



STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
PO BOX 778
DOVER, DELAWARE 19903

JACK MARKELL
GOVERNOR

SHAILEN BHATT
SECRETARY

VIA WEBSITE POSTING AND OVERNIGHT DELIVERY

(302) 760-2030
FAX (302) 739-2254

August 6, 2013

Contract No. T200507303.02
Federal Aid Project No. NHS-050(20)
BR 3-156, Indian River Inlet Park Enhancements
Sussex County

Ladies and Gentlemen:

Enclosed is Addendum No. 2 for the referenced contract consisting of the following:

1. The date for the receipt of bids has been moved to Tuesday, August 20, 2013 at 2:00 P.M. Local Time.
2. Special Provision 302513, Crushed P.C. Concrete Base Course, has been revised.
3. Special Provision 401510, Porous Flexible Pavement, has been revised.
4. Special Provision 606510, Handrail Type 1, has been revised.
5. Special Provision 614686, Water Service System, has been revised.
6. Ten (10) sheets, Construction Plans, sheets 109-113, 115-118, and 149, revised, to be substituted for the same sheets in the Plan Set.

Please note the revisions listed above and submit your bid based upon this information.

Sincerely,

signature on file

James H. Hoagland
Contract Services Administrator

:jhh
Enclosures

STATE OF DELAWARE



DEPARTMENT OF TRANSPORTATION

BID PROPOSAL

for

CONTRACT T200507303.02

FEDERAL AID PROJECT NO. NHS-050(20)

BR 3-156, INDIAN RIVER INLET PARK ENHANCEMENTS

SUSSEX COUNTY

ADVERTISEMENT DATE: July 15, 2013

PROSPECTIVE BIDDERS ARE ADVISED THAT THERE WILL BE A MANDATORY PRE-BID MEETING FOR THIS CONTRACT ON Tuesday, July 23, 2013 at 2:30 p.m. IN THE DeIDOT ADMINISTRATION CENTER, 800 BAY ROAD, U.S. ROUTE 113 SOUTH, DOVER, DELAWARE, 19901.

Completion Date 334 Calendar Days

SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
DELAWARE DEPARTMENT OF TRANSPORTATION
AUGUST 2001

Bids will be received in the Bidder's Room, Transportation Administration Center, 800 Bay Road, Dover, Delaware until 2:00 P.M. local time ~~Thursday, August 8, 2013~~ **Tuesday, August 20, 2013.**

302513 - CRUSHED P.C. CONCRETE BASE COURSE

Description:

The item shall consist of removing, hauling, stockpiling, preparing the subgrade, placing, and compacting Crushed PC Concrete Base Course in areas of full-depth reconstruction in accordance with the locations and details on the Plans and as directed by the Engineer.

Materials:

The Crushed PC Concrete Base Course must be reduced into particles meeting the gradation requirements of Graded Aggregate Base Course, Type B as specified in Subsection 821.03.

Construction Methods:

The subgrade shall be properly constructed in accordance with Subsection 202.06. No base course material shall be placed until the subgrade has been approved by the Engineer. The placement shall be in accordance with Section 302.04 (a) and (b).

Method of Measurement:

The quantity of Crushed PC Concrete Base Course will be measured by the cubic yard. The volume of cubic yards will be measured as the number of square yards of surface area of Crushed PC Concrete Base Course, placed and accepted, multiplied by the depth shown on the Plans. If the depth of the Crushed PC Concrete Base Course, placed and accepted, is greater than the depth shown on the Plans, the plan depth will be used to measure the quantity for payment.

If the limits of measurement for pay quantities for Crushed PC Concrete Base Course are designated on the Plans, the quantity of Crushed PC Concrete Base Course measured for payment will be the number of square yards of surface area multiplied by the depth, placed within the payment lines and grades shown on the Plans. If the limits are not designated on the Plans, or have been changed by the Engineer, in-place dimensions of the accepted Crushed PC Concrete Base Course will be established. The computation of quantity will be made from cross-sections taken after the completion of work under this Section.

Materials placed beyond the designated lines and grades as shown on the Plans or beyond the limits established by the Engineer will not be measured for payment. There will be no separate measurement made for the water applied as required in subsection 302.04.

Basis of Payment:

The quantity of Crushed PC Concrete Base Course will be paid for at the Contract unit price per cubic **yard** installed, as required by the Contract for this material. Price and payment will constitute full compensation for removing, hauling, stockpiling, preparing the subgrade, placing and compacting the materials, and for furnishing all labor, equipment, tools, and incidentals required to complete the work.

No payment will be made for materials placed beyond the designated lines and grades as shown on the Plans or beyond the limits established by the Engineer.

8/2/13

401510 - POROUS FLEXIBLE PAVEMENT

Description:

This work consists of furnishing all materials and constructing porous flexible pavement in accordance with the notes and details on the Plans, as described herein, and as directed by the Engineer.

Materials and Construction Methods:

The Support System for the porous flexible pavement shall be "Turf Pavers" as manufactured by E. P. Henry Corporation (201 Park Avenue, Woodbury, NJ 08096; Telephone - 609 - 845-6200); "Geoblock" by Presto Products Company (P.O. Box 2399, Appleton, WI 54913-2399; Telephone - 414 - 738-1336); "Uni Echo-Stone" as manufactured by Unilock (229 Route 541 Bypass, Lumberton, NJ 08048; 609-914-0000); or approved equal.

The area of porous flexible pavement shall be excavated, graded and compacted to 95% or more of the laboratory maximum density. Once the subgrade is accepted, the Support System shall then be placed as per the manufacturer's recommendations.

The porous flexible pavement shall be filled and compacted per the manufacturers recommendations.

Method of Measurement:

The quantity of porous flexible pavement will be measured in square feet of porous flexible pavement installed and accepted.

Basis of Payment:

The quantity of porous flexible pavement will be paid for at the Contract unit price per square foot. Price and payment will constitute full compensation for furnishing and placing all materials as described herein and on the Plan details; excavation, grading, compacting, etc., for all labor, tools, equipment and necessary incidentals to complete the work.

8/2/13

606510 - HANDRAIL TYPE I

Description:

This item shall consist of fabricating, finishing, furnishing, and erecting complete in place an aluminum pedestrian railing, in locations shown on drawings, and to the lines and grades shown on the drawings or as ordered by the Engineer. The type of railing and details shall be as shown on the drawings.

Manufacturer's Shop drawings shall be submitted to landscape Architect /Engineer for approval prior to manufacturer.

Materials:

Components:

Aluminum: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than strength and durability properties of alloy and temper designated below for each aluminum form required.

Posts: Provide cast aluminum alloy conforming to the requirements of ASTM B108, ANSI 356-T6. All material shall be free from pitting, seam marks, roller marks, stains, discolorations, and other imperfections where exposed to view on finished units. Posts shall be the size and configuration as indicated on the drawings.

Rails: Provide extruded aluminum alloy conforming to the requirements of ASTM B221, 6061-T6. Rail component lengths shall be cut to correspond to post spacing such that all seams are located directly over a post.

Posts and rails shall have an anodic coating in accordance with MIL-A-8625F, Type III, Class I, 0.002" (clear natural mat grey finish).

Fasteners, fittings and anchors: Anchor bolts shall conform to the requirements of ASTM F593, alloy group 2 (316L), condition SH heavy threaded rod. Nuts shall conform to the requirements of ASTM F594, alloy group 2 (316L), condition CW SS heavy hex nut. Washers shall be stainless steel (316L). The bolts and washers attaching the post to the concrete base must be isolated from the aluminum post base plate with dielectric (Teflon) washers and bolt sleeves.

Welding Electrodes and Filler Metal: Provide type and alloy of filler metal and electrodes as recommended by producer of metal to be welded and as required for color match, strength, and compatibility in fabricated items.

Grout: Non-shrink, Nonmetallic. Premixed, factory-packaged, non-staining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for exterior applications.

Additional Posts: Contractor shall provide to the owner twenty (20) additional posts for future replacement parts should the need occur.

Construction Methods:

General:

Fabricate pedestrian railing to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but never less than that required to support structural loads.

Assemble pedestrian railing in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.

Fit exposed connections together to form tight, hairline joints.

Perform cutting, drilling, and fitting required to install pedestrian rails. Set rails accurately in location, alignment, and elevation; measured from established lines and levels and free from rack.

Do not weld, cut, or abrade surfaces of handrail and railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.

Set posts plumb within a tolerance of 1/16 inch in 3 feet.

Pedestrian rails are joined together with extruded aluminum internal splice sleeves as noted on the drawings and fitted with a coiled spring pin. All railing splices shall be located such that they are directly over a post. Type 1 joint (Standard) shall be provided to accommodate movement range up to +/- 3/8".

Do not support pedestrian railing temporarily by any means that does not satisfy structural performance requirements.

Railing Connections:

Fabricate rails by connecting members with concealed mechanical fasteners and fittings, unless otherwise indicated. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.

The rails are attached to the supporting posts with two stainless steel set pins located and secured into the rear of the rail with a tapped set screw hole as indicated on the drawings.

Anchoring Posts:

Provide anchorage materials capable of withstanding loads imposed by railing.

Carefully locate location of anchors using template in the construction details.

Core-drill holes in concrete to dimensions recommended by the manufacturer of the expansion anchor being used. Clean holes of loose material.

Insert stainless steel anchor, epoxy in place. Install per manufacturer's recommendations.

Place neoprene spacer over anchor to sit between base of post and concrete substrate.

Plate/post over anchors. Plate/post to be set as to not scratch bottom of plate.

Provide small non metallic washer and tamper resistant stainless steel nut. Tighten as to keep plate in place but without scratching plate.

Protection:

Protect finishes of pedestrian railing from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at the time of Substantial Completion.

Warranty:

The pedestrian railing shall have a limited 1 year warranty against defects in workmanship and materials.

The finish for the pedestrian railing shall have a limited 5 year warranty against the occurrence of spalling, peeling, cracking, flaking, or blistering due to natural causes.

Method of Measurement:

The quantity of Hand Rail Type I will be measured in linear feet.

Basis of Payment:

The quantity of Hand Rail Type I will be paid for at the Contract unit price per linear foot. Price and payment will constitute full compensation for furnishing and installing posts, rails and for all labor, equipment, tools, and incidentals necessary to complete the work.

8/2/13

614686 - WATER SERVICE SYSTEM

Description:

This work consists of furnishing and installing all water main pipe and fittings, service pipe, restraint devices and/or thrust blocks, valves, hose stations (campsite services), fire hydrants, water valve and hose station concrete pads, dump station water towers, shower towers, water spigots, valve boxes, meter pits, pavement removal and replacement, excavation, backfill, compaction, dewatering, completing all connections to existing water main as shown in the Contract Drawings, furnishing all necessary borrow material, proper disposal of all excess material and construction debris and furnishing and installing all services, equipment, materials and labor necessary for the complete and proper installation of the water mains as indicated in the Contract Documents.

All water main construction activity shall be coordinated with utility owner.

Materials:

All water main pipe material shall be Pressure Class 150 psi, molecularly oriented Polyvinyl Chloride (PVC) pipe with mechanical joint or push on ends. The pipe shall be Ultra-Blue CIOD pressure pipe manufactured by Uponor ETI Co., PW Eagle, or approved equal. Pipe shall be manufactured in lengths not to exceed 20 feet and each section shall bear the National Sanitation Foundation seal for potable water carrying pipe. A manufacturer certification shall be furnished in accordance with Section 6.3 of the relevant AWWA specification.

All fittings shall be made of gray or ductile iron in accordance with AWWA C110 or C153. Fittings shall be provided with mechanical joint ends furnished in accordance with AWWA C111. All fitting shall be double cement mortar lined with bituminous seal coat in accordance with AWWA C014.

Gate valves shall be in conformance with AWWA C509, latest addition, and be rated for 250 psi working pressure. Gate valves shall be epoxy coated iron body, with non-rising stems, triple O-ring seals, mechanical joint ends; square nut operated, and shall open by turning counterclockwise. Wrench nut cap screws, stuffing box bolts and nuts and bonnet bolts and nuts shall be type 304 Stainless Steel and shall be factory installed (not as by Contractor in field). Resilient seat gate valves shall have a modified wedge disc and otherwise conform to all applicable AWWA Standards and shall be manufactured by Mueller Co., Model #A-2360, Mueller Co., or Model A2362 (with AquaGrip restrainer), or Kennedy, Model KSII, NRS, or approved equal.

Valve boxes for gate valves shall be two-piece screw type with 5-1/4 inch shafts and No. 6 round bases. Valve boxes shall be adjustable between the limits of 2'-4" and 3'-4". If necessary, the water main shall be lowered to provide adequate depth of installation of the valve box. Lids shall be extra deep with two holes and the word "WATER" cast in the upper surface. Valve box assemblies shall be as manufactured by Tyler Pipe Model 564-S, or East Jordan, Series 8550 or approved equal.

Service piping shall be ultra-high molecular weight polyethylene plastic pipe manufactured in accordance with ASTM D-2239 and AWWA C901 with a maximum dimension ration (SDR of 9). Pipe shall meet the requirements of Type III Class C Category 5-P34 polyethylene as defined in ASTM D-1248 and shall be rated for a 150 psi working pressure at 73.4 degrees F and designed to withstand a hydrostatic stress

of 630 psi at the same temperature. The pipe shall be approved by the National Sanitation Foundation for use as a carrier of potable water. Pipe shall have name of manufacturer, pipe size, ASTM specification number and pressure rating permanently imprinted on exterior of pipe wall at minimum intervals of 5 feet. Pipe delivered and stockpiled shall be packaged for protection against dirt and damage and suitably covered to protect the pipe from sunlight.

Polyethylene connections shall be made with cold-flared couplings with AWWA standard inlet threads suitable for connection to polyethylene water service piping. Polyethylene pipe connections shall be as manufactured by Mueller Co., Model #H-15451, or by Ford Meter Box Co., Inc., Model #C14-44Q or approved equal. Connections to PVC water mains shall be as manufactured by Ford Meter Box Co., Inc., Model #FS303 Stainless Steel Saddle, or Power Seal Pipeline Products Corp., Model #3411AS All Stainless Steel Saddle or approved equal.

Restraint devices shall be provided at all bends, tees, plugs, tapping sleeves and fire hydrants. Restraint devices for PVC pipe shall incorporate a series of machined serrations (not as cast) on the inside diameter to provide positive restraint, exact fit, full circle contact and support of the pipe wall. Restraint devices shall be manufactured of high strength ductile iron, ASTM A536, Grade 65-45-12. All Restraint devices for the pipe shall have working pressure ratings equivalent to the full rated pressure of the pipe on which they are installed, with a minimum 2:1 safety factor in any nominal pipe size. Restraint devices for PVC mechanical joint or push-on fittings shall be Uni-Flange Retainer Series UFR 1500-C or EBAA Iron Series 2000 PV or approved equal. Restraint devices for ductile iron mechanical joint or push-on fittings shall be Uni-Flange Retainer Series UFR 1400-D or EBAA Iron Series 1100 or approved equal.

Pipeline detection tape shall be D-Tec Tape as manufactured by Vent-Tech USA, of Richmond, IL, Pro-kote, or approved equal. The tape shall be a minimum of six inches wide, blue in color, imprinted with the words "CAUTION-WATER LINE BELOW".

Portland Cement for thrust blocks and encasements shall conform to ASTM C150 for Type II and shall have a minimum compressive strength of 4000 psi at 28 days, unless otherwise noted on the plans. The use of anti-freeze compounds, salts, chemicals or other foreign materials, for the purpose of lowering the freezing point of the concrete is prohibited. No calcium chloride or ingredients containing chlorides shall be mixed in any concrete.

All concrete (when temperatures are above 55 degrees F) shall have a water reducing and retarding admixture. When temperatures are below 54 degrees F a water reducing admixture shall be used. The water reducing and retarding admixture shall conform to ASTM C494-71 for Type 'D', and the water reducing admixture shall be Type 'A'. This admixture shall be of a non-air entraining type.

Dump Station Water Towers shall be manufactured by Trumbull Recreation Supply – Water Tower: Model FPWT-XL, Tower Company Inc. – Romort Water Tower, RV Park Supplies – RV Dump Station Water Hose, or Approved Equal.

Shower Tower shall be manufactured by Shower Tower Inc. (shall be ADA compliant with 2 high showers on opposite sides, one foot shower, one hose bib), or Approved Equal.

Special Requirements:

The Contractor's attention is directed to the following special requirements.

Shop drawings and/or catalog cuts of pipe, valves, fittings, and hydrants shall be submitted for review/approval. If further information is required, the Contractor shall furnish it immediately.

As-built drawings shall be the Contractor's responsibility. During the progress of work, maintain an accurate record of the location of the piping with reference to job base lines grades and elevations. Show all changes made in the piping installation from the layout and materials shown on the approved shop drawings.

All construction must be performed in compliance with the Occupational Safety and Health Act of 1970, any subsequent amendments and all rules and regulations thereto appurtenant.

The locations of the existing underground structures as indicated on the drawings are approximate only and are based on the best information available at this time. The Contractor shall uncover and support existing underground utilities/structures as necessary at his own expense as part of the Contract. Any damage to existing utilities/structures resulting from the Contractor's activities shall be repaired at the Contractor's expense. Any and all emergency repairs to existing utilities/structures that have been damaged by the Contractor's activities shall be the responsibility of the Contractor. The Engineer will notify the Contractor by telecommunication and the Contractor shall be required to commence the repair immediately. In the event the Engineer is unable to contact the Contractor for immediate emergency repair work in the length of time as determined by the Engineer, the Engineer reserves the right to attend to any and/or all emergency repair work and to submit the costs of repair directly to the Contractor for complete payment.

The Contractor shall guarantee that all work and/or workmanship performed under this Contract shall be in strict accordance with the Contract Documents. This guarantee shall be for a period of two years from and after the date of completion and acceptance of the work. The Contractor shall repair, correct or replace as required, promptly and without charge, all work, equipment and material, or parts thereof, which fail to meet the above guarantee or which in any way fail to comply with or fail to be in strict accordance with the terms and provisions and requirements of the Contract during such two-year period.

All changes to the design of the water main during construction shall receive approval by the Engineer prior to installation.

If, at any time before the final acceptance of the contract, any broken pipes, or any defects are found in the water mains or in any appurtenances, the Contractor shall cause the same to be removed and replaced by proper material and workmanship, without extra compensation for the labor and material required, even though such injury or damage may not have been due to any act, default or negligence on the part of the Contractor. All materials shall be carefully examined by the Contractor for defects, just before placing, and any found defective shall not be placed in the line.

The Contractor shall be required at his own expense to prevent dust nuisance.

Construction Methods:

All work in connection with construction of water mains shall conform to the applicable requirements of the Standard Specifications of Sussex Shores Water Company and DNREC except as modified by the Plans and these Special Provisions. In case of conflict, the Specifications of utility owner shall prevail.

Pipe Delivery, Storage and Handling – Material delivery, storage and handling shall be executed in

accordance with AWWA C-600 and AWWA C-900, "Inspection, Responsibility for Materials and Handling of Material." Pipe, fittings, valves, hydrants and accessories shall be loaded and unloaded by lifting with hoists or skidding so as to avoid shock or damage. Under no circumstances shall such materials be dropped. Pipe handled on skidways shall not be skidded or rolled against pipe already on the ground. Materials shall be stored in such a manner as to prevent damage, water and dirt contact and freezing. Any damaged materials shall be removed from the site at once and replaced.

Excavation and Trenching – Excavation shall be performed in accordance with Section 208 – Excavation and Backfill for Pipe Trenches except as amended herein. Trenches shall be excavated to the necessary width and depth as directed. Trenches under paving and trenches at all points below the top of the pipe to be laid therein shall be in accordance with standard detail drawings. Where sheeting is used, the maximum width below the top of the pipe, as prescribed above, shall be measured between the interior faces of the sheeting as driven, but in no case shall stringers or waling-strips be so placed as to interfere with the proper ramming of the earth under and around the pipe. In case the sheeting does not extend below a point 6-inches above the pipe as laid, the maximum width allowed shall be measured between the faces of the excavation below the bottom of the sheeting.

Trenching on hard surface roads will be permitted only when the hard surface has first been cut for its full depth along the trench lines, by sawcutting.

Materials removed which are to be replaced after the installation of the pipe line or structure, shall be stored in a suitable place and manner until such time as the materials are reused. The Contractor shall replace at his own expense any such materials lost or damaged beyond use by careless or neglectful removal and storage. Sod and topsoil over areas to be excavated or filled may, at the Contractor's option, be striped and stored for reuse, as approved by the Engineer.

No greater length of trench at any location shall be left open in advance of the completed structure placed there in than shall be authorized or directed. The Engineer shall be empowered, to require the refilling or open trenches over completed pipe lines if, in his judgment, such action is necessary. The Contractor shall have no claim for extra compensation even though to accomplish said refilling he is compelled temporarily to stop excavation or other work at any place.

If work is stopped on any trench for any reason except by order of the Engineer and the excavation is left open for an unreasonable length of time in advance of construction, the Contractor shall if so directed, refill such trench at his own cost and shall not again open said trench until he is ready to complete the structure therein. If the contractor shall refuse or fail to refill such trench completely within forty-eight (48) hours after said notice the Engineer shall be authorized to do the work and the Engineer shall charge the expense thereof to the Contractor and retain the same out of any monies due or to become due to him under the Contract.

The excavation of all trenches shall be fully completed at least twenty (20) feet in advance of pipe laying, unless otherwise authorized or directed by the Engineer.

The Contractor at his own expense, shall keep all excavations free from water below the subgrade of the work while the work is in progress and to such extent as may be necessary while excavation work along is being carried on. He shall build all dams, under drains and other devices necessary for this purpose and provide and operate pumps of sufficient capacity for dewatering the excavations. He/she shall provide for the disposal of the water removed from excavations, in such manner as shall not cause injury to the public

health, to public or private property, or to any portion of the work completed or in progress, or any impediment to the use of the streets by the public. The cost of dewatering is to be included in the Lump Sum Bid. The method used to accomplish this dewatering must meet with the Engineer's approval.

Any material encountered during the excavation of any trench which will not consolidate over a reasonable period of time after being replaced in the trench shall be removed from the project site and replaced with material approved by the Engineer. Excavating below subgrade and supplying and placing of imported select fill material shall be included in the Contract Lump Sum Bid Price for Water Service System.

In backfilling trenches in which pipe is laid the earth shall be carefully placed by hand in 6-inch layers and solidly compacting under, around and over the pipe for a depth of at least one (1) foot above the top of the pipe. Such compacting shall be done in a thorough manner with hand rammers made for the purpose and the greatest care shall be exercised so as not to disturb freshly made joints or the alignment of the pipe. The backfill shall be carried up and tamped evenly on both sides of the pipe. After the backfill material has reached the abovementioned height and has been tamped as specified the remainder of the trench may be filled by hand or by machinery at the option of the Contractor. Proper care shall be taken at all times not to injure the pipe line by jarring or by the impact of improperly placed fill material.

All refill material above the level of one foot over the top of the pipe shall be tamped in 8 inch layers to the density of the adjacent undisturbed soil unless otherwise shown, specified or directed. Compaction shall be carried out to achieve a density of at least 95% of the maximum density as determined by AASHTO Method T-191. If a test shows that the actual density in any area is less than that required density the Contractor shall recompact the area represented by the unsatisfactory test result. Recompacted areas shall be subject to retesting at the option of the Engineer. Mechanical tampers shall be capable of exerting a blow equal to two hundred fifty (250) foot pounds per square foot of area of tamping face. Puddling will be allowed only with the written permission of the Engineer.

After completion of refilling all material not used therein, including such earth that cannot be properly rounded up over the refilled excavation, shall be removed and disposed of in such a manner and at such point or points as shall be approved or directed and all roads, sidewalks, and other places on the line of work shall be left free, clean and in good order. Said cleaning-up shall be done by the Contractor without extra compensation and if he shall fail to do such work within reasonable time after receipt of notice it will be performed by the Engineer and the cost shall be retained out of the monies due or to become due to the Contractor under the Contract.

In the event that more material is needed to fill areas as shown on the plans the Contractor shall obtain borrow material from other sources. The obtaining of such borrow excavation shall be the Contractor's responsibility. All borrow excavation shall be of satisfactory quality for the purpose for which it is required.

All fills shall be placed in layers not thicker than eight inches and each layer shall be thoroughly compacted by rolling, tamping, or otherwise as directed by the Engineer. Where directed, water shall be used as required to bring the earth into proper condition for maximum compaction.

Mechanical tampers shall be capable of exerting a blow equal to two hundred-fifty (250) foot pounds per square foot of area of tamping face. One mechanical tamper shall be used for every two hand shovelers.

The excavation, backfill and backfilling shall be included in the lump sum bid.

Installation of Water Main Pipe and Fittings – All pipe, valves, fittings, hydrants and buttresses shall be installed as specified in AWWA standards C-600 and C-900, the pipe manufacturer's recommended methods and as stated herein, unless otherwise specified by the Engineer.

All pipe, valves and fittings shall be thoroughly cleaned and shall be entirely free from grease or oil and substantially free from blacking, dirt, sand, rust, slag or fluxing materials.

All pipes, fittings and valves to be connected by standard mechanical joints shall be installed by experienced pipe layers to the satisfaction of the Engineer. Prior to making up joints the bells, pipe ends and rubber gaskets shall be thoroughly washed with soapy water. A cast iron gland shall be slid over the pipe and followed by a rubber gasket, thoroughly soaped, with its tapered side facing the bell. The pipe shall then be inserted fully into the bell. The rubber gasket shall be forced into position with the fingers until it is flush with the face of the bell, the gland shall be slid against the face of the rubber gasket and the bolts inserted and made finger-tight. Nuts shall be tightened with a torque wrench as specified by the manufacturer and AWWA. Bolts shall be drawn up evenly on alternate sides, beginning at the top, keeping the gland parallel to the face of the bell at all times. In the event the use of ratchet wrenches is permitted, extreme care shall be taken to tighten the nuts to the specified tension without over tightening. Bell hole excavation may be required to allow proper wrench movement.

Push-on joints shall be made up in strict conformance with the manufacturer's recommendations and lubricants.

Pipe and fittings shall be moved to the trench, carefully lowered, and set to line and grade. Pipe shall be laid on the sub-grade as specified under Excavation and Trenching. No blocking will be permitted. No pipe or fitting shall be installed until sufficient trench has been completely excavated to satisfy the Engineer that no unforeseen obstructions of any kind are likely to be encountered. Where it is necessary to raise or lower the pipes due to obstructions or other causes, the Engineer shall be notified and the change in grade shall be effected in accordance with details which will be furnished by the Engineer. In crimping, joint deflections shall not exceed maximum deflections stated by the manufacturer for the specified joint and pipe sizes. No pipe shall be cut, nor cut pipe installed, except at the specific direction of the Engineer. Pipe shall be cut by the Contractor when required without any additional compensation. In cutting, the ends shall be cut at right angles to the axis and the edges filed to a smooth taper. Special care shall be exercised by the Contractor to prevent damage to any pipe. Before placing in the trench, each pipe or fitting shall be carefully cleaned of any foreign substance, which may have collected therein and shall be kept clean at all times thereafter. No pipe shall be laid upon a foundation into which frost has penetrated, nor at any time when the Engineer shall deem that there is a danger of the formation of ice or the penetration of frost at the bottom of the excavation. All requirements regarding the minimum length of open trench and promptness of refilling shall be observed. The open ends of all pipe and fittings in the trench shall be closed to the satisfaction of the Engineer before leaving the work for the night and for all holidays or other times of interruption to the work.

Any excessive settlement of the pipe requiring repairs shall be the sole responsibility of the Contractor (within the limits of the guarantee) and he shall make and do all required work as may be necessary to accomplish the required repairs and return the site to proper condition and appearance, without additional compensation.

Fittings and valves shall be placed along the water mains where shown on the drawings or where designated by the Engineer in accordance with the requirements as provided elsewhere in these specifications.

The Contractor shall furnish and install a valve box for every proposed valve. The valve box shall be carefully placed and set at a right angle to the water main. The valve box shall not transmit shock or stress to the valve and shall be centered and plumb over the wrench nut of the valve, with the box cover flush with the surface of the finished pavement or set to the elevation shown on the drawings. The flange at the bottom of the top section shall rest upon bricks, which shall extend into solid ground on each side of the trench for a minimum of eight inches. For valve boxes not placed in roadway areas, but in graded areas the top shall be set at the existing finished grade or as directed by the Engineer.

In tamping the backfill around the valve, special care shall be taken to keep the box in place and to have it firmly supported so as to avoid settlement. Any box which is found out of place or which is not firmly supported shall be dug up and reset in a satisfactory manner at the Contractor's expense.

All fittings shall be firmly blocked with concrete against undisturbed earth.

Pipeline detection tape shall have a dual installation: Continuously along all water mains and twelve inches from the ground surface.

If, at any time before the final acceptance of the contract, any broken pipes, or any defects are found in the water mains or in any appurtenances, the Contractor shall cause the same to be removed and replaced by proper material and workmanship, without extra compensation for the labor and material required, even though such injury or damage may not have been due to any act, default or negligence on the part of the Contractor. All materials shall be carefully examined by the Contractor for defects, just before placing, and any found defective shall not be placed in the line.

Water Main Testing - The Contractor shall test complete sections of the underground piping for leakage in accordance with the requirements of Section 4 of the AWWA C600, 2 hour duration.

The Contractor will be permitted to have the pipe trench open at pipe joints until satisfactory completion of the leakage test provided the openings are properly guarded and he/she assumes all risks of damage associated therewith. The portion of trench shall be backfilled immediately after the installation to prevent pipe movement.

The Engineer shall be notified in advance of all tests and will provide an inspector; all tests shall be completed to his entire satisfaction.

The test pressure shall be 100 psi.

The inspection of water main testing indicates pipe leakage, the Contractor shall identify and repair the defect at no additional expense to the Engineer and inspection and/or testing shall be repeated. All repairs shall be made with new material. Failure to meet the tests specified above will be sufficient cause to reject the work until the defects are satisfactorily repaired. All expenses and costs incurred for inspection and testing/retesting shall be borne by the Contractor at no extra cost to the Engineer or to the State and shall be included in the Contract lump bid price for the item Water Service System.

Water Main Disinfection – Disinfection procedures shall be completed in accordance with AWWA C601 and the Delaware Division of Public Health regulations as specified herein.

Prior to disinfection, all new and exposed portions of existing systems shall be flushed at a minimum

velocity of 2-1/2 feet per second.

One of the three methods of chlorination shall be used to disinfect water mains. They are the tablet method, which gives an average chlorine dose of approximately 25 mg/l, the continuous feed method, gives a 24 hour chlorine residual of not less than 10 mg/l and the slug method, with a 3 hour exposure of not less than 50 mg/l free chlorine. The Engineer and/or their representative shall be present to inspect the method of disinfection used and confirm test results.

When charging and testing mains, which are not close enough to connect directly by pipe or hose lines to mains carrying Engineer's water, tank wagons shall be used to haul water and serve as suction wells.

All labor, tools, materials, equipment, gauges and meters, necessary for making the tests and chlorinating these mains shall be furnished by the Contractor.

Before commencing the disinfection, the Contractor shall provide a written disposal plan to the Engineer and Delaware State Health Department. The plan shall detail how the Contractor will dispose of the chlorinated water. The disposal method shall be approved by the Engineer and State Health Department. If the water is heavily chlorinated, it shall be neutralized prior to disposal.

The Contractor shall be responsible for obtaining bacteriological tests to prove that the disinfection has been satisfactorily performed and the main can be placed in service.

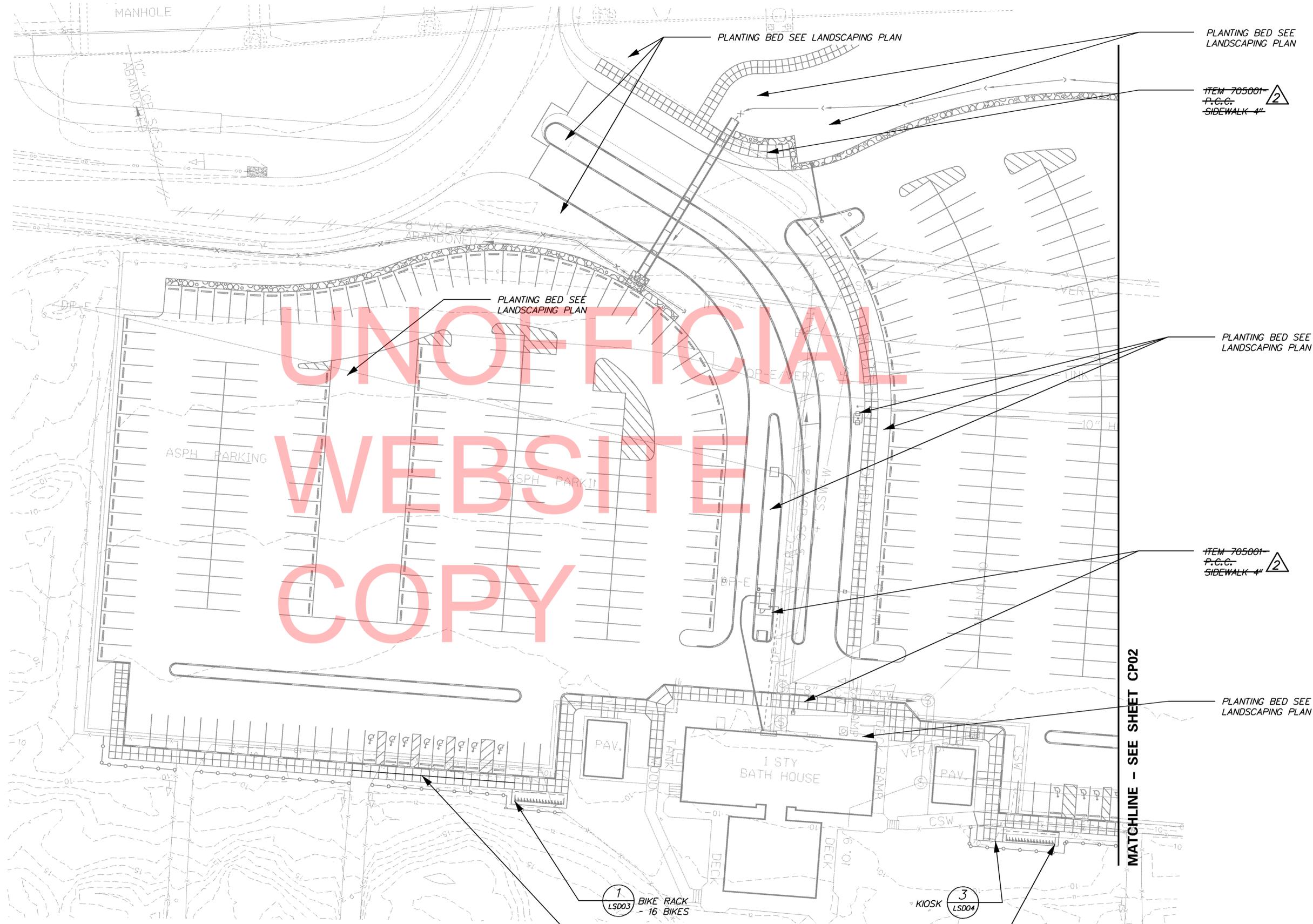
Method of Measurement:

The quantity of Water Service System, service piping and/or hose bibs will not be measured.

Basis of Payment:

The quantity of Water Service System will be paid for at the Contract lump sum. Price and payment will constitute full compensation for furnishing and installing all water main pipe and fittings, service pipe, restraint devices and/or thrust blocks, valves, hose stations, and concrete pads, dump station water towers, shower towers, water spigots, valve boxes, meter pits, pavement removal and replacement, excavation, backfill, compaction, dewatering, completing all connections to existing water main as shown in the Contract Drawings, furnishing all necessary borrow material, proper disposal of all excess material and construction debris and furnishing and installing all services, equipment, materials and labor necessary for the complete and proper installation of the water mains as indicated in the Contract Documents.

8/2/13



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NOTE:
 1. THIS SHEET ONLY INCLUDES BASE BID CALLOUTS
 2. SEE CONSTRUCTION PLANS FOR P.C.C. SIDEWALK LOCATIONS AND TYPE

1
LSD03
BIKE RACK
- 16 BIKES

ITEM 705001
P.C.C.
SIDEWALK 4"

3
LSD04
KIOSK

1
LSD03
BIKE RACK
- 16 BIKES

MATCHLINE - SEE SHEET CP02



**INDIAN RIVER INLET
 PARK ENHANCEMENTS**

| | |
|------------------------|-------------------|
| CONTRACT T200507303 | BRIDGE NO. X |
| COUNTY SUSSEX | DESIGNED BY: RK&K |
| | CHECKED BY: RK&K |

MATERIAL CALLOUT PLAN

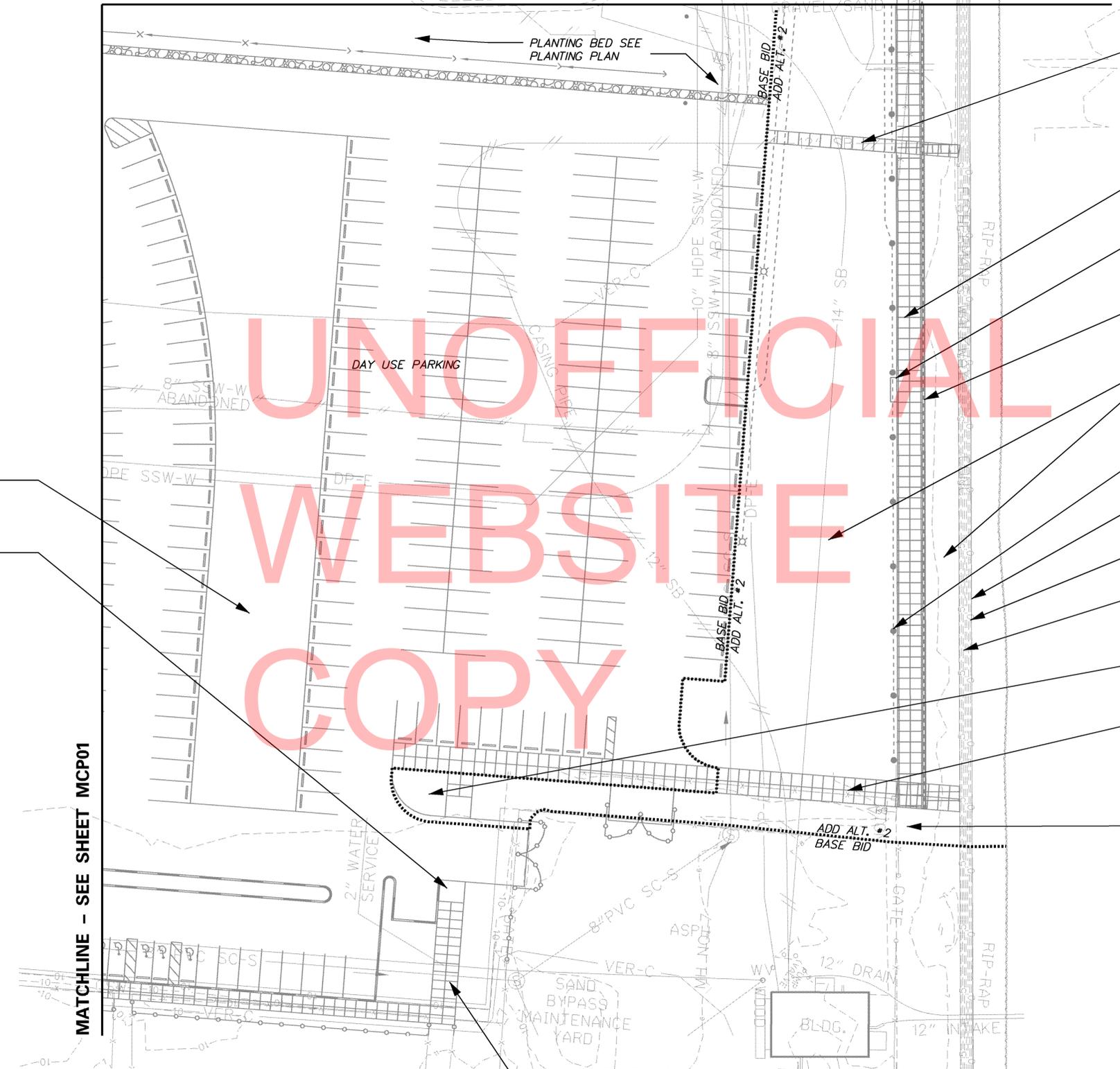
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|--------------------|
| MCP01 |
| SHEET NO. 109 |
| TOTAL SHTS. 282 |

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| |
|--|
| ADDENDUM NO. 2 REMOVED SIDEWALK CALLOUTS |
|--|

| ADDENDUMS / REVISIONS |
|-----------------------|
| |
| |

MATCHLINE - SEE SHEET MCP03



ITEM 705001
P.C.C.
SIDEWALK 4' \triangle 2

ITEM 705533 6" P.C.C. SPECIAL 1
PROMENADE PAVEMENT
SEE PAVEMENT DETAIL \triangle 2

1 LSD04
BENCH TYPE A
& WHEELCHAIR PAD

5 LSD05 1 LSD05
PROMENADE RAILING

PLANTING BED SEE
LANDSCAPING PLAN

6 LSD03
LIGHT FIXTURE AT PROMENADE WALK

EXISTING BULKHEAD TO REMAIN

EXISTING RAIL TO REMAIN

EXISTING FISHERMEN WALK TO REMAIN

PLANTING BED SEE
LANDSCAPING PLAN

ITEM 705001
P.C.C.
SIDEWALK 4' \triangle 2

PLANTING BED SEE
LANDSCAPING PLAN

PLANTING MEDIAN SEE
LANDSCAPING PLAN

HANDICAP RAMP, TYP.

MATCHLINE - SEE SHEET MCP01

ITEM 705001
P.C.C.
SIDEWALK 4' \triangle 2

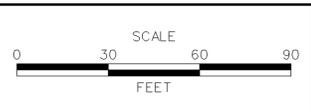
NOTE:
 \triangle 2 1. SEE CONSTRUCTION PLANS FOR P.C.C. SIDEWALK LOCATIONS AND TYPE

NOTE:
BENCH TYPE A - ITEM 763510 SITE FURNISHING POWDER COATED METAL SLAT BENCH W/ BACK. REFER TO SHEET LSD04 DETAIL 1.
BENCH TYPE B - ITEM 763510 SITE FURNISHING POWDER COATED METAL SLAT BENCH W/OUT BACK. REFER TO SHEET LSD 04 DETAIL 2.
BENCH TYPE C - ITEM 763510 SITE FURNISHING BENCH W/ SHADE STRUCTURE REFER. TO SHEET LSD04 DETAIL 4.



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| ADDENDUM NO. | REMOVED | ADDENDUMS / REVISIONS |
|--------------|-------------------|-----------------------|
| 2 | SIDEWALK CALLOUTS | |

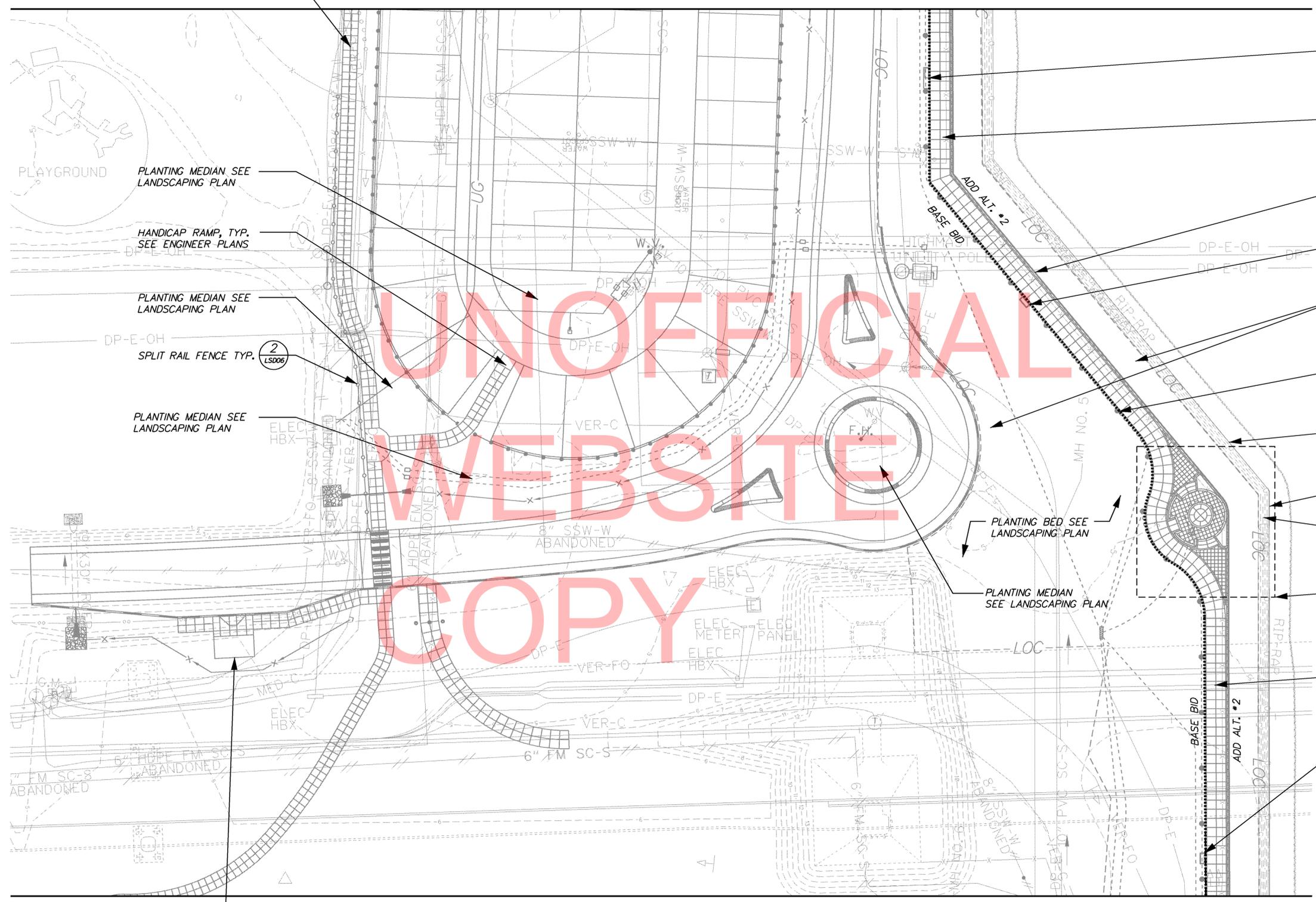


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|------------------------|---------------------------------------|
| CONTRACT T200507303 | BRIDGE NO. X |
| COUNTY SUSSEX | DESIGNED BY: RK&K CHECKED BY: RK&K |

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|--------------------|
| MCP02 |
| SHEET NO. 110 |
| TOTAL SHTS. 282 |

ITEM 705001 - P.C.C. SIDEWALK

MATCHLINE - SEE SHEET MCP04



1 LSD004 BENCH TYPE A & WHEELCHAIR PAD

ITEM 705533 - 6" P.C.C. SPECIAL 1 PROMENADE PAVEMENT - SEE PAVEMENT DETAIL

5 LSD005 1 LSD004 PROMENADE RAILING

1 LSD004 BENCH TYPE A

PLANTING BED SEE LANDSCAPING PLAN

6 LSD003 LIGHT FIXTURE AT PROMENADE WALK

EXISTING BULKHEAD TO REMAIN

EXISTING RAIL TO REMAIN

EXISTING FISHERMEN WALK TO REMAIN

2 LSD007 SOUTHWEST NODE

PLANTING BED SEE LANDSCAPING PLAN

PLANTING MEDIAN SEE LANDSCAPING PLAN

1 LSD004 BENCH TYPE A & WHEELCHAIR PAD

ITEM 705533 - 6" P.C.C. SPECIAL 1 PROMENADE PAVEMENT - SEE PAVEMENT DETAIL

MATCHLINE - SEE SHEET MCP02

BUS SHELTER SEE ARCHITECTURAL DRAWINGS

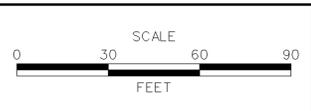
NOTE:
 1. SEE CONSTRUCTION PLANS FOR P.C.C. SIDEWALK LOCATIONS AND TYPE

NOTE:
 BENCH TYPE A - ITEM 763510 SITE FURNISHING POWDER COATED METAL SLAT BENCH W/ BACK. REFER TO SHEET LSD004 DETAIL 1.
 BENCH TYPE B - ITEM 763510 SITE FURNISHING POWDER COATED METAL SLAT BENCH W/OUT BACK. REFER TO SHEET LSD 04 DETAIL 2.
 BENCH TYPE C - ITEM 763510 SITE FURNISHING BENCH W/ SHADE STRUCTURE REFER. TO SHEET LSD04 DETAIL 4.



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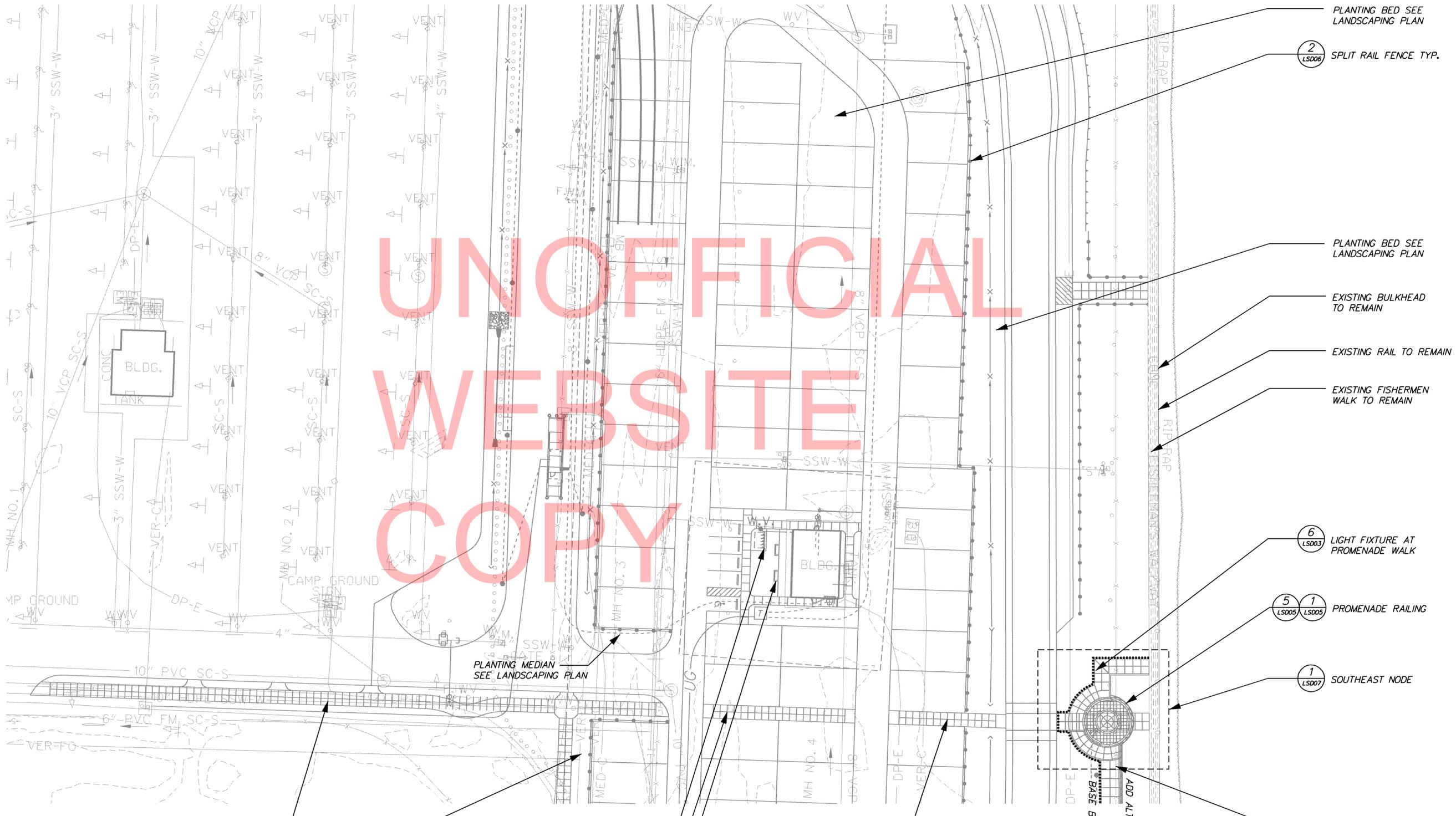
| ADDENDUM NO. | REMOVED | ADDENDUMS / REVISIONS |
|--------------|---------|-----------------------|
| 2 | REMOVED | SIDEWALK CALLOUTS |



| | | |
|------------|--------------|----------|
| CONTRACT | BRIDGE NO. | X |
| T200507303 | DESIGNED BY: | RK&K |
| COUNTY | CHECKED BY: | RK&K |
| SUSSEX | | |

| | |
|------------------------------|-----|
| MATERIAL CALLOUT PLAN | |
| SHEET NO. | 111 |
| TOTAL SHTS. | 282 |

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PLANTING BED SEE LANDSCAPING PLAN

2 LSD06 SPLIT RAIL FENCE TYP.

PLANTING BED SEE LANDSCAPING PLAN

EXISTING BULKHEAD TO REMAIN

EXISTING RAIL TO REMAIN

EXISTING FISHERMEN WALK TO REMAIN

6 LSD03 LIGHT FIXTURE AT PROMENADE WALK

5 LSD05 1 LSD05 PROMENADE RAILING

1 LSD07 SOUTHEAST NODE

ITEM 705533
6" P.C.C. SPECIAL + PROMENADE PAVEMENT
SEE PAVEMENT DETAIL

2 ITEM 705001
P.C.C. SIDEWALK 4"

PLANTING SEE LANDSCAPING PLAN

BIKE RACK - 5 BIKES

2 ITEM 705001
P.C.C. SIDEWALK 4"

(2) BENCH TYPE B

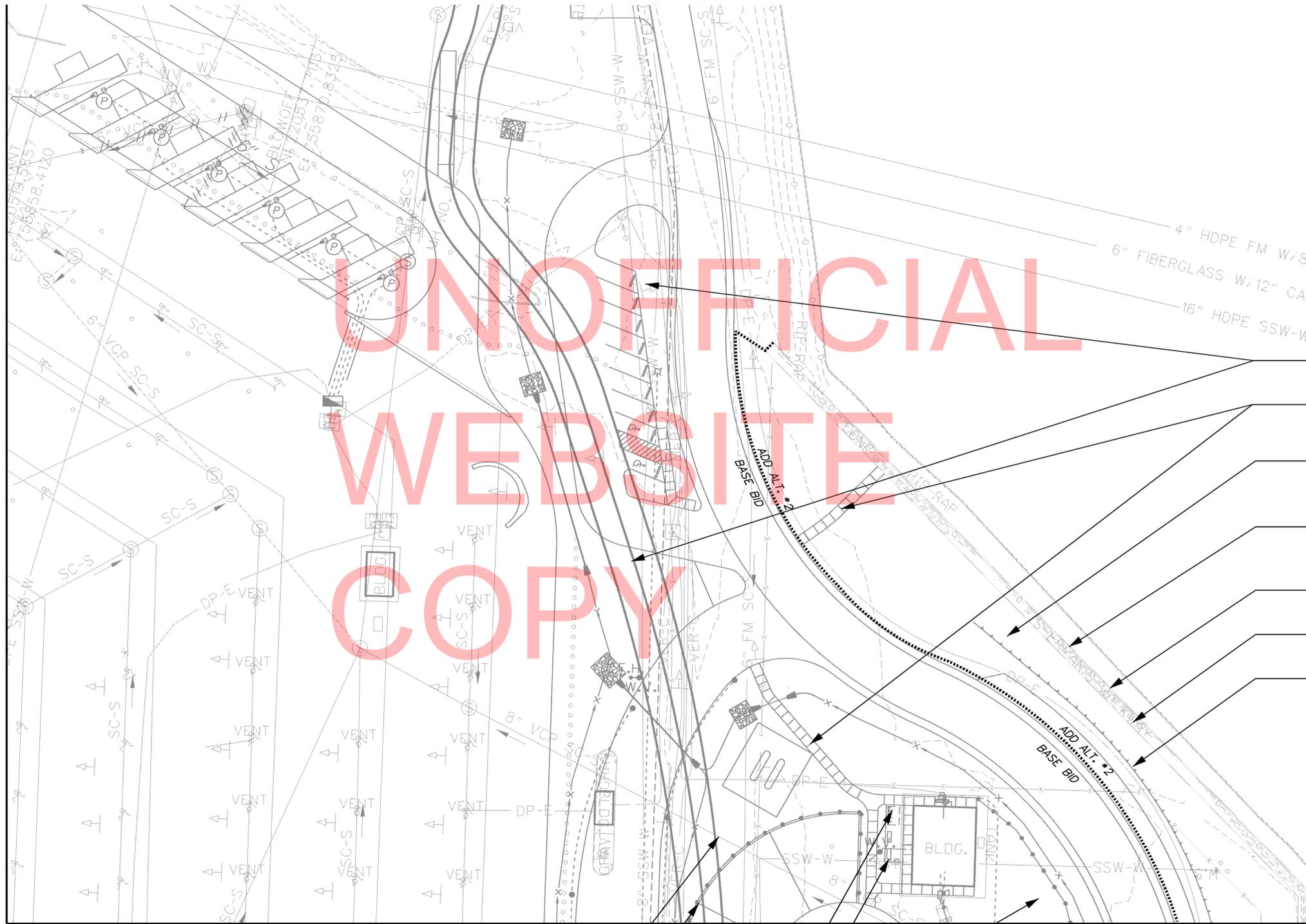
2 ITEM 705001
P.C.C. SIDEWALK 4"

NOTE:
BENCH TYPE A - ITEM 763510 SITE FURNISHING POWDER COATED METAL SLAT BENCH W/ BACK. REFER TO SHEET LSD04 DETAIL 1.
BENCH TYPE B - ITEM 763510 SITE FURNISHING POWDER COATED METAL SLAT BENCH W/OUT BACK. REFER TO SHEET LSD 04 DETAIL 2.
BENCH TYPE C - ITEM 763510 SITE FURNISHING BENCH W/ SHADE STRUCTURE REFER. TO SHEET LSD04 DETAIL 4.

NOTE:
1. SEE CONSTRUCTION PLANS FOR P.C.C SIDEWALK LOCATIONS AND TYPE

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MATCHLINE - SEE SHEET MCP06



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4" HDPE FM W/8'
6" FIBERGLASS W/12" CAS
16" HDPE SSW-W

- PLANTING MEDIAN SEE LANDSCAPING PLAN
- ~~ITEM 705001~~
P.C.C. SIDEWALK #2
- PLANTING BED SEE LANDSCAPING PLAN
- EXISTING BULKHEAD TO REMAIN
- EXISTING RAIL TO REMAIN
- EXISTING FISHERMEN WALK TO REMAIN
- GUARDRAIL

MATCHLINE - SEE SHEET MCP04

NOTE:
2. SEE CONSTRUCTION PLANS FOR P.C.C SIDEWALK LOCATIONS AND TYPE

- PLANTING BED SEE LANDSCAPING PLAN
- BIKE RACK - 5 BIKES
- (2) BENCH TYPE B
- PLANTING BED SEE LANDSCAPING PLAN
- SPLIT RAIL FENCE TYP.

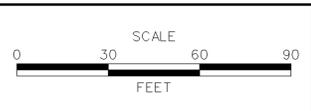
NOTE:
BENCH TYPE A - ITEM 763510 SITE FURNISHING POWDER COATED METAL SLAT BENCH W/ BACK. REFER TO SHEET LSD04 DETAIL 1.
BENCH TYPE B - ITEM 763510 SITE FURNISHING POWDER COATED METAL SLAT BENCH W/OUT BACK. REFER TO SHEET LSD 04 DETAIL 2.
BENCH TYPE C - ITEM 763510 SITE FURNISHING BENCH W/ SHADE STRUCTURE. REFER TO SHEET LSD04 DETAIL 4.



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| ADDENDUM NO. | REMOVED | ADDENDUMS / REVISIONS |
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| 2 | REMOVED | SIDEWALK CALLOUTS |



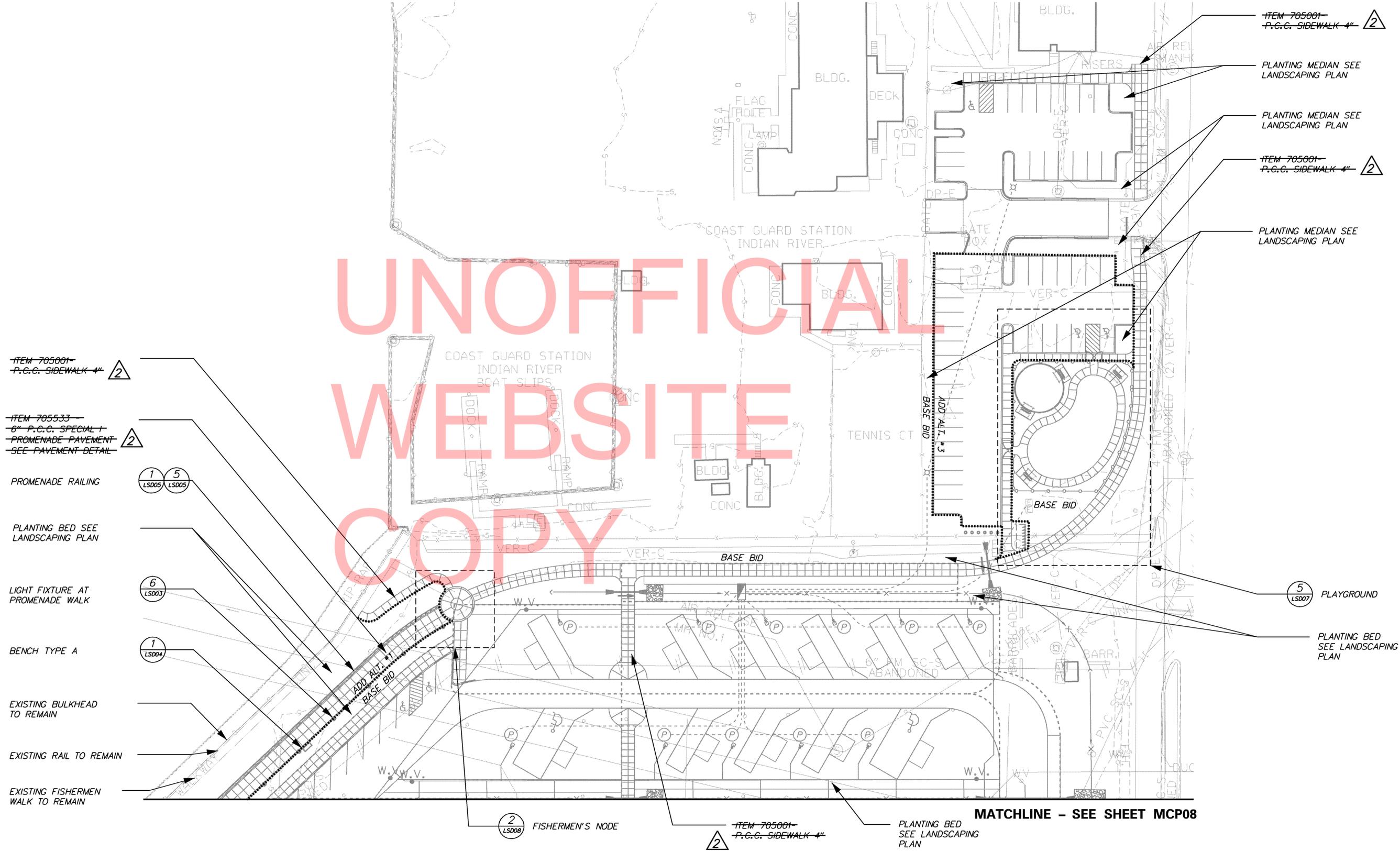
**INDIAN RIVER INLET
PARK ENHANCEMENTS**

| | | |
|------------|--------------|----------|
| CONTRACT | BRIDGE NO. | X |
| T200507303 | DESIGNED BY: | RK&K |
| COUNTY | CHECKED BY: | RK&K |
| SUSSEX | | |

MATERIAL CALLOUT PLAN

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| MCP05 |
| SHEET NO. |
| 113 |
| TOTAL SHTS. |
| 282 |

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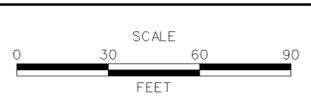


NOTE:
2 1. SEE CONSTRUCTION PLANS FOR P.C.C. SIDEWALK LOCATIONS AND TYPE

NOTE:
 BENCH TYPE A - ITEM 763510 SITE FURNISHING POWDER COATED METAL SLAT BENCH W/ BACK. REFER TO SHEET LSD04 DETAIL 1.
 BENCH TYPE B - ITEM 763510 SITE FURNISHING POWDER COATED METAL SLAT BENCH W/OUT BACK. REFER TO SHEET LSD 04 DETAIL 2.
 BENCH TYPE C - ITEM 763510 SITE FURNISHING BENCH W/ SHADE STRUCTURE REFER. TO SHEET LSD04 DETAIL 4.

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| ADDENDUM NO. | REMOVED | ADDENDUMS / REVISIONS |
|--------------|---------|-----------------------|
| 2 | REMOVED | SIDEWALK CALLOUTS |



**INDIAN RIVER INLET
 PARK ENHANCEMENTS**

| | |
|------------------------|---------------------------------------|
| CONTRACT T200507303 | BRIDGE NO. X |
| COUNTY SUSSEX | DESIGNED BY: RK&K CHECKED BY: RK&K |

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| MATERIAL CALLOUT PLAN |
| SHEET NO. 115 |
| TOTAL SHTS. 282 |

MATCHLINE - SEE SHEET MCP07

ITEM 705001
P.C.C. SIDEWALK 4"

NORTHWEST NODE

PROMENADE RAILING
& POST

PLANTING BED SEE
LANDSCAPING PLAN

LIGHT FIXTURE AT
PROMENADE WALK

ITEM 705533
6" P.C.C. SPECIAL
PROMENADE PAVEMENT
SEE PAVEMENT DETAIL

BENCH TYPE A
& WHEELCHAIR PAD

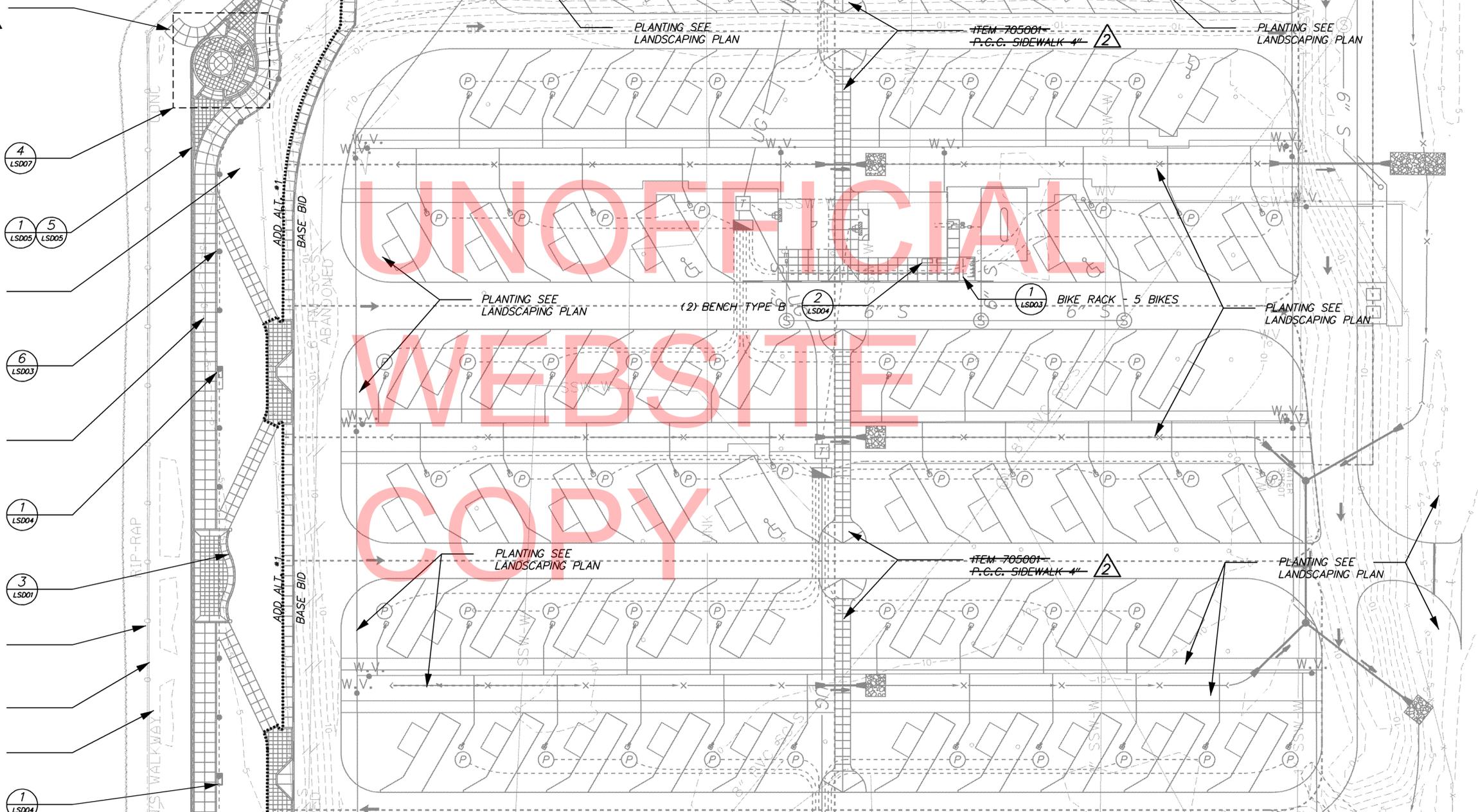
CONCRETE
SEATWALL

EXISTING BULKHEAD
TO REMAIN

EXISTING RAIL TO REMAIN

EXISTING FISHERMEN
WALK TO REMAIN

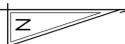
BENCH TYPE A



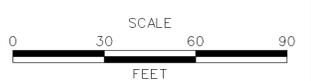
MATCHLINE - SEE SHEET MCP09

NOTE:
1. SEE CONSTRUCTION PLANS FOR P.C.C. SIDEWALK LOCATIONS AND TYPE

NOTE:
BENCH TYPE A - ITEM 763510 SITE FURNISHING POWDER COATED METAL SLAT BENCH W/ BACK. REFER TO SHEET LSD04 DETAIL 1.
BENCH TYPE B - ITEM 763510 SITE FURNISHING POWDER COATED METAL SLAT BENCH W/OUT BACK. REFER TO SHEET LSD 04 DETAIL 2.
BENCH TYPE C - ITEM 763510 SITE FURNISHING BENCH W/ SHADE STRUCTURE REFER. TO SHEET LSD04 DETAIL 4.



| ADDENDUM NO. | REVISIONS |
|--------------|---------------------------|
| 2 | REMOVED SIDEWALK CALLOUTS |



INDIAN RIVER INLET
PARK ENHANCEMENTS

| | |
|------------------------|---------------------------------------|
| CONTRACT T200507303 | BRIDGE NO. X |
| COUNTY SUSSEX | DESIGNED BY: RK&K CHECKED BY: RK&K |

MATERIAL CALLOUT PLAN

| |
|--------------------|
| MCP08 |
| SHEET NO. 116 |
| TOTAL SHTS. 282 |

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MATCHLINE - SEE SHEET MCP08

PLANTING BED SEE LANDSCAPING PLAN

ITEM 705001 - P.C.C. SIDEWALK 4" (2)

MATCHLINE - SEE SHEET MCP10

ITEM 705533 - 6" P.C.C. SPECIAL I PROMENADE PAVEMENT - SEE PAVEMENT DETAIL (2)

PROMENADE RAILING & POST (1 LSD05) (5 LSD05)

LIGHT FIXTURE AT PROMENADE WALK (6 LSD03)

BENCH TYPE A & WHEELCHAIR PAD (1 LSD04)

EXISTING BULKHEAD TO REMAIN

NORTHEAST NODE BATH HOUSE (4 LSD08)

EXISTING RAIL TO REMAIN

EXISTING FISHERMEN WALK TO REMAIN

NORTHEAST NODE (1 LSD08)

PLANTING BED SEE LANDSCAPING PLAN

ITEM 705533 - 6" P.C.C. SPECIAL I PROMENADE PAVEMENT - SEE PAVEMENT DETAIL (2)

CONCRETE SEAT WALL (4 LSD01)

SHOWER TOWER BY OTHERS SEE MEP PLANS FOR PROPOSED OUTDOOR SHOWER DETAILS

PLANTING BED SEE LANDSCAPING PLAN

PLANTING BED SEE LANDSCAPING PLAN

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(1 LSD03) BIKE RACK - 16 BIKES

(3 LSD04) KIOSK

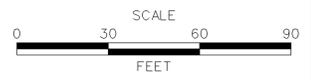
NOTE: BENCH TYPE A - ITEM 763510 SITE FURNISHING POWDER COATED METAL SLAT BENCH W/ BACK. REFER TO SHEET LSD04 DETAIL 1. BENCH TYPE B - ITEM 763510 SITE FURNISHING POWDER COATED METAL SLAT BENCH W/OUT BACK. REFER TO SHEET LSD 04 DETAIL 2. BENCH TYPE C - ITEM 763510 SITE FURNISHING BENCH W/ SHADE STRUCTURE REFER. TO SHEET LSD04 DETAIL 4.

NOTE: 1. SEE CONSTRUCTION PLANS FOR P.C.C SIDEWALK LOCATIONS AND TYPE

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| ADDENDUM NO. | REMOVED | ADDENDUMS / REVISIONS |
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| 2 | REMOVED | SIDEWALK CALLOUTS |

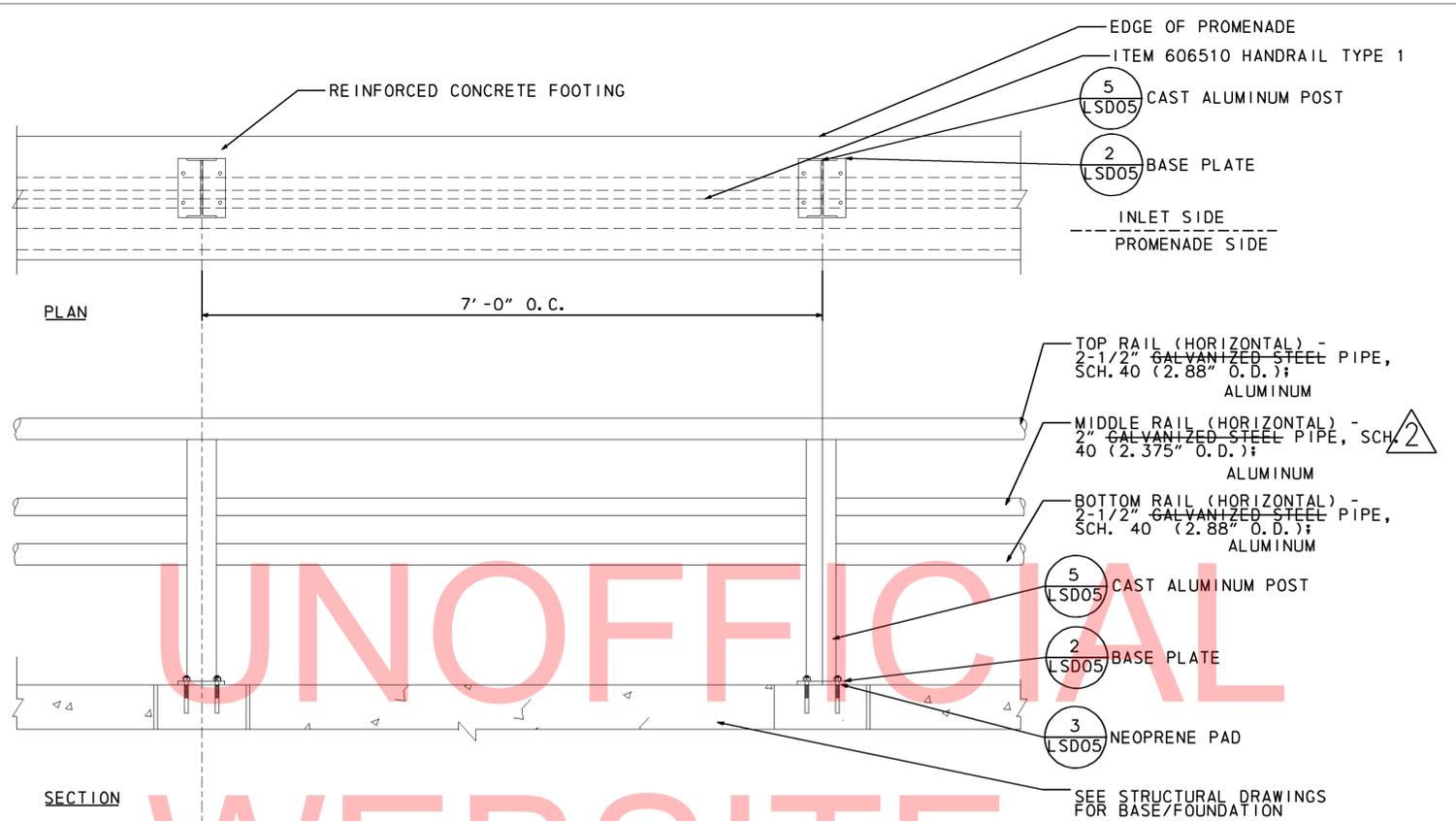
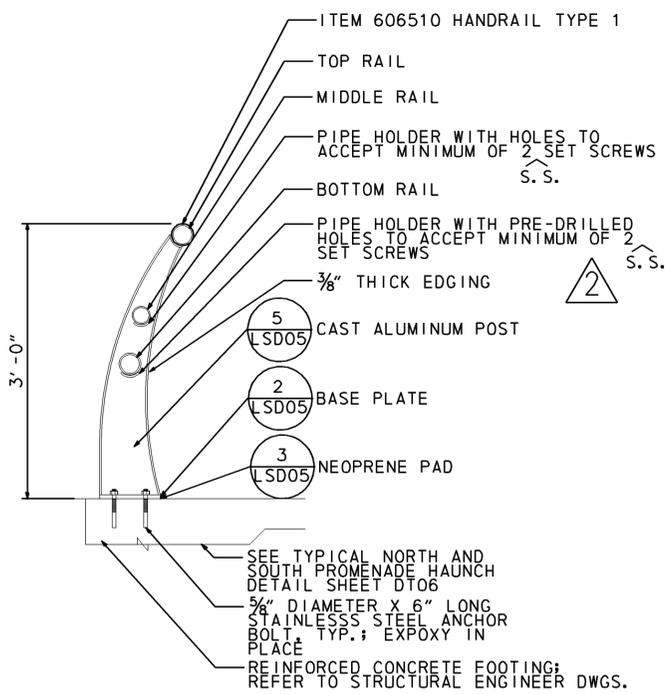


INDIAN RIVER INLET PARK ENHANCEMENTS

| | | |
|------------|--------------|------|
| CONTRACT | BRIDGE NO. | X |
| T200507303 | DESIGNED BY: | RK&K |
| COUNTY | CHECKED BY: | RK&K |
| SUSSEX | | |

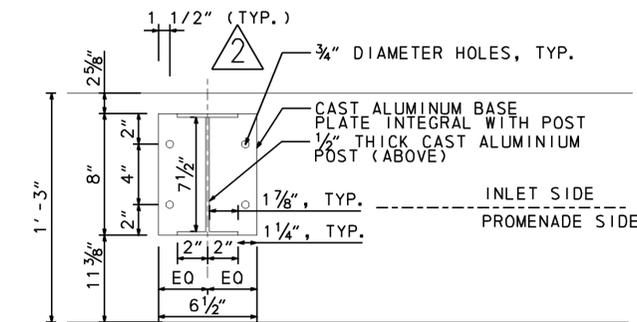
MATERIAL CALLOUT PLAN

| |
|-------------|
| MCP09 |
| SHEET NO. |
| 117 |
| TOTAL SHTS. |
| 282 |

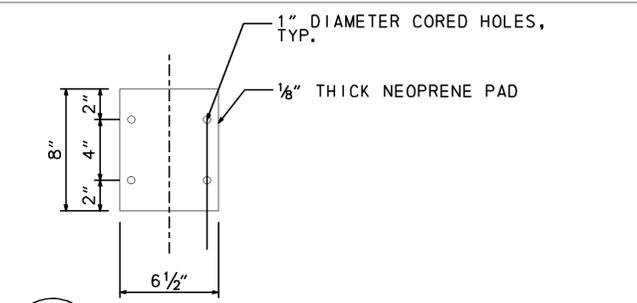


- GENERAL NOTES:**
- ALL POSTS SHALL BE CAST ALUMINUM ALLOY A 356 TO CONFORM TO ASTM B117.
 - MATERIAL FOR RAILS AND SPLICE SHALL BE ASTM 325, HOT DIPPED GALVANIZED STEEL.
 - ALL HARDWARE AND FASTENERS (I.E. MACHINE SCREWS, ANCHOR BOLTS, ETC.) SHALL BE ASTM 325, HOT DIPPED GALVANIZED STEEL.
 - ALL REINFORCED CONCRETE FOOTINGS SHALL REFER TO STRUCTURAL ENGINEERING DRAWINGS.
 - ALL RAIL END SHALL BE CAPPED AT ENDS.
 - ALL RAILS SHALL BE REVIEWED BY STRUCTURAL ENGINEER.
 - ALL RAILS SHALL BE POWDERCOATED IN COLOR SILVER.
 - SPLICE JOINTS OF HORIZONTAL RAILS SHALL ALWAYS ALIGN WITH CENTERLINE OF POSTS; JOINTS ON HORIZONTAL RAILS SHALL NOT BE VISIBLE.

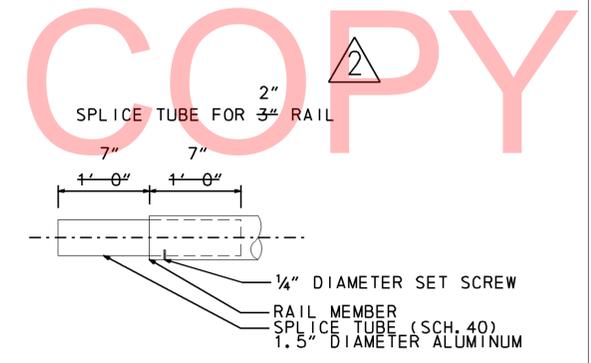
1 RAILING PLAN AND ELEVATION
LSD05 SCALE 1" = 1'



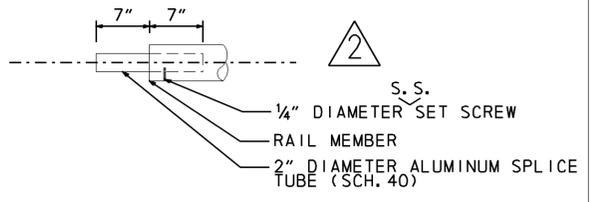
2 INTEGRAL POST BASE PLATE
LSD05 SCALE 1/2" = 1'



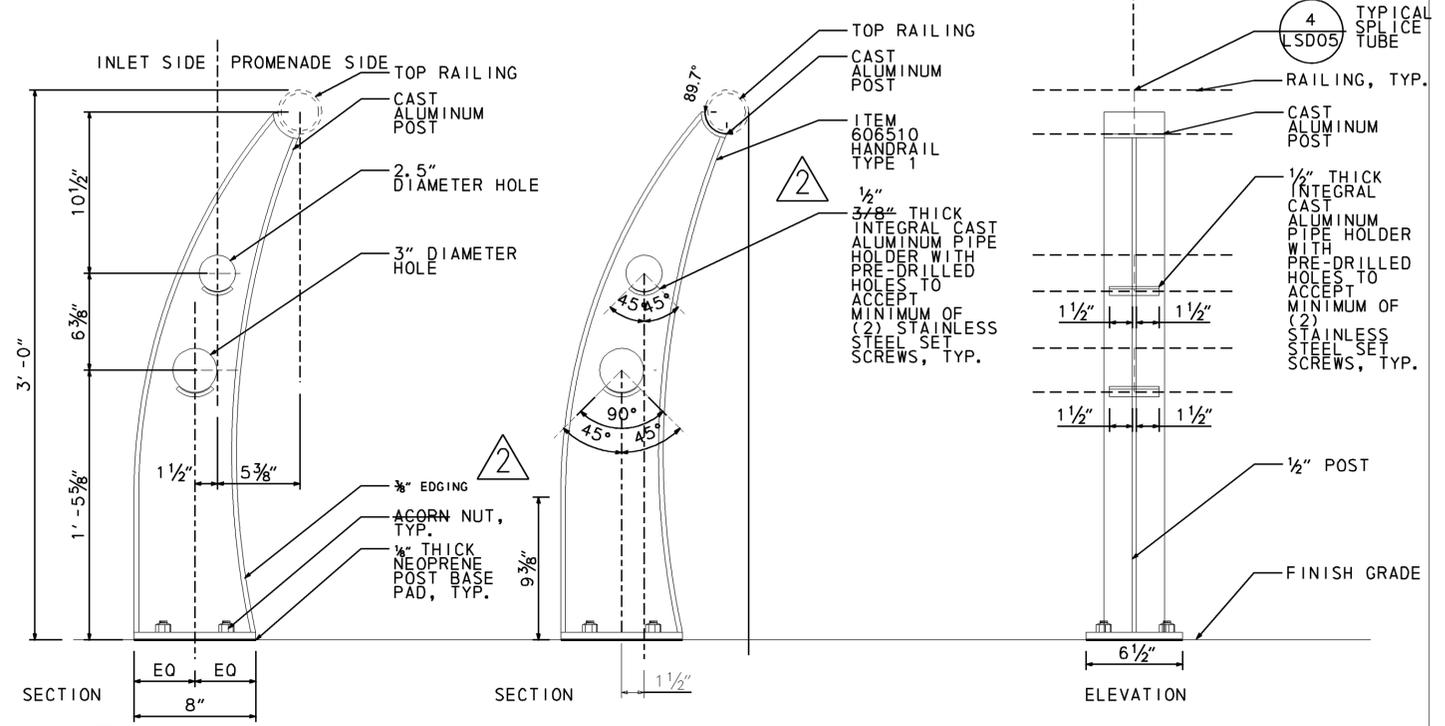
3 NEOPRENE PAD FOR POST BASE
LSD05 SCALE 1/2" = 1'



4 SPLICE TUBE
LSD05 SCALE 1/2" = 1'



4 SPLICE TUBE
LSD05 SCALE 1/2" = 1'



5 RAILING POST
LSD05 SCALE 1/2" = 1'

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|---|---|-----------------------|---|------------------------|------------------------|----------------------------------|--------------------|------------------|
| <p>DELAWARE DEPARTMENT OF TRANSPORTATION</p> | ADDENDUM NO. 2 | ADDENDUMS / REVISIONS | <p>AS SHOWN</p> <p>INDIAN RIVER INLET PARK ENHANCEMENTS</p> | CONTRACT T200507303 | BRIDGE NO. X | <p>LANDSCAPING DETAIL</p> | LSD05 | |
| | REVISED NOTES, DETAILS AND CALLOUTS 07/31/2013 | | | | COUNTY SUSSEX | | DESIGNED BY: RK&K | SHEET NO. 149 |
| | | | | | CHECKED BY: RK&K | | TOTAL SHTS. 282 | |
| | | | | | | | | |