt in the Engineer's office.

NOTE: The fact that the Contractor furnishes on the job items that are listed in the specifications and not a substitution does not relieve the Contractor from furnishing submittals to the Engineer as stated in the preceding paragraphs.

F. The contract documents are prepared to establish the intent of the required construction. Approval of the contractor's submittals, which may be based upon items different from that specified and/or shown on the plans and specification, shall NOT relieve the contractor of all costs necessary and proper to make the items fit and function in accordance with the evident intend, all as judged by the Engineer.

2-21 SUBSTITUTE MATERIALS AND EQUIPMENT

All materials and/or equipment indicated on contract plans and/or included in specifications by Manufacturer's Name, Catalog or Model Number has been selected to establish a standard for quality and/or function. If the Contractor wishes to substitute Material and/or Equipment of another Manufacturer because of availability or as "an equal" he shall, after signing of contract, comply with the following:
A. Such Materials and/or Equipment must be submitted for Engineer's approval within forty-five (45) consecutive days after signing of contract and thereafter approved as "Equal" by the Engineer.

B. If Contractor fails to submit the Materials and/or Equipment substitutions within forty-five (45) days limit or if any one of the Materials and/or Equipment submitted within specified period is not approved by the Engineer, then only Materials and/or Equipment specified in the Contract Documents will be accepted.

C. The term "Equal" used herein is defined as meaning "Equal", in the opinion of the Board Engineer, with regard to quality, fit, finish, and utility.

D. No more than one submittal of a Material and/or Equipment substitute for each item of Material and/or Equipment indicated on drawings and/or included in specifications will be reviewed for approval by the Board Engineer.

2-22 PRIOR APPROVAL

All bids must be based upon the specified items. If the Contractor wishes to substitute "or equal" prior to the bid opening, he shall be responsible for the substitution's equality to the item(s) specified. The Board will entertain prior approval of substitutions up to 14 working days before bid opening. The Board reserves the right to evaluate the equality of the substitute item(s) and its decision regarding the acceptability of the item(s) will be final.

2-23 CODES AND STANDARDS

Wherever in the Contract Documents references are made to NEC, NESC, AWWA, ASTM, ANSI, NEMA or any other standards or requirements, it shall be understood that the most current issues of the standards or requirements of the National Electrical Code, National Electrical Safety Code, American Water Works Association, American Society for Testing and Materials, American National Standards Institute, National Electrical Manufacturers Association, etc., are intended and shall apply, except where specific dates are specified and except to the extent that the standards or requirements may be in conflict with applicable laws, regulations, ordinances, etc., of the State of Louisiana or the City of New Orleans.

2-24 LINES AND GRADES

Paragraph 46 of Section “A” of the General Specifications is amended to read as follows:

"The Engineer will establish permanent control points for the centerline of the construction and a control benchmark for elevations. From these established control points and the benchmark, the Contractor shall establish all locations and grade of the work and shall be solely responsible for the exact position of all parts of the work with reference to the established line and the benchmark. The Contractor shall maintain his own field engineering force, for this purpose, that of the Engineer being for checking the Contractor's locations only. The Contractor shall furnish, free of charge, all stakes, permanent bench construction, templates, instrument platforms, and other materials necessary for marking and maintaining points and lines given, and shall furnish the Engineer such assistance as he may require in checking the layout of the work. The Contractor will be held responsible for the protection of all
stakes and marks and if, in the opinion of the Engineer, benches or lines established by the Engineer have been destroyed or disturbed, they shall be replaced at the Contractor's expense."

2-25 SURVEY AND LAYOUT DATA

A. All field books, notes and other data developed by the Contractor in performing surveys required as part of the Work shall be available to the Engineer for examination throughout the construction period. All such data shall be submitted to the Engineer with the other documentation required for final acceptance of the work.

B. Contractor shall keep neat and legible notes of measures and calculations made by him in connection with the layout of the Work. Copies of such data shall be furnished to the Engineer or Resident Project Representative for use in checking Contractor's layout as provided under Lines and Grades. All such data considered of value to the Board will be transmitted to the Board by the Engineer with other records upon completion of the Work.

2-26 MATERIALS BY CONTRACTOR AND MATERIALS BY OTHERS

The Contractor shall furnish all materials required for the various items of work except where specifically shown otherwise in the Contract Documents.

2-27 OPERATIONS AND MATERIAL STORAGE AREA

A. Any area of the Board's property can be used by the Contractor for storage, work operations, etc., contingent upon the Engineer's approval. At the time approval is granted, the Engineer will outline the particular qualifications to be imposed in the use of that area. If materials are stored anywhere within the area without this approval, the Engineer, at his discretion, can order them moved to a more suitable location.

B. All operations of the Contractor including storage of material on Sewerage and Water Board's premises shall be confined to areas authorized or approved by the Engineer. The Contractor shall hold and save the Sewerage and Water Board harmless from liability of any nature occasioned by his operations.

C. Temporary buildings (storage sheds, shops, offices, etc.,) may be erected by the Contractor only with the approval of the Engineer, and shall be built at no cost to the Sewerage and Water Board. Such temporary buildings and utilities shall remain the property of the Contractor and shall be removed by him at his expense upon completion of the work.

D. No equipment or material shall be placed where access to any station by truck will be obstructed in the event of a breakdown.

E. No materials or equipment may be placed over underground structures whenever such storage or use may impair effectiveness or limit maintenance, or impose excessive loadings.

F. The Engineer may order moving of materials of equipment at no cost to the Board even from places where approval has been granted if it becomes necessary to the operation of the Board's facilities because of things unforeseen at the time of
approval, such as breakdowns, failures, etc.

G. Any area occupied by the Contractor shall be cleaned up in accordance with the requirements of Paragraph No. 54, in Section A of the General Specifications.

H. The Sewerage and Water Board assumes no responsibility for any loss of or damage to the Contractor's material, tools, or supplies.

I. Trees and shrubs shall not be cut or damaged without the permission of the Engineer.

2-28 WATER AND OTHER UTILITIES

A. It shall be the responsibility of the Contractor to make all necessary arrangements for the provision of water, electricity, drainage, sanitary sewage disposal, gas, compressed air, and any other utility service required to prosecute the work of this contract.

B. Water used by the Contractor at the jobsite will be furnished by the Board at a cost to the Contractor. Contractor shall familiarize himself with “Sewerage and Water Board of New Orleans Hydrant Meter Installation Non-potable (Standard) and Potable (Special Festival) Water Use” Policy and Procedure. These documents are available on the Sewerage and Water Board’s Web site http://www.swbno.org/custserv_information_docs.asp.

C. Contractor shall complete a hydrant meter application for his construction project for each location, if more than one is needed. The hydrant meter(s) shall be turned over to the Sewerage and Water Board every six (6) months for recalibration by the Board's Meter Shop located at 8800 South Claiborne Ave. Each Hydrant Meter shall be returned to the Meter Shop at the end of the construction project otherwise forfeit the deposit(s).

D. Costs of all other services shall be borne by the Contractor.

E. Connections to fire hydrants shall only be made with meters obtained from the Sewerage and Water Board Customer Service Department, 585-2097, which shall record water usage for record purposes and which shall be returned to the Board as a condition of acceptance of the Contract. Application for the meter requires a $1,500.00 deposit that is refundable upon return of the meter in undamaged and operable condition.

F. If the bidder is selected as the lowest responsive and responsible bidder and is awarded this contract, then should the Contractor owe the Sewerage and Water Board of New Orleans (“Board”) any funds not relating to this contract by virtue of the Contractor having been previously provided any services from the Board such as water or any other service, the parties agree to discharge by set-off the Board’s debt and the Contractor’s debt once the Contractor submits its Request for Payment or any similar document such as a request, invoice, etc., in connection with the Contractor's performance of work on this contract, both debts being at the time enforceable.
2-29 **EMERGENCY TELEPHONE**

The Contractor shall, before contract work begins, furnish to the Engineer Telephone Numbers at which company officers or responsible persons can be contacted at night, weekends and holidays in case of emergencies.

2-30 **PROJECT WORK SCHEDULE**

A. Upon receipt of the "Work Order" and prior to commencement of any work on the contract, the Contractor shall be required to furnish a combined cost breakdown and progress schedule. This document will be used in the preparation of progress payments to the Contractor.

B. The form of the combined schedule, although subject to change upon order of the Engineer, shall consist of:

1. Separation of the entire construction project into its stages, as well as any specific related stages such as bond, insurance, material or equipment shipment, etc., in terms of actual dollar value.

2. A listing of these construction stages with the proposed starting and completion date shown in bar graph form alongside each construction stage. The "proposed progress" bar graph shall be divided into monthly increments beginning from the date of the "Work Order" and extending to the contract completion date. At the end of each monthly increment, the Contractor shall indicate by a percentage figure directly on the bar graph space the percent completion he expects to attain for that interval.

3. Shown directly below the proposed progress bar graph shall be an "actual progress" bar graph with a percentage completion indicated at monthly intervals intended to represent the actual progress toward completion for that interval.

C. The actual monthly progress percentage multiplied by the construction stage dollar value will result in a figure which when added to the other monthly construction stage dollar values and their respective percentage multipliers will give a total to be used for a progress payment to be made to the Contractor.

D. Since the combined cost-progress schedule to be submitted monthly is to be used in the preparation of the progress payment, it is imperative that the Contractor exercise careful consideration in assigning the percent complete expected on his proposed graph and it is expected that the actual percent complete shall rarely exceed the proposed percent. The Contractor shall re-examine his proposed schedule monthly and alter it accordingly to insure this does not occur.

E. Should it appear to the Board's Engineer that the cost breakdown on progress schedule is in error or proves inadequate, the Engineer will direct the Contractor to alter his form to make it comply with the requirements of the Board.

2-31 **JOB SITE DRAWINGS AND SPECIFICATIONS**

A. A complete and current set of contract drawings and specifications, including any addenda, shall be maintained on the job site by the Contractor.
B. One copy of all approved shop drawings, equipment or material drawings, etc. shall be maintained on the job site by the Contractor.

2-32 CONTRACTOR'S WORK

A. The Contractor shall furnish, deliver, and unload all materials, tools, appliances and rigging necessary for the completion of this Contract as covered by these specifications.

B. The Contractor shall furnish all labor, skilled and unskilled.

2-33 CONTRACTOR'S RESPONSIBILITY FOR WORK

A. The Contractor shall give personal attention to and supervise the work to the end so that it shall be prosecuted faithfully; and, when the Contractor is not personally present on the work, the Contractor shall be at all time represented by a competent superintendent or foreman who shall be present at the work and who shall receive and obey all instructions or orders given under this contract, and who shall have full authority to execute the same, and to supply materials, tools and labor without delay, and who shall be the legal representative of the Contractor. The Contractor shall be liable for the faithful observance of any instructions delivered to the Contractor or to the Contractor’s authorized representative.

B. Until final written acceptance of the project by the Board, the Contractor shall have the charge and care thereof and shall take every precaution against damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or non-execution of the work. The Contractor shall rebuild, repair, restore and make good all damages to any portion of the work, before final acceptance, including damage to the work due to unforeseeable causes beyond the control of and without the fault or negligence of the Contractor; acts of God, of the public enemy or of governmental authorities and shall bear the expenses thereof.

C. In case of suspension of work from any cause, the Contractor shall be responsible for the project and shall take such precautions as necessary to prevent damage to the project, provide for normal drainage and erect any necessary temporary structures, signs or other facilities at his expense.

2-34 CONTRACTOR'S EMPLOYEES

The Contractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the work any unfit person or anyone not skilled in the task assigned to him.

2-35 OTHER CONTRACTS

The Sewerage and Water Board has, or may undertake, or award, other contracts for other, or additional work and this Contractor must fully co-operate with such other Contractors and Sewerage and Water Board employees and carefully fit his own work to such other, or additional work, as may be directed by the Engineer. This Contractor must not commit or permit any act that will interfere with the performance of work by any other Contractor or Sewerage and Water Board employees.
2-36 PARKING FACILITIES

Contractor personnel will not be permitted to park personal vehicles on S&WB property due to limited and restricted area available for this purpose. The Contractor will be allowed to bring construction equipment and construction vehicles only into the site as necessary in the execution of this contract but may be required to remove them if their presence interferes with the operation of the Board, at the discretion of the Engineer.

2-37 BOARD’S RIGHT TO OCCUPANCY

A. The Board will have full access to and full use of all existing utilities during the entire period of construction for the conduct of its normal operations. The Contractor shall cooperate with the Engineer and the Board in all construction operations to minimize conflict, and to facilitate Board usage.

B. The Contractor shall at all times provide proper facilities for access and inspection of the work by representatives of the Board, the Engineer, inspectors, and any such official Governmental Agencies as may be designated by the Board as having jurisdictional rights to inspect the work.

2-38 SITE SECURITY

A. All Contract Employees who enter Sewerage and Water Board Facilities shall have current and legible picture ID Badges issued by the Contractor. No one will be allowed to enter the Facilities without displaying this badge, which shall also be worn, and visible at all times.

B. The Contractor shall insure that the site is properly secured at the end of each workday. Fences shall be intact and the gates locked. The Contractor shall also provide and maintain all necessary flagmen, watchmen, barricades, devices as required for the protection and safety of the work and the public against personal injury and property damages. The Contractor will be responsible for any and all damages, injury or loss resulting from his failure to provide such necessary protective precautions.

2-39 INJURIES AND DAMAGES TO PERSONS AND PROPERTY

A. The Contractor shall be held alone responsible for all injuries to persons, and for all damage to the property of the Sewerage and Water Board or others, caused by or resulting from the negligence of himself, his employees, or his agents, during the progress of, or connected with the prosecution of the work, whether within the limits of the work or elsewhere, and whether under the contract proper or as extra work.

B. The Contractor must protect and support all water, sewer and gas pipes or other conduits and buildings, walls, fences or other properties that are liable to be damaged during the execution of his work. He shall take all reasonable and proper precautions to protect persons, animals and vehicles of the public from injury, and shall erect and maintain a fence or railing around all excavation and place a sufficient number of warning lights about the work and keep them illuminated from twilight until sunrise, and shall employ one or more watchmen, if required, as an additional security. He must, as far as practicable and consistent with good construction, permit access to private and public property and leave fire hydrants and catch basins and canals free from encumbrances. He must restore, at his own
expense, all damaged property caused by any act of omission or commission on his
part, or on the part of his agent, including sidewalks, curbing, sodding, pipes,
conduits, sewers and other public or private property, to a condition as good as it
was when he entered upon the work.

C. In case of failure on the part of the Contractor to restore such property or make good
such damage, the General Superintendent may upon forty-eight (48) hours notice
proceed to repair, rebuild or otherwise restore such property as may be deemed
necessary, and the cost thereof, will be deducted from any monies due, or which
may become due, under this contract.

D. The Contractor shall indemnify and save harmless the Sewerage and Water Board
from all suits and actions that may be brought against it by reasons or any injury, or
alleged injury, to the person or property of another, resulting from negligence or
carelessness in the execution of the work, or because of failure to properly light and
guard the same, or on account of any act of commission or omission on the part of
the Contractor, his representative or employees.

E. There will be no direct payment for erection and maintaining a fence or railing
around excavation, placing warning lights and providing watchmen and supporting
and protecting utilities as prescribed in (B) above.

F. In addition to the requirements of Paragraph 2-46 “Insurance Certificate - Amended
Insurance Requirements,” the Contractor shall notify the Engineer in writing within
twenty-four (24) hours of receipt of any complaint or claim resulting from the
performance of the Work described by the Contract Documents.

2-40 NIGHT, WEEKEND OR HOLIDAY WORK

Night, weekend or holiday work requiring the presence of an Engineer or inspector
will be permitted only in cases of emergency, and then only to such an extent as is
absolutely necessary and with the written permission of the Engineer. In the event
such work becomes necessary, no extra payment will be made.

2-41 SUSPENSION OF WORK

A. The Engineer may order the Contractor in writing to suspend, delay or interrupt all or
any part of the work for such period of time as he may determine to be appropriate.
The Engineer may also suspend, delay or interrupt the work wholly or in part due to
the failure of the Contractor to correct conditions unsafe for the workmen or the
general public; for failure to carry out provisions of the contract; for such period of
time as may deem necessary due to unsuitable weather; or for any other condition
or reason deemed to be in the public interest.

B. No adjustment to the time of completion for the project will be made if the
suspension, delay or interruption to the work is ordered due to the fault or
negligence of the Contractor; however, if such suspension, delay or interruption if
ordered for reasons other than the Contractor's negligence, the period of such
suspension, to be determined by the Engineer, shall be added to the time specified
for the completion of the work under this contract.
C. If the work is suspended for any reason, all materials delivered at the work but not yet placed therein shall be neatly stored so as not to constitute an obstruction.

2-42 INSPECTION AND ACCEPTANCE

A. All work shall be subject to inspection and test by the Board at all reasonable times and at all places prior to acceptance. Any such inspection and test is for the sole benefit of the Board and shall not relieve the Contractor of the responsibility of providing quality control measures to assure that the work strictly complies with the contract requirements. Inspection or test shall not relieve the Contractor of responsibility for damage to or loss of the material prior to acceptance.

B. The Contractor must promptly replace rejected material or correct any workmanship found by the Board not to conform to the contract requirements. The Contractor shall promptly remove rejected material from the premises.

C. If the Contractor does not promptly replace rejected material or correct rejected workmanship, the Board (1) may, by contract or otherwise, replace such material or correct such workmanship and charge the cost thereof to the Contractor; or, (2) may terminate the Contractor’s rights to proceed in accordance with the Paragraph 27 of the Section “A” of the General Specifications.

D. The Contractor shall furnish promptly, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspection and test as may be required by the Engineer. All inspection and tests by the Board shall be performed in such manner as to not unnecessarily delay the work. Special, full size, and performance tests, shall be performed as described in this contract. The Board reserves the right to charge to the Contractor any additional cost of inspection or test when material or workmanship is not ready at the time specified by the Contractor for inspection or test or when re-inspection or retest is necessitated by prior rejection.

E. Should it be considered necessary or advisable by the Board at any time before acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the Contractor shall, on request, promptly furnish all necessary facilities, labor and material. If such work is found to be defective or nonconforming in any material respect, due to the fault of the Contractor or his subcontractors, he shall defray all the expenses of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, an equitable adjustment shall be made in the contract price to compensate the Contractor for the additional services involved in such examination and reconstruction and if completion of the work has been delayed thereby, he shall, in addition, be granted a suitable extension of time.

F. Unless otherwise provided in this contract, acceptance by the Board shall be made as promptly as practicable after completion and inspection of all work required by this contract. Acceptance shall be final, and conclusive except as regards latent defects, fraud, or such gross mistakes as may amount to fraud or as regards to the Board’s rights under any warranty or guarantee.
2-43  PROJECT CLOSE-OUT

A. Satisfactory project close-out is a condition of final acceptance of the Work and will be performed after the following is completed.

1. Contractor shall deliver to the Engineer all construction records, certifications, and other documents in accordance with these Contract Documents. All damaged or deteriorated surfaces shall be touched up or repaired to the satisfaction of the Engineer. All incomplete or defective work shall be remedied as required by the provisions stated herein for Inspection and Acceptance.

2. Contractor shall remove from the site all of his temporary structures, trailers, tools equipment, supplies, and unused or waste materials. Roads, fences, and other facilities damaged or deteriorated because of Contractor's operations shall be repaired to the satisfaction of the Engineer. All ground surfaces affected by Contractor's operations shall be restored by grading, raking, smoothing, and other necessary operations. The site shall be thoroughly cleaned and all rubbish, trash and debris removed.

3. Board issued hydrant meters shall be returned to the Sewerage and Water Board Meter Shop, 8800 South Claiborne Avenue, for final reading after completion of the Contract. Return of the meter is a condition of acceptance of the contract.

B. After all work is complete, any necessary changes in the Contract amount will be determined by the Engineer and the necessary adjustment, if any, will be incorporated into a final Change Order.

C. Upon satisfactory completion of closeout activities and delivery of Record Drawings to the Engineer, Contractor shall submit applications for Final Payment as provided in the General Specifications.

2-44  AS-BUILT DRAWINGS

A. The Contractor shall furnish one (1) neat and legibly marked blue line set of contract drawings to depict actual "as-built" conditions.

B. The "as-built" drawings shall show all construction, elevation, limits of pavement, equipment, mechanical and electrical systems and connections as installed or built.

C. The work under this contract will not be considered "complete" until "as-built" drawings, prepared to the satisfaction of the Engineer, are received.

D. There will be no direct payment for furnishing the "as-built" drawings specified above.

2-45  SAFETY

A. The Contractor shall take proper precautions to safeguard his work force and the Board's facility during his work. Only Engineer approved methods of construction shall be used.
B. The completed installation and operations during installation shall comply with the Occupational Safety and Health Act (OSHA) and all changes in effect at the time proposals are submitted. Particular attention shall be directed to safety regulations for excavations and confined space entry.

C. At all times during the course of this contract, the contractor will be in compliance with all federal, state, and local health and safety requirements, will allow inspection of the worksite by the Sewerage and Water Board's Safety Unit, and will provide copies of his written safety program and written safety procedures to the Board's Safety Unit within one calendar week if required by the Board's Safety Unit. A senior employee of the contractor and/or any subcontractor will review the Sewerage and Water Board Safety Orientation Notice (Notice), and will explain the information in this Notice to every employee who will enter Board facilities or jobsites. This notice is included as Attachment 2B at the end of this section.

2-46 INSURANCE CERTIFICATE - AMENDED INSURANCE REQUIREMENTS

A. Insurance requirements as outlined in Paragraph 16 of Section "A" of the General Specifications are hereby amended as shown below in the following sub-paragraph "C".

B. The Contractor shall submit the required insurance certificates no later than 10 days after Notification of Award of the contract.

C. INSURANCE REQUIREMENTS (AMENDED):

The Contractor shall maintain, at his own expense, and in good standing, such insurance as will protect the Sewerage and Water Board of New Orleans (the Board), the City of New Orleans (the City), their officers, officials, employees, boards, commissions, and volunteers, as well as the Contractor himself, and any subcontractors, from and against any and all claims for damages to public or private property or personal injury, including death, to employees or the public, which may arise from any operations under this contract or any of its subcontracts. The coverage shall contain no special limitations on the scope of protection afforded to the Board or the City. Both the Board and the City shall appear as "Additional Insureds" on all Commercial General Liability and Business Automobile Insurance. Any failure to comply with reporting provisions of the policy shall not affect coverage provided to the Board and the City, their officers, officials, employees, boards and commissions, and volunteers. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

The Contractor, Subcontractor(s), and their insurers shall agree to waive all rights of subrogation against the Board, the City, and their officers, officials, employees, boards and commissions, and volunteers for losses arising from work performed by the Contractor for the Board and the City. Each insurance policy required by this contract shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, or reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the Risk Manager of the Sewerage and Water Board of New Orleans.

In general, insurance is to be placed with insurers with an A.M. Best's rating of A-:V, although this requirement may be reviewed and modified by the Risk Manager of the
Sewerage and Water Board of New Orleans in the best interest of the Board. The Risk Manager may also consider performing such review upon written request from the Contractor. The Contractor shall furnish the Sewerage and Water Board of New Orleans with certificates of insurance affecting coverage required by this contract.

The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates of insurance are to be received and approved by the Risk Manager of the Sewerage and Water Board of New Orleans before work commences. The Sewerage and Water Board of New Orleans reserves the right to require complete, certified copies of all required insurance policies at any time.

The following are the types of insurance policies and the minimum limits of insurance coverage that shall be maintained by the Contractor during the entire term of the Contract:

a) WORKERS’ COMPENSATION AND EMPLOYERS LIABILITY INSURANCE, as will protect him from claims under Workers' Compensation Laws. The Workers' Compensation section of the policy shall afford Statutory Limits and be in accordance with all Louisiana Workers' Compensation Statutes. The Employers Liability limit shall not be less than $1,000,000 each accident for bodily injury by accident and $1,000,000 each employee/policy limit for bodily injury by disease. Whenever any vessel or floating equipment is involved, the insurance shall afford coverage under the Federal Longshoremen’s and Harbor Workers’ Act, and shall also include protection for injuries and/or death to Masters and Members of the crews of vessels with statutory limits in accordance with the Jones Act.

b) COMMERCIAL GENERAL LIABILITY INSURANCE, as will protect from claims for personal injury, occupational disease and sickness or death, property damage and environmental damage with a limit of not less than $1,000,000 each occurrence and $2,000,000 general aggregate, including Explosion, Collapse, and Underground Property Damage Hazards. The Products-Completed Operations aggregate limit shall not be less than $1,000,000 each occurrence. The general aggregate limit shall apply separately to this project.

c) BUSINESS AUTOMOBILE INSURANCE, which shall cover liability arising out of any auto (including Owned, Hired, and Non-Owned autos). The limit of liability shall not be less than $1,000,000 each accident for all injuries, property damage, and/or death resulting from any one occurrence.

d) OWNER’S AND CONTRACTOR’S PROTECTIVE LIABILITY INSURANCE, in the name of the Sewerage and Water Board of New Orleans, and the City of New Orleans as Named Insureds. The limits of liability shall be the same as specified in Paragraph (b) above, and shall include Explosion, Collapse and Underground Hazards.

e) PROPERTY INSURANCE, required on all work except sewer and water drainage pipelines, reinforced concrete canals, work completely underground, and similar work (however Contractor is not relieved of responsibility therefore).

1. BUILDERS RISK INSURANCE (covering Fire, Extended Coverage, Vandalism and Malicious Mischief) will be carried on a completed value or reporting form, for not less than 100% of the value of the work, including

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foundations.

2. In addition, INSTALLATION FLOATER INSURANCE (on an "All Risks" form) will be carried on all machinery and equipment to be installed, whether furnished by the Sewerage and Water Board or by Contractor, for not less than 100% of the installed value of the machinery and equipment. This insurance shall be written in the same Insurance Company carrying the Builder's Risk Insurance (where possible), shall include testing, and shall terminate only when installation has been accepted by the Sewerage and Water Board. (NOTE: "ALL RISKS" Builder's Risk Insurance will be acceptable in lieu of Builder's Risk and installation Floater Insurance, and must meet the requirements of the Property Insurance above). The Builder's Risk and Installation Floater Policies required above shall include the names of the Sewerage and Water Board of New Orleans, and the City of New Orleans, and will cover the interests of all sub-contractors without specifically naming them. If the insurance is written subject to a deductible clause, Contractor assumes responsibility for the amount of the deductible.

f) Commercial Umbrella/Excess Liability Insurance, which shall provide $4,000,000 in excess of the Commercial General Liability, Employer's Liability, and Business Automobile Liability insurance limits.

In addition, the Contractor shall be required to furnish to the Risk Manager of the Sewerage and Water Board of New Orleans all copies of investigative reports with regard to any and all claims filed with the Contractor and his insurance carriers relative to the contract, with the exception of claims filed against his Workers' Compensation Insurance. Such reports shall include date, location, and description of loss as well as amounts of settlements or judgments in order that annual aggregate limits may be monitored by the Sewerage and Water Board of New Orleans for the Contractor's compliance with these specifications.

The furnishing of insurance as provided above shall not relieve the Contractor of his responsibility for losses not covered by insurance. Prior to the signing of the contract, evidence of all such applicable insurance satisfactory to the Board shall be filed with the Risk Manager of the Sewerage and Water Board. All policies shall be in insurance companies authorized to do business in Louisiana and shall remain in full force and effect until the final completion of the work and acceptance thereof by the authority of the Board.

The Contractor and/or his insurer shall notify the Risk Manager of the Sewerage and Water Board at least thirty (30) days in advance of any insurance coverage to be canceled or of any insurance coverage that will expire. The Contractor shall simultaneously furnish the Board evidence of new coverage to be effective the same day and hour of the expired or canceled coverage. In the event the Contractor fails to submit this evidence of new coverage five (5) days prior to cancellation date or expiration date of any policy or policies, the Sewerage and Water Board will obtain the required coverage to become effective on date of cancellation or expiration of said policies. The cost of such new coverage shall be the expense of the Contractor and any expenditure incurred by the Board for this coverage will be deducted from any balance due to the Contractor. Should the Board be unable to secure new coverage to take the place of the expired or canceled policy or policies, a "stop work" order will be issued and all work on the contract shall cease on the same date and hour as the coverage ceases. Should the Contractor fail or refuse to secure coverage within five (5) days after the date
of the "stop work" order, then in such case the Contractor shall be declared to be in default, and the contract between the parties shall be considered canceled and of no force or effect between the parties reserving all rights of the Board against the Contractor and his surety.

If this transaction requires the Contractor or Sub-Contractor employees to enter Sewerage and Water Board facilities or jobsites, a senior employee of the contractor will review the Sewerage and Water Board Safety Orientation Notice (Notice), and will explain this Notice to every employee who will enter Board facilities. This Notice is included as a part of the specifications for this contract.

If this contract involves the handling or delivery of hazardous materials, the contractor shall ensure that he or any deliverer is at all times in compliance with the OSHA and EPA Standards that are most applicable to management of the potentially damaging substance. The contractor shall also ensure that manufacturer of the materials maintains product liability insurance for any commodity involved in this transaction which, if defective, could cause bodily injury and property damage. The vendor, any and all sub-contractors, and all insurers shall agree to waive all rights of subrogation in favor of the Sewerage and Water Board of New Orleans as a condition of the required insurance.

2-47 INDEMNIFICATION

A. To the fullest extent permitted by law, the Contractor shall indemnify, hold forever harmless and defend the Sewerage and Water Board of New Orleans, its officers, agents, employees, representatives, and insurers from any and all claims, demands, suits, money judgments, costs and expenses, arising out of any accident, injury or damage to loss of property or personal injury during the performance of this contract, growing out of, resulting from or by reason of any act of omission by the Contractor, his agents, or employees.

B. Contractor shall further indemnify and hold the Board harmless from any and all claims and liens for labor, services or materials furnished to the Contractor in connection with the performance of this contract.

C. Limitations by statute as to worker's compensation or any other benefits, payable by or on behalf of the Contractor, to any injured party shall not limit the Contractor's indemnification of the Board under this agreement.

2-48 WORKERS' COMPENSATION AND UNEMPLOYMENT COVERAGE

A. WORKERS' COMPENSATION:

The Contractor expressly agrees and acknowledges that it is an “independent contractor” as defined in LSA-R.S.23:1021(6). That its employees shall not be considered employees of the Board for workers' compensation coverage, and that the Board shall not be liable to the contractor or its employees for any workers’ compensation benefits or coverage.

B. EXCLUSION OF UNEMPLOYMENT COMPENSATION COVERAGE:

Contractor herein expressly agrees and acknowledges that it is an “independent
Contractor” as defined in LSA-R.S.23:1472(E), that neither the contractor nor any one employed by the Contractor shall be considered an employee of the Board for the purpose of employment compensation coverage.

2-49 S&WB RIGHT TO AUDIT PROVISION

The Board shall have the right to audit by its personnel or its authorized representative, at all reasonable times, any and all records pertaining to the administration of this contract by the contractor, including its records of any subcontractor (s) employed on the contract. Such records shall be made and kept by the contractor in accordance with generally accepted accounting principles and practices. Records shall include, but are not limited to, accounting records, daily reports, correspondence and subcontract files (hard copies as well as computer readable data, if it can be made available). Records subject to audit shall also include, but not be limited to, those records necessary to evaluate and verify direct and indirect costs (including overhead allocations) as they may apply to cost and/or change order requests associated with this contract. The Board also reserves the right to interview employees, make photocopies, and inspect any and all records at a reasonable time for a minimum of three (3) years after completion of the project or formal acceptance by the Board of the contract. Contractors shall be required to retain such files of the project as described herein for a minimum of three (3) years after completion of the project or formal acceptance of the contract by the Board.

2-50 EQUAL EMPLOYMENT OPPORTUNITY

A. In all hiring, employment, or other activity made possible or resulting from this agreement, there shall not be any discrimination against any employee, or applicant for employment because of age, race, color, religion, handicaps, sex, or national origins, and where applicable, affirmative action will be taken to ensure that employees are treated during employment without regard to their age, race, color, religion, handicaps, sex and national origin. This requirement shall apply to, but not be limited to, the following:

   Employment, upgrading, demotion or transfer, recruitment and advertising, layoff or terminations, rates of pay or other forms of compensation, and selection for training, including internship and apprenticeship.

B. All solicitations or advertisements for employees shall state that all qualified applicants will receive consideration for employment without regard to age, race, color, religion, handicaps, sex or national origin.

2-51 LABOR STANDARDS

A. The minimum wages to be paid laborers and mechanics shall be the prevailing wages for corresponding classes of laborers and mechanics employed on projects of a character similar to the contract work; said prevailing wages to be determined by the Secretary of the U.S. Department of Labor. (See Attachment 2C at the end of this section)
B. The successful bidder is to make available to the Board, complete records in connection with payment of employees during the term of the job in order to permit the Internal Audit Division to check as to adherence to the wage scale presently in effect in accordance with U.S. Government standards.

2-52 DRUG FREE WORKPLACE POLICY

A. It is the policy of the Sewerage and Water Board that all workplaces and facilities be kept drug and alcohol free at all times.

B. In order to ensure compliance with this policy, the Board has approved and implemented the "Drug Free Workplace Policy" (See Attachment 2A at the end of this section) and which shall be implemented and rigidly enforced on this contract.

2-53 BI-WEEKLY JOB SITE MEETINGS

A. Once every two (2) weeks, or as determined necessary by the Engineer, on a date and location mutually agreed upon by the Contractor and the Engineer, a meeting shall be held for review of the Project, including, but not limited to, the construction and inspection schedule, progress of the construction, traffic control, submittals and any other issues that may arise. The meeting may be used to review the Contractor’s monthly application for payment. The Contractor shall preside over all these meetings, and shall arrange for subcontractors and material suppliers to be present as needed to discuss their specific work.

B. The Engineer will keep and distribute minutes of each meeting to all attending parties.

2-54 ENVIRONMENTAL REQUIREMENTS - MEETING CONSENT DECREE CONDITIONS

A. The parties agree that the work and duties required to be performed in accord with the Contract Documents shall meet and comply with all environmental requirements to include the laws and regulations of the United States and the State of Louisiana, and shall satisfy and be in accord with the provisions of the Consent Decree with attachments entered into by and between the BOARD and CITY with the EPA and the UNITED STATES in the matter entitled "UNITED STATES OF AMERICA V. SEWERAGE AND WATER BOARD OF NEW ORLEANS, ET AL," No. 93-3212, United States District Court, Eastern District of Louisiana, which provisions the CONTRACTOR must acquaint itself and become familiar with prior to bidding on said Contract.

B. The above mentioned Consent Decree is available on the Sewerage and Water Board web site, http://www.swbno.org/docs_consentdecree.asp

C. CONTRACTOR specifically acknowledges the Board has made said
Decree with attachments available for review and CONTRACTOR has read said decree with attachments or the pertinent parts thereof and is familiar with the terms and conditions thereof, and will pay any fines or penalties that will be assessed against the BOARD or CITY (or reimburse them therefore) which are imposed by the terms of said decree with attachments resulting from the actions of CONTRACTOR in performance of or its failure to perform its duties under this Contract.

2-55 REPORT, CONTAINMENT/BY-PASS AND CLEAN-UP

A. The Contractor shall develop a plan to report, contain/by-pass and clean up all sewage spills or unanticipated hazards that would adversely affect the health of the community.

B. REPORT

A report shall be given immediately to the S&WB Emergency Desk (942-2920). The information communicated in the report must include location, nature of problem, name of project, name of company performing work, name of the individual making the call, time of incident and other pertinent data as necessary. It should be communicated as a Priority I incident.

C. CONTAINMENT/BY-PASS

The Board's first priority in operating its sewer system is to protect the public health of the citizens and the environment in the most cost effective manner possible.

The plan must consider all available options for immediately eliminating the discharge or diverting to a containment area, as well as options for containing the contents of, for example, a damaged main which will be evacuated during repair work. It is impossible to anticipate all the specific conditions and factors that may be relevant for any particular incident. Each incident will be unique.

To this end the Contractor will by-pass, direct and temporarily store sewage as the situation dictates to avoid contamination of soil, street, etc. that would place the citizens in contact with waste products. If these sewer wastes reach a canal it will be the Contractor's first effort to remove the contamination. Drainage pumping from the contaminated canal will be stopped.

In those circumstances when sewage cannot be removed from the canal system because of location or weather, where possible the procedures will be dilute and flush the canals.

Considerations

The following are some of the more significant considerations; which will impact the ultimate approach to mitigation activities.

- Can any or all of the discharge be returned to the sewerage system
immediately? If so, how much, where and by what means?

☐ What is the anticipated duration of the repair activity?

☐ Can normal sewage flow be rerouted? If so how much?

☐ How many and which pump stations will be affected by isolation of the force main?

☐ Do any of the stations have the capability to bypass flow to the gravity system?

☐ How long can the normal sewage flow in the affected gravity sections be interrupted before property damage or upstream overflows occur?

☐ Is there the capability to create in-system containment by artificial draw down of the associated gravity system(s) and if so, how much?

☐ Is there the capability to create a containment area utilizing a drainage canal or catch basin, how would the flow be reintroduced into the sewerage system and could an effective clean-up of the containment area be accomplished? (One or more containment areas could be considered not only at the repair site but at an affected pump station or other location).

☐ Is there a capability to haul sewage (vac tanker, vac truck etc.) from either the repair site or anticipated up-stream overflow location?

☐ Is a rainfall event anticipated during the repair or clean-up activities?

Because of the varying conditions, locations and circumstances which have an impact on the planning process, the development of specific procedures is not practical. It is far more important for a response action plan such as included herein, to provide for the availability of the resources including senior management expertise, such that a response can be initiated in an expedient and thoughtful manner. As evidenced in other sections of this document, the Board has a policy of requiring Division and Department managers to be available on call 24 hours per day and to personally respond to all emergencies including Sanitary Sewer Overflows.

The ability to call on the experience of these managers as a matter of policy insures all possible avenues of mitigation are considered and all required resources are dedicated to this response effort.

D. CLEAN-UP/DISINFECTION

For public areas that have come in contact with overflowed sewage, the Contractor will take reasonable action to implement disinfection procedures. Generally, these procedures will involve an application of an oxidizing agent such as a dilute chlorine solution on constructed surfaces
(streets, driveways, walls, etc.) and a lime application on organic surfaces (lawns, soil areas, etc.). The level and extent of disinfection will be determined in the field. It is not the intent of this disinfection procedure to infer that total pathogen destruction has been achieved, nor that any other level of disinfection has been achieved.

2-56 Storm Water Pollution Prevention Plan (SWPPP) and Storm Water Best Management Practices (BMP) Requirements

The contractor shall comply with the provisions detailed in Attachment 2D at the end of this section and submit a SWPPP and BMP to the Engineer. There is no direct pay associated with these requirements.

2-57 S&WB ELECTRIC FEEDER SCHEDULING OF WORK

A. The Contractor is hereby advised that continuous operation of the Drainage, Sewer and Water Systems are vital to the Health, Safety, and Welfare of the City of New Orleans. The Contractor shall perform no work or cause any equipment or system outage which may jeopardize the operation of the Drainage, Sewer and Water Systems.

B. Feeder outages are required for safety of the Personnel and equipment in any areas where the new construction comes in close conflict with existing S&WB power facilities, or as directed by the Board Engineer. The Contractor shall coordinate his work leading up to and during said outages with the S&WB Electrical Engineer who shall be given 48 hours minimum advanced notice of his desire to schedule an outage, and shall abide by the particular cautions, requirements, and possible restrictions set by the Board Engineer.

C. The contractor shall follow the Safety Clearance Procedure, Attachment 2E at the end of this section, whenever feeder outages are required. There is no direct pay associated with these requirements.

* * * END OF SECTION 2 * * *
ATTACHMENT 2A

S&WB Drug-Free Workplace Policy – Contractor Requirements
Sewerage and Water Board of New Orleans
Drug - Free Work Place Policy
Contractor Requirements
Page 1 of 3

ATTACHMENT TO GENERAL SPECIFICATIONS

STATEMENT OF POLICY

It is the policy of the Sewerage and Water Board of New Orleans that all work places associated with its operation, maintenance, improvements, and expansion be kept drug free. In order to insure this, the Sewerage and Water Board has approved the following drug testing policy to be implemented on this contract.

NOTICE

The contractor shall notify all personnel to be employed on this contract that they must submit to drug testing upon the occurrence of any accident, injury, or unsafe and hazardous incident which involves them. Agreement to submit to such drug testing shall be required for the employment of all personnel under this contract.

PENALTIES

Any employee who refuses to agree to testing under this policy or who refuses to be drug tested after the occurrence of any accident, injury or unsafe and hazardous incident which involves them, or who fails to report any such accident, injury or incident within twenty-four (24) hours of its occurrence, shall be deemed incompetent under Paragraph 47 of the General Specifications. Any employee found to have a positive test result after his conformational testing shall be deemed incompetent under Paragraph 47 of the General Specifications. Any employee deemed incompetent under these provisions shall be removed by the contractor from work under this contract and any other current Board contract.

TESTING PROCEDURE

The contractor shall while performing this contract, require any of its employees who are involved in an accident, injury or unsafe and hazardous incident while in the course and scope of their employment, whether vehicular or non-vehicular in nature, to be tested for blood alcohol or drug levels through a laboratory approved by the National Institute for Drug Abuse. Said employee shall provide a testing sample as soon as possible after such accident, injury or incident, but no longer than twenty-four (24) hours from the time of the occurrence. The contractor shall provide copies of the results of the initial testing on the samples involved to the Risk Manager of the Sewerage and Water Board of New Orleans as soon as such results are known. If the initial testing reveals a positive result, the contractor shall forward the remainder of the original testing sample to a second, conformational testing. The Sewerage and Water Board of New Orleans shall consider any result to be positive if it indicates any level which exceeds the levels set forth as follows:
CUT-OFF LEVELS INDICATING POSITIVE TEST RESULTS

The following initial cut-off levels shall be used when screening specimens to determine whether negative or positive:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Initial Test Level (ng/ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marijuana metabolites</td>
<td>50</td>
</tr>
<tr>
<td>Cocaine metabolites</td>
<td>300</td>
</tr>
<tr>
<td>Opiate metabolites</td>
<td>300</td>
</tr>
<tr>
<td>Phencyclidine (PCP, etc.)</td>
<td>25</td>
</tr>
<tr>
<td>Amphetamines</td>
<td>300</td>
</tr>
<tr>
<td>Alcohol</td>
<td>.04% by weight based on grams of alcohol per 100cc of blood</td>
</tr>
<tr>
<td>LSD</td>
<td>150</td>
</tr>
<tr>
<td>Barbiturates</td>
<td>300</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>300</td>
</tr>
</tbody>
</table>

Quantitative GC/MS confirmation procedures at the following cut-off values shall be used for the following drugs:

<table>
<thead>
<tr>
<th>Drug</th>
<th>Confirmatory Test Level (ng/ml)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marijuana metabolites*</td>
<td>10</td>
</tr>
<tr>
<td>Cocaine metabolites**</td>
<td>150</td>
</tr>
<tr>
<td>Opiates (Morphine, Codeine)</td>
<td>150</td>
</tr>
<tr>
<td>Phencyclidine (PCP, etc.)</td>
<td>25</td>
</tr>
<tr>
<td>Amphetamines (amphetamine, Methamphetamine)</td>
<td>300</td>
</tr>
<tr>
<td>LSD</td>
<td>150</td>
</tr>
<tr>
<td>Barbiturates</td>
<td>300</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>300</td>
</tr>
</tbody>
</table>

* Delta-9-Tetrahydrocannabinol - 9-Carboxylic Acid
** Benzoylecgonine
The contractor shall choose the laboratory to be used for drug testing, and shall identify such laboratory to the Risk Manager of the Sewerage and Water Board prior to receiving approval to start work. All laboratories shall be approved by the National Institute for Drug Abuse.

The contractor shall notify the Board's Risk Manager immediately of the results of any conformational testing.

The Contractor's Senior Project Superintendent working in consultation and conjunction with the Board's Risk Manager and the Board's Engineer, shall determine whether an accident, injury or unsafe or hazardous incident occurred. The Safety Department of the Sewerage and Water Board reserves the right to investigate any such matter and make a complete report to the Executive Director of the Sewerage and Water Board whose decision shall be final.

The Sewerage and Water Board shall not be liable for any cause of action of any employee of the contractor brought against the contractor as a result of this policy. The Sewerage and Water Board shall not be liable for the contractor's failure to stipulate adherence to the terms and conditions of this drug testing policy as a condition of employment of any employee on this contract. The Board shall not release the contractor from his responsibilities under the policy unless failure to adhere to the conditions of this policy shall be a direct result of any action taken by the Board.

These requirements shall be acknowledged by signature of the contractor's authorized representative in the space provided in the "Form of Proposal".
ATTACHMENT 2B

S&WB Safety Orientation Notice
Safety Orientation Notice
Sheet 1 of 3

Welcome

We welcome you to the S&WB and request your assistance in maintaining our Safety Standards. For the safety of yourself and everyone working at the S&WB, you are asked to observe the following safety precautions. When this notice has been read thoroughly, a senior representative of your company is required to distribute this information to all employees who will be affected. You may call the Board’s Risk Management Department, at (504) 585-2382 or the Board’s Safety Manager, Mr. Keith Pete, at (504) 585-2522 if you have any questions.

Basic

1. Smoking will be allowed in designated areas only.

2. Horseplay, practical joking and fighting are positively prohibited.

3. The use or possession of illegal drugs or intoxicating beverages is strictly prohibited on all S&WB property.

4. Housekeeping is a must. We will keep our area safe and free from litter and expect you do to the same.

5. Handrails must always be used when going up and down ladders or stairs.

6. When working in confined spaces, the contractor must be in full compliance with Occupational Safety and Health Administration (OSHA) Standard # 29CFR 1910.146 at all times. Atmospheric conditions such as adequate ventilation, the presence of oxygen and the absence of explosive gases must be assured before working in voids, tanks, or other enclosed spaces.

7. Radios must be turned off.

Emergency

8. The S&WB Emergency Response Plan is a document, which provides specific notification instructions to be followed in case of hazardous material spills. The Board’s Environmental Affairs Office phone number is 942-3855 during normal business hours 7:30 a.m. to 4:00 p.m.

9. The Board’s 24-hour emergency lines are (504) 529-2837 and 865-0575 (Central Control Dispatcher, Carrollton Plant.)
10. Since Board contracts are performed under various circumstances at various locations, prior to beginning any work, the contractor should consult with the Board employee who
11.is responsible for monitoring the contract in order to establish the most effective procedures for handling emergencies.

**Transportation**

Warning signals and lights shall be used as follows:

11. Rotating beacons shall be used if your vehicle is so equipped.
12. Tail lights / emergency flashers shall be used.
13. Orange reflector type safety cones shall be placed to give other motorists warning.
14. If vehicle is moving, backing, or parking, proper traffic control shall be exercised.

**Protective Clothing and Equipment**

15. All personnel who are exposed to eye hazards will wear safety glasses. Hard hats will be worn at all times while an employee is in the immediate vicinity of overhead hazards or while operating heavy equipment without a Rollover Protection Device.
16. Protective clothing and equipment such as rubber aprons and gloves, eye and face protection, approved respirators or dust masks will be worn when handling all harmful chemicals.

**Reporting**

17. Defective equipment, machinery, hazardous conditions, or unsafe work practices or conditions shall be reported immediately to your Supervisor / Foreman who will then contact proper S&WB personnel for corrections.
18. All injuries will be reported to the Risk Management Department, (504) 585-2382, or to the Safety Unit, (504) 585-2522, regardless of how minor an injury may seem.
19. S&WB employees may hold safety meetings to discuss and promote safe working conditions and accident prevention. You may be asked to attend.
Work Smart

20. Stay alert at all times, know what is going on around you. Know the safe operating procedures concerned with your assigned duties. When your duties may influence the safety of Board employees, notify the employees and their supervisors first.

21. Vendor / Contractors shall at all times demonstrate strict compliance with all Federal, State and Local regulations regarding safety, including but not limited to, all relevant Department of Environmental Quality (DEQ), Department of Transportation (DOT), Environmental Protection Agency (EPA), and Occupational Safety and Health Act (OSHA) regulations.

22. The Vendor / Contractor will at the request of the Risk Manager and/or Safety Manager remove any of his employees found to be creating or contributing to unsafe conditions.

23. The following items are not allowed on any S&WB Facility or jobsite:

- Firearms and Ammunition
- Alcohol and illegal drugs
ATTACHMENT 2C

Prevailing Wage Rate
General Decision Number: LA130015 01/04/2013  LA15
Superseded General Decision Number: LA20120015
State: Louisiana
Construction Type: Highway
Counties: Jefferson, Orleans, Plaquemines, St Bernard, St Charles, St John the Baptist and St Tammany Counties in Louisiana.

**HIGHWAY CONSTRUCTION PROJECTS**

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<tr>
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ENGI0406-001 10/28/2010

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<th>Rates</th>
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<tr>
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* LABO0689-003 07/01/2011

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<tr>
<td>LABORER: Common or General Jefferson, Orleans, St. Bernard and St. John the Baptist Counties...</td>
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LABO0689-004 07/01/2011

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SULA2011-003 08/17/2011

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<tr>
<td></td>
<td>4.24</td>
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<tr>
<td>IRONWORKER, REINFORCING...</td>
<td>17.49</td>
</tr>
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</table>

LABORER: Common or General St. Tammany County... $ 9.51 1.14

Power equipment operators:
- Asphalt Paver... $ 17.20 4.97
- Backhoe/Excavator/Trackhoe... $ 16.85 4.91
- Broom/Sweeper... $ 15.17 5.15
- Bulldozer... $ 16.40
- Crane... $ 25.35
- Grader/Blade... $ 15.88
- Milling Machine... $ 16.63 2.14
Roller (Dirt and Grade Compaction)  
Jefferson, St. Bernard,  
St. Charles and St. John  
the Baptist. $ 12.59  
Orleans, Plaquemines, St.  
Tammany. $ 14.74  
Trencher. $ 14.38  

Truck drivers:  
Dump Truck. $ 12.93  
Water Truck. $ 13.79  

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters, PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.
Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

----------------------------------------------

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210
The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

   Administrative Review Board  
   U.S. Department of Labor  
   200 Constitution Avenue, N.W.  
   Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

================================================================================
END OF GENERAL DECISION
ATTACHMENT 2D

Storm Water Pollution Prevention Plan (SWPPP)

And

Storm Water Best Management Practices (BMP) Requirements
SEWERAGE and WATER BOARD of NEW ORLEANS

Storm Water Pollution Prevention Plan (SWPPP)
And
Storm Water Best Management Practices (BMP) Requirements

GENERAL

1. The contractor shall prepare and maintain a Storm Water Pollution Prevention Plan (SWPPP), which describes in specific details the Contractor's program to prevent contamination of the storm water collection system for this project. A suggested SWPPP Templates and Sample Inspection Report, as well as other valuable information can be found at EPA's website http://cfpub.epa.gov/npdes/stormwater/swppp.cfm.

2. Contractor shall implement, maintain, inspect and remove all erosion and sediment controls identified in the SWPPP. The program shall address both common construction activities and extraordinary events.

3. Contractor shall include Water Pollution Control Drawings (WPCD) in the SWPPP to illustrate the locations, applications and deployment of Best Management Practices (BMPs) identified in the SWPPP. The WPCDs shall be included as an attachment to the SWPCP.

4. Best Management Practices (BMPs): A Best Management Practice is a technique, process, activity, or structure used to reduce the pollutant content of a storm water or non-storm water discharge. BMPs may include simple, non-structural methods such as good housekeeping, staff training, and preventive maintenance. Additionally, BMPs may include structural modifications such as the installation of berms, canopies or treatment-control.

5. The Contractor shall comply with laws, rules, and regulations of the State of Louisiana and agencies of the United States Government prohibiting the pollution of lakes, wetlands, streams, or river waters from the dumping of contaminate, refuse, rubbish or debris.

6. The contractor shall submit copies of the SWPPP (as per requirement of Section 2, Paragraph 2-20) a minimum of 10 working days prior to beginning construction, to the Engineer. Construction shall not begin until the SWPPP is approved. Contractor shall update the SWPPP as necessary during the work to prevent contamination of the storm water collection system.

7. Before start of work, Contractor shall train all employees and subcontractors on the approved SWPPP and related WPCD and provide the Sewerage and Water Board with written documentation of said training.

8. Suggested BMPs can be obtained from Ella Barbe, LA DEQ Small Business Assistance Program, 201 Evans Rd. Bldg. 4, Suite 420 Harahan LA. Phone 504-736-7739, e-mail: ella.barbe@la.gov

Issued: 2/27/2012
CONSTRUCTION

The contractor shall keep a copy of the SWPPP on the job site. The contractor shall provide continuously at the jobsite all the tools, equipment, and materials necessary to implement the SWPPP at all times from project initiation through completion, including any punchlist or warranty work on the project. At a minimum the following requirements shall be met as applicable, to the maximum extent practicable, at construction sites:

1. **Storm Drain System Protection:** At the first order of work, the Contractor shall protect the existing storm drain system from entrance of construction debris and pollutants. Such protection shall include implementing the BMPs as outlined in the SWPPP. Protection shall prohibit the discharge of untreated runoff from temporary or permanent street maintenance/landscape maintenance material and waste storage areas from entering the storm drain system. Sediment that is generated on the project site shall be retained using structural drainage controls. In addition, the protection system shall have a minimum of three features: 1) a particulate filter of geosynthetic material securely fastened in place such that it cannot be bypassed without significant physical damage; 2) a prefilter for the particulate filter; and 3) on-hand materials to close off the inlet or opening in the case of a significant pollution spill. Contractor shall monitor and maintain all storm drain inlet protection devices during rain events to prevent flooding.

2. **Material Management & Storage:** No construction-related materials, wastes, spills or residues shall be discharged from the project site to streets, drainage facilities or adjacent properties by wind or runoff. All materials and/or equipment storage areas where liquid construction materials are placed shall be protected by a physical barrier capable of containing the entire volume of stored liquid materials. During active construction activities, portions of the barrier may be removed for access. However, the barrier materials must be readily accessible for replacement by onsite construction personnel. The barrier must be in place at all times during the absence of Contractor personnel at the storage site. Building materials shall be placed on pallets and covered in event of rain. Do not store materials in the street or gutter area.

3. **Equipment & Vehicle Maintenance:** Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site and shall not be allowed to discharge from the project site to streets, drainage facilities or adjacent properties by wind or runoff. The Contractor shall inspect vehicles and equipment on each day of use. Leaks shall be repaired off-site if possible. If necessary to repair on site, the runoff must be contained or the problem vehicle or equipment shall be removed from the project site until repaired. If necessary, drip pans shall be placed under the vehicles or equipment while not in use to catch and/or contain drips and leaks.

4. **BMP Inspection:** The contractor shall inspect all pollution control BMPs regularly. The Contractor shall also repair/replace any damaged or clogged element on a daily basis. During periods of precipitation where any runoff occurs, the system shall be checked twice a day, seven days a week, whether or not any work has been performed. The daily checks shall be between 6 a.m. and 9 a.m., and 4 p.m. to 8 p.m. The contractor shall keep a monitoring inspection log of each inspection.

5. **Spill Prevention & Cleanup Plan:** Contractor shall have a spill prevention plan and spill cleanup materials readily available and addressed in the SWPPP. Spills shall be cleaned

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up immediately using dry methods if possible. Spill cleanup material shall be properly disposed off site. Contractor shall keep a record of any spills in the inspection log. In addition, at the end of the project, the Contractor must certify that all contaminated materials have been properly disposed in accordance with the SWPPP.

6. **Asphalt & Concrete Activities:** Asphalt and concrete activities shall be scheduled for dry weather. Contractor shall prohibit saw cutting during a storm event of 0.25 inches or greater. Store bags of cement away from gutters and storm drains, sealed and covered, protected from rainfall runoff and wind. Place tarp under cement mixer before operating to catch spills. Never dispose of cement washout or concrete dust onto driveways, streets, gutters or storm drains.

7. **Sidewalk Washing:** The following methods should be utilized to prevent discharge of sidewalk cleaning wastewater into the storm drain system:

   a. Sweep and pick up all areas to be cleaned before using water.
   b. Manually scrape gum from sidewalks and other surfaces.
   c. Must use high pressure and low volume of water with no additives and at an average usage of 0.006 gallons per square foot of surface area to be rinsed.
   d. Use a wet/dry vacuum to collect wash water for disposal. Large volumes of wash water may require the use of a small sump pump to remove wash water from the job site.
   e. One or more of the following methods are recommended to prevent pollutants from entering the storm drain system:
      * Sandbags can be used to create a barrier around storm drains.
      * Rubber mats or plugs can be used to seal drain openings.
      * Temporary berms or containment pads help keep water on site.
      * Use berms of sandbags to direct wash water to landscaping.
      * Use large squeegees to accumulate sheet flow for collection.
   * Remember to remove plugs, berms, and sandbags or you may be liable for possible flooding.

   f. Wash water that may contain hazardous waste such as oil-saturated absorbents, water with lead or other heavy metals from oxidized paint, and solvent cleaners requires special treatment and must be disposed of through a hazardous waste facility.

8. **Employee BMP Training:** Contractor shall train employees and subcontractors on BMP implementation, general good housekeeping, and proper spill containment and cleanup. Before start of work, Contractor shall provide the Board with written documentation of training and keep all documentation in the SWPCP.

9. **Inspection:** Contractor shall inspect and repair or replace, as needed, all job site BMPs a minimum of:
   * Biweekly
   * Before, during and after a major rain event.
Contractor shall document the inspections in the SWPPP.

10. **Dewatering:** Avoid dewatering discharges where possible by using the water for dust control, infiltration, etc..

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ATTACHMENT 2E

Sewerage & Water Board Electrical Safety Clearance Procedure
Definitions:

Operator: The Board employee who is on-site and in responsible charge of the operation of the plant, station, or other facility.

Out of Service: The electrical/mechanical disconnection of equipment which is to remain inoperable.

Power Dispatcher: The shift employee on duty at Central Control at the time safety clearance occurs.

Signee: The person who actually tags-out equipment for safety clearance.

Supervisor/Foreman: The Board employee who is the supervisor/foreman in responsible charge of the repair/maintenance of one or more work locations which requires safety clearance. This person may not necessarily be "on-site" at any particular location.

Tag-out: The physical tagging of equipment by an operator for the purpose of disabling equipment.

Lock-out: The physical locking of equipment by an operator for the purpose of disabling equipment.
General Provisions

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1) All equipment repair/maintenance work which is scheduled and requires safety clearance should be presented to Central Control at the beginning of each work day by the supervisor/foreman/electrical engineer in charge of the repair/maintenance. Twenty four (24) hour advance notice of scheduled work for major outages is desirable; however, it is understood that due to the nature of the services provided by the Board this preferred notice may not be possible for every safety clearance.

2) In cases where two (2) or more crafts are working on, or require safety clearance on the same equipment, the supervisor/foreman/electrical engineer for each craft must follow the appropriate safety clearance procedure and the equipment must be tagged out for each craft's signee. No equipment can be tested and/or restored to service until all tags have been removed in accordance with the tag removal procedure.

3) When an operator requests service for equipment at an unmanned facility, i.e. an unmanned sewer station or unmanned underpass station, from either Electrical Maintenance or Mechanical Maintenance, the appropriate maintenance department shall request the responsible operator to tag-out the equipment. When the appropriate maintenance department, in the course of servicing this equipment, requires restoration of power, the appropriate maintenance department shall contact the responsible operator directly (if operator is present) or by radio or telephone (if operator is absent) and request that the responsible operator grant his permission. If the power is to be restored for only a short duration, the appropriate maintenance department shall thereafter contact the operator for permission to either remove power or restore power, as often as needed. The operator shall log each request. If the request to restore power is for a short duration only, and the operator does not receive contact from the appropriate maintenance personnel to remove power again, the operator shall make every attempt to contact the appropriate maintenance personnel in order to ensure that no accident has occurred.
4) If equipment must remain "Out of Service" upon completion of the on-site work, the signee must request their tag be replaced with an "Out of Service" tag in the name of their department: e.g. "Out of Service - Electrical Maintenance", in addition it must be physically locked-out by that department. However the "Out of Service" tag does not relinquish the responsibility of following the safety clearance procedure each day that piece of equipment is worked on.

5) Any equipment restored to service after being tagged "Out of Service" must be tested through operational test procedures. The signee must remain, when possible, on-site until testing is complete.

6) Any individual involved in these procedures, may halt the procedure at any time if it is felt the safety of the personnel and/or equipment warrants said stoppage, or if conditions within the system change that may require postponement of the work.

7) In the event the responsible person, signee, leaves the job site without releasing the cleared equipment and is unreachable to release their tag-out the following procedure must be enacted before the signee's name, tag-out, can be removed from the cleared equipment.

1) Cause must be established by the senior power dispatcher giving reason to remove the tag-out.

2) Senior power dispatcher must receive orders from the Chief of Operations or higher, in his absence, to remove said tag-out.

3) Concurrence given by a senior representative of the following:

   a) Department or company to which the signee works for.

   b) Senior representative of the plant, station, facility in which the tag-out occurs.
c) If job site is in the field then, inspection by Electrical Engineering assuring work has halted for the day.

Once all areas have been satisfied then the senior power dispatcher may have the signees tag-out removed.

NOTE: The above and following procedures may be deviated from at the discretion of the power dispatcher in cases of emergency.

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Safety Clearance Procedure
25 Hertz System
"Non-Sewerage and Water Board Personnel"

1) The Company or responsible person representing that company shall first contact Electrical Engineering in regards to their outage request. Electrical Engineering will dispatch personnel to the job site and identify all equipment within close proximity to the work which should be cleared for safety.

NOTE: After normal working hours clearance request will be routed through Central Control who will notify the proper personnel in Electrical Engineering. It will be the responsibility of Electrical Engineering to identify said feeders.

2) Electrical Engineering will then contact the power dispatcher informing them of; the company, the person supervising the work, the work to be performed, and supplies the power dispatcher with a clearance list.

3) Electrical Engineering will then direct the company's signee to personally appear at any Board facility involved in the clearance prior to the request. Upon arrival at a Board facility the signee will contact the power dispatcher making their clearance request.

4) The power dispatcher reviews their one line schematics for any additional equipment they feel is required for safety.

5) If the request involved equipment within a station or facility the power dispatcher then notifies the operator of the work to be performed and supplies the operator with a list of the clearance request.

6) The operator makes a visual inspection of the work site and adds to the clearance list any additional equipment which they note as being involved in or in close proximity to the work site. A finalized clearance list is then agreed upon by all parties involved.
7) The power dispatcher, with assistance from other operating personnel as required and through normal operating procedures, will disconnect from all power sources all equipment on the finalized list.

8) After the completion of step seven (7), with the company's signee at a Board facility, the company's signee will be notified of the disconnection of the equipment by the power dispatcher. The company's signee will request the operator at each location to place a tag-out with the company name/signee's name on each piece of equipment on the clearance list.

9) After receiving a tag-out report from the operators, the power dispatcher will then verify the tag-out reports against their finalized clearance list. If satisfactory, the power dispatcher will verify with the company's signee what was tagged-out. The company's signee will then be allowed to begin work.

10) At this point prior to the beginning of any actual work it is the responsibility of the person or persons performing the work to check the equipment with a voltage tester. If all voltage testing is satisfactory, "no voltage", work may begin.

**NOTE:** Due to the nature of some work it may be necessary that voltage be present.

11) Upon completion of the on-site work, the company's signee must report to a Board facility, involved in the clearance. At this point the company's signee will request the operator at each location to remove their tag-out with the company name/signee name off each piece of equipment. The operator and power dispatcher may restore the equipment to its connected position and test same following standard operating procedures.

12) If the equipment is to remain out of service, the company's signee must request their tag be removed and an appropriate "Out of Service" tag in the name of their company be placed on the equipment. The equipment will also be physically locked-out by the operator at each location, which would prevent the reconnection and testing process.
13) When "Out of Service" equipment is to be returned back into service, only an employee of the company which originally placed the "Out of Service" tag may request it be removed, returning said equipment into service.
Safety Clearance Procedure
60 Hertz System
"Non Sewerage and Water Board Personnel"

1) The company or responsible person representing that company shall first contact Electrical Engineering in regards to their outage request. Electrical Engineering will dispatch personnel to the job site and identify all equipment within close proximity to the work which should be cleared for safety.

2) Electrical Engineering will then contact the power dispatcher, if the work to be performed is outside of a station. The operator, if the work to be performed is inside the station. They will inform them of; the company, the person supervising the work, the work to be performed, and supplies the power dispatcher or operator with a clearance list.

3) The Electrical Engineering will then direct the company's signee to personally appear at any Board facility involved in the clearance prior to the request. Upon arrival at a Board facility the signee will conduct their business with the operator or power dispatcher based on the procedures listed below.

4) The power dispatcher reviews their one line schematics or the operator make a visual inspection of the work site and adds to the clearance list any additional equipment which they note as being involved in or in close proximity to the work site. A finalized clearance list is then agreed upon by all parties involved.

5) **If handled through the power dispatcher:**
The power dispatcher, with assistance from other operating personnel as required and through normal operating procedures, will disconnect from all power sources all equipment on the finalized clearance list.
If handled through the operator:

The operator will contact the power dispatcher informing them of the work to be performed along with a clearance list request. The power dispatcher reviews their one line schematics for any additional equipment they feel is required for safety. A finalized clearance list is then agreed upon by all parties involved. The operator will then through normal operating procedures disconnect from all power sources all equipment on the finalized clearance list.

6) After the completion of step five (5), with the company's signee at a Board facility, the company's signee will be notified of the disconnection of equipment by the operator or power dispatcher. The company's signee will then request the operator at each location to place a tag-out with the company's name/signee name on each piece of equipment on the clearance list.

7) 
If handled through the operator:

The operator will then contact the power dispatcher providing them with a tag-out report for logging purposes.

8) At this point prior to the beginning of any actual work it is the responsibility of the person or persons performing the work to check the equipment with a voltage tester. If all voltage testing is satisfactory, "no voltage", work may begin.

NOTE: Due to the nature of some work it may be necessary that voltage be present.

9) Upon completion of the on-site work, the company's signee must report to a Board facility involved in the clearance. At this point the company's signee will request the operator at each location to remove their tag-out with the company's name/signee name off each piece of equipment. The operator and/or power dispatcher may restore the equipment to its connected
position and test same following standard operating procedures.

10) If the equipment is to remain out of service the company's signee must request their tag be removed and an appropriate "Out of Service" tag in the name of their company be placed on the equipment. The equipment will also be physically locked-out by the operator at each location, which would prevent the reconnecting and testing process.

11) When "Out of Service" equipment is to be returned back into service, only an employee of the company which originally placed the "Out of Service" tag may request it be removed, returning said equipment into service.

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SECTION 03

SEWER MAINS – MATERIALS, INSTALLATION AND PAYMENT

3-01 GENERAL

The Contractor shall furnish all labor, materials, equipment and supervision for the replacement, relocation and/or installation of sewer mains between manholes including tie-ins into the existing sewer system. The work shall also consist of installing or replacing service connections, and performing all operations required for improving the sewer system. The Contractor shall provide the necessary dewatering and bypassing required during execution of this work at no direct pay.

The Contractor shall furnish all labor, materials, equipment and supervision required for the replacement of existing sewer mains between manholes including tie-in into the existing system.

All work to be done on Sewerage Systems will be as shown on the plans and as directed by the Director. All workmanship, materials and tests shall conform to Section D of the General Specifications of the Sewerage and Water Board, S&WB Standard Drawings, and Sewerage and Water Board Standard Drawing No. 7260-SWD, except as noted hereinafter. The Contractor shall notify the Chief of Engineering of the Sewerage and Water Board in writing not less than three or more than ten working days in advance of starting the job, in order to allow for scheduling the inspection of the work. Failure to do so prior to starting work will result in the Contractor being required to expose the bedding on all pipe previously installed without Sewerage and Water Board inspection.

All workmanship and materials required to perform this work, shall conform to the current General Specifications of the Sewerage and Water Board and the Department of Public Works except as noted hereinafter.

The Contractor performing work covered in this section shall be required to coordinate his operations with the Sewerage and Water Board and other utilities prior to making any excavation. The Contractor shall exercise caution in making excavations to avoid damage to these services and other utilities.

The Contractor will be furnished with a list of the locations of water and sewer house connections from the Sewerage and Water Board. It will be the Contractor's responsibility to verify the location of these so as to avoid damage. Furnishing this information should not be construed as a waiver of the Contractor's liability, but rather an attempt on the part of the Board to minimize the Contractor's hazard. The existing house connections submitted in the lists are from S&WB records and could vary from the actual location. Any damage
to the existing water, sewer and drain connections resulting from negligence will be repaired by the S&WB at the expense of the Contractor. The Contractor is also responsible for damage to other utilities and the property of others.

Existing sewer service connections shall be tied into the new mains and replaced with new connections where required.

3-02 MATERIALS AND METHODS

Pipe material for sewer mains shall be solid wall polyvinyl chloride (PVC) pipe. The solid wall PVC pipe 6" through 15" shall be manufactured in accordance with ASTM D-3034 specifications for a special gravity sewer pipe dimensions ratio (SDR) of 26. The fittings (tees, wyes, etc.) and bell stock for solid wall PVC pipe shall have a thickness not less than that of the SDR-35 solid wall PVC pipe of the same inside diameter. PVC Sewer Mains sizes 18" through 27" shall be solid wall, PVC pipe conforming to ASTM F-679, Class T-1. PVC pipe shall be type PSM Vinyl Chloride (PVC) standard lengths with integral cast bells and elastomeric gaskets as recommended by the manufacturer and ASTM D-3212. The Sewerage & Water Board reserves the right to approve the type of material.

The maximum allowed deflection for installed PVC sewer pipe is 7.5% reduction in its actual vertical inside diameter not the minimum allowed by the ASTM Specification. Pipe exceeding this allowed deflection at any time prior to acceptance, shall be removed and replaced with new pipe and reinstalled as per the above specifications at the contractor's expense. The S&WB reserves the right to mandrel any and/or all of the PVC pipe installed. The contractor will install the pull lines and pass the mandrel through the mains selected by the S&WB. The S&WB will provide the mandrel for all tests. The mandreling tests will occur after compacted backfill of the trenches. The Contractor shall bear the cost of mandreling retesting if required and will be assessed $100.00 for each occurrence in each section between manholes. In addition, cleaning and TV/video of the new PVC sewer lines (either in service or not) will occur during final inspection after all paving is completed to verify the absence of construction debris. The Contractor shall bear all costs of cleaning and TV/video test or retesting. It is required that a S&WB representative and the Contractor witness the actual mandreling test(s) and witness the real-time cleaning and TV/video test(s). The S&WB does not desire a copy of the videotape. (No Direct Payment)

Bedding and foundation for mains shall conform to latest S&WB Drawing No. 4697-E5A except as noted below. Backfill and drainage fabric for mains shall be as noted below. Standard sheeting and bracing for the sewer pipe shall
comply with latest DWG. 4697-E5A and with the S&WB General Specifications. The same type and size pipe material must be installed between manholes.

Installation of the solid wall PVC pipe shall conform to Section D of the Sewerage and Water Board General Specifications, "The Construction of Sewer" and the Plastic Pipe Association Specification UNI-B 78, "Recommended Practice for the Installation of Polyvinyl Chloride (PVC) Sewer Pipe." The trench bottom shall be relatively smooth and free from rocks, roots, etc. After the sheeting and/or foundation lumber is placed, the pipe shall be laid on a smooth bed of approved bedding material mentioned below, compacted to a density of not less than 95% relative density, six inches deep for the full width of the trench.

The bedding material shall be extended to six inches above the top of the pipe, well compacted (hand or mechanical) in six inch layers to not less than 95% relative density, as shown on the Standard Plans of the Department of Public Works. The bedding material shall be placed and consolidated under the pipe haunches to provide maximum side support to the pipe while avoiding displacement and misalignment of the pipe.

Bedding material shall Class 1A Angular Material (1/4" to 1-1/2") conforming to ASTM D2321, i.e., crushed concrete or crushed stone. The Sewerage and Water Board reserves the right to approve or disapprove the type of bedding material.

Backfill material shall be pumped sand and shall be placed at or near optimum moisture content and compacted. Backfill material shall be placed in layers not to exceed 12 inches. Each layer shall be compacted to a minimum of 95% of maximum density using approved mechanical compaction equipment. The above backfill material and the compaction procedures shall be applied also for any service connections, and point repairs.

Drainage fabric shall be installed according to the following specifications and according to the plan details. Drainage fabric shall be nonwoven pervious sheets of plastic yarn, constructed so that yarns will retain their relative position with respect to each other. Edges of fabric shall be finished to prevent the outer yarn from pulling away from the fabric.

The fabric shall be installed as follows:

1. After the trench is excavated, the foundation lumber shall be placed in the bottom of the trench as required. The filter fabric shall be cut to the needed width including allowances for “loose” placement in the trench and a double-top overlap on top of the bedding material after placement. The fabric shall be laid over the foundation lumber in the trench along its alignment with an 18” minimum overlap at the ends of subsequent lengths. Care should be
taken to place the fabric tightly against the soil so that no voids occur behind the fabric. Also, wrinkles or folds should be avoided. The sides of the fabric that will be used as a double-top overlap should temporarily be pinned to the sides of the trench.

2. After installing the fabric, an initial 6" layer of bedding material shall be placed and compacted to the proper grade before placing the sewer pipe. The remainder of the bedding material shall then be placed around and above the pipe and compacted. Compaction is required to seat the fabric and bedding material against the trench wall and to reduce settlement.

3. After compaction, the two edges of the filter fabric shall be unfastened and overlapped on top of the bedding material. The backfill material shall then be placed and compacted as required.

Drainage fabric shall conform to section ASTM D1910. The Contractor shall provide the Engineer with a sample of the fabric to be used on the project along with a copy of the manufacturer's minimum requirement specifications prior to the start of construction. Drainage fabric shall be installed around the bedding and under the sand backfill according to the Standard plans.

3-03 INSTALLATION/REPLACEMENT OF NEW SEWER MAINS

The contractor shall furnish all materials, equipment and labor to remove the existing deteriorated main, (if any) install mains and fittings (wyes, tees, etc.), including appurtenances such as tie-ins, to existing system, lumber foundation, bedding, backfilling, necessary dewatering and bypassing up to a 3-inch pump, during the execution of this work.

Where the sewer main is relocated, the existing abandoned main must be filled and plugged where shown on the plans. The abandoned sewer line shall be filled with sand, by flooding the pipe to avoid caving in of the sewer line.

All workmanship, materials and tests shall conform to Section D of the General Specifications of the S&WB, except as noted otherwise. The Contractor may use more than one crew in performing work in various sections of a system at a given time, provided he has the approval of the Engineer.

The new sewer mains and service connections shall be installed at the elevations and locations indicated on the plans, unless changed by the Engineer. The Contractor shall schedule his work so that the sewer mains and service connections between two manholes are completed before moving to another location (this will minimize the spillage of raw sewage into an open trench). The Contractor shall isolate the block where the work is in progress by plugging the upstream and downstream manholes. Should the sewage build up to within three feet of the upstream manhole, or if directed by the Engineer,
the Contractor shall pump the liquid to the downstream manhole through bypass piping. No mains or lines shall be left open overnight; a temporary tie-in shall be made between the end of the new main and the existing, and plugs at manholes shall be removed so as to allow flow to continue until work is resumed.

Where it is necessary to connect the sewers to existing manholes, the existing short bell pieces remaining in the wall of the manhole shall be broken out. A new short bell piece shall be inserted to the full thickness of the walls and permanently grouted in place (see latest S&WB Dwg. 6178-B-6). The new short bell piece shall be a sand impregnated PVC stub, grouted with a type three, high early strength cement, or quick setting EMBECO or similar material.

If a PVC pipe is to be connected to a manhole or other concrete or brick structure, the Contractor shall use a sand impregnated PVC stub, grouted with cement grout as specified above, for the manhole connection.

The Contractor is required to have all materials and equipment on hand prior to the start of excavation so that there will be a minimum of inconvenience to the residents. All trenches must be backfilled at the end of the day.

3-04 SEWER SERVICE CONNECTIONS

New or replacement sewer service connections, where required, shall be six (6") inch pipe extended from the main to the property line or to a point directed by the Director. Bedding and foundations required under sewer mains are not required under six (6") inch sewer house connections, but 6" of compacted pumped sand is required as bedding under 6" sewer service connections. Backfill is required the same as described herein for sewer mains.

The use of saddles to connect the house service to the main will not be permitted; all such connections shall be made using wye or tee fittings except on lined sewer mains.

All existing sewer service connections connected to sewer lines that are being replaced shall be removed and replaced from the new sewer line to property line and tied to the existing service at that point.

The need for replacing existing sewer service connections that are connected to existing sewer lines that are not being replaced shall be as directed by the Engineer after field inspection or as indicated on the Drawings. These services will be removed and replaced from the existing sewer line to property line and tied to the existing service at that point.
New sewer service connections shall be installed from an existing, new, or removed and replaced" sewer main to property line at locations where no service presently exists as directed by the Engineer or as indicated on the Drawings.

All pipe and fittings shall be of the same material as the main, unless approved by the S&WB. The connection of any two dissimilar materials shall be accomplished by the installation of a "No-Hub" coupling, consisting of a neoprene sleeve and bushing adaptor and two stainless steel bands with stainless steel screws. The coupling shall be manufactured in strict accordance with Cast Iron Soil Pipe Institute Specifications C-301, latest revision, as manufactured by Tyler Pipe Company, Mission Clay Products Corps., Fernco, or approved equal.

Where existing or proposed subsurface facilities conflict with existing sewer house connections, these same connections shall be adjusted to provide for adequate clearance in accordance with the S&WB Standard Specifications. No siphons will be permitted. Adjustment of sewer house connections shall comply with the above specifications for replacement of sewer house connections.

3-05 SANITARY SEWER MANHOLE

New sanitary sewer manholes required when installing new sewer mains or relocating existing sewer mains shall be constructed in accordance with the applicable sections of the S&WB General Specifications and latest S&WB Standard Drawings No. 6178-B-6 and No. 6178-B-6A

To abandon existing sewer manholes, the Contractor shall remove the casting and cover, remove the manhole wall three (3) foot depth, plug all pipes, and fill the remainder of the manhole with pumped sand, compacted to 95% maximum density. There will be no direct pay for abandoning sewer manholes. Removed casting and cover shall be returned to S&WB Central Yard.

3-06 INSPECTION

At the completion of the installation of the sewer mains between manholes, and prior to final acceptance, the Engineer may inspect the mains with a remote control television unit. The Contractor shall assist by notifying the residents to refrain from use of these services during the inspection. The Contractor will be required to repair at his expense and in an approved manner, all defects in his workmanship disclosed by these tests and inspections before final acceptance.
3-07 MEASUREMENT

Sewer mains will be measured in place and the length determined by measuring from center to center of manholes or other subsurface structures of which they form a part.

Depth of sewer mains for payment purposes shall be determined by measurement from the invert to the top of casting at original existing grades of connecting manholes. Depth of manholes shall be measured from invert to the top of casting.

3-08 PAYMENT

Payment for relocation, replacement and restoration of existing sewer mains or installation of new sewer mains shall be made at the contract unit price per linear foot of the size and depth, which includes excavation, bypass pumping up to a 3-inch pump as necessary, complete shoring, foundation lumber, bedding, installation of new main, including fittings, backfill, drainage fabric and tie-ins. If the existing sewer main is to be removed or abandoned in place, the cost shall include removal or abandonment of the existing sewer main. The Contractor will be paid for setting up and operating bypass pumping when using a pump greater than or equal to 4". The use of a pump greater than or equal to 4" will be allowed only with the authorization of the Engineer.

Payment for "Remove and Replace Sewer Manhole" shall be made at the contract unit price per foot height, including excavation, granular bedding, foundation slab and backfilling. If the existing manhole is to be replaced, the cost shall include removal of the existing sewer manhole.

Payment for "Adjust Manholes by Raising/Lowering" shall be made at the contract unit price per each, including excavation and removal of the existing manhole casting and cover, adjustment by removal of bricks and or installing brick and mortar and backfilling.

Payment for "Furnish and Install 6-inch Sewer House Connection" shall be made at the contract unit price per linear foot, including excavation, installation of a wye or tee in the main, PVC pipes, fittings, tie-in at property line, and backfilling.

Payment for "Make 6-inch Service Connection Direct to Manhole" shall be made at the contract unit price per linear foot, including excavation, installation of PVC pipe, fittings, tie-into manhole with a sand impregnated joint as shown on S&WB Drawing No. 6178-B-6, tie-in at property line, and backfilling.
Payment for "Furnish and Install Vertical Stack Fittings and Tie-In" shall be made at the contract unit price per each, including installation of new PVC tee into existing or new mains with a six inch (6”) stack, installation of wye or double wye as shown on S&WB Drawing No 6312-E5-B. Payment for house connection laid out of the wye fitting shall be at the unit price bid per foot.

Payment for “Set up Sewer System Equal to or Greater than 4-inch” shall be made at the contract unit price per each, including a high capacity trash pump, suction hoses, discharge piping, traffic control, operation and maintaining the by pass system and any necessary ramping to allow for the flow of vehicular traffic, and disassembling the system.

New or replaced sewer house connections shall be installed so as to avoid conflict with new or proposed subsurface facilities.

3-09 CLEAN UP AND RESTORATION OF WORK AREAS

Upon completion of work and before acceptance and final payment, Contractor shall clean up work areas and adjacent property, and remove all surplus and discarded materials, rubbish and temporary structures. He shall leave the lawn areas, adjacent properties, streets and medians in clean condition throughout the entire length of job. Grass areas must be restored to their original condition and topped with not less than two inches of river sand. Shrubbery, grass, signs, etc. that were temporarily removed during construction shall be replaced in their original condition. Drains and catch basins along the route that are clogged with mud as a result of this work must be cleaned to the satisfaction of the Engineer. No extra payment will be made for this site restoration.

***END OF SECTION 03***
SECTION 04
SEWER POINT REPAIRS

4-01 GENERAL

A. Replacement of segments of the existing sanitary sewer system, including collection lines, service lines, and service connections, as indicated on the Contract Drawings or Proposal Form. The pipe used for replacements and point repair shall be as specified below.

B. The Contractor shall furnish all materials, equipment, labor and supervision to remove the existing deteriorated pipeline, install new pipeline and fittings, including appurtenances such as tie-ins to existing system, lumber foundation, bedding, backfilling, necessary dewatering, and flow diversion as specified herein and in Section 08– TRENCHING, BACKFILLING AND COMPACTION.

C. Replacement of manhole connections where required as specified herein.

4-02 SEWER MAIN

A. MATERIAL - POLYVINYL CHLORIDE (PVC) PIPE

1. Polyvinyl chloride (PVC) gravity sewer pipe and fittings 4-in. through 15-in. diameter shall conform to ASTM D3034 - Standard Specifications for Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings, SDR 26. Full body SDR 35 fittings shall be used for all connections.


3. The supplier shall be responsible for the performance of all inspection and testing requirements specified in ASTM D3034 - Standard Specifications for Type PSM Polyvinyl Chloride (PVC) Sewer Pipe and Fittings or ASTM F679 - Standard Specification for PolyVinyl Chloride (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings, as applicable. Complete records of inspections, examinations and tests shall be kept and submitted to the Board. The Board reserves the right to perform any of the inspections set forth in the Specification where
such inspections are deemed necessary to assure that material and services conform to the prescribed requirements.


5. Connections between existing and new pipe shall be jointed with rigid non-shear couplings as specified herein.

6. Pipe shall be furnished in standard laying lengths not exceeding 20 feet.

7. All fittings and accessories shall be furnished by the pipe supplier and shall have bell and/or spigot compatible with the pipe, and be from a single manufacturer.

8. The minimum pipe stiffness at 5% deflection shall be 46 psi for all sizes when tested in accordance with ASTM D2412 - External Loading Properties of PVC Pipe by Parallel Plate Loading. There shall be no evidence of splitting, crackling, or breaking when the pipe is tested as per ASTM D2412 specifications.

9. Unless otherwise specified or noted on the Drawings, tees, cleanouts, and stoppers or plugs shall be the same material used to repair the main sewer and have an inside diameter of the same size as the existing line, except that it shall in no case have a diameter smaller than 6-inches. The plug and installation shall be able to withstand all test pressures involved without leakage.

10. The Contractor shall provide the Engineer with the exact location of each clean-out and cap installed.

11. The Contractor shall furnish a certificate from the pipe manufacturer indicating that the pipe meets all applicable requirements of these specifications.

B. EXECUTION

1. Sewer pipe replacement may include replacement of, but shall not be limited to, cracked pipe, broken pipe, faulty tap, protruding tap, sheared joint, dropped joint, or other similar conditions. All necessary
material will be furnished and installed by the Contractor to ensure proper sewer services after work is completed.

2. **Sufficient barriers and other traffic control methods shall be in place prior to start of construction, the contractor shall submit to the City Traffic Engineer for review and approval a complete construction signage, traffic maintenance and public safety plan per section C129 of the General Specifications of Department of Public Works around the excavation at all times as specified by DPW - Traffic Regulation.** All flow control required for the Work is the responsibility of the Contractor as per Section 07 - Sewer Flow Control. Flow shall not be diverted to outside of the sanitary sewerage system.

3. The replacement sewer mains and house connections shall be installed at the existing elevations and locations indicated unless changed by the Engineer. The Contractor shall schedule the Contractor's work so that the sewer mains and house connections between two manholes are completed before moving to another location. Sewer flow control shall be in accordance with Section 07 – Sewer Flow Control of these specifications. No main or lines shall be left open overnight; a temporary tie-in shall be made between the end of the new main and the existing, and plugs at manholes shall be removed so as to allow flow to continue until work is resumed.

4. Care shall be exercised during initial excavation of the defective pipe or fittings so as not to disturb the existing pipe and fittings to remain. After the defective pipe has been exposed, the Engineer's resident inspector shall authorize additional pipe to be uncovered as is necessary to allow space for the installation of the new pipe.

5. The defective pipe shall be cut out in such a way that the ends remaining are straight, smooth and free of chips or cracks. The defective pipe shall be removed from the trench and disposed of by the Contractor.

6. Trenching, bedding, and backfill for the new pipe shall be prepared as described in Section 08 - Trenching, Backfilling, and Compaction.

7. New pipe or fittings will be furnished and installed as described herein.

8. The Contractor shall locate all existing underground utilities before beginning excavation of sewer mainlines, service connections and service laterals as shown in the Drawings. The Contractor is solely
responsible for utility location, verification and relocation when required. Carefully protect all existing sewers, water lines, gas lines, sidewalks, curbs, gutters, pavements, electric lines, or other utilities or structures in the vicinity of the work from damage at all times. Where it is necessary for the proper accomplishment of the work to repair, move, and/or replace any such utility or structure, do so in accordance with the provisions set forth in the General Specifications and Special Specifications contained herein. The Contractor is solely responsible for locating, location verification and scheduling any relocation of all utilities. Where service connections or lines from water or gas mains or sewers to the user’s premises are disconnected, broken, damaged, or otherwise rendered inoperative by the Contractor for any reason, the Contractor shall, at Contractor’s own expense, arrange with the respective utility company for any repairs of lines under their jurisdiction, or for any lines not within their jurisdiction; the Contractor shall repair or replace same and restore service to the premises. Any such work to be done at the Contractor’s expense shall be considered incidental to the construction of the sewers and no additional payment will be allowed thereof.

9. Embedment of pipe shall conform to the details in the Drawings and Section 08 – Trenching, Backfilling, and Compaction. Bell holes shall be excavated so that after installation only the pipe barrel shall bear upon the trench bottom. Proper selection and placement of bedding and backfill materials are necessary to minimize deflection of the pipe diameter. No blocking under the pipe will be permitted. Pipe laying shall not precede backfilling by more than 100 feet without approval by the Engineer.

10. The laying of new pipe in finished trenches shall begin at the lowest point, with the spigot ends pointing in the direction of flow. Extreme care shall be exercised to keep pipe in exact alignment and elevation. The interior of the pipe and the jointing seal shall be free from sand, dirt, and trash before installing in the line. Extreme care must be taken to keep the bells of the pipe free from dirt and rocks so joints may be properly assembled without over stressing the bells. The jointing of the pipe shall be done in strict accordance with the pipe manufacturer’s instructions and shall be done entirely in the trench.

11. Lay no pipe except in the presence of an inspector representing the Engineer.

12. Before placing sewer pipe in position in the trench, carefully prepare the bottom and side of the trench, and install any necessary bracing
and sheeting as shown on the Sewerage and Water Board of New Orleans Standard Drawings and Section 07 - Trenching, Backfilling, and Compaction.

13. Bedding and foundations shall conform with the Drawings. Maximum trench width and standard sheeting and bracing shall comply with Sewerage and Water Board of New Orleans Standard Drawing Number 4697-E5A. Foundation lumber shall only be placed in locations where existing lumber is removed by the Contractor during excavation. If no foundation lumber is removed, the Contractor shall not place any new lumber.

14. Do not allow water to run or stand in the trench while pipe laying is in progress or before the trench has been backfilled. Do not at any time open up more trench than available pumping facilities are able to dewater.

15. Carefully inspect each piece or pipe and special fitting before it is placed, and lay no defective pipe in the trench. Pipe laying shall proceed upgrade, starting at the lower end of the grade and with the bells upgrade. When pipe laying is not in progress, keep the ends of the pipe tightly closed with a temporary plug approved by the Engineer.

16. Bell holes shall be large enough to allow ample room for pipe joints to be properly made. Cut out bell holes not more than 2 joints ahead of pipe laying. Carefully grade the bottom of the trench between bell holes so that each pipe barrel will rest on a solid foundation for its entire length. Lay each pipe joint to form a close concentric joint with adjoining pipe and so as to avoid sudden offsets or inequalities in the flow line.

17. Wherever replacement pipe materials are joined, cut the replacement pipe to a length ½” less than the overall length of the section being replaced. Then place the pipe in the trench, thoroughly clean the ends of existing and replacement pipe, and install repair couplings as specified below. After installation, check the work to ensure that the replacement pipe is vertically and horizontally aligned with the existing pipe and that the elastomeric couplings and stainless steel shear ring are tight and evenly fitted.

18. Each time the work on the sewer is halted for more than one (1) hour, the ends of the pipe shall be sealed to prevent foreign material from entering the pipe. As the work progresses, thoroughly clean the interior
of the pipe in place. After each line of pipe has been laid, carefully inspect and remove all earth, trash, rags, and other foreign matter from the interior.

19. After the joints have been completed, they shall be inspected before they are covered. The pipe shall meet the test requirements for watertightness; immediately repair any leak or defect discovered at any time after the completion of the work. Take up any pipe that has been disturbed after joints were formed, clean and remake the joints, and relay the pipe; this shall be done at the Contractor’s expense. Carefully protect all pipe in place from damage until backfill operations have been completed.

20. Service laterals are to be replaced to the property line any time a wye or tee connection is replaced, or as directed by the Engineer. Do not begin the backfilling of trenches until the pipe in place has been inspected and approved by the Engineer.

21. DELIVERY, STORAGE AND HANDLING

a. Care shall be taken in shipping, handling and laying to avoid damaging the pipe and fittings. Extra care will be necessary during cold weather construction. Any pipe damaged in shipment shall be replaced as directed by the Engineer.

b. Any pipe or fitting showing a crack or which has received a blow that may have caused an incipient fracture, even though no such fracture can be seen, shall be marked as rejected and removed at once from the site.

c. While stored, pipe shall be adequately supported from below at not more than 3-ft intervals to prevent deformation. Pipe shall not be stacked higher than 6-ft. Pipe and fittings shall be stored in a manner which will keep them at ambient outdoor temperatures. Temporary shading as required for stored PVC pipe shall be provided by the Contractor at no expense to the Board. Simple covering of the pipe and fittings which allows temperature buildup when exposed to direct sunlight will not be permitted.

22. LAYING POLYVINYL CHLORIDE (PVC) PIPE AND FITTINGS

a. Polyvinyl chloride (PVC) gravity sewer pipe shall be laid in accordance with the instructions of the manufacturer and as specified herein. No single piece of pipe shall be laid unless it is
straight. The centerline of the pipe shall not deviate from a straight line drawn between the centers of the openings at the ends of the pipe by more than 1/16-in per foot of length. If a piece of pipe fails to meet this requirement check for straightness, it shall be rejected and removed from the site.

b. The Contractor shall use care in handling and installing pipe and fittings. Storage of pipe on the job site shall be done in accordance with the pipe manufacturer's recommendation and with approval of the Engineer. Under no circumstances shall pipe or fittings be dropped either into the trench or during unloading. The interior of the pipe shall be kept clean of oil, dirt and foreign matter, and the machined ends and couplings shall be wiped clean immediately prior to jointing.

c. The Contractor shall use a PVC pipe cutter where necessary to cut and machine all PVC pipe in the field. A "full insertion mark" shall be provided on each field cut pipe end. Field-cut pipe shall be beveled with a beveling tool made especially for plastic pipe.

d. Each length of pipe and each fitting shall be marked with the nominal size, the SDR designation, the name of the manufacturer or his trademark, and the date of manufacture.

e. Rubber gaskets, if shipped separately from the pipe, shall be marked with manufacturer's identification sizes and proper insertion direction.

Strip for Pressure Vessels and for General Applications.

g. If any defective pipe is discovered after it has been installed, it shall be removed and replaced with a sound pipe in a satisfactory manner at no additional cost to the Board.

23. CLEANING

Before being laid in place, each section of pipe and fitting shall be thoroughly cleaned. If the entire length of pipe between one or more manholes are replaced, then at the conclusion of the work, the Contractor shall thoroughly clean all of the pipe by flushing with water or other means to remove all dirt, stones, pieces of wood, or other material which may have entered during the construction period. Debris cleaned from the lines shall be removed from the lowest outlet. If, after this outlet cleaning, obstructions remain, they shall be removed.

25. SEWER HOUSE CONNECTIONS

a. Sewer house service connections shall be six inch pipe extended from the main to the property line. The use of saddles to connect the house service to the main will not be permitted unless the pipe has been previously lined; all such connections will be made using full bodied wye or tee fittings.

b. The Contractor shall not damage the existing lined pipe when removing the original pipe from around the liner.

c. The Engineer has identified potential locations for point repairs. The Contractor is responsible for verifying locations in reference to the main line (distance from the upstream and downstream manholes). Service line point repairs are performed only on those portions of service lines which are located in an easement or right-of-way; no repairs to service lines shall be performed on private property.

d. The Contractor shall ensure that wastewater does not back-up into private property. The Contractor shall establish a plan to prevent sewer back-ups when reconnections are not accomplished in a timely manner.

e. The Contractor shall complete re-connection of all service lines within 24 hours.
f. The Contractor shall inspect the service line at the repair location to determine that all pipe requiring replacement within 10 feet of the repair has been replaced before reconnecting the service line and backfill operations begin.

g. Service connections shall be installed at a minimum slope of 2 percent or as approved by the Engineer. The limits of the service connections shall be determined or verified by the Engineer in the field.

C. MEASUREMENT AND PAYMENT

1. Sewer Main Point Repair

   a. Measurement: Measurement shall be on a per each for the first 12 feet of pipe and linear foot basis thereafter for each foot in excess of the initial 12 feet, measured to the nearest whole foot of sanitary sewer line. Measurement will be made from the connecting point at the upstream location to the connecting point at the downstream location. Measurement of the sewer line depth shall be the invert of the sewer line at the center of the point repair.

   b. Payment: Payment shall be made at the unit price bid per linear foot of sanitary sewer point repair in accordance with these Specifications contained herein. This price and payment shall be full compensation for all material including fitting, labor, equipment, watertight connections, removal of existing pavement, excavation, bedding, backfill traffic control and devices, disposal of excess excavation material, and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Proposal Form. Sewage Flow Control and Diversion Pumping shall be paid via a separate pay item.

2. 6" Service Laterals

   a. Measurement: Measurement shall be on a per linear foot basis, measured to the nearest whole foot on sanitary sewer service lateral lines. Measurement will be made from the connecting point at the wye, tee, or saddle to the property line or re-connection point identified by the engineer.
b. Payment: Payment shall be made at the unit price bid per linear foot of sanitary sewer service lateral lines replaced in accordance with these Specifications contained herein. The service lateral lines shall be replaced from the connection point at the wye, tee or saddle to the property line or re-connection point identified by the Engineer. This price and payment shall be full compensation for all material, labor, equipment, watertight connections, removal of existing pavement, excavation, bedding, backfill, traffic control and devices, disposal of excess excavation material, and any other related or incidental items required to complete this item of work for which separate payment is not provided for under other items in the Proposal Form.

4-04 MANHOLE CONNECTIONS

A. Where it is necessary to connect the sewers to existing manholes, the existing short bell pieces remaining in the wall of the manhole shall be broken out and new short bell pieces inserted to the full thickness of the walls and permanently grouted, as shown on the Drawings (see Board Dwg. No. 6312-E-5). The annular space between the pipe and the wall of the structure shall be grouted with a type three, high early strength cement, or quick setting EMBECO or approved equal.

B. If a PVC pipe is to be connected to a manhole or other concrete brick structure, 3M CR202 elastomeric grout and jute or approved equal shall be used in place of the cement grout. As an alternative, the Contractor may use a sand-impregnated PVC stub, grouted with cement grout as specified above, for the manhole connection. There shall be no direct pay for connecting the new sewer main to an existing manhole.

C. Place a manhole adapter supplied by Fernco or approved equal on the pipe before mortaring around the pipe. Shape or reshape the bottom of the manholes as necessary to fit the invert of the pipe in the manner specified elsewhere.

***END OF SECTION 04***
SECTION 05
CURED-IN-PLACE LINER

5-01 GENERAL

The Contractor shall furnish all labor, materials, equipment and supervision for the CIPP lining of all existing sewer mains between manholes. The work shall also consist of internal reinstatement of sewer service laterals complete with cure-in-place lining. The Contractor shall provide the necessary dewatering and bypassing required during execution of this work at no direct pay.

The Contractor shall furnish an extended warranty for liner materials from the liner manufacturer for a total of 5 years from the date final Acceptance.

The Sewerage and Water Board of New Orleans will determine the ability of the lowest bidder to install CIPP Liner as specified herein. Along with other factors to be considered by the Board’s staff will be the contractor’s experience in sewer line repairs by CIPP liner installation and the contractor’s history of linear feet of furnished product including the sizes applicable for this project. The contractor or subcontractor should also be licensed by the system manufacturer. Should the lowest bidder be found “non-responsive” then an informal hearing will be held to provide lowest bidder the opportunity to refute the reasons for the disqualification.

All work to be done on Sewerage Systems will be as shown on the plans and as directed by the Director. All workmanship, materials and tests shall conform to Section D of the General Specifications of the Sewerage and Water Board, S&WB Standard Drawings, and Sewerage and Water Board Standard Drawing No. 7260-SWD, except as noted hereinafter. The Contractor shall notify the Chief of Engineering of the Sewerage and Water Board in writing not less than three or more than ten working days in advance of starting the job, in order to allow for scheduling the inspection of the work. Failure to do so prior to starting work will result in the Contractor not being paid for installment of CIPP without Sewerage and Water Board inspection.

All workmanship and materials required to perform this work, shall conform to the current General Specifications of the Sewerage and Water Board and the Department of Public Works except as noted hereinafter.

The Contractor performing work covered in this section shall be required to coordinate his operations with the Sewerage and Water Board and other utilities prior to making any excavation. The Contractor shall exercise caution in making excavations to avoid damage to these services and other utilities.

The Contractor will be furnished with a list of the locations of water and sewer house
connections from the Sewerage and Water Board. It will be the Contractor's responsibility to verify the location of these so as to avoid damage. Furnishing this information should not be construed as a waiver of the Contractor's liability, but rather an attempt on the part of the Board to minimize the Contractor's hazard. The existing house connections submitted in the lists are from S&WB records and could vary from the actual location. Any damage to the existing water, sewer and drain connections resulting from negligence will be repaired by the S&WB at the expense of the Contractor. The Contractor is also responsible for damage to other utilities and the property of others.

Existing sewer service connections shall be internal reinstatements with the cure in place lining.

5-02 MATERIAL

A. LINER

1. All CIPP lining products shall comply with the latest versions of ASTM F1216 - Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube, or ASTM F1743 - Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP). The Contractor shall furnish a general purpose unsaturated, polyester or thermosetting vinyl ester resin and catalyst system that provides cured physical strengths specified herein.

2. The flexible tube shall consist of one or more layers of needled felt or equivalent woven or non-woven material manufactured under quality controlled conditions set by the manufacturer, and be capable of carry resin and withstanding installation pressures and curing temperatures. The tube shall be compatible with the resin system used, and shall contain no intermediate layers that delaminate after resin curing. It shall not be possible to separate any layers with a probe or knife blade such that the layers separate cleanly or the probe or knife blade moves freely between the layers.

3. The flexible tube material shall be able to stretch to fit irregular pipe sections and negotiate bends. The tube shall be fabricated to a size that when installed will neatly fit the internal circumference and length of the existing sanitary sewer main lines and service lateral lines when installed. Allowance shall be made for circumferential stretching during insertion so that the final cured product is snug against the wall of the host pipe and free of fins and buckles.

4. The resin used shall be a thermoset resin system that is compatible with the CIPP installation. The resin shall be able to cure in the presence of water and the initiation temperature for cure shall not be more than 180°F.
5. The liner thickness shall be sized for a minimum hydrostatic and earth load of 8 feet. The earth load and hydrostatic load shall be increased to the manhole depth for bury depths in excess of 8 feet unless otherwise noted.

6. The wall color of the interior pipe surface of the CIPP after installation shall not be of a dark or nonreflective nature that could inhibit proper CCTV inspection.

7. The liner shall be structurally designed for a fully deteriorated host pipe/direct bury condition, prism loading, and AASHTO Standard Specification for Highway Bridges HS-20-44 live loading due to traffic. The liner shall be designed for the following conditions:

<table>
<thead>
<tr>
<th>DESIGN PARAMETER</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Service Life</td>
<td>50 years</td>
</tr>
<tr>
<td>Soil Density</td>
<td>120 pounds per cubic foot (lb/cf)</td>
</tr>
<tr>
<td>Soil Modulus</td>
<td>1000 pounds per square inch (psi)</td>
</tr>
<tr>
<td>Minimum Safety Factor</td>
<td>2.0</td>
</tr>
<tr>
<td>Ovality Factor</td>
<td>2%</td>
</tr>
<tr>
<td>Maximum Deflection</td>
<td>5% in vertical axis</td>
</tr>
<tr>
<td>Long Term Modulus Reduction Factor</td>
<td>50%</td>
</tr>
</tbody>
</table>

8. The final CIPP liners shall conform to the minimum structural standards as listed below in accordance with the latest versions of ASTM D790 - Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials and ASTM F1216 - Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube:

<table>
<thead>
<tr>
<th>FINAL CIPP</th>
<th>MINIMUM REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexural Stress</td>
<td>4,500 psi</td>
</tr>
<tr>
<td>Short Term Flexural Modules</td>
<td>250,000 psi</td>
</tr>
<tr>
<td>Long Term Flexural Modules</td>
<td>125,000 psi</td>
</tr>
</tbody>
</table>

9. The liner shall be fabricated from materials which when complete are chemically resistant to and will withstand internal exposure to domestic sewage having a pH range of 5 to 11 and temperatures up to 125°F. CIPP liners shall meet the minimum chemical resistance requirements in accordance with the latest version of ASTM F1216 - Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube.

10. The liner shall be furnished to the following minimum thickness, or the thickness based upon design criteria as specified herein, whichever is greater:
<table>
<thead>
<tr>
<th>Pipe Diameter (inch)</th>
<th>Depth of Sewer Invert (feet)</th>
<th>CIP Nominal Thickness (millimeter) (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>0 to 20</td>
<td>4.5 (0.177)</td>
</tr>
<tr>
<td>8</td>
<td>0 to 20</td>
<td>6.0 (0.236)</td>
</tr>
<tr>
<td>10</td>
<td>0 to 15</td>
<td>6.0 (0.236)</td>
</tr>
<tr>
<td>10</td>
<td>15.1 to 20</td>
<td>7.5 (0.295)</td>
</tr>
<tr>
<td>12</td>
<td>0 to 10</td>
<td>6.0 (0.236)</td>
</tr>
<tr>
<td>12</td>
<td>10.1 to 20</td>
<td>7.5 (0.295)</td>
</tr>
<tr>
<td>15</td>
<td>0 to 10</td>
<td>7.5 (0.295)</td>
</tr>
<tr>
<td>15</td>
<td>10.1 to 15</td>
<td>9.0 (0.354)</td>
</tr>
<tr>
<td>15</td>
<td>15.1 to 20</td>
<td>10.5 (0.413)</td>
</tr>
<tr>
<td>18</td>
<td>0 to 10</td>
<td>9.0 (0.354)</td>
</tr>
<tr>
<td>18</td>
<td>10.1 to 15</td>
<td>10.5 (0.413)</td>
</tr>
<tr>
<td>18</td>
<td>15.1 to 20</td>
<td>12.0 (0.472)</td>
</tr>
<tr>
<td>21</td>
<td>0 to 10</td>
<td>10.0 (0.374)</td>
</tr>
<tr>
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<td>10.1 to 20</td>
<td>15.0 (0.555)</td>
</tr>
<tr>
<td>24</td>
<td>0 to 10</td>
<td>12.0 (0.472)</td>
</tr>
<tr>
<td>24</td>
<td>10 to 22</td>
<td>15.0 (0.590)</td>
</tr>
<tr>
<td>27</td>
<td>0 to 10</td>
<td>12.0 (0.465)</td>
</tr>
<tr>
<td>27</td>
<td>10.1 to 20</td>
<td>18.0 (0.705)</td>
</tr>
<tr>
<td>30</td>
<td>0 to 10</td>
<td>15.0 (0.590)</td>
</tr>
<tr>
<td>30</td>
<td>10 to 22</td>
<td>21.0 (0.817)</td>
</tr>
<tr>
<td>36</td>
<td>0 to 20</td>
<td>24.0 (0.921)</td>
</tr>
</tbody>
</table>

B. EXPANDING HYDROPHILIC RUBBER JOINT SEAL
1. The rubber joint seal shall be an extended hydrophilic rubber compounded from chloroprene (Neoprene) rubber and hydrophilic resin, which expands on contact with water.

2. The rubber joint seal shall be bonded with adhesive on one face to hold it in place during assembly.

3. On contact with water, the rubber shall swell a minimum of 8 times its original volume, if necessary, and mold itself to completely fill any gaps and exert pressure evenly to ensure the seal. High compression or bolt up forces shall not be necessary to effect a complete and watertight seal.

C. CHEMICAL GROUT

1. The chemical grout shall be a hydrophilic liquid that is water reactive and will change from a free-flowing liquid to a water impermeable elastomeric solid upon injection to stop excessive infiltration at the point where the CIPP liner enters the manholes. A reaction (curing) which produces a chemically stable and non-biodegradable, tough, flexible gel. The chemical grout shall be a urethane liquid in uncured form suitable for pumping with a moderate viscosity and variable gelling and curing times. The polyurethane chemical grout shall be Scotch-Seal 5610 by 3M, Avanti Av-254, or approved equal.

2. Acceptable urethane base gel chemical sealing materials shall meet or exceed the following requirements:

   a. The liquid shall have a solids content of 80% and a specific gravity of 1.04 to 1.11.
   b. The liquid shall have a viscosity of 300 to 1,000 centipoise at 70°F.
   c. The water used to react to the pre-polymer should have a pH of 5 to 9.
   d. Gel times shall be in accordance with the manufacturer’s recommendations.
   e. The grout shall have the ability to increase viscosity, density, gel strength and resistance to shrinkage by the use of additives in the reaction water.

3. A reinforcing agent shall be added to the reaction water at the manufacturer’s suggested rate. This agent is intended to increase the polyurethane gel’s resistance to wet/dry cycles, freeze/thaw cycles, and solid movement stresses. The reinforcing agent shall be appropriate for the specific grout product that is to be used.

4. Additional chemical grout additives such as catalysts or accelerators as needed to make the grout function properly shall be as manufactured by 3M, Avanti, or approved equal and shall be used in a manner approved by the manufacturer.
5-03 EXECUTION

A. DELIVERY, STORAGE, AND HANDLING

1. The Contractor shall comply with the pipe manufacturer’s printed recommendations for delivery, storage, and handling of all products.

2. The Contractor shall keep products safe from damage. The Contractor shall promptly remove damaged products from the job site and replace damaged products with undamaged goods at no additional cost to the Board.

B. PRIVATE SERVICE LINE SHUTDOWN

1. When it is necessary to shut down a private sewer service line while work is in progress and before the service lines are reconnected, the residents are to be notified by the Contractor not more than one week prior to and again not more than 24 hours immediately prior to the shutdown. No sewer or water service is to remain out of service for more than a period of eight (8) hours, and not before 8:00 a.m., or after 6:00 p.m. Sewage from the services or main line shall be discharged or diverted into an adjacent or downstream sewer only.

C. PREPARATION

1. The Contractor shall carry out his operations in accordance with all OSHA and manufacturer’s safety requirements. Particular attention is drawn to those safety requirements involving the entering of confined spaces.

2. The Contractor shall take field measurements to verify the existing pipe diameter, ovality and length prior to manufacturing liners. The manufacturer shall incorporate these measurements into the manufacturing process of the liner. The outside of the flexible tube shall be marked along its full length at regular intervals not to exceed five (5) feet.

3. It shall be the responsibility of the Contractor to remove all internal debris such as solids and roots and clean the existing sewer line prior to installation of the liner.

4. Inspection of existing sewer lines shall be performed by experienced personnel trained in locating breaks, obstacles and service connections by CCTV. The interior of the line shall be carefully inspected to determine the location of any conditions, which may prevent proper installation of the CIPP liner into the main lines or service lateral lines, and such conditions shall be noted so they
can be corrected. A videotape and log shall be kept of conditions that need to be corrected on the existing sewer line.

5. The Contractor shall provide for the flow of sewage around the section or sections of pipe designated for lining as specified in Section 07 Sewer Flow Control. The Contractor shall be completely responsible for preventing service line back-ups during the CIPP liner installation and curing periods.

6. The Contractor shall clear the line of obstructions such as solids, protruding gaskets, dropped joints, protruding service connections or collapsed pipe that will prevent the insertion of the liner, as noted during pre-rehabilitation CCTV inspection. If inspection reveals an obstruction that cannot be removed by conventional sewer cleaning equipment, the Contractor, upon approval from the Engineer, shall make a point repair to uncover and remove or repair the obstruction prior to lining.

7. Location and distance from the upstream and downstream manholes of all internal and external point repairs shall be determined before rehabilitation commences.

8. Only those sewer services that are live and active shall be repaired, or reinstated after the sewer main has been lined or replaced. The Contractor shall note that not all sewer lines segments have been televised in their entirety due to obstructions blocking further entry, etc. These obstructions shall be cleared to allow CCTV viewing of the entire segment length before lining is commenced. The number of service connections on some sewer segments may exceed the number of buildings actually served. It is the Contractor's responsibility to determine through dye testing, CCTV inspection or other acceptable methods, the services that are live and require reinstatement prior to commencing lining of the sewer main. Services that are confirmed to be inactive shall not be reinstated. Services that are inactive, but reinstated, shall be plugged at no additional expense to the Board.

D. INSTALLATION

1. Installation shall be accomplished by inversion or winched-in-place methods and cured in place by ambient temperature or circulating hot water or steam to produce a hard, jointless, impermeable pipe repair.

2. Installation procedures shall be in accordance with the latest versions of ASTM F1216 - Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube or ASTM F1743 - Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP), and the manufacturer’s recommendations.
3. The Contractor shall designate a location where the reconstruction tube will be vacuum impregnated prior to installation. The Contractor shall allow the Engineer to inspect the materials and “wet out” procedure. Sufficient excess resin shall be used in accordance with the latest version ASTM F1216. A roller system shall be used to uniformly distribute the resin throughout the tube.

4. Before installation begins, the tube manufacturer shall provide the minimum pressure required to hold the tube tight against the existing conduit, and the maximum allowable pressure so as not to damage the tube. Once the installation has started the pressure shall be maintained between the minimum and maximum pressures until the installation has been completed.

5. The curing of the CIPP must take into account the existing pipe material, the resin system, and ground conditions (temperature, moisture level, and thermal conductivity of soil). The post-cure temperature should be held for a period as recommended by the resin manufacturer, during which time the recirculation of the water and cycling of the head source to maintain the temperature continues.

6. The bond between all CIPP layers shall be strong and uniform. All layers, after cure, shall be completely saturated with resin.

7. The CIPP shall be cooled to a temperature below 100°F before relieving the hydrostatic head. Care should be taken in release of the static head so that a vacuum will not be developed that could damage the newly installed liner.

8. Where practicable, liners can be installed in continuous runs through manholes where there are two or more continuous sewer segments requiring lining, especially to connect several short segments with continuous lining.

9. The temperature of water discharged to the sewer system from processing liners shall not exceed 125°F maximum, or the level allowed by State or local standards if less than 125°F.

10. The Contractor shall furnish on-site on a continuous basis one (1) additional operational robotic cutter assembly train and key spare components as a “stand-by” unit in the event of primary equipment breakdowns.

E. POST INSTALLATION

1. After installation of the liner in a full segment pipe, a minimum of one (1) inch of the liner material shall be left to protrude from the wall of the entrance and the exit manhole.
2. The Contractor shall install a joint seal at all manhole inlet and outlet connections to seal the area where the line enters or leaves each manhole. The Contractor shall use grout to dress up around the end of the liner. This space may be sealed with a mechanical seal, chemical seal, or combination of both. The method used shall be as approved by the Engineer.

3. The upstream and downstream manholes shall be inspected and any holes or voids in the manhole wall immediately surrounding the new liner shall be sealed with a hydrophilic rubber joint seal and chemical grout as specified herein. The Engineer shall approve the seal.

4. Where liners of any type are installed in two or more continuous manhole segments, the liner invert through the trough of intermediate manholes shall be left intact. Final finishing of the installation in those intermediate manholes shall require removal of the top of the exposed liner and neat trimming of the liner edge where it touches the lip of the manhole bench.

5. Portions of any piece of liner material removed during installation shall be available for inspection and retention by the Engineer. Any unrestrained samples shall not be used for testing purposes.

6. The Contractor shall reinstate openings for all drop assemblies after relining the mainline sewer.

7. Service connections shall be reinstated without excavation, utilizing a remotely controlled cutting device monitored by a CCTV camera. The coupons from this action shall be collected down stream and submitted to the Engineer. The Contractor shall provide certification that he has the required equipment to reinstate the service connections as specified herein.

8. After the liner has been installed, in the event that the Contractor chooses to temporarily reinstate service lines, all active existing services may be temporarily reinstated by punching through the liner from the interior of the pipeline. Temporary reinstatements shall allow normal flow from the service line into the mainline. Final reinstatement of all active services within a rehabilitated line segment shall be performed internally using a robotic cutter within 48 hours of curing and buffed to a minimum of 95% of the original service opening size. The finished opening shall contain no jagged edges.

F. TESTING

1. During the cool down process, after installation and curing of the liner, the Contractor shall perform tests on the sewer line to determine if it is watertight. No separate payment will be made for testing.
2. The Contractor shall furnish all necessary equipment to conduct the test.

3. The sewer shall be tested using either exfiltration test methods in accordance with the latest version of ASTM F1216 – Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated tube or air test methods as specified herein.

4. Air Testing
   
a. Each section of new CIPP liner shall be tested between successive manholes by plugging and bracing all openings in the pipe and the upper ends of all service laterals. Prior to insertion in the sewer, each plug shall be checked with a soap solution to detect any air leakage. If any leaks are found, the air pressure shall be released and the leaks eliminated or the plug replaced.

b. The test of the pipe and service laterals shall be conducted in the presence of the Engineer. Testing of pipe shall be performed in accordance with the latest version of ASTM F-1417.

c. It is the Contractor’s responsibility to have the pipe clean and to determine the ground water level prior to testing the pipe.

d. Air pressure in the sewer shall be slowly increased to 4.0 psi above groundwater pressure (1.0 psi for each 2.3 feet of water elevation above the highest point of the pipe). Do not allow the air pressure at any point in the pipe to reach 9.0 psi under any circumstances. Allow the pressure to stabilize for 5 minutes, then reduce the pressure to 3.5 psi above groundwater pressure and start the test. Stop the air release and record the decrease in pressure over time.

e. The time taken for the pressure to decrease from 3.5 to 2.5 psi above groundwater pressure shall be equal to or greater than the time below.

<table>
<thead>
<tr>
<th>Pipe Diameter (in.)</th>
<th>Minimum Time Lapse (min:sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100 ft</td>
</tr>
<tr>
<td>8</td>
<td>7:34</td>
</tr>
<tr>
<td>18</td>
<td>17:00</td>
</tr>
<tr>
<td>21</td>
<td>19:50</td>
</tr>
</tbody>
</table>
f. The time for the pressure to fall from 3.5 to 2.5 psi, both above groundwater pressure, shall no be less than 10 seconds regardless of pipe diameter.
g. If the time is less than the allowable time, the pipe will be considered defective and shall be repaired and re-tested at no additional cost to the Board.
h. Safety Provisions: Securely brace the plugs used to close the sewer pipe for the air test in order to prevent the unintentional release of a plug, which can become a high velocity projectile. Locate gauges, air piping manifolds, and valves at the top of the ground. No one shall be permitted to enter a manhole where a plugged pipe is under pressure 4 pounds (gauge) air pressure develops a force against the plug in a 12-inch diameter pipe of approximately 450 pounds. Provide a safety release device set to release at 10 psi between the air supply and the sewer under test.
i. Regardless of the outcome of any test, repair any noticeable leak.

5. After completing lining and service reinstatement, every liner shall be CCTV inspected, segments not fully conforming to these Specifications must be immediately brought to the Engineer’s attention. The Contractor shall furnish a written proposed method of correction within 24 hours for approval by the Engineer.

6. The Board will have a certified independent testing lab analyze finished liner samples taken from the restrained sample located at the manhole invert. The Contractor shall furnish samples directly to the Engineer within 2 days after installation.

   a. A minimum of one (1) sample shall be taken from every four (4) segments installed. The restrained samples shall be a minimum of one (1) foot in length. The Contractor shall place a sample mold aligned with and the same size as the existing sewer in such a manner as to allow the installation of the liner material through the restraining sample mold. This sample mold shall be made of SDR 35 PVC, C900 PVC or an Engineer approved equal.
   b. The resin-impregnated tube shall be installed and cured through this restraining mold in order to obtain a liner sample representative of the actual liner physical characteristics. All samples shall be labeled with the project number, date of installation, pertinent manhole numbers, nominal thickness, flow direction, and location of installation. The Contractor and Engineer shall acknowledge receipt and transfer of all samples.
c. The independent testing lab will conduct tests in accordance with the latest versions of the ASTM standards for flexural strength, flexural modulus and wall thickness.

d. A sample will be provided by the Contractor to the Engineer for all CIPP installation over 18” inches in diameter to be tested in accordance with ASTM standards.

G. ACCEPTANCE

1. The finished CIPP liner shall be fully rounded and free from visible defects, including but not limited to damage, deflection, holes, delamination, ridges, cracks, uncured resin, foreign inclusions or other objectionable defects as determined by the Engineer.

2. There shall be no visible infiltration through the liner, or around the liner at manhole or service line connections. The Contractor shall be required to repair any visible leaks in a manner approved by the Engineer.

H. NON-CONFORMING WORK

1. If the thickness, flexural strength, or flexural modulus of elasticity of the installed CIPP liner are less than 80% of the approved design values, the product is considered unacceptable. A method of repair or replacement shall be submitted for review and approval by the Engineer. All work required to remedy non-conforming work shall be at no additional expense to the Board.

2. For all instances, as described in this Subsection, other than thickness, flexural strength, and flexural modulus of elasticity, where the CIPP liner is deemed unacceptable, the Contractor shall submit a method of repair or replacement for review and approval by the Engineer. All work required to remedy non-conforming work shall be at no additional expense to the Board.

3. Where post-installation thickness measurements and/or physical property testing is performed, payment for installed cured-in-place pipe shall be made in accordance with the following:

   a. If the thickness, flexural strength, or flexural modulus of elasticity of the installed CIPP are 90% or greater than the specific values, full payment shall be made accordingly.
b. If the thickness, flexural strength, or flexural modulus of elasticity of the installed CIPP are between 90% and 80% of the specified values, with all at least 80% of the specified values, payment shall be based on:

Adjusted Unit Price = \text{Unit Price Bid} \times \text{Value Factor}, where:

\text{Value Factor} = \left[ * \text{thickness} + * \text{flexural strength} + * \text{flexural modulus of elasticity} \right] / 3.

* Insert actual measured or tested result expressed as a percentage of specified value. Maximum allowable percentage is 100%.

4. If a defect repair is required after the liner has cured, a short segment tube shall be used to splice across the defect repair. The overlap on each defect shall be twice the diameter, or 12 inches, whichever is greater.

I. ABANDONMENT OF SEWER RELINING

If pre-installation CCTV inspection reveals that no sewer relining is required in the pipe segment between manholes, due to point repairs or relining having been performed since the last televised inspection, then sewer relining shall be abandoned.

5-04 MEASUREMENT AND PAYMENT

A. Sanitary Sewer Rehabilitation by Full Segment Cured-in-Place Lining

1. Measurement: Measurement shall be on a per linear foot basis between centerlines of consecutive manholes for rehabilitation of nominal diameter line segments as shown on the bid schedule lined by cured-in-place lining products.

2. Payment: Payment shall be made at the unit price bid per linear foot in accordance with these specifications; and shall include pre- and post-installation television inspection, cleaning, setup activities (e.g. safety procedures, sewage flow control, traffic control, preparation and insertion of liner, etc.), curing of liner, cutting liner ends and sealing liner in manholes, testing, initial reinstatement to 75% of full opening of all active service connections, clean up, and any other related items necessary to complete this item of work.
B. Sanitary Sewer Service Internal Reinstatement

1. Measurement: Measurement for the sanitary sewer service internal reinstatements by robotic devices shall be made on a per each reinstated service basis.

2. Payment: Payment for the sanitary sewer service internal reinstatements shall be made at the unit price bid per each in accordance with these specifications; and shall include post-lining television inspection, internal robotic equipment, identification of active service connection locations, final “buffing out” to full opening diameter, sewage flow control (except diversion pumping), traffic control, and any other related items necessary to complete this item of work.

***END OF SECTION 05***
SECTION 06

CURED-IN-PLACE LATERAL RECONSTRUCTION FROM MAINLINE

6-01 GENERAL

The Contractor shall furnish all labor, materials, equipment and supervision for the reconstruction of a service lateral and connection, normally without excavation, by installation of resin impregnated, flexible, non-woven felt tube inverted into the existing lateral connecting utilizing a pressure apparatus positioned in the mainline pipe. Curing shall be accomplished by use of ambient cure resin or other approved method to cure the resin into a hard impermeable cured-in-place pipe liner. When cured, the liner should have a watertight connection seal at the mainline and extend over the length of the service lateral in a continuous one-piece structural pipe-within-a-pipe. The Contractor shall provide the necessary dewatering and bypassing required during execution of this work at no direct pay.

The Contractor shall furnish an extended warranty for liner materials from the liner manufacturer for a total of 5 years from the date final Acceptance.

The Sewerage and Water Board of New Orleans will determine the ability of the lowest bidder to install CIPP Lateral Lining as specified herein. Along with other factors to be considered by the Boards staff will be the contractor’s experience in sewer line repairs by CIPP liner installation and the contractor’s history of linear feet of furnished product including the sizes applicable for this project. The contractor or subcontractor should also be licensed by the system manufacturer. Should the lowest bidder be found “non-responsive” then an informal hearing will be held to provide lowest bidder the opportunity to refute the reasons for the disqualification.

All work to be done on Sewerage Systems will be as shown on the plans and as directed by the Director. All workmanship, materials and tests shall conform to Section D of the General Specifications of the Sewerage and Water Board, S&WB Standard Drawings, and Sewerage and Water Board Standard Drawing No. 7260-SWD, except as noted hereinafter. The Contractor shall notify the Chief of Engineering of the Sewerage and Water Board in writing not less than three or more than ten working days in advance of starting the job, in order to allow for scheduling the inspection of the work. Failure to do so prior to starting work will result in the Contractor not being paid for installment of CIPP without Sewerage and Water Board inspection.

All workmanship and materials required to perform this work, shall conform to the current General Specifications of the Sewerage and Water Board and the Department of Public Works except as noted hereinafter.
The Contractor performing work covered in this section shall be required to coordinate his operations with the Sewerage and Water Board and other utilities prior to making any excavation. The Contractor shall exercise caution in making excavations to avoid damage to these services and other utilities.

The Contractor will be furnished with a list of the locations of water and sewer house connections from the Sewerage and Water Board. It will be the Contractor's responsibility to verify the location of these so as to avoid damage. Furnishing this information should not be construed as a waiver of the Contractor's liability, but rather an attempt on the part of the Board to minimize the Contractor's hazard. The existing house connections submitted in the lists are from S&WB records and could vary from the actual location. Any damage to the existing water, sewer and drain connections resulting from negligence will be repaired by the S&WB at the expense of the Contractor. The Contractor is also responsible for damage to other utilities and the property of others.

6-02 MATERIAL

A. LINER

1. All CIPP lining products shall comply with the latest versions of ASTM F1216 - Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube, or ASTM F1743 - Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP). The Contractor shall furnish a general purpose unsaturated, polyester or thermosetting vinyl ester resin and catalyst system that provides cured physical strengths specified herein.

2. The flexible tube shall consist of one or more layers of needled felt or equivalent woven or non-woven material manufactured under quality controlled conditions set by the manufacturer, and be capable of carry resin and withstanding installation pressures and curing temperatures. The tube shall be compatible with the resin system used, and shall contain no intermediate layers that delaminate after resin curing. It shall not be possible to separate any layers with a probe or knife blade such that the layers separate cleanly or the probe or knife blade moves freely between the layers.

3. The flexible tube material shall be able to stretch to fit irregular pipe sections and negotiate bends. The tube shall be fabricated to a size that when installed will neatly fit the internal circumference and length of the existing sanitary sewer main lines and service lateral lines when installed. Allowance shall be made for circumferential stretching during insertion so that the final cured product is snug against the wall of the host pipe and free of fins and buckles. The liner shall be a one-piece joint-less tube that will seal at the mainline interface.
4. The resin used shall be a thermoset resin system that is compatible with the CIPP installation. The resin shall be able to cure in the presence of water and the initiation temperature for cure shall not be more than 180°F.

5. The liner thickness shall be sized for a minimum hydrostatic and earth load of 8 feet. The earth load and hydrostatic load shall be increased to the main depth for bury depths in excess of 8 feet unless otherwise noted.

6. The wall color of the interior pipe surface of the CIPP after installation shall not be of a dark or nonreflective nature that could inhibit proper CCTV inspection.

7. The liner shall be structurally designed for a fully deteriorated host pipe/direct bury condition, prism loading, and AASHTO Standard Specification for Highway Bridges HS-20-44 live loading due to traffic. The liner shall be designed for the following conditions:

<table>
<thead>
<tr>
<th>DESIGN PARAMETER</th>
<th>VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Service Life</td>
<td>50 years</td>
</tr>
<tr>
<td>Soil Density</td>
<td>120 pounds per cubic foot (lb/cf)</td>
</tr>
<tr>
<td>Soil Modulus</td>
<td>1000 pounds per square inch (psi)</td>
</tr>
<tr>
<td>Minimum Safety Factor</td>
<td>2.0</td>
</tr>
<tr>
<td>Ovality Factor</td>
<td>2%</td>
</tr>
<tr>
<td>Maximum Deflection</td>
<td>5% in vertical axis</td>
</tr>
<tr>
<td>Long Term Modulus Reduction</td>
<td>50%</td>
</tr>
</tbody>
</table>

8. The final CIPP liners shall conform to the minimum structural standards as listed below in accordance with the latest versions of ASTM D790 - Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials and ASTM F1216 - Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube:

<table>
<thead>
<tr>
<th>FINAL CIPP</th>
<th>MINIMUM REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexural Stress</td>
<td>4,500 psi</td>
</tr>
<tr>
<td>Short Term Flexural Modules</td>
<td>250,000 psi</td>
</tr>
<tr>
<td>Long Term Flexural Modules</td>
<td>125,000 psi</td>
</tr>
</tbody>
</table>
9. The liner shall be fabricated from materials which when complete are chemically resistant to and will withstand internal exposure to domestic sewage having a pH range of 5 to 11 and temperatures up to 125° F. CIPP liners shall meet the minimum chemical resistance requirements in accordance with the latest version of ASTM F1216 - Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube.

10. The liner shall be furnished to the following minimum thickness, or the thickness based upon design criteria as specified herein, whichever is greater:

<table>
<thead>
<tr>
<th>Pipe Diameter (inch)</th>
<th>Depth of Sewer Invert (feet)</th>
<th>CIP Nominal Thickness (millimeter) (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>0 to 20</td>
<td>4.5 (0.177)</td>
</tr>
<tr>
<td>8</td>
<td>0 to 20</td>
<td>6.0 (0.236)</td>
</tr>
<tr>
<td>10</td>
<td>0 to 15</td>
<td>6.0 (0.236)</td>
</tr>
<tr>
<td>10</td>
<td>15.1 to 20</td>
<td>7.5 (0.295)</td>
</tr>
<tr>
<td>12</td>
<td>0 to 10</td>
<td>6.0 (0.236)</td>
</tr>
<tr>
<td>12</td>
<td>10.1 to 20</td>
<td>7.5 (0.295)</td>
</tr>
<tr>
<td>15</td>
<td>0 to 10</td>
<td>7.5 (0.295)</td>
</tr>
<tr>
<td>15</td>
<td>10.1 to 15</td>
<td>9.0 (0.354)</td>
</tr>
<tr>
<td>15</td>
<td>15.1 to 20</td>
<td>10.5 (0.413)</td>
</tr>
<tr>
<td>18</td>
<td>0 to 10</td>
<td>9.0 (0.354)</td>
</tr>
<tr>
<td>18</td>
<td>10.1 to 15</td>
<td>10.5 (0.413)</td>
</tr>
<tr>
<td>18</td>
<td>15.1 to 20</td>
<td>12.0 (0.472)</td>
</tr>
<tr>
<td>21</td>
<td>0 to 10</td>
<td>10.0 (0.374)</td>
</tr>
<tr>
<td>21</td>
<td>10.1 to 20</td>
<td>15.0 (0.555)</td>
</tr>
<tr>
<td>24</td>
<td>0 to 10</td>
<td>12.0 (0.472)</td>
</tr>
<tr>
<td>24</td>
<td>10 to 22</td>
<td>15.0 (0.590)</td>
</tr>
<tr>
<td>27</td>
<td>0 to 10</td>
<td>12.0 (0.465)</td>
</tr>
</tbody>
</table>
B. MINIMUM LENGTH OF CIPP LINING IN LATERAL

1. The minimum length of lining the lateral shall effectively span the distance from the lateral connection at the main to the cleanout at the property line or as directed by a Sewerage and Water Board Engineer or Inspector. The Contractor shall verify the lengths in the field before impregnation.

C. CHEMICAL GROUT

1. The chemical grout shall be a hydrophilic liquid that is water reactive and will change from a free-flowing liquid to a water impermeable elastomeric solid upon injection to stop excessive infiltration at the point where the CIPP liner enters the manholes. A reaction (curing) which produces a chemically stable and non-biodegradable, tough, flexible gel. The chemical grout shall be a urethane liquid in uncured form suitable for pumping with a moderate viscosity and variable gelling and curing times. The polyurethane chemical grout shall be Scotch-Seal 5610 by 3M, Avanti Av-254, or approved equal.

2. Acceptable urethane base gel chemical sealing materials shall meet or exceed the following requirements:
   a. The liquid shall have a solids content of 80% and a specific gravity of 1.04 to 1.11.
   b. The liquid shall have a viscosity of 300 to 1,000 centipoise at 70°F.
   c. The water used to react to the pre-polymer should have a pH of 5 to 9.
   d. Gel times shall be in accordance with the manufacturer's recommendations.
   e. The grout shall have the ability to increase viscosity, density, gel strength and resistance to shrinkage by the use of additives in the reaction water.

3. A reinforcing agent shall be added to the reaction water at the manufacturer's suggested rate. This agent is intended to increase the polyurethane gel's resistance to wet/dry cycles, freeze/thaw cycles, and
solid movement stresses. The reinforcing agent shall be appropriate for the specific grout product that is to be used.

4. Additional chemical grout additives such as catalysts or accelerators as needed to make the grout function properly shall be as manufactured by 3M, Avanti, or approved equal and shall be used in a manner approved by the manufacturer.

6-03 EXECUTION

A. DELIVERY, STORAGE, AND HANDLING

1. The Contractor shall comply with the pipe manufacturer's printed recommendations for delivery, storage, and handling of all products.

2. The Contractor shall keep products safe from damage. The Contractor shall promptly remove damaged products from the job site and replace damaged products with undamaged goods at no additional cost to the Board.

B. PRIVATE SERVICE LINE SHUTDOWN

1. When it is necessary to shut down a private sewer service line while work is in progress and before the service lines are reconnected, the residents are to be notified by the Contractor not more than one week prior to and again not more than 24 hours immediately prior to the shutdown. No sewer or water service is to remain out of service for more than a period of eight (8) hours, and not before 8:00 a.m., or after 6:00 p.m. Sewage from the services or main line shall be discharged or diverted into an adjacent or downstream sewer only.

C. PREPARATION

1. The Contractor shall carry out his operations in accordance with all OSHA and manufacturer’s safety requirements. Particular attention is drawn to those safety requirements involving the entering of confined spaces.

2. The Contractor shall take field measurements to verify the existing pipe diameter, ovality and length prior to manufacturing liners. The manufacturer shall incorporate these measurements into the manufacturing process of the liner. The outside of the flexible tube shall be marked along its full length at regular intervals not to exceed five (5) feet.

3. It shall be the responsibility of the Contractor to remove all internal debris such as solids and roots and clean the existing sewer line prior to installation of the liner.
4. Inspection of existing sewer lines shall be performed by experienced personnel trained in locating breaks, obstacles and service connections by CCTV. The interior of the line shall be carefully inspected to determine the location of any conditions, which may prevent proper installation of the CIPP liner into the main lines or service lateral lines, and such conditions shall be noted so they can be corrected. A videotape and log shall be kept of conditions that need to be corrected on the existing sewer lines.

5. The Contractor shall provide for the flow of sewage around the section or sections of pipe designated for lining as specified in Section 07 Sewer Flow Control. The Contractor shall be completely responsible for preventing service line back-ups during the CIPP liner installation and curing periods.

6. The Contractor shall clear the line of obstructions such as solids, protruding gaskets, dropped joints, protruding service connections or collapsed pipe that will prevent the insertion of the liner, as noted during pre-rehabilitation CCTV inspection. If inspection reveals an obstruction that cannot be removed by conventional sewer cleaning equipment, the Contractor, upon approval from the Engineer, shall make a point repair to uncover and remove or repair the obstruction prior to lining.

7. Location and distance from the upstream and downstream manholes of all internal and external point repairs shall be determined before rehabilitation commences.

8. Only those sewer services that are live and active shall be repaired, or reinstated after the sewer main has been lined or replaced. The Contractor shall note that not all sewer lines segments have been televised in their entirety due to obstructions blocking further entry, etc. These obstructions shall be cleared to allow CCTV viewing of the entire segment length before lining is commenced. The number of service connections on some sewer segments may exceed the number of buildings actually served. It is the Contractor’s responsibility to determine through dye testing, CCTV inspection or other acceptable methods, the services that are live and require reinstatement prior to commencing lining of the sewer main. Services that are confirmed to be inactive shall not be reinstated. Services that are inactive, but reinstated, shall be plugged at no additional expense to the Board.

D. INSTALLATION

1. Installation shall be accomplished by inversion or winched-in-place methods and cured in place by ambient temperature or circulating hot water or steam to produce a hard, jointless, impermeable pipe repair.
2. Installation procedures shall be in accordance with the latest versions of ASTM F1216 - Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube or ASTM F1743 - Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP), and the manufacturer's recommendations. **NO UV cure systems will be allowed.**

3. The Contractor shall designate a location where the reconstruction tube will be vacuum impregnated prior to installation. The Contractor shall allow the Engineer to inspect the materials and “wet out” procedure. Sufficient excess resin shall be used in accordance with the latest version ASTM F1216. A roller system shall be used to uniformly distribute the resin throughout the tube.

4. Before installation begins, the tube manufacturer shall provide the minimum pressure required to hold the tube tight against the existing conduit, and the maximum allowable pressure so as not to damage the tube. Once the installation has started the pressure shall be maintained between the minimum and maximum pressures until the installation has been completed.

5. The curing of the CIPP must take into account the existing pipe material, the resin system, and ground conditions (temperature, moisture level, and thermal conductivity of soil). The post-cure temperature should be held for a period as recommended by the resin manufacturer, during which time the recirculation of the water and cycling of the head source to maintain the temperature continues.

6. The bond between all CIPP layers shall be strong and uniform. All layers, after cure, shall be completely saturated with resin.

7. The CIPP shall be cooled to a temperature below 100°F before relieving the hydrostatic head. Care should be taken in release of the static head so that a vacuum will not be developed that could damage the newly installed liner.

8. The temperature of water discharged to the sewer system from processing liners shall not exceed 125°F maximum, or the level allowed by State or local standards if less than 125°F.

9. The Contractor shall furnish on-site on a continuous basis one (1) additional operational robotic cutter assembly train and key spare components as a “stand-by” unit in the event of primary equipment breakdowns.

E. **POST INSTALLATION**
1. After installation of the liner in a full segment pipe, a minimum of one (1) inch of the liner material shall be left to protrude from the wall of the entrance and the exit manhole.

2. The Contractor shall install a joint seal at all manhole inlet and outlet connections to seal the area where the line enters or leaves each manhole. The Contractor shall use grout to dress up around the end of the liner. This space may be sealed with a mechanical seal, chemical seal, or combination of both. The method used shall be as approved by the Engineer.

3. The upstream and downstream manholes shall be inspected and any holes or voids in the manhole wall immediately surrounding the new liner shall be sealed with a hydrophilic rubber joint seal and chemical grout as specified herein. The Engineer shall approve the seal.

4. Where liners of any type are installed in two or more continuous manhole segments, the liner invert through the trough of intermediate manholes shall be left intact. Final finishing of the installation in those intermediate manholes shall require removal of the top of the exposed liner and neat trimming of the liner edge where it touches the lip of the manhole bench.

5. Portions of any piece of liner material removed during installation shall be available for inspection and retention by the Engineer. Any unrestrained samples shall not be used for testing purposes.

6. The Contractor shall reinstate openings for all drop assemblies after relining the mainline sewer.

7. Service connections shall be reinstated without excavation, utilizing a remotely controlled cutting device monitored by a CCTV camera. The coupons from this action shall be collected downstream and submitted to the Engineer. The Contractor shall provide certification that he has the required equipment to reinstate the service connections as specified herein.

8. After the liner has been installed, in the event that the Contractor chooses to temporarily reinstate service lines, all active existing services may be temporarily reinstated by punching through the liner from the interior of the pipeline. Temporary reinstatements shall allow normal flow from the service line into the mainline. Final reinstatement of all active services within a rehabilitated line segment shall be performed internally using a robotic cutter within 48 hours of curing and buffed to a minimum of 95% of the original service opening size. The finished opening shall contain no jagged edges.

F. TESTING
1. During the cool down process, after installation and curing of the liner, the Contractor shall perform tests on the sewer line to determine if it is watertight. No separate payment will be made for testing.

2. The Contractor shall furnish all necessary equipment to conduct the test.

3. The sewer shall be tested using either exfiltration test methods in accordance with the latest version of ASTM F1216 – Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated tube or air test methods as specified herein.

4. Air Testing

   a. Each section of new CIPP liner shall be tested between successive manholes by plugging and bracing all openings in the pipe and the upper ends of all service laterals. Prior to insertion in the sewer, each plug shall be checked with a soap solution to detect any air leakage. If any leaks are found, the air pressure shall be released and the leaks eliminated or the plug replaced.

   b. The test of the pipe and service laterals shall be conducted in the presence of the Engineer. Testing of pipe shall be performed in accordance with the latest version of ASTM F-1417.

   c. It is the Contractor’s responsibility to have the pipe clean and to determine the ground water level prior to testing the pipe.

   d. Air pressure in the sewer shall be slowly increased to 4.0 psi above groundwater pressure (1.0 psi for each 2.3 feet of water elevation above the highest point of the pipe). Do not allow the air pressure at any point in the pipe to reach 9.0 psi under any circumstances. Allow the pressure to stabilize for 5 minutes, then reduce the pressure to 3.5 psi above groundwater pressure and start the test. Stop the air release and record the decrease in pressure over time.

   e. The time taken for the pressure to decrease from 3.5 to 2.5 psi above groundwater pressure shall be equal to or greater than the time below.

<table>
<thead>
<tr>
<th>Pipe Diameter (in.)</th>
<th>100 ft</th>
<th>150 ft</th>
<th>200 ft</th>
<th>250 ft</th>
<th>300 ft</th>
<th>350 ft</th>
<th>400 ft</th>
<th>450 ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>7:34</td>
<td>7:34</td>
<td>7:34</td>
<td>7:34</td>
<td>7:36</td>
<td>8:52</td>
<td>10:08</td>
<td>11:24</td>
</tr>
<tr>
<td>18</td>
<td>17:00</td>
<td>19:13</td>
<td>25:38</td>
<td>32:03</td>
<td>38:27</td>
<td>44:52</td>
<td>51:16</td>
<td>57:41</td>
</tr>
<tr>
<td>21</td>
<td>19:50</td>
<td>26:10</td>
<td>34:54</td>
<td>43:37</td>
<td>52:21</td>
<td>61:00</td>
<td>69:48</td>
<td>78:31</td>
</tr>
</tbody>
</table>
f. The time for the pressure to fall from 3.5 to 2.5 psi, both above groundwater pressure, shall be at least 10 seconds regardless of pipe diameter.

g. If the time is less than the allowable time, the pipe will be considered defective and shall be repaired and re-tested at no additional cost to the Board.

h. Safety Provisions: Securely brace the plugs used to close the sewer pipe for the air test in order to prevent the unintentional release of a plug, which can become a high velocity projectile. Locate gauges, air piping manifolds, and valves at the top of the ground. No one shall be permitted to enter a manhole where a plugged pipe is under pressure. A 4 pounds (gauge) air pressure develops a force against the plug in a 12-inch diameter pipe of approximately 450 pounds. Provide a safety release device set to release at 10 psi between the air supply and the sewer under test.

i. Regardless of the outcome of any test, repair any noticeable leak.

5. After completing lining of sewer house connections, every liner shall be CCTV inspected, segments not fully conforming to these Specifications must be immediately brought to the Engineer’s attention. The Contractor shall furnish a written proposed method of correction within 24 hours for approval by the Engineer.

6. The Board will have a certified independent testing lab analyze finished liner samples taken from the restrained sample located at the manhole invert. The Contractor shall furnish samples directly to the Engineer within 2 days after installation.

a. A minimum of one (1) sample shall be taken from every four (4) segments installed. The restrained samples shall be a minimum of one (1) foot in length. The Contractor shall place a sample mold aligned with and the same size as the existing sewer in such a manner as to allow the installation of the liner material through the restraining sample mold. This sample mold shall be made of SDR 35 PVC, C900 PVC or an Engineer approved equal.

b. The resin-impregnated tube shall be installed and cured through this restraining mold in order to obtain a liner sample representative of the actual liner physical characteristics. All samples shall be labeled with the project number, date of installation, pertinent manhole numbers, nominal thickness, flow direction, and location of installation. The Contractor and Engineer shall acknowledge receipt and transfer of all samples.
c. Tests in accordance with the latest versions of the ASTM standards for flexural strength, flexural modulus and wall thickness will be conducted by the independent testing lab.

d. A sample will be provided by the Contractor to the Engineer for all CIPP installation over 18” inches in diameter to be tested in accordance with ASTM standards.

G. ACCEPTANCE

1. The finished CIPP liner shall be fully rounded and free from visible defects, including but not limited to damage, deflection, holes, delamination, ridges, cracks, uncured resin, foreign inclusions or other objectionable defects as determined by the Engineer.

2. There shall be no visible infiltration through the liner, or around the liner at manhole or service line connections. The Contractor shall be required to repair any visible leaks in a manner approved by the Engineer.

H. NON-CONFORMING WORK

1. If the thickness, flexural strength, or flexural modulus of elasticity of the installed CIPP liner are less than 80% of the approved design values, the product is considered unacceptable. A method of repair or replacement shall be submitted for review and approval by the Engineer. All work required to remedy non-conforming work shall be at no additional expense to the Board.

2. For all instances, as described in this Subsection, other than thickness, flexural strength, and flexural modulus of elasticity, where the CIPP liner is deemed unacceptable, the Contractor shall submit a method of repair or replacement for review and approval by the Engineer. All work required to remedy non-conforming work shall be at no additional expense to the Board.

3. Where post-installation thickness measurements and/or physical property testing is performed, payment for installed cured-in-place pipe shall be made in accordance with the following:

   a. If the thickness, flexural strength, or flexural modulus of elasticity of the installed CIPP are 90% or greater than the specific values, full payment shall be made accordingly.

   b. If the thickness, flexural strength, or flexural modulus of elasticity of the installed CIPP are between 90% and 80% of the specified values, with all at least 80% of the specified values, payment shall be based on:

      \[
      \text{Adjusted Unit Price} = \text{Unit Price Bid} \times \text{Value Factor}, \text{ where:}
      \]

   c. Tests in accordance with the latest versions of the ASTM standards for flexural strength, flexural modulus and wall thickness will be conducted by the independent testing lab.

   d. A sample will be provided by the Contractor to the Engineer for all CIPP installation over 18” inches in diameter to be tested in accordance with ASTM standards.
Value Factor = \[ \frac{\text{* thickness} + \text{* flexural strength} + \text{* flexural modulus of elasticity}}{3} \].

* Insert actual measured or tested result expressed as a percentage of specified value. Maximum allowable percentage is 100%.

4. If a defect repair is required after the liner has cured, a short segment tube shall be used to splice across the defect repair. The overlap on each defect shall be twice the diameter, or 12 inches, whichever is greater.

I. **ABANDONMENT OF SEWER RELINING**

If pre-installation CCTV inspection reveals that no sewer relining is required in the pipe segment from the sewer main due to point repairs, service repair or relining having been performed since the last televised inspection, then sewer relining shall be abandoned.

6-04 **MEASUREMENT AND PAYMENT**

A. 6" Sanitary Sewer Service Lateral Cured-In-Place Liner

1. Measurement: Measurement shall be on a per linear foot basis from the lateral connection at the main to a foot from the property line or as directed by the Sewerage and Water Board Engineer or Inspector as shown on the bid schedule lined by cured-in-place lining products.

2. Payment: Payment shall be made at the unit price bid per linear foot in accordance with these specifications; and shall include pre- and post-installation television inspection, cleaning, setup activities (e.g. safety procedures, sewage flow control, traffic control, preparation and insertion of liner, etc.), curing of liner, cutting liner ends and sealing liner in manholes, testing, full opening of all active service connections, clean up, and any other related items necessary to complete this item of work.

**END OF SECTION 06***
SECTION 07

SEWER FLOW CONTROL

7-01 THE CONSTRUCTION OF SEWERS

The Contractor is to follow Section D of the General Specifications for information and procedures pertaining to the construction of sewers, except where parts of Section D have been changed by these special specifications.

7-02 DEFINITION OF DEPTH

The depth of the repair will be established by first measuring the depth of the pipe invert in the upstream and downstream manholes and calculating the average of the two depths. The depth of the pipe invert will be defined as the distance from the top of the manhole casting to the invert of the pipe being repaired.

If the manhole castings are intentionally raised above the ground surface, the depth of the invert will be defined as the distance from the top of the manhole casting to the invert of the pipe being repaired, less the distance from the top of the manhole casting to the top of the ground surface. The average of the upstream and downstream depths shall then be determined.

The nominal diameter, i.e., 8", 10", 12" etc., of the pipe will then be subtracted from the average depth, resulting in an average depth representing the cover over the pipe. This final depth, representing the average cover over the pipe, will be used to define the repair depth and the depths of repairs in the bid items. Therefore, if a bid item is for a point repair on an 8" sewer main, 5' to 7' deep, this means that the average depth of the invert of the pipe is between 5'8" to 7'8" deep.

7-03 HOUSE CONNECTIONS

House connections, where required, shall be SDR26, six inch PVC pipe connected to the new main and extended to the back of the curb, or to any point designated by the Engineer and as described in Drawings 6312-E5-A and 6312-E5-B.

If the Contractor elects not to replace each house connection from the main to the designated point near the property line as the main is repaired, a temporary tie-in of the sewer house connection must be installed. Once the Contractor starts the replacement of the sewer house connection, the temporary tie-in must be removed and a full length of pipe is to be inserted.
into the fitting at the main. No coupling shall be allowed between the new main and the coupling at the tie-in to the existing sewer house connection at the back of the curb or other tie-in point designated by the Engineer. There will be no direct pay for a temporary tie-in of the sewer house connection.

The connection of any two dissimilar house connection materials for either the temporary or permanent tie-in shall be accomplished by the installation of a "no-hub" coupling consisting of a neoprene sleeve and bushing adapter, two stainless steel bands and STAINLESS STEEL screws. The coupling shall be manufactured in strict accordance with the Cast Iron Soil Pipe Institute Specifications C301, latest revision, as manufactured by Tyler Pipe Co., Mission Clay Products Corp., Fernco, or approved equal.

The price bid per foot for house connections shall be for the horizontal measurement of the sewer house connection from the main to the tie-in at the back of the curb or any other point designated by the Engineer. The price bid for house connections shall include the tie-in to the new wye or vertical stack fitting off of the main, as shown on S&WB Drawing No. 6312-E5, and the tie-in to the existing sewer house connection at the property line or clean out as directed by the Engineer.

7-04 USE OF WELL POINTS

The use of well point equipment will be allowed only with the authorization of the Engineer. The cost for setting up the well point equipment shall include maintain and operation of well point equipment, all investigative costs to discover the need for well points, i.e., excavating to the sub-grade of the sewer, as well as all other costs associated with setting up the well point system, including traffic control personnel, devices, plans and permits. The cost for setting up the well point equipment will be as follows:

a. Set up equipment, operation and maintain for well pointing of trenches for point repairs and pipe replacement.

The contractor will not be reimbursed for operation and maintenance of the well point system. The type of well point system must have the approval of the Engineer, and the top of the well point screens must extend to a depth of 5 feet below the authorized sub-grade, or to any other depth designated by the Engineer, not to exceed 5 feet below the pipe bedding. A maximum of three piezometers will be installed at no direct pay, at locations and depths specified by the Engineer, in order to monitor groundwater levels for the purpose of determining the operation time
necessary to dewater the trench. The piezometer construction will be similar to that of the well points.

The well-point system shall be installed and operated sufficiently by the Contractor to cover his complete dewatering responsibility. The well point system shall discharge into a sanitary sewer manhole.

The well-point system shall be operated under the following guidelines:

The system will be started no sooner than twenty-four (24) hours prior to excavating, unless the Engineer deems that the soil parameters require longer dewatering periods.

The Contractor must schedule the work so that the time the system operates is minimized. If the Engineer judges the Contractor’s activities to be inefficient during operation of the well-point system, the Engineer shall notify the Contractor’s foreman at the job site, and within twenty four (24) hours he shall fax written notification to the Contractor’s office, notifying the Contractor of the fact that his work schedule is not in the best interest of the Board and that deduction may include the operation time of the system will be made. The deductions may include the operation period overnight if the inefficiencies on all projects, however, the intent of this paragraph is to ensure that the Contractor restores the sewer main at a steady rate while the well points are in operation.

7-05 SEWER BYPASS PUMPING FOR RESTORATION OF SEWER MAINS

The Contractor shall isolate the block of sewer where the work is to occur by plugging the upstream and downstream manholes. Should the sewage build up to the top of the largest size sewer main in the upstream manhole, or if directed by the Engineer, the Contractor shall pump the sewage through bypass piping to a sewer manhole downstream of the work. The scope of this work includes bypassing of as many as two city blocks of sewer. The pumping of sewage into drain facilities will not be allowed unless authorized by the Engineer. The Sewerage and Water Board will be reimbursed by the Contractor in accordance with section A, paragraph 27 of the Sewerage & Water Board General Specifications, for all costs paid by the Sewerage and Water Board for the necessary administrative work, remedial work and for any fines related to an unauthorized discharge. No sewer main shall be left open overnight; instead, a temporary tie-in shall be made between the ends of the new and existing main, and plugs at manholes shall be removed so as to allow sewage flow until work is resumed. The Contractor will be paid for setting up and operating bypass pumping when using a pump greater than or equal to 4”. The payment for the bypass pump greater than or equal to 4” will be paid as an each item which will include the setup,
maintain and operation of the bypass pump. The use of a pump greater than or equal to 4” will be allowed only with the authorization of the Engineer.

Any and all cost of bypass pumping, both set up and operational maintenance, including any necessary ramps over the bypass piping and traffic control, shall be included in the price bid for the point repair and CIPP work when using a pump less than 4”.

The Contractor is advised that the sewer system is old and in the process of being rehabilitated at extensive expense to the Board and this contract is part of the Board’s efforts to do so. The system can, on certain occasions, especially under wet weather conditions, become surcharged because of levels pre-set in the pump stations, pump station failures or obstructions in the sewer system caused, for the most part, by debris that citizens, consumers and users put into the system.

The work described in the contract, which the contractor is expected to perform, includes plugging and dewatering surcharged lines, which are incidental to the point repair work, required herein and therefore there is no direct pay for such plugging and dewatering. Accordingly, Contractor should be prepared to include as part of its bid price any costs therefore.

Any such delays are unavoidable due to the nature of the work. Any delay that the contractor experiences due to surcharging of the sewer system shall be documented in writing and faxed to the Engineer when encountered. The delay time will be taken into consideration when calculating start and completion times for the various phases of work for purposes of liquidated damages to be paid by the Contractor for the failure of the Contractor to start or complete on time.

**7-06 AUTHORIZED TRENCH WIDTHS**

The authorized trench width allowed for solid wall PVC pipe shall be as follows:

<table>
<thead>
<tr>
<th>MAXIMUM TRENCH WIDTH ALLOWED</th>
<th>PIPE DIAMETER</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 feet</td>
<td>6 inch</td>
</tr>
<tr>
<td>4 feet</td>
<td>8 inch and 10 inch</td>
</tr>
<tr>
<td>3 feet plus the outside diameter of pipe</td>
<td>12 inches and greater</td>
</tr>
</tbody>
</table>
7-07 USE OF A TRENCH BOX

The Contractor will be required to sheet and brace the trench in accordance with the Sewerage and Water Board General Specifications and the Sewerage and Water Board Standard Drawings, except as changed in these Special Specifications. Before excavating any trench five (5) feet or more in depth, the Contractor shall submit to the Engineer a detailed plan showing the design of shoring, bracing, sloping or other provisions to be made for the workers' protection from the hazard of caving ground during the excavation of such trench. If the plan varies from the shoring systems standards, a Registered Civil Engineer shall prepare the plan. No excavation shall start until the Engineer has accepted the plan. At the option of the Contractor and with written permission form the Sewerage and Water Board Engineer; a trench box may be used under the following guidelines:

- Quantities paid will be based on the authorized trench width as stated in Section 7-06

- The trench box may not extend below the level of the top of the sewer main at any time during the repair.

- Removal of the trench box may only be accomplished vertically and in one-foot increments in conjunction with the backfilling.

- The trench box must be certified by a Professional Engineer and be in compliance to OSHA requirements.

- The minimum amount of sheeting must be installed (see paragraph 7-08 and Section 7).

7-08 STANDARD DRAWING NUMBER 4697-E5-A

1. The Sewerage and Water Board Standard Drawing numbered 4697-E5-A shall be used to determine the sizes, spacing and other dimensions related to the sheeting, bracing, and foundation lumber and also to stone placement for pipe trenches. The Contractor shall bid the job according to the trench cross-sections given on this drawing.

2. The standard bottom shall not be installed as a prefabricated box. Instead, the wood sheeting shall first be driven and bracing placed, then the mud sills driven into the mud and properly braced, all voids filled with compacted bedding stone before the planking is installed. Then the filter fabric is to be placed in accordance with Section 07 of these special specifications. If sand is the native material in the trench,
then, the wood sheeting shall be driven via a method, which meets the approval of the Engineer. Pounding of sheeting into soil will not be allowed. For this paragraph, the definition of sand shall be soil of which fifty (50%) percent or more of a representative sample by weight is retained on a number 200 sieve."

7-09 STANDARD DRAWING NUMBER 6312-E5-A and B

Sewer house connections less than or equal to 8’ in depth shall be installed in accordance with S&WB Drawing No. 6312-E5-A. Sewer house connections greater than 8’ in depth shall be installed in accordance with S&WB Drawing No.6312-E5-B

7-10 VOIDS UNDER ROADWAY

The Contractor is advised that there may be voids under certain sections of the roadway due to erosion of the soil into the existing sewer or from consolidation settlement. The Contractor shall proceed with caution and use types of equipment and construction methods that will not cause damage to the primary roadway beyond the limits of the cut. Prior to placing the required sheeting and excavating, where voids are encountered, the Contractor will be required to flood sand underneath the roadway with a jet nozzle, using water from a fire hydrant to fill the voids to the bottom of the roadway and as far underneath the roadway as the water jet can push the sand. Notice shall be given to the Engineer, prior to filling the voids, in instances where extra backfill may be required. This required work will be paid by the item for "river sand backfill in trench."

7-11 ELEVATIONS

The new main and house connections shall be installed at the existing elevation and locations unless changed by the Engineer. The contractor is required to determine the existing slope of the sewer main by measuring the elevation difference between the upstream and downstream manholes, and to contact the Engineer prior to construction if he foresees any problems.

7-12 TIE-IN TO MANHOLE

When connecting the sewer mains to the existing manholes, the existing short bell pieces remaining in the wall of the manhole shall be broken out and **new sand-coated joint pieces** inserted into the full thickness of the walls and permanently grouted (see S&WB drawing 6178-B-6). The annular space around the pipe and the wall of the manhole shall be
grouted with type three, high early strength cement, or with a quick setting EMBECO or similar material. The plugs and bypass pumping necessary to properly perform this work must be included in the price bid for tie-in to manhole at the point repair. This shall be accomplished at no direct pay.

7-13 REMOVAL AND REPLACEMENT OF SEWER MANHOLSES

Removal and replacement of sewer manholes will be paid for at the prices bid for removal and replacement of sewer manholes, complete in place, of the various depth brackets. The price and payment will be full compensation for all labor and equipment, excavation, all sheeting and bracing, backfill and compaction and furnishing all the materials, including everything from the stone sub-grade, the pipe and incidentals necessary for the tie-in of existing facilities, the casting, the removal of the old manhole and of surplus material and doing all necessary incidentals to make a complete structure.

The point repairs required on the existing sewer mains going into the new sewer manhole will be paid for at the prices bid for those particular size and depth pipe point repairs, and beyond point repairs if necessary.

Drop pipes for high incoming sewers will be paid for per vertical foot measured from the lowest invert in manhole to the invert of the incoming sewer; this price shall include the whole cost of the drop, increased size of excavation, additional foundation material, brickwork, pipe and fittings and other incidentals for a complete unit according to detail Drawing No. 6178-B6.

The bypass system shall meet the approval of the Engineer, and shall be sized sufficiently to handle the flows. Typically, a sewer bypass system consists of a 3-inch (3") pump, suction hose, and hard piping discharge. Small speed pumps and diaphragm pumps and the necessary hoses used to dewater the excavation are incidental and will not be paid for directly.

Any pavement removed and replaced in conjunction with placing the sewer bypass piping will be paid for at the price bid in the contract for the particular type of pavement removed and replaced, and shall be removed only as directed by the Engineer. The bypass piping will be buried to allow for the flow of vehicular traffic.

7-14 SEALING SEWER MANHOLSES

The costs for sealing sewer manholes shall include all equipment, labor and materials necessary to water blast with high pressure the inside
surfaces of the manhole to remove dust, wax, grease and other foreign particles, to stop the sewer flow, and to apply a thin one-quarter (1/4") inch thick coating of mortar of equal parts of cement and sand, or approved equal, worked to a smooth surface, and a one-half (1/2") inch thick layer of cement mortar composed of one (1) part of Portland Cement and two (2) parts of sand, or approved equal, to the inverts and bench in the manhole. The price shall be paid per vertical foot; therefore the area of the bench and inverts shall be including in the vertical foot price. The Contractor shall prevent the flow of sewer in the manhole until the mortar has dried sufficiently, at no direct pay.

7-15 TEMPORARY TIE-IN

The Contractor shall schedule his work so that by the end of the day, a water-tight temporary tie-in of the newly laid pipe to the existing pipe is made with same diameter pipe as that being replaced, and so that the backfill is properly placed and the temporary surface stone is properly placed over the entire trench where the pipe work is completed. Where the temporary tie in is made, the Contractor may eliminate the requirement to compact the soil, as long as all of the loosely, non-compacted soil is removed and then replaced properly when the work continues, and the Contractor realizes that this portion will settle fastest, and adjusts his maintenance schedule to prevent accidents.

7-16 MAINTENANCE OF INTERIM PAVEMENT (SUB-BASE)

Sub-base material shall be placed in the trench at the following thicknesses and shall be maintained continuously by the Contractor until the final pavement is restored:

Concrete roadways: compacted thickness of sub-base shall be no less than pavement thickness.

Asphalt roadways: compacted thickness of sub-base shall be no less than six (6") inches plus the thickness of the asphalt.

All types of pavements with a concrete base: compacted thickness of sub-base shall be no less than the thickness of the composite pavement.

The Contractor shall place the sub-base material immediately after completion of the backfill. The Contractor shall maintain the sub-base continuously for thirty (30) days, when the permanent pavement shall be restored, and throughout the pavement restoration work, at no direct pay. The cost of the sub-base material, its placement and maintenance shall be included in the price bid to remove the pavement when the pavement will not be restored by the Contractor, and included in the price to remove and
replace the pavement.

7-17 COMPLETION OF PIPE WORK

When pipe work is completed, if a Sewerage and Water Board inspector is not on the site, the Contractor will be required to contact the Sewerage and Water Board’s Construction, Administration and Inspection Department, Mr. Hadi Amini, (865-0435) to arrange for an inspection prior to backfilling.
A. The Contractor shall furnish all labor, materials, equipment and incidentals required to perform all trenching for installation of pipelines and appurtenances, including dewatering, filling, backfilling, disposal of surplus material, disposal of water removed from the trench, and restoration of trench surfaces and easements.

B. The Contractor shall be responsible for adequate sheeting, bracing, and shoring systems, and design of the systems. The Contractor shall furnish and place all sheeting, bracing and supports and remove from the excavation all materials that the Engineer may deem unsuitable for backfilling.

C. The Contractor shall comply at a minimum with the requirements of OSHA excavation safety standards (29 CFR Part 1926.650 Subpart P) and local or State requirements for all excavation, trenching and related sheeting, bracing, etc. Where conflict between OSHA and State or local regulations exists, the more stringent requirements shall apply.

D. The Contractor shall furnish all materials and equipment and perform all incidental work required to install and maintain a dewatering system for handling ground water or surface water encountered. The Contractor shall assume all responsibility for the adequacy of the methods, materials and equipment employed.

STANDARD SPECIFICATIONS

A. References to the Louisiana Standard Specifications for Roads and Bridges (LSSRB), shall mean the Louisiana Standard Specification for Roads and Bridges, 2006 edition as issued by the State of Louisiana, Department of Transportation and Development (LADOTD).

B. References to the Department of Public Works, City of New Orleans, General Specifications for Street Paving (DPWGS), shall mean the Department of Public Works, City of New Orleans, General Specifications for Street Paving, 1999 edition (revised 10/11/2001) as issued by the city of New Orleans Department of Public Works.
A. Submit the following in accordance with Section 2.20:

1. The Contractor shall submit a dewatering system plan for handling ground water or surface water encountered. Construction shall not begin until the Engineer is assured that the proposed dewatering system plan is satisfactory.

8-02 PRODUCTS

BACKFILL MATERIAL

Select river sand shall be used as backfill material and shall be a good quality pumped “Mississippi River Sand” free of roots, wood, clay lumps, shells, or any other foreign matter. The backfill material shall meet the requirements of LSSRB 2006 Section 1003.07.

BEDDING MATERIAL

Select river sand shall be used as backfill material and shall be a good quality pumped “Mississippi River Sand” free of roots, wood, clay lumps, shells, or any other foreign matter. The backfill material shall meet the requirements of LSSRB 2006 Section 1003.07.

8-03 EXECUTION

TRENCH EXCAVATION

A. Trench excavation shall include material of every description and of whatever substance encountered. The length of open trench shall be related closely to the rate of pipe laying.

B. While excavating and backfilling operations are in progress, traffic flow shall be maintained in accordance with Approved Traffic Control Plans (TCP).

C. The Contractor shall excavate trenches to the depth and width indicated on the Drawings or as specified herein and shall provide suitable room for installing pipe, appurtenances, sheeting, shoring, bracing, and dewatering facilities. The bottom of the excavations shall be firm and dry and in all respects acceptable to the Engineer.

D. The Contractor shall accomplish excavation and dewatering by methods that preserve the undisturbed state of subgrade soils. The trench may be excavated by machinery to, or just below the designated subgrade, provided that material remaining in the bottom of the trench is no more
than slightly disturbed. Subgrade soils, which become soft, loose, “quick”, or otherwise unsatisfactory as a result of inadequate excavation, dewatering or other construction methods shall be removed and replaced by bedding material as required by the Engineer at no additional expense to the Board.

E. Clay and organic silt soils are particularly susceptible to disturbance due to construction operations. When excavation is expected to end in such soils, the Contractor shall use a smooth-edge bucket to excavate the last one (1) foot of depth.

F. The Contractor shall cut all stumps, roots, and logs that are encountered within the trench area to a depth of one (1) foot below the bottom of the trench. The Contractor shall fill this excavated space with bedding material. There will be no separate additional payment for stump removal and backfill.

DISPOSAL OF MATERIALS

A. The Contractor shall stack excavated materials without excessive surcharge on the trench bank or obstructing free access to hydrants and valves. Inconvenience to traffic and adjacent property owners shall be avoided to the utmost extent possible and shall be in accordance with Approved Traffic Control Plans (TCP).

B. All excavated material which is either unsuitable for backfill or which will not be used for backfill in the same location shall be removed promptly from the work site same day and disposed off properly by the Contractor.

C. When conditions make it impractical or unsafe to stack excavated material adjacent to the trench, the Contractor shall haul away the material immediately and disposed of properly.

SHEETING AND BRACING

A. The Contractor shall furnish, put in place, and maintain sheeting and bracing required by OSHA, State or local safety requirements to support the sides of the excavation and prevent loss of ground which could endanger personnel, damage the work and/or endanger adjacent structures. Care should be taken by the Contractor to prevent voids outside of the sheeting, but if voids are formed, they shall be immediately filled and compacted by the Contractor.
DEWATERING

A. The requirements for a stable subgrade are indicated above and the Contractor must adjust his dewatering methods, if in the opinion of the Engineer, the trench bottom is unsatisfactory.

D. The Contractor shall perform all dewatering without damage to the trench, pavements, pipes, and other utilities. Disposal of water removed from the trench shall in no way adversely affect adjacent property owners or traffic.

E. The Contractor shall not lay pipe in water.

EXCAVATION BELOW GRADE AND REFILL

A. Trench dewatering shall be complete and effective regardless of the nature of material encountered or the groundwater conditions.

B. If the Contractor excavates below grade by error, the Contractor at his own expense shall perform furnishing and placing the refill of bedding material.

C. If the subgrade is of unsuitable material, the Contractor shall excavate below grade, furnish and place the pumped Mississippi River sand bedding material at the direction of the Engineer.

BEDDING

A. The Contractor shall deposit pumped Mississippi River sand for pipe bedding, and/or for excavation below grade, directly on the bottom of the trench immediately after excavation has reached the proper depth and before the bottom of the trench has become softened or disturbed by any cause.

B. The Contractor shall place the pumped Mississippi River sand bedding in layers not exceeding six (6) inches in thickness and compacted to 95% the maximum dry density in accordance with ASTM D-1557.

C. The minimum thickness of bedding below the pipe shall be six (6) inches. The bedding material shall extend upward from the excavation bottom along the haunches and sides of the pipe up to a distance of twelve (12) inches above the pipe.

D. Compaction shall be achieved by mechanical means such as a vibratory
plate or other devices approved by the Engineer.

BACKFILLING

A. Prior to backfilling with pumped Mississippi River sand, the Contractor shall allow the Engineer to examine the trench to insure the bedding material has been installed in accordance with the Contract Documents.

B. As soon as practical after the pipe has been laid and jointed and bedding material has been installed and compacted, the Contractor shall immediately begin backfilling in lifts of no more than twelve (12) inches.

C. Where the pipes are laid in areas without a pavement, the Contractor shall fill the remainder of the trench with well compacted pumped Mississippi River sand to match the existing grade or as directed by the Engineer. Where a gravel or similar surface exists prior to excavations, it shall be removed, conserved and replaced to the full original depth as part of the work by the Contractor.

D. Where the pipes are laid in streets, driveways and sidewalks, the remainder of the trench up to the depth of the bottom of the base course of the specified paving shall be backfilled with pumped Mississippi River sand material as specified herein in layers not to exceed twelve (12) inches mechanically compacted in accordance with DPW and S&WB specifications. Each backfill layer shall be thoroughly compacted as specified herein.

E. To prevent longitudinal movement of the pipe, dropping or dumping backfill material into the trench will not be permitted.

F. Backfill shall be brought up evenly on all sides. Each 12-inch layer of backfill shall be uniformly compacted to 95% of the maximum dry density near optimum water content in accordance with ASTM D-1557.

G. All roadway, driveway and sidewalk surfaces shall be swept and hose-cleaned immediately after backfilling by the Contractor. SWPPP measures shall be employed at all times by the Contractor.

RESTORING TRENCH SURFACE

A. The Contractor shall thoroughly consolidate the backfill and maintain the surface as the work progresses. If settlement takes place, the Contractor shall immediately deposit additional pumped Mississippi River sand to
restore the level of the ground to the original condition.

B. The surface of any driveway, sidewalk or any other area which is disturbed by the trench excavation, and which is not a part of the paved roadway, shall be restored to a condition at least equal to that existing before work began.

C. In sections where the pipeline passes through grassed areas, remove and replace the sod.

FIELD TESTING

A. Random field density tests will be taken on the backfill by an independent testing laboratory retained by the Sewerage and Water Board. Each one foot lift shall be compacted at or near optimum moisture content to a minimum of 95% standard Proctor density (ASTM D698) prior to applying the ext lift. The test results will be used to verify proper replacement of the backfill prior to pavement restoration. The costs charged to the Sewerage and Water Board by the testing lab for all failed compaction tests will be deducted from the Contractor’s invoice for the repairs.

B. Where soil material is required to be compacted to a percentage of maximum density, the maximum density at optimum moisture content will be determined in accordance with ASTM D 1557. Field density in-place tests will be performed in accordance with ASTM D 2922.

C. Where the tests of the bedding or backfill show non-compliance with the required density, the Contractor shall accomplish such remedy as may be required to insure compliance. Subsequent testing to show compliance shall be by a testing laboratory selected by the Contractor and approved by Board and shall be paid for by the Contractor.

C. Copies of all field test reports shall be submitted to the S&WB Engineer and Inspection Department.

8-03 PAYMENT

All items described in this section shall be considered INCIDENTAL NON-PAYMENT ITEMS. They shall be considered and designated a necessary part of the construction, and unit prices bid for items with are connected shall be full compensation for these items and for all labor, materials, and
equipment required to complete the items in accordance with the Drawings and Specifications.

***END OF SECTION 08***
SECTION 09

PAVEMENT RESTORATION

9-01 GENERAL

SCOPE OF WORK

A. The Contractor shall furnish all labor, material, equipment, and incidentals required and remove and replace asphaltic concrete, concrete, or asphaltic concrete over concrete pavement over trenches excavated for the rehabilitation of the sewer mains, and sewer house connection installations, as specified herein. Unless otherwise approved by the Engineer, the kind of pavement to be constructed in replacement work shall correspond with the kind removed from the area and meet the requirements of the Department of Public Works (DPW) or the Louisiana Department of Transportation and Development (LaDOTD), whichever is applicable.

GENERAL

A. Concrete driveways or sidewalks directly affected during construction or damaged as the result of the Contractor's operation shall be removed and replaced from joint to joint unless otherwise directed by the Engineer.

B. All damages, as a result of work under this Contract, to existing structures, pavement, driveways, paved areas, curbs, gutters, sidewalks, shrubbery, grass, trees, utility poles, utility pipe lines, conduits, drains, catch basins, stabilized areas, and including all obstructions not specifically named herein, shall be repaired to pre-existing conditions or better and in a manner satisfactory to the Engineer. Bid prices shall include the furnishing of all labor, material, equipment and incidentals necessary for the cutting, repairing, and restoration of the damaged areas unless pay items for specific types of repair are included in the Proposal.

C. All pavement and roadways, sidewalks, driveways, which are damaged due to construction activities shall be replaced to its pre-construction conditions or better. In cases where a section of roadway to be restored abuts an existing roadway, all transverse or longitudinal joints shall line up and be of the same type as the existing pavement (expansion, or contraction). Pavement restoration shall be considered substantially complete upon completion of all related work such as curing and striping and upon placing the pavement back into beneficial use by the public.

D. The Contractor shall replace all raised pavement markers and/or plastic pavement markings disturbed during pavement restoration activities.
E. The Contractor shall install color-coded identification tags on all final pavement restoration sites. Identification tags shall be obtained from the Department of Public Works (DPW).

STANDARD SPECIFICATIONS

A. References to the Louisiana Standard Specifications for Roads and Bridges (LSSRB), shall mean the Louisiana Standard Specification for Roads and Bridges, 2006 edition as issued by the State of Louisiana, Department of Transportation and Development (LADOTD).

B. References to the Department of Public Works, City of New Orleans, General Specifications for Street Paving (DPWGS), shall mean the Department of Public Works, City of New Orleans, General Specifications for Street Paving, 1999 edition (revised 10/11/2001) as issued by the city of New Orleans Department of Public Works.

SUBMITTALS

A. Prior to beginning any work involving pavement restoration, the Contractor shall submit to the Engineer for approval certification that the following materials meet these specifications.

1. Pavement subbase course material
2. Pavement base course material
3. Asphaltic concrete mix design
4. Concrete mix design
5. Handicap ramp tactile/detectable cast-in-place tiles

9-02 PRODUCTS

PAVEMENT SUBBASE COURSE

All materials under this subsection shall conform to LSSRB Section 1003.07 and DPWGS Section C302.03 (a).

PAVEMENT BASE COURSE

All materials under this subsection shall conform to LSSRB Section 1003.03(d) and DPWGS Section C302.03 (e).
ASPHALTIC CONCRETE

A. The asphaltic tack coat shall be a modified asphalt emulsion (Grade SS-1, SS-1H or CMS-2) or a modified asphalt emulsion (Grade CRS-2P, CRS-2L, SS-1P or SS-1L) conforming to LSSRB Section 1002 / DPWGS Section C504.02.

B. The asphaltic prime coat shall be cutback asphalt Grade MC-30, MC-70 or AEP Emulsified Asphalt conforming to LSSRB Section 1002 / DPWGS Section C505.02.

C. The asphaltic concrete binder course mix shall be type 3, wearing course mixes shall be type 3 and the base course shall be type 5A all meeting the requirements of LSSRB Section 501 / DPWGS Section C501 unless otherwise specified herein. The asphaltic concrete mixes shall be designed, constructed and tested according to LSSRB Section 501 / DPWGS Section C501.

1. Aggregates shall meet the requirements of LSSRB Section 501.02(c), Table 501-3 and Section 1003.06 / DPWGS Section C501.02(c), Table 1 and Section C1003.06.

2. Use of recycled asphalt in asphaltic concrete mixes is not allowed. Use virgin materials only with aggregate size suitable to the application.

CONCRETE PAVEMENT, CURBS AND GUTTERS

A. Reinforcing Steel shall conform to LSSRB Section 1009 / DPWGS Section C601.04 (g) on page 79.

B. Concrete shall be Portland cement concrete Class B meeting the requirements of LSSRB Section 901 / DPWGS Section C601.

C. Joint filler and sealants shall conform to LSSRB Sections 1005.01 and 1005.02.

ITERIM ASPHALT PAVEMENT

INTERIM asphalt pavement shall be the same mix as asphalt wearing course, be a minimum of two (2) inches thick, and be placed over 6” lime stone/crushed concrete base.

D. Interim asphalt pavement shall be stencil with the wording “Interim Asphalt” at no additional cost to the Board.
INCIDENTAL PAVING

Concrete shall be Portland cement concrete Class M meeting the requirements of LSSRB Section 901.

HANDICAP RAMP TACTILE/DETECTABLE CAST-IN-PLACE TILES

A. All materials under this section shall conform to the Americans with Disabilities Act (Title 49 CFR TRANSPORTATION, Part 37.9 STANDARDS FOR ACCESSIBLE TRANSPORTATION FACILITIES, Appendix A, Section 4.29.2, DETECTIBLE WARNINGS ON WALKING SURFACES) and revisions to date, unless otherwise specified.

B. Handicap ramp tactile/detectable tiles shall be Armor-Tile as manufactured by Engineered Plastics Inc., Tel: 800-682-2525, or approved equal. Vitrified Polymer Composite (VPC) cast-in-place tiles, 24" by 24," shall be an epoxy polymer composition with an ultra violet stabilized coating employing aluminum oxide particles in the truncated domes. The tile shall incorporate an in-line dome pattern of truncated domes 0.2" in height, 0.9" diameter at the base, and 0.4" diameter at top of dome spaced 2.35" nominal as measured on a diagonal and 1.70" nominal as measured side by side. For wheelchair safety, the field area shall consist of a non-slip surface with a minimum of 40 - 90º raised points 0.045" high, per square inch.

C. Yellow color shall be homogeneous throughout the tile.

RAISED PAVEMENT MARKERS AND PLASTIC PAVEMENT MARKINGS

A. All materials under this subsection shall conform to LSSRB Section 731 or 732 / DPWGS Section C731 or C732.

9-03 EXECUTION

GENERAL

A. The new pavement shall be placed, shaped, compacted, and finished to establish grade and cross section by practicable means that will result in a dense, uniform textured surface. Sawcut abutting edges of old pavement and paint with an appropriate bonding agent to provide a good bond between the old and new pavement.

B. All existing concrete curb, walks, and driveways shall be replaced with concrete to the line and grade as directed by the Engineer to match pre-existing thickness. Prior to construction in an area, the Contractor shall adequately reference the existing curb and other pavement elevation to establish the preconstruction elevation.
C. The elevation of restored pavement shall correspond to the pre-existing elevations established prior to construction in the area or as modified by the Engineer, to allow for proper drainage.

D. The Contractor shall repair or replace broken or defective pavement, as directed by Engineer.

E. Removal and replacement shall be generally within the limits of the excavation area. Removal and replacement outside the limits of the excavation area shall be undertaken to adequately accomplish the intended restoration. However, such work shall only be undertaken as approved or directed by the Engineer.

F. The pavement surface shall conform generally to the grade and cross slope required and be free from being torn, gouged, shaved, broken or excessively grooved.

G. The gutter line of the roadway shall be adjusted for smooth flow of surface run-off to the nearest drainage inlet.

SPECIAL PAVING REQUIREMENTS

A. All work to be performed under this Subsection shall be conducted with regard for public safety and maintaining traffic flow. The Contractor is responsible for maintaining access to the residents and businesses of the area by installing temporary roadways, driveways and sidewalks and shall inconvenience the affected property owners as little as possible.

B. At no time shall the Contractor have more than 10 excavated repair sites open (awaiting temporary restoration). The Contractor may be notified by the Engineer to stop all excavation work until this provision is met.

C. The Contractor shall complete final pavement restoration within 15 days after completion of the sewer main repair or replacement. The Contractor may be notified by the Engineer to stop all other work until this provision is met.

D. The Contractor shall complete interim pavement restoration within 15 days after completion of backfilling unless otherwise permitted in writing by the Engineer. The Contractor may be notified by the Engineer to stop all other work until this provision is met.

E. At the time of placing the pavement, excess foundation material shall be removed and disposed of in a satisfactory manner. Paving of any slab shall be completed on the day it is started and the area shall be placed in service at the earliest possible time.
CUTTING OF PAVEMENT

A. The Contractor shall remove concrete, asphaltic concrete, or asphaltic concrete over concrete pavement for the trench. Saw cutting shall be required along the entire limits of the removed pavement areas, at no direct pay.

B. Saw cuts shall be clean, vertical cuts made true to lines parallel to or at right angles to any existing curb line. Depths of the cuts shall be sufficient to permit the removal of pavement between or alongside them without damage to pavement or structures to be left in place. Any pavement damaged outside of the trench limits by the Contractor's operation shall be replaced at the Contractor's expense.

C. Curbs and sidewalks shall be removed to the nearest joint scorings.

ITERIM ASPHALT PAVEMENT

A. To provide for the comfort and safety of the traveling public, the Contractor shall install, interim asphaltic concrete pavement within trench areas. It is the Contractor's responsibility to backfill and place an interim asphaltic concrete pavement cover over all completed sewer lines repairs in streets within fifteen (15) days of excavated repair completion unless otherwise directed by S & W B, up to the top of the adjacent pavement. The Contractor shall maintain the elevation of the interim pavement until the permanent pavement is restored.

B. Compaction Test requirements stated in this Subsection will be required for all pavements. Maintenance shall consist of repairing the interim asphaltic concrete pavement surface material and of restoring said surface to proper grade and cross section as directed by the Engineer.

C. The Contractor shall install and maintain interim asphaltic concrete pavement in the roadways over the excavated areas for a minimum of 365 days after completing the backfill. The interim pavement shall be compacted and maintained in a safe and level condition until the Sewerage and Water Board accept the contract. All surface irregularities that are dangerous or obstructive to traffic are to be removed.

PAVEMENT SUBBASE COURSE

A. The pavement subbase shall be furnished and placed as specified herein. The subbase shall be compacted to 95% of the maximum dry density near optimum water content in accordance with ASTM D 1557.
B. The Contractor will not be allowed to install the pavement base course until the subbase material in the trench area meets or exceeds the density requirements.

**PAVEMENT BASE COURSE**

A. The pavement base course shall be placed in trenched areas in accordance with applicable provisions of LSSRB Sections 302.03, 302.04, 302.05(d), 302.06, 302.07, 302.08, 302.09(a) and 302.10 and 302.11.

B. The Contractor shall not be allowed to restore the pavement until backfill material in the trench area meets or exceeds the density requirements. The base course shall be compacted to 95% of the maximum dry density in accordance with ASTM D-1557.

C. It will be the Contractor's responsibility to fill void areas in the existing road base material with compacted base material to establish a level uniform surface.

**ASPHALTIC PAVEMENT**

A. All equipment, tools and machines used in the performance of work covered by this section shall be in accordance with LSSRB Section 503 / DPWGS Section C503 and subject to the approval of S & W B

B. Paving operations shall proceed in accordance with LSSRB 2006 edition, Section 501.04 / DPWGS Section C501.04 unless otherwise directed by the S & W B.

C. The surface to be covered shall be swept clean of dust, dirt, caked clay, caked material and loose material by revolving brooms or other mechanical sweepers supplemented with hand equipment as directed and in accordance with LSSRB Section 501.05 / DPWGS Section C501.05.

D. Applying Liquid Asphalt Materials.

1. **Asphaltic Prime Coat.** An asphaltic prime coat shall be applied in accordance with LSSRB Sections 505.03, 505.04, 505.06 and 505.07 or DPWGS Sections C505.03, C505.04, 505.05 and C505.06 and C505.07 between the asphalt course base and the stone base course the binder and the wearing courses.

2. **Asphaltic Tack Coats.** An asphaltic tack coat shall be applied in accordance with LSSRB Sections 504.03, 504.04, 504.5, and 504.06 / DPWGS Sections C504.03, C504.04, C504.5, and C504.06 between the binder and the wearing courses.
E. Hauling, paving and finishing shall be in accordance with LSSRB Section 501.07 / DPWGS Section C501.07 unless otherwise directed by the Engineer.

F. After placement, mixtures shall be uniformly compacted in accordance with LSSRB Section 501.08 / DPWGS Section C501.08 unless otherwise directed by the Engineer.

G. A roller compactor shall be used on all restoration sites. At restoration sites greater than or equal to 8-feet in width or greater than or equal to 20-feet in length, or as directed by the Engineer, an asphaltic concrete spreader and roller compactor shall be used to spread and compact hot mix asphaltic concrete.

CONCRETE PAVEMENT

A. Portland Cement concrete pavement shall be installed in accordance with LSSRB Section 601 / DPWGS Section C601.

B. The final roadway surface finish shall be a "Drag Finish" as defined by LSSRB or as otherwise directed by the Department of Public Works.

C. The pavement shall be opened to traffic according to LSSRB Section 601.17 / DPWGS Section C601.17 unless otherwise directed by the Engineer.

D. White impregnated curing compound shall be sprayed on all concrete sidewalks, driveways, curbs and roadways. This requirement also applies to placement on asphaltic concrete repair sites.

E. All joints in roadway surface shall be cleaned and sealed with approved joint sealant.

CURBS, GUTTERS, AND MISCELLANEOUS

A. Portland Cement curbs and gutters shall be installed in accordance with LSSRB Section 707 / DPWGS Section C707.

B. Replacement of curbs, gutters, walks, dikes, and other like structures shall consist of similar and matching construction to that of adjoining undisturbed structures, which construction shall be at least equal in all respects to that of the structures or parts of structures removed in the work and as shown on the Drawings.

C. There is a possibility that multiple curbs shall require leveling outside of the limits of construction to present a uniform appearance. This shall be at the discretion of the Engineer and will require prior approval before restoration commences.
D. The installation of handicapped ramps shall be in accordance with DPW Standard Drawing. Tactile/detectable tiles shall be placed true and square to the curb edge and tamped or vibrated into the fresh concrete in accordance with the manufacturer’s guidelines and shall be flush with the surrounding concrete within 1/16 of an inch.

ROCK ROADS AND WALKS

All existing rock roads, driveways, walks, and shoulders removed shall be replaced to the same lines and grades with base course material to a compacted thickness of six inches (6”) or the thickness of the removed surfacing, whichever is greater.

ADJUSTMENT OF FRAMES AND COVERS

A. All manholes within concrete paving areas shall be isolated (boxed out), at no direct pay, by means of an approved circular, square, or rectangular ring as directed by the Engineer.

B. Raise and adjust all manholes, catch basin frames, gate valves, water meters and any other pavement penetrations to the finished elevation of the new pavement. All raised appurtenances shall be grouted with concrete or otherwise as approved by the Engineer to firmly support them flush with the surface of the new pavement.

C. Adjustment of drainage catch basins shall be performed, as directed by the Engineer, in accordance with DPWGS Section C702.

COLD MILLING ASPHALTIC PAVEMENT

A. Equipment for cold milling asphaltic surfacing shall be in accordance with LSSRB Section 509.02 / DPWGS C509.02 and subject to the approval of the Engineer.

B. Construction requirements for cold milling asphaltic pavement shall be in accordance with LSSRB Section 509.03 / DPWGS C509.03 unless otherwise directed by the Engineer.

1. Except when milling reaches to the existing concrete base layer, the surface tolerance requirements of the cold milled surface shall meet the requirements for binder course in LSSRB Section 501 / DPWGS Section C501.

MINIMUM TESTING REQUIREMENTS

Random field density test will be taken on the backfill by an independent testing laboratory retained by the Sewerage and Water Board. Each one foot lift shall be compacted at or near optimum moisture content to a minimum of 95% standard
Proctor density (ASTM D698) prior to applying the next lift. The test results will be used to verify proper replacement of the backfill prior to pavement restoration. The cost charged to the Sewerage and Water Board by the testing lab for all failed compaction tests will be deducted from the Contractor’s invoice for the repairs.

A. Asphaltic Concrete Pavement Roadways
   1. One base thickness verification per 300 square yards or fraction thereof.
   2. One density test on the sub-base (if applicable) and base material per 300 square yards or fraction thereof.
   3. One pavement core for thickness verification per 300 square yards of pavement or fraction thereof.
   4. Temperature on all asphaltic concrete trucks.

C. Concrete Roadways
   1. One slump test minimum per 100 square yards of concrete or fraction thereof.
   2. Four (4) cylinders minimum per 100 square yards of concrete or fraction thereof.
   3. Independent densities, slumps, cylinders, cores, etc. will be required for isolated areas.
   4. The Engineer may request any number of additional tests.

D. There will be no adjustment in bid prices for pavement thickness deficiencies. If the pavement core thickness is less than specified, two additional cores on the same slab within a five-foot (5’) radius must be taken.
   1. If one of the additional core’s thicknesses is less than specified, then the entire panel (joint to joint) must be removed and additional cores on other adjacent panels within the core range (300 square yards) must be taken and the same procedure followed.
   2. If both of the additional core’s thickness is equal to or greater than specified, the Contractor shall either remove and replace the pavement or overlay the entire street width in the deficient area, adjusting any utility appurtenances within the affected pavement limits, with a minimum 2 inches (2”) of asphaltic concrete at no additional expense to the Board.

PAVING SCHEDULE
<table>
<thead>
<tr>
<th>Paved Surface</th>
<th>Material</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Streets</td>
<td>Portland Cement Concrete with 6 x 12 – 0/1 mesh</td>
<td>8” concrete w/6 x 12-0/1 mesh 8” stone base or approved equal (Compacted to 95% Maximum Dry Density)</td>
</tr>
<tr>
<td>2. Streets</td>
<td>Asphaltic Concrete</td>
<td>2” wearing course 3 1/2” binder course 12” stone base (Compacted to 95% Maximum Dry Density)</td>
</tr>
<tr>
<td>3. Driveways</td>
<td>Portland Cement w/ 6 x 12 - 0/1 mesh</td>
<td>6” concrete 6”sand subbase (Compacted to 95% Maximum Dry Density)</td>
</tr>
<tr>
<td>4. Sidewalks (Residential)</td>
<td>Portland Cement w/ 6 x 6 - No. 6 mesh</td>
<td>4” concrete 6” sand subbase (Compacted to 95% Maximum Dry Density)</td>
</tr>
<tr>
<td>5. Sidewalks (Commercial)</td>
<td>Same as Driveways</td>
<td>Same as Driveways above</td>
</tr>
<tr>
<td>6. Street milling (Cold Milling and overlay)</td>
<td>Asphalitic Concrete</td>
<td>2” Minimum cold milling 2” Minimum wearing course</td>
</tr>
</tbody>
</table>

**RAISED PAVEMENT MARKERS AND PLASTIC PAVEMENT MARKINGS**

A. Installation of raised pavement markers and plastic pavement markings shall be in accordance with LSSRB Section 731 or 732 / DPWGS Section C731 or C732.

**IDENTIFICATION TAGS**

A. Identification tags shall be installed at a minimum of one (1) per fifty (50) linear feet of pavement restoration. The tags shall be color-coded in accordance with the Department of Public Works specifications and shall include the year of the repair.

B. Each tag shall be embedded at zero grade tolerance, or slightly below, in the
new pavement surface. Failure to mark permanent pavement at the time of installation may result in fines from the Department of Public Works.

9-03 PAYMENT

Payment for Asphaltic Pavement Restoration, (5 ½”) Minimum shall be made at the unit price bid per square yard and in accordance with these Specifications contained herein. Price and payment shall be full compensation for material, labor, equipment, sawcutting, demolition, removal of existing material, excavation, disposal of excavated material, base material, compaction, traffic control and devices, cold-milling only for the purpose of obtaining a smooth transition between existing and new surfaces, identification tags, and any other related or incidental items necessary to complete the work for which separate payment is not provided for under other items in the Proposal Form.

Payment for Interim Asphaltic Pavement Restoration (2”) Minimum shall be made at the unit price bid per square yard of interim asphalt placed in accordance with these Specifications and shall include 6 inches compacted base. Price and payment shall be full compensation for material, labor, equipment, saw cutting, removal of existing material, excavation, disposal of excavated material, base material and compaction, temporary pavement marking, traffic control and devices, and any other related or incidental items necessary to complete the work for which separate payment is not provided for under other items in the Proposal Form.

Payment for Reinforced Concrete Pavement Restoration shall be made at the unit price bid per square yard and in accordance with these Specifications. Price and payment shall be full compensation for material, labor, equipment, saw cutting, demolition, removal of existing pavement, excavation, disposal of excavated material, base material and compaction, traffic control and devices, and any other related or incidental items necessary to complete the work for which separate payment is not provided for under other items in the Proposal Form.

Payment for Asphaltic Pavement on Concrete Paved Roadways (1 1/2”) Minimum shall be made at the unit price bid per square yard of asphalt placed in accordance with this Specification. Price and payment shall be full compensation for material, labor, equipment, saw cutting, removal of existing pavement, excavation, disposal of excavated material, base material and compaction, temporary pavement marking, traffic control and devices, and any other related or incidental items necessary to complete the work for which separate payment is not provided for under other items in the Proposal Form.
Payment for concrete paved sidewalks and driveways shall be made at the unit price bid per square yard of sidewalks and driveways in accordance with these specifications. Price and payment shall be full compensation for material, labor, equipment, saw cutting, removal of existing pavement, excavation, disposal of excavated material, base material and compaction, temporary pavement marking, traffic control and devices, and any other related or incidental items necessary to complete the work for which separate payment is not provided for under other items in the Proposal Form.

Payment for Concrete Curb Restoration shall be made at the unit price bid per linear foot and in accordance with these Specifications. Price and payment shall be full compensation for material, labor, equipment, saw cutting, demolition, excavation, removal of existing pavement disposal of excavated material, base material and compaction, traffic control and devices, and any other related or incidental items necessary to complete the work for which separate payment is not provided for under other items in the Proposal Form.

Payment for Reset Granite Curbs shall be made at the unit price bid per linear foot of Granite Curb in accordance with these specifications. Price and payment shall be full compensation for material, labor, equipment, saw cutting, removal of existing pavement, excavation, disposal of excavated material, base material and compaction, temporary pavement marking, traffic control and devices, and any other related or incidental items necessary to complete the work for which separate payment is not provided for under other items in the Proposal Form.

Payment for Handicap Ramp Restoration/Installation shall be made at the unit price bid per each and in accordance with these Specifications and DPW Standard Drawings. Price and payment shall be full compensation for material, labor, equipment, sawcutting, demolition, removal of existing pavement, excavation, disposal of excavated material, base material and compaction, traffic control and devices, and any other related or incidental items necessary to complete the work for which separate payment is not provided for under other items in the Proposal Form.

Payment for Batture Sand and Grass Sod shall be made at the unit price bid per square yard and in accordance with these Specifications. Price and payment shall be full compensation for material, labor, equipment, and topsoil, to furnish, install and maintain sod in accordance with these Specifications.
***END OF SECTION 09***
SECTION 10

DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

In accordance with the adoption of Resolution R231-97, the Sewerage and Water Board of New Orleans has established a race and gender-neutral Disadvantaged Business Enterprise (DBE) Plan. As part of that Plan, on any publicly bid goods and services (which shall include professional and non-professional services) project, not involving funds from a source other than the Sewerage and Water Board of New Orleans, the prime contractor shall be required to make a demonstrated good faith effort to award (36)% of the amount of the contract to certified disadvantaged business enterprises as subcontractors or suppliers performing commercial useful functions which are consistent with the work required on this contract. The percent participation having been determined for this specific contract by recommendation of the Construction Review Committee (CRC), which is a joint effort of representatives from the City of New Orleans, Sewerage and Water Board, and representatives of local contractor organizations. This percentage requirement shall be considered an informality which is subject to modifications and may be waived or adjusted by the Sewerage and Water Board of New Orleans if the prime contractor, after having demonstrated a good faith effort, is unable to comply with the requirement.

DEMONSTRATED GOOD FAITH EFFORTS

Before receiving an award of the contract, the contractor must meet the DBE goals or prove that he/she has made demonstrated good faith efforts. To determine whether a particular contract bidder has made demonstrated good faith efforts to reach the DBE participation goal, the Board and its staff will consider the following:

a. whether the contractor attended all pre-bid meetings that may have been scheduled by the Board to inform DBE firms of subcontracting opportunities and/or requested the Board Directory of Certified DBE firms;

b. whether the contractor advertised in general circulation and trade association publications, concerning the DBE subcontracting opportunities, and allowed the subcontractors reasonable time to respond;

c. whether the contractor provided written notice to a reasonable number of individually named DBE firms and allowed sufficient time for the DBE firms to participate effectively;
d. whether the contractor followed up initial solicitations of interest by contacting DBEs to determine with certainty whether the DBEs were interested in bidding;

e. whether the contractor selected specific portions of the work to be performed by DBEs in order to increase the likelihood of meeting the DBE goals (including breaking down contracts into smaller units to facilitate DBE participation);

f. whether the contractor provided interested DBEs with adequate information about the plans, specifications and requirements of the contract;

g. whether the contractor negotiated in “good faith” with interested DBEs and did not reject DBEs as unqualified without sound reasons based on a thorough investigation of their capabilities;

h. if the contractor did reject a DBE as unqualified, the contractor must state his or her reason for doing so in writing;

i. whether the contractor has used the services of available community organizations and small and/or disadvantaged business groups; local, state and federal small or disadvantaged business assistance offices; and other organizations that provide assistance in the recruitment and placement of DBE firms;

j. whether the contractor has made sufficient efforts to negotiate with DBEs for specific sub-bids, including at a minimum:

(1) names, addresses, telephone numbers of DBEs that the contractor contacted,

(2) a description of information provided to those DBE firms, and

(3) a statement of why additional agreements with DBEs were not reached to include but not limited to proof the DBEs’ price exceeded that of non-DBEs.
1. **Policy:**

   It is the policy of the Board that DBE firms, as defined in the Board’s Disadvantaged Business Enterprise Plan, shall have the maximum allowable opportunity to compete for the award of the participation in the performance of the Board’s public works contracts. Consequently, the CRC and the Board have set the DBE participation goal applicable to this construction contract.

2. **DBE Obligation:**

   The Board and its contractors agree to ensure that DBE’s, as defined in the Board’s Disadvantaged Business Enterprises Plan, shall have the maximum allowable opportunity to compete for the award of the participation in the performance of contracts and subcontracts provided under this agreement. In this regard, contractors shall take all necessary and reasonable steps in accordance with this DBE Plan to ensure that DBE’s have the maximum allowable opportunity to compete for such contracts. The Board and its contractors shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of the Board’s public works contracts.

3. **Utilization of DBE Vendor Listings:**

   All bidders are required to utilize the most recent Sewerage and Water Board State-Local Disadvantaged Business Enterprise Program Approved Vendor Listings for **Construction, Goods & Services/Professional Services**, in their selection of DBE entities to meet DBE participation goals. **Bidders are required to utilize DBE’s as subcontractors or suppliers only in the areas for which they are certified. A description of the areas of work that DBE’s can provide is contained in these vendor listings.** In addition, an alphabetical list of vendors/contractors is provided indicating the name of the company, address, name of owner, telephone number, fax number, the date the company became certified, and a description of the work that these entities are certified to perform. **Companies that are already certified as a DBE cannot fulfill the DBE requirements by listing themselves as the subcontractor to meet the DBE goal. The prime contractor shall select another DBE from the Sewerage and Water Board’s Approved Vendor Listing.**

4. **Contacting DBE’s and Obtaining a Firm Price**

   **All prime contractors are required to contact DBE’s and obtain a firm**
price before listing the DBE’s on the Participation Summary Sheet.

5. **Failure to Comply with DBE Bid Specifications:**

All bidders for this Board contract are hereby notified that failure to comply with the above DBE specifications may constitute the bid as being non-responsive, and sufficient cause for rejection.

6. **Failure to Carry Out DBE Policy:**

All bidders, potential contractors, or subcontractors for this Board contract are hereby notified that failure to comply with the DBE policy and DBE obligations, set forth above, shall constitute a breach of contract which may result in termination of the contract or such other remedy as deemed appropriate by the Board, to include excluding bidder from bidding on future Board contracts.

7. **Setting Minimum Participation Goals:**

The stated minimum percentage DBE participation goal recommended by CRC and approved by the Board applies to the work of this contract. The two lowest numerical bidders must complete and submit a DBE Participation Summary Sheet no later than three (3) days after the bid opening (excluding Saturdays, Sundays and holidays). The DBE Participation Summary Sheet should be completed properly, showing that at least the percentage goal of the total contract bid price will be subcontracted or otherwise awarded through procurement action to DBE’s. Should the bidder fail to comply with this request, the bid shall be considered unresponsive, unless:

a. An affidavit is furnished by the bidder with its bid showing that the DBE goals cannot be met for the following reasons:

   (1) No DBE firms made offers. Here, it must be shown, documented and demonstrated that good faith efforts (as defined in Part III, D, 2. of the Board’s DBE plan) were made by the bidder to obtain the participation of DBE firms and that they did not respond, or

   (2) The DBE offers made and accepted for subcontract and/or material supplies do not total the stated goal for participation, but total a lesser percentage, and
(3) The bidder was unable to obtain DBE further participation, despite his or her demonstrated good faith efforts (as defined in Part III, D, 2 of the Board’s DBE Plan) to obtain additional participation by DBE firms.

b. Each of the assertions made by the bidder must be supported by documentary evidence.

8. **Other Clauses Unaffected:**

Nothing contained herein shall invalidate, change, annul, release, restrict, or affect the liability on the bonds or insurance given by the contractor, or the time required for completion of the contract.

9. **Determination of Efforts to Meet Goals:**

Initial determination of bidder efforts to meet the DBE participation goal shall be based on the DBE participation representations submitted by the two lowest numerical bidders no later than three (3) days after the bid opening (excluding Saturdays, Sundays and holidays). Bidders shall submit all the forms required herein no later than three (3) days after the bid opening (excluding Saturdays, Sundays and holidays), and the DBE Office will examine the contents thereof. The Board’s DBE Officer may, if deemed advisable, request further information, explanation or justification from any bidder.

10. **Contract Monitoring:**

a. The Board’s DBE Office will monitor contractor during the operation of the contract to insure that the contractor meets all of its DBE obligations as specified in the contract bid. The Board’s DBE office shall establish rules and regulations, to be approved by the Board, for the ongoing monitoring of contractor compliance.

b. Disadvantaged Business Enterprise Program Office personnel or their designated representative shall be allowed to conduct periodic monitoring of contractors’ compliance with the agreed to Disadvantaged Business Enterprise Program participation requirements. Contractors shall be required to complete and return to the Disadvantaged Business Enterprise Program Office in the time required all requests for information and data relative to the contractors’ activities in meeting the required Disadvantaged
Business Enterprise participation goal. Additionally, Disadvantaged Business Enterprise Office personnel or their designated representative shall have access to contractor and subcontractor(s) records pertaining to, but not specifically limited to labor, costs and materials supplied and used on the Board contract, as well as inspection and photocopying of any and all contracts, agreements and correspondence relative to the Disadvantaged Business Enterprise contract participation requirements. Such inspection will be performed during normal business hours, and will be conducted in such a fashion so as to minimize interference with production of the contract. Visits may be made to job sites, as well as to administrative offices of the contractor and subcontractor(s) participants. Such inspection and on-site visits may be scheduled with or without prior notice to the contractor or Disadvantaged Business Enterprise subcontractor participant. Contractors’ failure to comply with these monitoring requirements may result in termination of the contract or such other remedy as deemed appropriate by Board.

11. **Maintaining Records:**

Subsequent to the completion of a contract, contractors are required to maintain for three (3) years such records as are necessary to determine compliance with their DBE obligations. During construction, contractors shall submit reports as requested to enable the DBE Office to monitor this compliance.

12. **Umbrella Bonding:**

On contracts where subcontracting exists and where practicable (i.e., when a substantial risk or financial hardship would not be incurred by the prime contractor), the contractor may use an umbrella bond to encompass the DBE firm.

13. **Board Action to Seek Compliance:**

The contractor consents to such appropriate actions taken to ensure that prime contractors and subcontractors comply with the DBE provisions, to include but not limited to:

a. desk audits to review all material, and information concerning the contractor’s compliance;
b. on-site reviews that may include interviews, visits to project locations, and inspection of documents and/or information not available at the desk audit that pertains to the contractor’s compliance;

c. any additional investigation that may be called for by a lack of proper record keeping, failure of the prime contractor to cooperate; failure of DBEs to cooperate; visible evidence unsatisfactory performance; other evidence as may warrant further investigation.

14. **Non-Compliance Finding:**

The Board staff will make compliance determinations regarding its prime contractors. Documentation of noncompliance will include the specific areas in which the contractors failed to comply. In these instances, appropriate legal action consistent with the DBE and other contract provisions will be taken.

15. **Contractor’s Duties**

a. **Record Keeping**

Successful bidders shall establish and maintain records and submit regular reports to the DBE office as required, which will identify and assess progress in achieving DBE subcontract goals and other DBE participation efforts.

b. **Failure To Comply With EDBP Participation Requirements**

Failure to comply with any of the EDBP requirements of this contract shall constitute a violation of the terms and conditions of this contract and a cause for the termination of the contract at the option of the Board.

**Such violations shall include, but not limited to:**

Failing to meet the percentage participation requirements as set out in the contract documents.

Failing to use certified EDBP contractors/vendors in performing the scope of work as identified in the contract documents (EDBP participation summary sheet).
Failing to comply with the “monitoring of EDBP requirements” included herein as part of the contract, such as contractors:

Failure to submit quarterly report and any other necessary reports timely and adequately as required by the EDBP Office.

Failure to grant access to contractor/subcontractor records by EDBP Office personnel, and

Failure to allow on-site investigations and visits, etc.

Failing to report the removal or termination of a certified EDBP vendor/subcontractor.

Failing to secure authorization for replacement of certified EDBP subcontractors from the Director of the Economically Disadvantaged Business Program.

In Lieu of termination the Board, through the EDBP Office, may impose the following penalties:

Withhold from the contractor in violation up to 10% of all future payments due to the contractor, until such time as the violations have been corrected.

Withhold from the contractor in violation, all future payments until such time as the violations have been corrected.

c. Subcontract Clause

All bidders and potential contractors must assure the Board that they will include the above clauses in all agreements, which offer further subcontracting opportunities.

d. Contract Award

Bidders are hereby advised that meeting DBE subcontract goals or making demonstrated good faith efforts to meet such goals are conditions of being awarded and maintaining construction, procurement, or professional services contracts by the Board.

e. Restrictions on DBE Subcontracting
No DBE subcontractor or vendor selected to perform work as a DBE on a Sewerage and Water Board contract will be allowed to subcontract any portion of its work to a Non-Board certified DBE, unless the work to be performed is necessary for the execution of the contract and there are no Board certified DBE’s available to perform such work.

This process will require that each DBE participant performing work on a Sewerage and Water Board funded contract submit a request to subcontract out any portion of work deemed necessary for execution of the contract to the Board’s EDBP office. On a form provided by the EDBP office, the DBE contractor or vendor will indicate the dollar amount of work to be subcontracted, the specific scope or nature of the work, the percentage of the total amount of work to be performed by the DBE subcontractor and vendor, and the entity to whom the work will be subcontracted.

Both prime and DBE subcontractors are advised that the failure to comply with these requirements may result in the loss of DBE certification and non-compliance by the prime contractor in meeting DBE contractual obligations.

f. Changes In DBE Participation

The Prime Contractor will not be allowed to make changes in DBE participation without submittal of a written request explaining reason, a revised Participation Summary Sheet and approval by the Director of the Economically Disadvantaged Business Program. Failure to comply with these requirements may result in non-compliance by the Prime Contractor in meeting DBE contractual obligations.

16. POLICY TO ENHANCE THE USE OF DBE VENDORS

All vendors/contractors are encouraged to identify and use S&WB certified DBE vendors to the fullest extent possible in major as well as minor purchases of heavy equipment, hardware supplies, etc.

Additionally, the originating Department will include within the specifications the most currently available approved vendor listings.
The Sewerage and Water Board believes that developing such a policy would be a positive step to increase the dollar value of contracts awarded to DBE vendors and subcontractors.

17. **ACCESS TO APPROVED VENDOR LISTS**

The current listings of Vendors approved by the Sewerage and Water Board are available for use by the bidders on the Sewerage and Water Board external Website, [WWW.SWBNO.ORG](http://WWW.SWBNO.ORG).

***END OF SECTION 10***
SECTION 11

VOLUNTARY EXTENSION OF THE AWARD

If this bid is determined to be the lowest responsive and responsible bid, Bidder agrees to bid extension of the award date by up to two (2) thirty (30) day periods in accordance with the provisions of Louisiana Revised Statues, Title 38, Section 2215 (A).

AGREED:

____________________________________
NAME OF BIDDER (TYPE OR PRINT)

____________________________________
SIGNATURE OF BIDDER

____________________________________
COMPANY NAME

*** END OF SECTION 11***
TO: Sewerage and Water Board of New Orleans
    Purchasing Department, Room 133
    625 St. Joseph St
    New Orleans, LA 70165

BID FOR: Contract 30002
Restoration of existing gravity sewer mains damaged by Hurricane Katrina by excavation and replacement from manhole to manhole, CIPP Lining from manhole to manhole and point repairs at various sites throughout Orleans, Parish

The undersigned bidder hereby declares and represents that she/he: a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by:_________________ and dated:_______________.

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following ADDENDA: (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging)

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated “Base Bid” * but not alternates) the sum of:

        Dollars ($____________________)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description.

Alternate No. 1 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

        Dollars ($____________________)

Alternate No. 2 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

        Dollars ($____________________)

Alternate No. 3 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:

        Dollars ($____________________)

NAME OF BIDDER:________________________________________
ADDRESS OF BIDDER:_____________________________________

LOUISIANA CONTRACTOR’S LICENSE NUMBER: ______________________________

NAME OF AUTHORIZED SIGNATORY OF BIDDER: ____________________________
TITLE OF AUTHORIZED SIGNATORY OF BIDDER: ____________________________
SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER **: ______________________
DATE: __________________________

* The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

** If someone other than a corporate officer signs for the Bidder/Contractor, a copy of a corporate resolution or other signature authorization shall be required for submission of bid. Failure to include a copy of the appropriate signature authorization, if required, may result in the rejection of the bid unless bidder has complied with La. R.S. 38:2212(A)(1)(c) or RS 38:2212(O) .
BID SECURITY in the form of a bid bond, certified check or cashier’s check as prescribed by LA RS 38:2218.A is attached to and made a part of this bid.
TO: Sewerage and Water Board of New Orleans  
Purchasing Department, Rm 133  
625 St. Joseph St  
New Orleans, LA 70165  

BID FOR: Contract 30002  

Restoration of existing gravity sewer mains damaged by Hurricane Katrina by excavation and replacement from manhole to manhole, CIPP Lining from manhole to manhole and point repairs at various sites throughout Orleans, Parish

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

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### SAW CUTTING, REMOVAL, DISPOSAL AND REPLACING CONCRETE SIDEWALKS (4" THICK REINFORCED CONCRETE W/GRAVEL FINISH)

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<th>UNIT OF MEASURE</th>
<th>UNIT PRICE</th>
<th>UNIT PRICE EXTENSION</th>
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<tbody>
<tr>
<td>30</td>
<td>68</td>
<td>S.Y.</td>
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### SAW CUTTING, REMOVAL, DISPOSAL AND REPLACING CONCRETE SIDEWALKS (REINFORCED CONCRETE W/BRICKS TO MATCH EXISTING)

<table>
<thead>
<tr>
<th>REF. NO.</th>
<th>QUANTITY</th>
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<th>UNIT PRICE</th>
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<tbody>
<tr>
<td>31</td>
<td>35</td>
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### MINIMUM DEPTH OF 3” BATTURE SAND AND GRASS SOD AS DIRECTED

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<th>REF. NO.</th>
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<tr>
<td>32</td>
<td>1550</td>
<td>S.Y.</td>
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### CONCRETE HANDICAP RAMP RESTORATION/INSTALLATION

<table>
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<th>REF. NO.</th>
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<th>UNIT PRICE EXTENSION</th>
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</thead>
<tbody>
<tr>
<td>33</td>
<td>7</td>
<td>EA</td>
<td></td>
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</table>

Wording for “DESCRIPTION” is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner.
12-02 ADDITIONAL REQUIREMENTS

All blank spaces in this Proposal section shall be filled. A bid price shall be indicated for each bid item. Bids received without all such items completed will be considered non-responsive. The bid shall contain an acknowledgement of receipt of all Addenda in space provided. The Louisiana Uniform Public Work Bid Form & Unit Price Form (if applicable) and the amount of Deposit or Bid Bond five percent (5%) of the total amount of the proposal is REQUIRED to be submitted in a sealed envelope on bid opening date. The two (2) lowest numerical bidders have three (3) days after the bid opening (exclusive of Saturdays, Sundays and Holidays) to submit any additional information such as (Voluntary Extension Sheet, Affidavit, Economically Disadvantage Business Summary Sheet if applicable) as well as requirements of Sections 12-03 through 12-7 below. Failure to do so will render the bid non-responsive.

12-03 BIDDER DECLARATION

______ do hereby declare that ______ the only person ______ interested in this proposal and that no other person than the one ______ herein named have any interest herein or in the contract proposed to be taken; that it is made without any connection with any other person or persons making proposal for the same work and that it is in all respects fair and without collusion or fraud; also that no member of the Sewerage and Water Board or of the City Council of the City of New Orleans or any officer or employee of the City of New Orleans or of the several boards thereof, who are by law excluded from participation herein, and directly or indirectly interested herein or in furnishing bond or in any portion of the profits hereof.

______ do hereby also declare that ______ have LOUISIANA CONTRACTOR’S LICENSE in the field of __________________________ with NUMBER ________________.

And ______ do further declare that ______ have carefully examined the annexed specifications and the drawings furnished, and personally inspected the ground and that ______ will contract to provide the necessary tools, machinery and apparatus and other means of construction, and to furnish all labor and material specified in this contract or called for by the plans, necessary to complete the work in the manner specified and within the time mentioned in the specifications and according to the requirements of the Engineer, as herein set forth.

12-04 In accordance with Louisiana Revised Statute 38:2227 the following affidavit shown on next page must be submitted by the two lowest bidders within 3 days of the bid opening (excluding Saturdays, Sundays, and Holidays). Failure to do so will render the bid non-responsive. Please note, THE AFFIDAVIT MUST BE NOTARIZED.

12-05 GUARANTEES

____________________________ guarantee that the whole of the work under this contract will be fully completed within (365) calendar days after the date of the "Work Order" from the Engineer.

In case of delay in the completion of the contract beyond the contract time of completion as determined by the Board ______ hereby agree to pay, as liquidated damages, the sum of Five Hundred Dollars ($500.00) for each calendar day of such delay, which liquidated damages shall become due by the mere elapsing of the delay without the necessity of putting ______ in default.
12-06  EMERGENCY PROCEDURES

Contractor must furnish telephone numbers for routine or emergency telephone calls.

NAME               TITLE

____________________________________________________________________________

TELEPHONE NO.:  
NORMAL CALLS __________________________________________________________

EMERGENCY _______________________________________________________________
STATE OF LOUISIANA
PARISH OF ORLEANS

AFIADIVIT

BEFORE ME, the undersigned authority, duly commissioned and qualified and sworn in and for the State and Parish aforesaid, personally came and appeared ____________________________ who after being duly sworn, did depose and say as follows:

1) He/she is the ___________________________ (title) of ________________________________ (company);

2) He/she has not been convicted of, or has entered a plea of guilty or nolo contendere to any of the crimes, or equivalent federal crimes, listed in Louisiana Revised Statute 38:2227, specifically: public bribery, corrupt influencing, extortion, money laundering, theft, identity theft, theft of a business record, false accounting, issuing worthless checks, bank fraud, forgery, contractors misapplication of payments, malfeasance in office.

3) The following is a list of individual partners, incorporators, directors, managers, officers, organizers, or members who have a minimum ten percent interest ownership interest in the bidding entity:

   _________________________________ (name)  ________________________________ (name)
   _________________________________ (name)  ________________________________ (name)
   _________________________________ (name)  ________________________________ (name)

4) None of the above named individual partners, incorporators, directors, managers, officers, organizers, or members, who has a minimum ten percent interest ownership in the bidding entity, been convicted of, or has entered a plea of guilty or nolo contendere to any of the crimes, or equivalent federal crimes, listed in Louisiana Revised Statute 38:2227, specifically: public bribery, corrupt influencing, extortion, money laundering, theft, identity theft, theft of a business record, false accounting, issuing worthless checks, bank fraud, forgery, contractors misapplication of payments, malfeasance in office.

5) No other persons hold an ownership interest in the bidding entity via a counter letter.

6) In accord with LA Revised Statute 38:2212.10 the entity represented herein is registered and participates in the “Status verification system” of the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324(a), known as the “E-Verify” program to verify that all employees in the State of Louisiana are legal citizens of the United States or are legal aliens.

7) The entity represented herein shall continue, during the term of the contract, to utilize a status verification system to verify the legal status of all new employees in the state of Louisiana.

8) The entity represented herein shall require all subcontractors to submit to the contractor a sworn affidavit verifying compliance with the Status verification system.

WITNESSES:

_________________________________  ______________________________________

AFFIANT

__________________________________  ______________________________

NOTARY PUBLIC    Notary Id. No. or Bar Roll No.

PLEASE PRINT NAME OF NOTARY

Minimum Percentage Goal Participation for this Contract is 36%

**CONTRACT 30002-RESTORATION OF EXISTING GRAVITY SEWER MAINS DAMAGED BY HURRICANE KATRINA BY EXCAVATION AND REPLACEMENT FROM MANHOLE TO MANHOLE AND POINT REPAIRS AT VARIOUS SITES THROUGHOUT ORLEANS PARISH**

<table>
<thead>
<tr>
<th><strong>Name and Address of Disadvantaged Business Enterprise</strong></th>
<th><strong>Prime Company’s Name</strong></th>
<th><strong>Prime Address</strong></th>
<th><strong>Prime Phone Number</strong></th>
<th><strong>Prime Signature</strong></th>
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**Scope of Work to be Performed**

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<tr>
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</thead>
<tbody>
<tr>
<td>Price</td>
<td>to total bid</td>
<td>to be performed</td>
<td>Scope of work to be performed</td>
</tr>
<tr>
<td>Dollar amount</td>
<td>Percentage of work</td>
<td></td>
<td></td>
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</tbody>
</table>

**Company Name**

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Disadvantaged Business Enterprise Name and Address</th>
</tr>
</thead>
</table>

**Prime Name**: _____________________________________________________  **Prime Signature**: ____________________________ ____________

**Print Name**: ____________________________  **Signature**: ____________________________

**Prime Address**: ______________________________________________________  **Date**: _________________________________________________

**Telephone Number**: ____________________________  **Telephone Number**: ____________________________

---

**NOTE**: Signature required even if judged NOT APPLICABLE by the BIDDER

**Revised October 2012**

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**Minimum Percentage Goal Participation for this Contract is 36%**