

**TOWN OF YORKTOWN  
WESTCHESTER COUNTY, NEW YORK**

**ADDENDUM NO. 3  
TO  
CONTRACT DOCUMENTS**



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**PIN 8761.66: REPLACEMENT OF THE HILL BOULEVARD BRIDGE  
OVER BARGER BROOK TRIBUTARY**

**PIN 8761.71: REPLACEMENT OF THE VETERANS ROAD  
CULVERT OVER HALLOCKS MILL BROOK**

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**WSP USA, Inc.  
555 Pleasantville Road, North Building, Suite 201  
Briarcliff Manor, NY 10510  
Tel No.: 914.747.1120**

**May 12, 2020**

**CAMCE No. 1893D**

**WARNING - IT IS A VIOLATION OF NEW YORK EDUCATION LAW SECTION 7209.2 FOR ANY PERSON UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR TO ALTER THIS DOCUMENT IN ANY WAY. IF ALTERED, THE ALTERING PERSON SHALL COMPLY WITH THE REQUIREMENTS OF NEW YORK EDUCATION LAW SECTION 7209.2**

**TOWN OF YORKTOWN**  
**WESTCHESTER COUNTY, NEW YORK**

**ADDENDUM No. 3**

**TO**

**CONTRACT DOCUMENTS**

**PIN 8761.66: Replacement of the Hill Boulevard Bridge over Barger  
Brook Tributary**

**PIN 8761.71: Replacement of the Veterans Road Culvert over Hallocks  
Mill Brook**

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**To all Perspective Bidders on Town of Yorktown, Westchester County, New York, PINs 8761.66 and 8761.71 for Town of Yorktown, Replacement of the Hill Boulevard Bridge and Veterans Road Culvert Project, the following changes are hereby made part of the Contract Documents, must be attached to the Contract Documents and must be acknowledged by replying via email to the Town Clerk.**

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**Modifications/Additions to the Contract Documents:**

**Notice to Bidders**

**Please be advised that bids will be received by the Town Clerk of the Town of Yorktown, Westchester County, New York, at the Town Hall 363 Underhill Avenue, Yorktown Heights, NY 10598, until**

**Thursday June 18, 2020 at 2:00 PM,**

**Due to the State of Emergency caused by the Coronavirus pandemic, the bid opening will not be open to the public. Instead, the bid opening will be recorded in compliance with Governor Cuomo's Executive Order 202.11.**

Responses to pre-bid questions are as follows:

<b>Q1:</b>	On drawing GNN-1 (sheet 4), Water Supply Note 14 – Referring to Town of Yorktown to exercise the existing isolation valves to shut down water mains for replacement work.
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	<p>1a) If isolation valves fail and flow is manageable, contractor is required to dewater during installation. Will contractor be paid for the dewatering as a field change payment?</p> <p>1b) If isolation valves fail and flow is not manageable, contractor is required to install line stops or insertion valves to facilitate installation of a new valve. Will contractor be paid for this work as a field change payment?</p>
A1:	<p>1a) In the case of existing isolation valve failure, the contractor shall install insertion valves in lieu of the proposed valves at both Veterans Road and Hill Blvd. There will be no dewatering of manageable flow option. On Contract Plan Sheet 4, strike the 2nd sentence from Water Supply Note 14.</p> <p>1b) Isolation valve inadequacy is not anticipated and would be an unexpected field condition addressed by the construction inspection staff. In the event the isolation valves fail, the work should proceed according to NYSDOT Specification Section 697 FIELD CHANGE PAYMENT and Section 104-02 of the NYSDOT Standard Specifications.</p>
Q2:	<p>On drawing GNN-2 (sheet 5), Work Zone Traffic Control Note 15 – Referring to nighttime construction being prohibited in this contract.</p> <p>2a) Typical construction for sewer system tie-in is completed during overnight shift(s) due to low peak flows and public demand. Please confirm all 10" tie-in work for Town of Yorktown (sewer) at PIN 8761.66 - Replacement of the Hill Boulevard Bridge will be during regular daytime hours, including setting up temporary bypass system.</p> <p>2b) Similarly to sewer work, typical construction for force water main tie-in is completed during overnight shift(s) due to low demand. Please confirm all tie-in work for Town of Yorktown (water) at PIN 8761.66 - Replacement of the Hill Boulevard Bridge and PIN 8761.71 - Replacement of the Veterans Road Culvert will be during regular daytime hours.</p>
A2:	<p>2a and 2b) On Contract Plan Sheet 5 (GNN-2), revise WORK ZONE TRAFFIC CONTROL Note 15 as follows, "NIGHTTIME CONSTRUCTION IS PROHIBITED IN THIS CONTRACT, WITH THE EXCEPTION OF THE FOLLOWING OPERATIONS: (1) SEWER FORCE MAIN TIE-IN CONNECTIONS, (2) WATER MAIN TIE-IN-CONNECTIONS.</p> <p>2b) The gravity sewer main (Town of Yorktown owned) tie-in can be done under bypass and at any time given the following procedure. On Contract Plan Sheet 24 (HB-19), add NOTE 9 as follows:  "THE CONTRACTOR SHALL LEAVE 3 FT OF THE EXISTING GRAVITY SEWER MAIN REMAINING ON THE DOWNSTREAM SIDE OF MH SS1 AND THE UPSTREAM SIDE OF MH SS2. WITH THE EXISTING PIPE STUBS REMAINING IN PLACE AND THE OUTLET OF MH SS1 AND INLET OF MH SS2 PLUGGED (INSIDE THE MANHOLES), THE CONTRACTOR WILL HAVE DRY CONDITIONS TO PERFORM THE TIE-IN."</p>
Q3:	<p>On drawing HB-18 (sheet 23) &amp; ECD (sheet 52) - Referring to erosion and sediment controls. 3a) On drawing HB-18+D28, callout for temporary stabilized construction entrance and suggested laydown area is paid under which bid item? Please confirm this relates to the detail for anti-tracking apron on drawing ECD. 3b) On drawing HB-18, Soil Erosion &amp; Sediment Control Notes, note 1 indicates that contractor should install soil erosion and sediment control measures per NYSDOT Standard Sheets. Is this note referring to soil erosion and sediment control measures such as: seeding &amp; mulching - temporary (209.1003), drainage structure inlet protection (209.1703), rolled erosion control product CL # Type XX (209.180X), construction entrance (209.22). If so, what bid item will these measures be paid under?</p>

A3:	<p>3a) The temporary stabilized construction entrance and suggested laydown area is schematic in in location but assumed to be necessary for construction operations. Construction entrance/exits from staging areas and other locations selected by the contractor or necessitated by contractor operations at his/her discretion should be constructed as per the anti-tracking apron shown on drawing ECD and adhere to permit conditions, but no direct payment will be made for those installations. Payment shall be included in the prices bid for the various items in the contract.</p> <p>3b) Note 1 on drawing HB-18 is referring specifically to silt fence (209.17). Other temporary soil erosion and sediment control measures based on Sections 107-08, 107-11, and 107-12 of the NYSDOT Standard Specifications and the permit conditions that may be necessary due to Contractor operations shall be included in the prices bid for the various items in the contract.</p>
Q4:	<p>On drawings HB-15 &amp; HB-16 (sheets 20 &amp; 21), there seems to be conflict between the section details of the wing wall footing reinforcement. See section A-A on drawing HB-15 &amp; section L-L on drawing HB-16. Please clarify whether the concrete footing stirrups should be #4 epoxy rebar per HB-15 or #3 epoxy rebar per HB-16.</p>
A4:	<p>The concrete footing strips shall contain #4 epoxy coated rebar.</p>
Q5:	<p>On drawing VR-9 (sheet 37), NOTE (at top of page) refers to elevation +387 as the bottom of footing elevation for the adjacent bridge. It states that excavation limits should not extend below the bottom of footing without proper excavation protection or support of excavation (SOE). It also states that the information was obtained through observation of record plans on property 37.15-1-70 (now or formally known as, Yorktown Indoor Tennis Club, Inc.).</p> <p>5a) Please provide bidders the town record plans for the bridge located on the aforementioned property.</p> <p>5b) See Interim Steel Sheeting Notes, Note 6 - see table below for minimum embedment lengths below the bottom of excavation. The Interim Steel Sheeting (Item 552.15) table shows 33-ft min. embedment length, which is assumed to be below bottom of footing elev. +387. Bottom of excavation suggests to be somewhere around +381. Please confirm the bid quantity for item 552.15 to be 120 sf.</p>
A5:	<p>5a) Record plans of the subject bridge are attached.</p> <p>5b) Replace Bid Sheet 11 contained in the proposal book with attached Bid Sheet 11A1. On Contract Plan Sheet 3, revise the quantity of item 552.15 INTERIM STEEL SHEETING in the Veterans Road table to be 1810 SF. Note that for consistency, all bid sheets have been reissued via this addendum.</p>
Q6:	<p>See Special Note 6 - Coordination with the Utility Schedule - Utility adjustment and/or relocations required by the various Utility owners in connection with PIN 8761.71 - Replacement of the Veterans Road Culvert. It states that Verizon Communications, CSC Holdings, NYSEG, and Crown Castle International will each require two (2) calendar weeks for their work, respectively. Will the utility adjustment and/or relocation work by the aforementioned companies be concurrent or consecutive to each other?</p>
A6:	<p>NYSEG will remain on the pole during construction, becoming involved only during crane operations when power needs to be cut. Crown Castle must relocate first as the topmost communication line on the poles. CSC (Altice) will follow, moving their lines up the pole. Verizon's operation is independent and can be performed at any time.</p>

Q7:	Is power available at each of the three (3) intersections on drawings HB-2 & VR-2 (sheet 7 & 30) for the temporary traffic signal disconnect box and modem (3 locations)?
A7:	Power will be available at each of the three intersection locations via the existing traffic signal. Contractor shall coordinate with NYSDOT and the electric service provider (NYSEG or Con Edison).
Q8:	On drawing VR-8 (sheet 36), section thru stone gutter callout for light stone fill, item 620.03. Bidder cannot locate this bid item in the bid proposal. Please indicate where bidder should carry costs for stone gutter - light stone fill.
A8:	Replace Bid Sheet 10 contained in the proposal book with attached Bid Sheet 10A1. On Contract Plan Sheet 3, add item 620.03 LIGHT STONE FILLING in the Veterans Road table with quantity 6 CY. Note that for consistency, all bid sheets have been reissued via this addendum.
Q9:	On drawing VR-7 (sheet 35), will any record plans be made available via addendum for bidders to review for the removal of existing concrete apron (approximate thickness?) and wingwall (approximate depth?) for item 202.19 at PIN 8761.71 Replacement of Veterans Rd Culvert? Please confirm the bid quantity for item 202.19 to be one (1) cy.
A9:	There are no record plans available for this structure. The volume calculation for item 202.19, which is substructure to be removed outside the expected limits of structural excavation, was based on field measurements. Replace Bid Sheet 15 contained in the proposal book with attached Bid Sheet 15A1. On Contract Plan Sheet 3, revise the quantity of item 202.19 REMOVAL OF SUBSTRUCTURES in the Veterans Road table to 9 CY. Note that the majority of the culvert will be removed under item 206.01 - Structural Excavation. Note that for consistency, all bid sheets have been reissued via this addendum.
Q10:	On drawings HB-9 & HB-10 (sheets 14-15), referring to callout in center of page showing limits of select structural fill and crushed material (typ.) and dimension below showing 3'-0" (typ.). 10a) Are these dimensions / limits for select structural fill supposed to be 3'-0"? 10b) Also, referencing section E1-E1 on Sheet 15, a dimension of 5'-0" is used to show the dimension from the outside of the invert slab to the outside limit of select structural fill. Please clarify which dimension should be used for calculating select structural fill if measuring from the outside of the invert slab to the neat line for embankment / suitable structure excavated material?
A10:	10a) The limit of structural fill is 3'-0" beyond the edge of the edge of the invert slab. Crushed stone shall be extended 2'-0" beyond the edge of the invert slab. 10b) The 3'-0" dimension from the edge of invert slab should be used for calculating structural fill. On Contract Plan Sheet 15 (HB-10) change the dimension 5'-0" showing the width of structural fill to a dimension of 3'-0".
Q11:	On drawing HB-7 (sheet 12), please see callout for relocate hydrant (item 663.31). On drawing HB-19 (sheet 24), callout for same hydrant is proposed hydrant (item 663.1301). Please clarify.
A11:	The hydrant shall be removed (item 663.42 and 663.43) and replaced (items 663.0106, 663.2001, 663.1006, and 663.1301), as appearing in the estimate of quantities and bid sheets. On Contract Plan Sheet 12, revise the relocate hydrant callout to read, "REMOVE AND REPLACE EXISTING HYDRANT, SEE SHEET 24 FOR PAYMENT ITEMS."

	On Contract Plan Sheet 24, revise the proposed gate valve callout to read, "PROPOSED 6" GATE VALVE AND VALVE BOX, ITEM 663.1006."
Q12:	<p>On drawings HB-4 &amp; HB-10 (sheets 9 &amp; 15), referring to bottom &amp; top elevation of invert slab at PIN 8761.66 - Replacement of the Hill Boulevard Bridge. Drawing HB-4, Existing &amp; Proposed Profile - shows the approximate elevation of +411 for top of invert &amp; +408 for bottom of invert slab. Drawing HB-10, Excavation Sections E1-E1, shows the approximate elevations for the same invert slab as +415 &amp; +412, accordingly. Also, drawing HB-10, Excavation Section E2-E2, shows the approximate elevations for the same invert slab (different view) as +415.5 &amp; 414, accordingly.</p> <p>12a.) Please confirm the thickness of the invert slab is 3'0".</p> <p>12b.) Please confirm the required bottom elevation of new culvert top slab (roof) is +425.03.</p>
A12:	<p>12a) The thickness of the invert slab is 3'-0".</p> <p>12b) The bottom elevation of the new culvert top slab at 425.03+/-, with a frame rise of 10'-0".</p>
Q13:	<p>On drawing HB-19 (sheet 24), referring to callout for, "CONCRETE ENCASUREMENT, SEE NOTE 8, ITEM 555.09."</p> <p>13a.) Note 8 refers to concrete encasement of water main within 10 feet of the sanitary sewer main and to see drawing HB-21 (sheet 26) for encasement details. Bidder cannot locate detail for concrete encasement of water main on drawing HB-21. Please provide detail.</p> <p>13b.) Item 555.09 - Concrete for Structures, Class HP is typically used for cast-in-place structural walls. Please confirm item 555.09 should be used for all concrete encasement for items 663.0106 &amp; 663.0112, 6" &amp; 12" Ductile Iron Cement Lined Water Pipe within 10-feet of sanitary sewer line.</p>
A13:	<p>13a) Revise the second sentence in Note 8 on Contract Plan Sheet 24 to read, "SEE DWG WMD-2 FOR ENCASUREMENT DETAILS." Replace Contract Plan Sheet 54 (Dwg WMD-2) with attached sheet 54A1, on which the circumstances and details for water main encasement near sewer facilities have been added.</p> <p>13b) Class A concrete may be used in lieu of Class HP concrete, however it shall be paid for under the Class HP concrete item.</p>
Q14:	<p>On drawing WMD-1 (sheet 53), referring to tables for the various thrust restraint / thrust block dimensions.</p> <p>14a.) Note 9 refers to the standard conditions used to determine the thrust block dimensioning. Please confirm bidders should use the same standard conditions to calculate the required thrust block dimensions (i.e. safety factor of 1.5, depth of cover of 5'-0", water system test pressure of 200 psi, soil bearing capacity of 14 psi, and soil unit weight of 90 lb/cf). If not, please indicate what conditions bidder should use to calculate the thrust block dimensions.</p> <p>14b.) The table for minimum restrained length of pipe (ft-in) L<sub>r</sub>, does not include 12 NPS. Please indicate the minimum restrained length of pipe for both horizontal and vertical thrust restraint details.</p> <p>14c.) On drawing WMD-2 (sheet 54), referring to concrete anchor detail. Note 2 refers to excavation, placing of concrete, and other incidental expenses to construct concrete anchors (vertical bend thrust blocks) to be included in the unit price bid for concrete masonry (class b). Measurement and payment under this item shall be limited to those dimensions as shown on the detail. Bidder cannot locate the</p>

	length or width of concrete anchor in detail to develop quantities. Bidder cannot locate indicated bid item. Please indicate dimensions and bid item to carry all costs for thrust blocks.
A14:	<p>14a) The contractor shall use the thrust block dimensions as provided in the thrust block dimension tables on dwg. No. WMD-1, if field conditions differ any changes will be addressed in the field with approval of the engineer.</p> <p>14b) Please see NYS DOT standard sheets 663-02 and 663-03.</p> <p>14c) Payment for all thrust blocks shall be included as part of the bid price for the water main, fittings and appurtenances, as per the basis of payment section of the NYSDOT Standard Specifications (General 663-5.01). The contractor shall utilize the dimensions on standard sheet 663-03 to develop pricing.</p>
Q15:	Are there liquidated damages on this project?
A15:	Liquidated Damages are as described within the sections "Completion Date" and "Failure to Complete Work on Time", Sections 108-2 and 108-03 of the NYSDOT Standard Specifications, respectively. Based on the anticipated construction value of this project, liquidated damages are expected to be \$2,000 per calendar day.
Q16:	Is the project tax exempt?
A16:	Yes, this project is tax exempt.
Q17:	Is there retainage on the project?
A17:	The Town will hold no retainage from the Prime Contractor, nor is the Prime Contractor allowed to hold retainage from subcontractors, as per Section 109-07 of the NYSDOT Standard Specifications.
Q18:	Will the contract time to complete the project start after the utility companies have relocated their utilities?
A18:	Relocations of water and sewer mains are included in the contract and are to be performed by the Contractor, not outside utility companies. Therefore, the contract time to complete the project starts upon notice to proceed.

**END OF ADDENDUM NO. 3**

**WSP USA, Inc.**  
**555 Pleasantville Road, North Building, Suite 201**  
**Briarcliff Manor, NY 10510**  
**Tel No.: 914.747.1120**

**Dated: May 12, 2020**

**BID SHEET FOR THE  
PIN 8761.66 - REPLACEMENT OF HILL BOULEVARD BRIDGE OVER BARGER BROOK TRIBUTARY (BIN 2265539)  
PIN 8761.71 - REPLACEMENT OF VETERANS ROAD CULVERT OVER HALLOCKS MILL BROOK**

**TOWN OF YORKTOWN, WESTCHESTER COUNTY, NY**

Note: Unit prices are to be written in both words and numbers. In case of discrepancy, those shown in words shall govern. All prices are in dollars and cents.

Item No.	Item Description	Est. Qty.	Unit	Unit Price (In Words)	Unit Price (In Numbers)	Total Price (In Words) (Est. Quantity x Unit Price)	Total Price (In Numbers) (Est. Quantity x Unit Price)
201.06	CLEARING AND GRUBBING	1	LS	_____ /LS	_____ /LS	_____ /LS	\$ _____
202.19	REMOVAL OF SUBSTRUCTURES	9	CY	_____ /CY	_____ /CY	_____ /CY	\$ _____
203.02	UNCLASSIFIED EXCAVATION AND DISPOSAL	790	CY	_____ /CY	_____ /CY	_____ /CY	\$ _____
203.03	EMBANKMENT IN PLACE	890	CY	_____ /CY	_____ /CY	_____ /CY	\$ _____
203.21	SELECT STRUCTURE FILL	1430	CY	_____ /CY	_____ /CY	_____ /CY	\$ _____
203.25	SAND BACKFILL	15	CY	_____ /CY	_____ /CY	_____ /CY	\$ _____
205.0402	LABORATORY ANALYSIS FOR HAZARDOUS WASTE RCRA TOXICITY CHARACTERISTIC	2	EA	_____ /EA	_____ /EA	_____ /EA	\$ _____
205.0403	LABORATORY ANALYSIS FOR IGNITIBILITY	2	EA	_____ /EA	_____ /EA	_____ /EA	\$ _____
205.0406	LABORATORY ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS (GASOLINE RANGE ORGANICS)	2	EA	_____ /EA	_____ /EA	_____ /EA	\$ _____
205.0407	LABORATORY ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS (DIESEL RANGE ORGANICS)	2	EA	_____ /EA	_____ /EA	_____ /EA	\$ _____
206.01	STRUCTURE EXCAVATION	3560	CY	_____ /CY	_____ /CY	_____ /CY	\$ _____
206.05	TEST PIT EXCAVATION	2	EA	_____ /EA	_____ /EA	_____ /EA	\$ _____

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206.0201	TRENCH AND CULVERT EXCAVATION	300	CY	_____/CY	_____/CY	_____/CY	\$ _____
207.20	GEOTEXTILE BEDDING	610	SY	_____/SY	_____/SY	_____/SY	\$ _____
207.26	PREFABRICATED COMPOSITE STRUCTURAL DRAIN	252	SY	_____/SY	_____/SY	_____/SY	\$ _____
209.13	SILT FENCE - TEMPORARY	200	LF	_____/LF	_____/LF	_____/LF	\$ _____
304.11000008	SUBBASE COURSE (MODIFIED)	637	CY	_____/CY	_____/CY	_____/CY	\$ _____
402.128103	12.5 F1 TOP COURSE HMA, 80 SERIES COMPACTION	152	TON	_____/TON	_____/TON	_____/TON	\$ _____
402.198903	19 F9 BINDER COURSE HMA, 80 SERIES COMPACTION	244	TON	_____/TON	_____/TON	_____/TON	\$ _____
402.378903	37.5 F9 BASE COURSE HMA, 80 SERIES COMPACTION	487	TON	_____/TON	_____/TON	_____/TON	\$ _____
407.0103	STRAIGHT TACK COAT	120	GAL	_____/GAL	_____/GAL	_____/GAL	\$ _____
552.15	INTERIM STEEL SHEETING	1810	SF	_____/SF	_____/SF	_____/SF	\$ _____
552.17	SHIELDS AND SHORING	600	SF	_____/SF	_____/SF	_____/SF	\$ _____

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553.030001	TEMPORARY WATERWAY DIVERSION STRUCTURE	1	EA	_____/EA	_____/EA	_____/EA	\$ _____
553.030002	TEMPORARY WATERWAY DIVERSION STRUCTURE	1	EA	_____/EA	_____/EA	_____/EA	\$ _____
555.08	FOOTING CONCRETE, CLASS HP	350	CY	_____/CY	_____/CY	_____/CY	\$ _____
555.09	CONCRETE FOR STRUCTURES, CLASS HP	5	CY	_____/CY	_____/CY	_____/CY	\$ _____
556.0202	EPOXY-COATED BAR REINFORCEMENT FOR STRUCTURES	32100	LB	_____/LB	_____/LB	_____/LB	\$ _____
562.0101	REINFORCED CONCRETE SPAN UNITS	270	SY	_____/SY	_____/SY	_____/SY	\$ _____
562.03	WINGWALL WITH FOOTING	184	SY	_____/SY	_____/SY	_____/SY	\$ _____
564.0501	STRUCTURAL STEEL, TYPE 1	1	LS	_____/LS	_____/LS	_____/LS	\$ _____
568.51	STEEL BRIDGE RAIL (FOUR RAIL)	116	LF	_____/LF	_____/LF	_____/LF	\$ _____
568.70	TRANSITION BRIDGE RAILING	256	LF	_____/LF	_____/LF	_____/LF	\$ _____
595.50000018	SHEET APPLIED WATERPROOFING MEMBRANE	104	SF	_____/SF	_____/SF	_____/SF	\$ _____
603.6003	REINFORCED CONCRETE PIPE CLASS III, 18 INCH DIAMETER	60	LF	_____/LF	_____/LF	_____/LF	\$ _____

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603.6005	REINFORCED CONCRETE PIPE CLASS III, 24 INCH DIAMETER	65	LF	_____ /LF	_____/LF	_____ /LF	\$ _____
603.7305	REINFORCED CONCRETE PIPE END SECTIONS, 24 INCH DIAMETER	1	EA	_____ /EA	_____/EA	_____ /EA	\$ _____
603.63180915	PRECAST CONCRETE BOX CULVERT (FILL HEIGHT LESS THAN 24 IN) 18 FOOT SPAN, 9 FOOT RISE	55	LF	_____ /LF	_____/LF	_____ /LF	\$ _____
603.77	CONCRETE COLLARS	1	EA	_____ /EA	_____/EA	_____ /EA	\$ _____
603.99010008	TRASH RACK	1	EA	_____ /EA	_____/EA	_____ /EA	\$ _____
604.4060	ROUND PRECAST CONCRETE MANHOLE TYPE 60	8	LF	_____ /LF	_____/LF	_____ /LF	\$ _____
606.120101	BOX BEAM END PIECE	8	EA	_____ /EA	_____/EA	_____ /EA	\$ _____
606.71	REMOVING AND DISPOSING CORRUGATED BEAM GUIDE RAILING	280	LF	_____ /LF	_____/LF	_____ /LF	\$ _____
608.020102	HOT MIX ASPHALT (HMA) SIDEWALKS, DRIVEWAYS AND BICYCLE PATHS, AND VEGETATION CONTROL STRIPS	34	TON	_____ /TON	_____/TON	_____ /TON	\$ _____
609.0101	STONE CURB (TYPE A)	30	LF	_____ /LF	_____/LF	_____ /LF	\$ _____
609.0901	OPTIONAL CURB (PRECAST TYPE PVF150 OR CAST-IN-PLACE TYPE VF1 50 OR GRANITE TYPE C)	542	LF	_____ /LF	_____/LF	_____ /LF	\$ _____

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609.2201	UNPAINTED HOT MIX ASPHALT CURB (MOUNTABLE)	330	LF	_____ /LF	_____/LF	_____ /LF	\$ _____
610.1402	TOPSOIL - ROADSIDE	122	CY	_____ /CY	_____/CY	_____ /CY	\$ _____
610.1601	TURF ESTABLISHMENT - ROADSIDE	935	SY	_____ /SY	_____/SY	_____ /SY	\$ _____
614.060202	TREE REMOVAL OVER 6 INCHES TO 12 INCHES DIAMETER BREAST HEIGHT - STUMPS CUT FLUSH	7	EA	_____ /EA	_____/EA	_____ /EA	\$ _____
614.060302	TREE REMOVAL OVER 12 INCHES TO 18 INCHES DIAMETER BREAST HEIGHT - STUMPS CUT FLUSH	2	EA	_____ /EA	_____/EA	_____ /EA	\$ _____
614.060402	TREE REMOVAL OVER 18 INCHES TO 24 INCHES DIAMETER BREAST HEIGHT - STUMPS CUT FLUSH	4	EA	_____ /EA	_____/EA	_____ /EA	\$ _____
615.01010108	MATERIAL FOR STREAM BED ESTABLISHMENT	76	CY	_____ /CY	_____/CY	_____ /CY	\$ _____
619.01	BASIC WORK ZONE TRAFFIC CONTROL	1	LS	_____ /LS	_____/LS	_____ /LS	\$ _____
619.04	TYPE III CONSTRUCTION BARRICADE	14	EA	_____ /EA	_____/EA	_____ /EA	\$ _____
619.110511	PORTABLE, VARIABLE MESSAGE SIGN (PVMS) STANDARD SIZE - FULL MATRIX (LED) NO OPTIONAL EQUIPMENT SPEC, NO CELLULAR COM REQ	6	EA	_____ /EA	_____/EA	_____ /EA	\$ _____
619.1701	TEMPORARY CONCRETE BARRIER (UNPINNED)	214	LF	_____ /LF	_____/LF	_____ /LF	\$ _____

**BID SHEET FOR THE  
PIN 8761.66 - REPLACEMENT OF HILL BOULEVARD BRIDGE OVER BARGER BROOK TRIBUTARY (BIN 2265539 )  
PIN 8761.71 - REPLACEMENT OF VETERANS ROAD CULVERT OVER HALLOCKS MILL BROOK**

**TOWN OF YORKTOWN, WESTCHESTER COUNTY, NY**

Note: Unit prices are to be written in both words and numbers. In case of discrepancy, those shown in words shall govern. All prices are in dollars and cents.

Item No.	Item Description	Est. Qty.	Unit	Unit Price (In Words)	Unit Price (In Numbers)	Total Price (In Words) (Est. Quantity x Unit Price)	Total Price (In Numbers) (Est. Quantity x Unit Price)
620.03	STONE FILLING (LIGHT)	6	CY	_____/CY	_____/CY	_____/CY	\$ _____
620.04	STONE FILLING (MEDIUM)	170	CY	_____/CY	_____/CY	_____/CY	\$ _____
623.12	CRUSHED STONE (IN PLACE MEASURE)	170	CY	_____/CY	_____/CY	_____/CY	\$ _____
625.01	SURVEY OPERATIONS	1	LS	_____/LS	_____/LS	_____/LS	\$ _____
627.50140008	CUTTING PAVEMENT	280	LF	_____/LF	_____/LF	_____/LF	\$ _____
637.11	ENGINEERS FIELD OFFICE - TYPE 1	7	MNTH	_____/MNTH	_____/MNTH	_____/MNTH	\$ _____
647.41	REMOVE AND STORE SIGN PANEL, SIGN ASSEMBLY SIZE I (UNDER 30 SQUARE FEET)	1	EA	_____/EA	_____/EA	_____/EA	\$ _____
650.1010	TRENCHLESS INSTALLATION OF CASING PIPE UNDER HIGHWAY WITH A DIAMETER LESS THAN OR EQUAL TO 24" (10" DIAMETER)	115	LF	_____/LF	_____/LF	_____/LF	\$ _____
650.1012	TRENCHLESS INSTALLATION OF CASING PIPE UNDER HIGHWAY WITH A DIAMETER LESS THAN OR EQUAL TO 24" (12" DIAMETER)	115	LF	_____/LF	_____/LF	_____/LF	\$ _____
655.1202	MANHOLE FRAME AND COVER	1	EA	_____/EA	_____/EA	_____/EA	\$ _____
660.21100008	FURNISH & INSTALL STEEL CASING 10"	50	LF	_____/LF	_____/LF	_____/LF	\$ _____
660.21120008	FURNISH & INSTALL STEEL CASING 12"	50	LF	_____/LF	_____/LF	_____/LF	\$ _____
660.21160008	FURNISH & INSTALL STEEL CASING 16 NPS (OUTSIDE DIA)	35	LF	_____/LF	_____/LF	_____/LF	\$ _____
660.70000004	MAINTENANCE OF SANITARY SEWER FLOWS	1	LS	_____/LS	_____/LS	_____/LS	\$ _____

**BID SHEET FOR THE  
PIN 8761.66 - REPLACEMENT OF HILL BOULEVARD BRIDGE OVER BARGER BROOK TRIBUTARY (BIN 2265539)  
PIN 8761.71 - REPLACEMENT OF VETERANS ROAD CULVERT OVER HALLOCKS MILL BROOK**

**TOWN OF YORKTOWN, WESTCHESTER COUNTY, NY**

Note: Unit prices are to be written in both words and numbers. In case of discrepancy, those shown in words shall govern. All prices are in dollars and cents.

Item No.	Item Description	Est. Qty.	Unit	Unit Price (In Words)	Unit Price (In Numbers)	Total Price (In Words) (Est. Quantity x Unit Price)	Total Price (In Numbers) (Est. Quantity x Unit Price)
663.0106	6" DUCTILE IRON CEMENT LINED WATER PIPE	6	FT	_____/FT	_____/FT	_____/FT	\$_____
663.0112	12" DUCTILE IRON CEMENT LINED WATER PIPE	260	FT	_____/FT	_____/FT	_____/FT	\$_____
663.1006	6" RESILIENT WEDGE GATE VALVE & VALVE BOX	1	EA	_____/EA	_____/EA	_____/EA	\$_____
663.1212	12" DOUBLE DISK GATE VALVE & VALVE BOX	4	EA	_____/EA	_____/EA	_____/EA	\$_____
663.1301	HYDRANT	1	EA	_____/EA	_____/EA	_____/EA	\$_____
663.2001	IRON WATER MAIN FITTINGS (3" - 8")	19.2	LB	_____/LB	_____/LB	_____/LB	\$_____
663.2002	IRON WATER MAIN FITTINGS (10" - 16")	2496	LB	_____/LB	_____/LB	_____/LB	\$_____
663.42	REMOVE AND DISPOSE OF EXISTING WATER VALVE & VALVE BOX	1	EA	_____/EA	_____/EA	_____/EA	\$_____
663.43	REMOVE AND DISPOSE OF EXISTING HYDRANT	1	EA	_____/EA	_____/EA	_____/EA	\$_____
664.01060004	DUCTILE IRON SEWER PIPE & FITTINGS, 6"	130	LF	_____/LF	_____/LF	_____/LF	\$_____
664.01080004	DUCTILE IRON SEWER PIPE & FITTINGS, 8"	130	LF	_____/LF	_____/LF	_____/LF	\$_____

**BID SHEET FOR THE  
PIN 8761.66 - REPLACEMENT OF HILL BOULEVARD BRIDGE OVER BARGER BROOK TRIBUTARY (BIN 2265539 )  
PIN 8761.71 - REPLACEMENT OF VETERANS ROAD CULVERT OVER HALLOCKS MILL BROOK**

**TOWN OF YORKTOWN, WESTCHESTER COUNTY, NY**

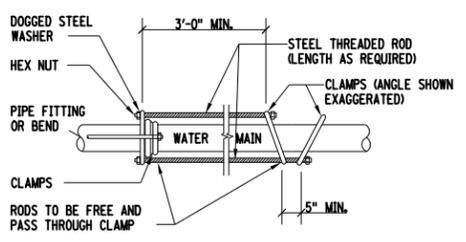
Note: Unit prices are to be written in both words and numbers. In case of discrepancy, those shown in words shall govern. All prices are in dollars and cents.

Item No.	Item Description	Est. Qty.	Unit	Unit Price (In Words)	Unit Price (In Numbers)	Total Price (In Words) (Est. Quantity x Unit Price)	Total Price (In Numbers) (Est. Quantity x Unit Price)
664.01100004	DUCTILE IRON SEWER PIPE & FITTINGS, 10"	175	LF	_____ /LF	_____ /LF	_____ /LF	\$ _____
664.05160003	BRIDGE MOUNTING OF SEWER PIPE, 16"	42	LF	_____ /LF	_____ /LF	_____ /LF	\$ _____
664.40480006	PRECAST SANITARY SEWER MANHOLE (48" DIA)	18	LF	_____ /LF	_____ /LF	_____ /LF	\$ _____
680.94010003	WATERTIGHT DISCONNECT BOX - NEMA 4X	3	EA	_____ /EA	_____ /EA	_____ /EA	\$ _____
683.08020104	3G/4G LTE GATEWAY MODEM WITH ANTENNA	3	EA	_____ /EA	_____ /EA	_____ /EA	\$ _____
685.11	WHITE EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MILS	181	LF	_____ /LF	_____ /LF	_____ /LF	\$ _____
685.12	YELLOW EPOXY REFLECTORIZED PAVEMENT STRIPES - 20 MILS	300	LF	_____ /LF	_____ /LF	_____ /LF	\$ _____
697.03	FIELD CHANGE PAYMENT	120500	DC	ONE DOLLAR /DC	\$1.00 /DC	\$120,500.00 /DC	\$120,500.00
698.04	ASPHALT PRICE ADJUSTMENT	1110	DC	ONE DOLLAR /DC	\$1.00 /DC	\$1,110.00 /DC	\$1,110.00
698.05	FUEL PRICE ADJUSTMENT	1250	DC	ONE DOLLAR /DC	\$1.00 /DC	\$1,250.00 /DC	\$1,250.00
699.040001	MOBILIZATION (4%)	1	LS	_____ /LS	_____ /LS	_____ /LS	\$ _____

**TOTAL PRICE IN NUMBERS \$ \_\_\_\_\_**

**TOTAL PRICE IN WORDS \$ \_\_\_\_\_**

PROJECT MANAGER DW  
 CHECK NS  
 DRAFTING JS  
 CHECK JS  
 DESIGN NS  
 JOB MANAGER DW  
 DESIGN SUPERVISOR MM



**DOUBLE CLAMP DETAIL**  
SCALE: N.T.S.

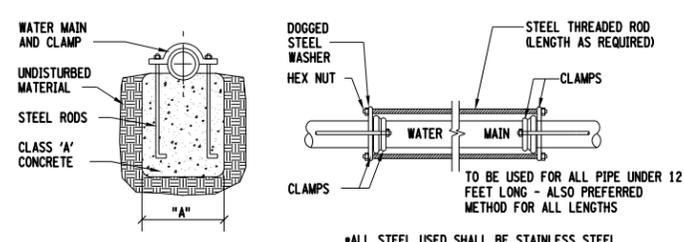
**HARNESSING SCHEDULE**

PIPE DIAMETER	DEFLECTION				DEAD END
	11-1/4°	22-1/2°	45°	90°	
4" & 6"	10'	10 FT.	10'	14 FT.	10 FT.
8"	10'	10 FT.	10'	14 FT.	11 FT.
10"	10'	10 FT.	10'	15 FT.	12 FT.
12"	10'	10 FT.	11'	18 FT.	13 FT.
14"	10'	10 FT.	13'	21 FT.	16 FT.
16"	10'	10 FT.	15'	24 FT.	19 FT.

**NOTES:**

- THE DISTANCES SHOWN ARE THE LINEAL FEET OF PIPE TO BE RODDED ON EACH SIDE OF THE FITTING OR THE LINEAL FEET OF PIPE RODDED BACK FROM A PLUGGED DEAD END.
- THE LIMITS SHOWN ABOVE MAY BE INCREASED WHERE SPECIFICALLY SHOWN ON THE PLANS OR DETAILS.

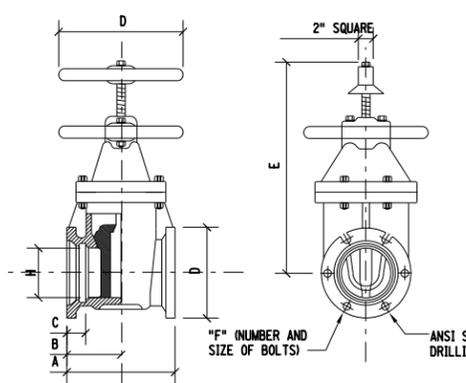
TIE ROD SIZE			CLAMP SIZE	
PIPE DIA.	ROD DIA.	BOLT DIA.	PIPE DIA.	CLAMP
4"	3/4"	5/8"	4"	1/2" x 2"
6"	3/4"	5/8"	6"	1/2" x 2"
8"	3/4"	5/8"	8"	5/8" x 2-1/2"
10"	7/8"	3/4"	10"	5/8" x 2-1/2"
12"	1"	7/8"	12"	5/8" x 2-1/2"
14"	1-1/8"	1"	14"	3/4" x 4"
16"	1-1/8"	1"	16"	3/4" x 4"



**FULL LENGTH CLAMP DETAIL**  
SCALE: N.T.S.

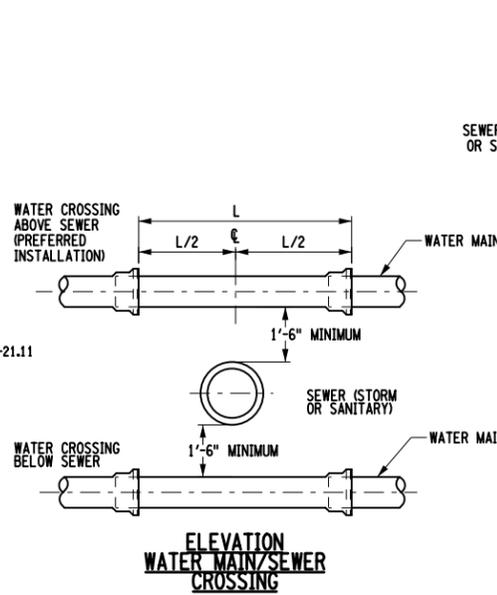
**ANCHORAGE**

BEND	PIPE DIAMETER (D)					
	6"	8"	10"	12"	14"	16"
45°	A	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"
	B	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"
	C	3'-6"	4'-0"	4'-6"	5'-0"	5'-6"
	D	12"	1'-6"	2'-0"	2'-6"	3'-0"
22° 30'	A	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"
	B	2'-0"	2'-6"	3'-0"	3'-6"	4'-0"
	C	2'-6"	3'-0"	3'-6"	4'-0"	4'-6"
	D	12"	12"	1'-6"	2'-0"	2'-6"
11° 15'	A	2'-0"	2'-0"	2'-6"	2'-6"	3'-0"
	B	1'-6"	2'-0"	2'-6"	2'-6"	3'-0"
	C	2'-0"	2'-6"	2'-6"	3'-6"	4'-6"
	D	12"	12"	12"	12"	12"

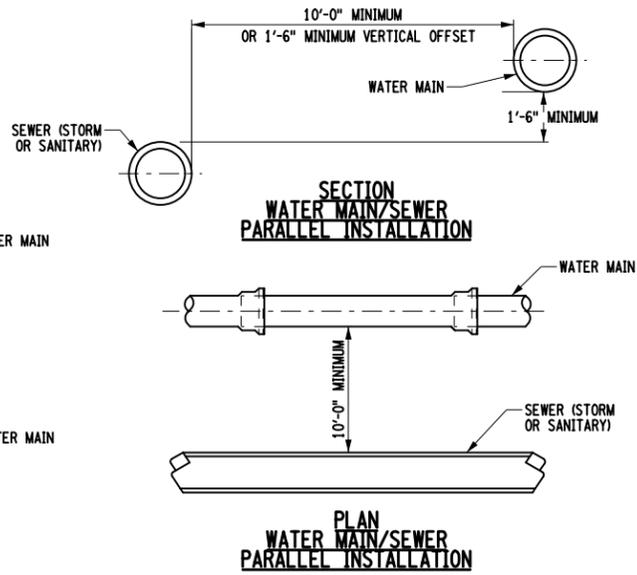


**TYPICAL GATE VALVE DETAIL**  
SCALE: N.T.S.

VALVE SIZE	A	B	C	D	E	F	G	H
2	8-1/4	8-1/4	2.50	4-1/2	10-7/8	2-5/8	7-1/4	2
2-1/2	---	---	---	---	---	---	---	---
3	8-1/2	8-1/2	2.50	7-3/4	12-3/8	4-5/8	10	3
4	9-1/2	9-1/2	2.50	9-1/8	14-3/4	4-3/4	10	4-1/4
6	10	10	2.50	11-1/8	19"	6-3/4	12	6-1/4
8	10-1/2	10-1/2	2.50	13-3/4	22-1/2	6-3/4	14	8-1/4
10	12	12	2.50	15-3/4	26-1/2	8-3/4	18	10-1/4
12	13	13	2.62	18	30	8-3/4	18	12-1/4



**ELEVATION WATER MAIN/SEWER CROSSING**

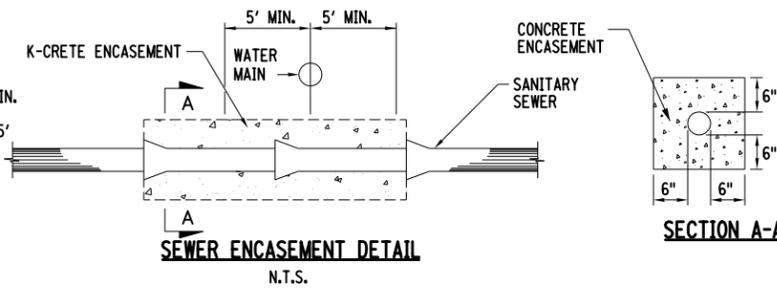


**SECTION WATER MAIN/SEWER PARALLEL INSTALLATION**

**PLAN WATER MAIN/SEWER PARALLEL INSTALLATION**

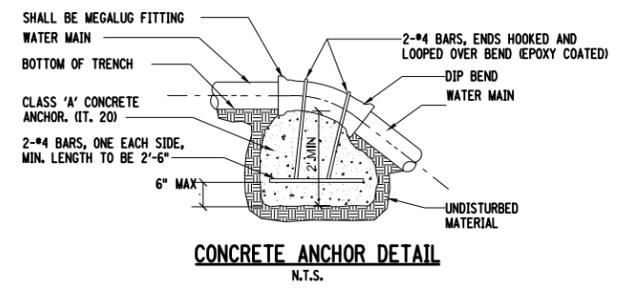
- NOTES:**
- SEE SEWER ENCASUREMENT DETAIL FOR WHERE THESE CONDITIONS CANNOT BE MET.
  - THE LENGTH AND WIDTH OF THE CONCRETE BLOCK COMBINED WITH THE MINIMUM DEPTH AT 2' SHALL BE SUFFICIENT TO GIVE A MINIMUM VOLUME OF CONCRETE AS INDICATED ON THE PLAN.
  - THE CAST FOR THE EXCAVATION, PLACING OF CONCRETE AND OTHER INCIDENTAL EXPENSES NECESSARY TO CONSTRUCT CONCRETE ANCHORS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR WATERMAIN AND APPURTENANCES. MEASUREMENTS FOR PAYMENT UNDER THIS ITEM SHALL BE LIMITED TO THOSE DIMENSIONS AS SHOWN ON THE DETAIL.

- NOTES:**
- IF DISTANCE FROM WATER MAIN TO SEWER JOINT IS LESS THAN 5' MIN. THEN ALL SEWER JOINTS WITHIN 10' MUST BE ENCASED IN K-CRETE. (K-CRETE MUST BE LAID UP TO NEXT BELL OR COLLAR BEYOND THE 5' MIN.)
  - FOR PARALLEL PIPING, IF 10' MINIMUM DISTANCE OR 18" VERTICAL SEPARATION CANNOT BE MET, ENCASE PIPE IN CONCRETE FOR ENTIRE LENGTH UNTIL MINIMUM SEPARATION DISTANCES CAN BE ACHIEVED.



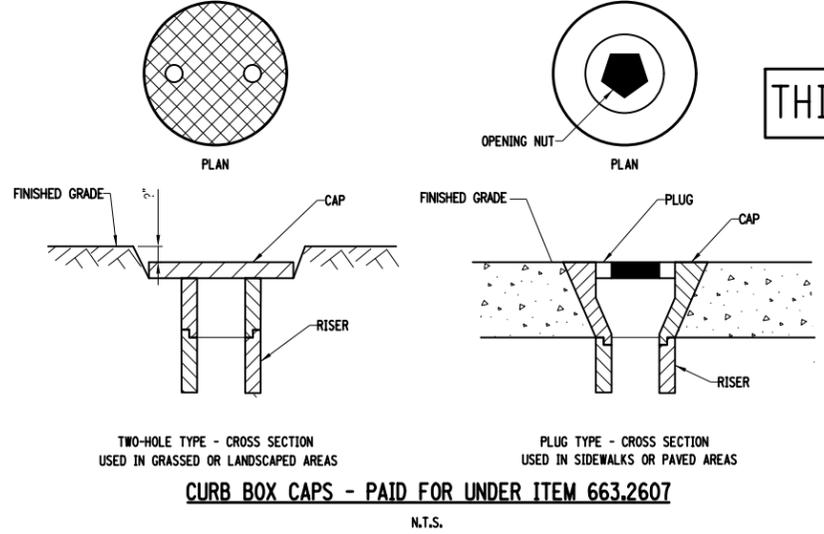
**SEWER ENCASUREMENT DETAIL**  
N.T.S.

**SECTION A-A**

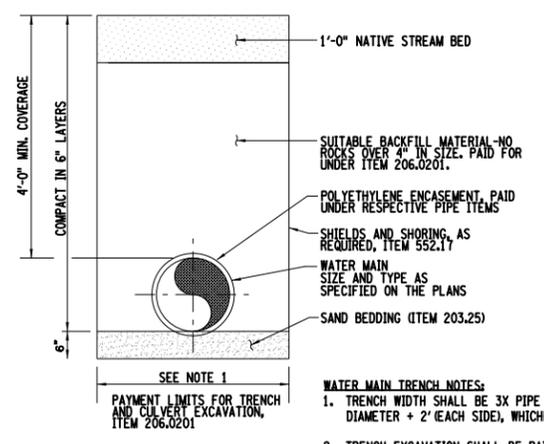


**CONCRETE ANCHOR DETAIL**  
N.T.S.

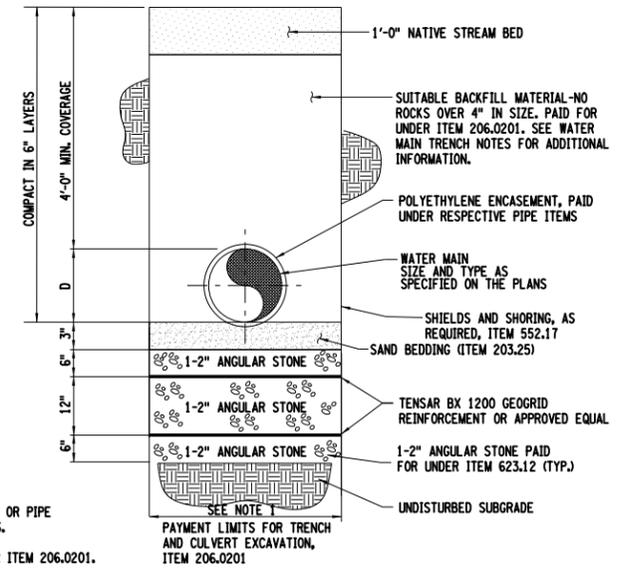
**THIS SHEET SUPERSEDES SHEET 54.**



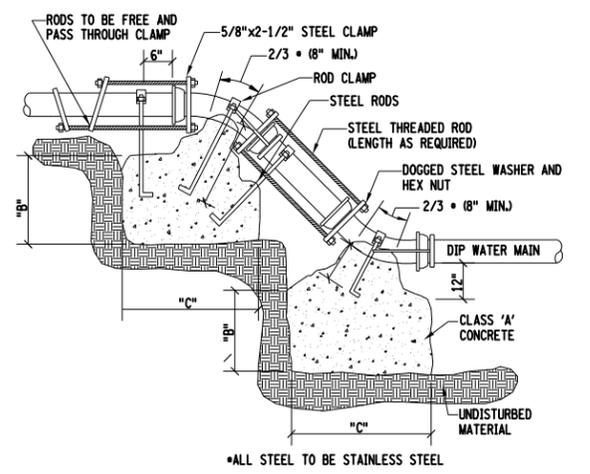
**CURB BOX CAPS - PAID FOR UNDER ITEM 663.2607**  
N.T.S.



**WATER MAIN TRENCH DETAIL - SUITABLE SOIL**  
N.T.S.



**WATER MAIN TRENCH DETAIL - UNSUITABLE SOIL**  
N.T.S.



**BUTTRESSES AND DEFLECTION HARNESSING DETAIL**  
N.T.S.

AFFIX SEAL: ON: ALTERED BY: ON:

AS-BUILT REVISIONS DESCRIPTION OF ALTERATIONS:	HILL BOULEVARD OVER TRIBUTARY TO BARGER CREEK	PIN 8761.66 8761.71	BRIDGES	CULVERTS	ALL DIMENSIONS IN FT UNLESS OTHERWISE NOTED	CONTRACT NUMBER
	VETERANS ROAD OVER HALLOCKS MILL BROOK					
	TOWN OF YORKTOWN	REGION: 8				
	COUNTY: WESTCHESTER					

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR, TO ALTER AN ITEM IN ANY WAY. IF AN ITEM BEARING THE STAMP OF A LICENSED PROFESSIONAL IS ALTERED, THE ALTERING ENGINEER, ARCHITECT, LANDSCAPE ARCHITECT, OR LAND SURVEYOR SHALL STAMP THE DOCUMENT AND INCLUDE THE NOTATION "ALTERED BY" FOLLOWED BY THEIR SIGNATURE, THE DATE OF SUCH ALTERATION, AND A SPECIFIC DESCRIPTION OF THE ALTERATION.

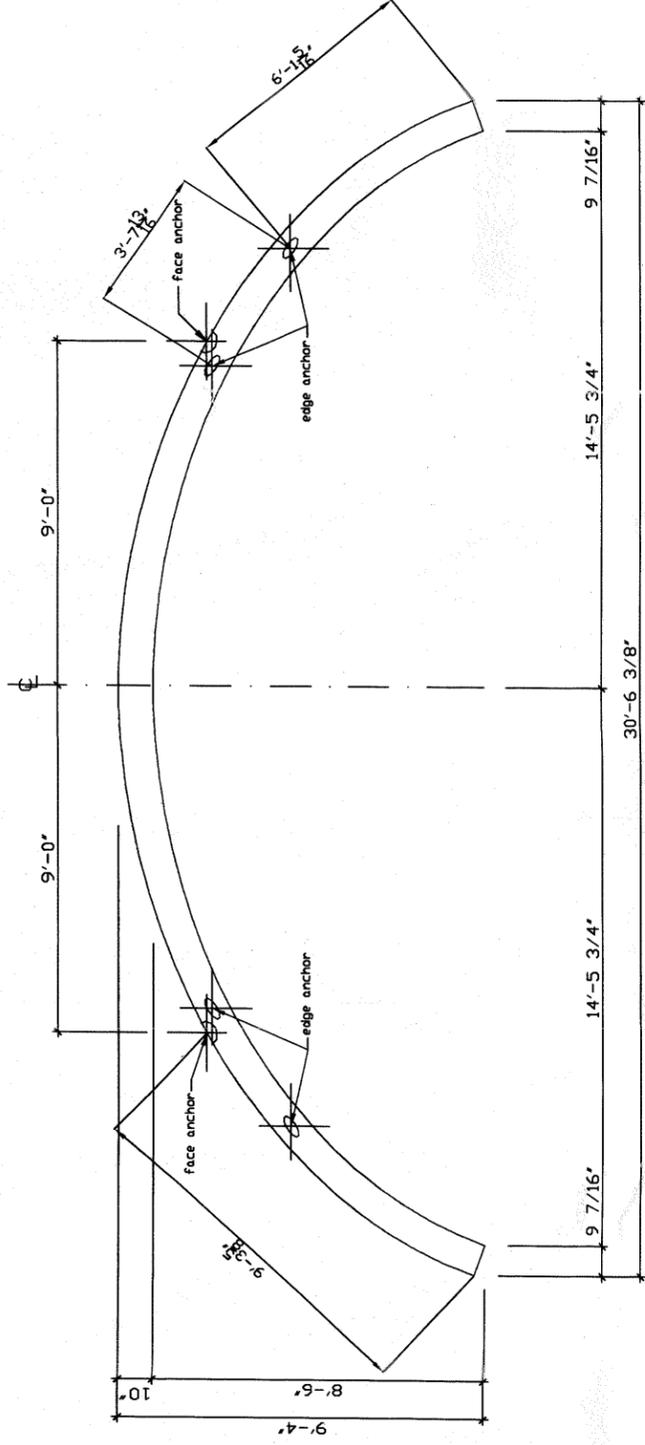
WATERMAIN DETAILS 2 OF 3  
DRAWING NO. WMD-2  
SHEET NO. 54A1



FILE NAME = DGN#SPEC0123456789012345678901234  
 DATE/TIME = DGN#SYTIME0123456  
 USER = DGN#USERNAME



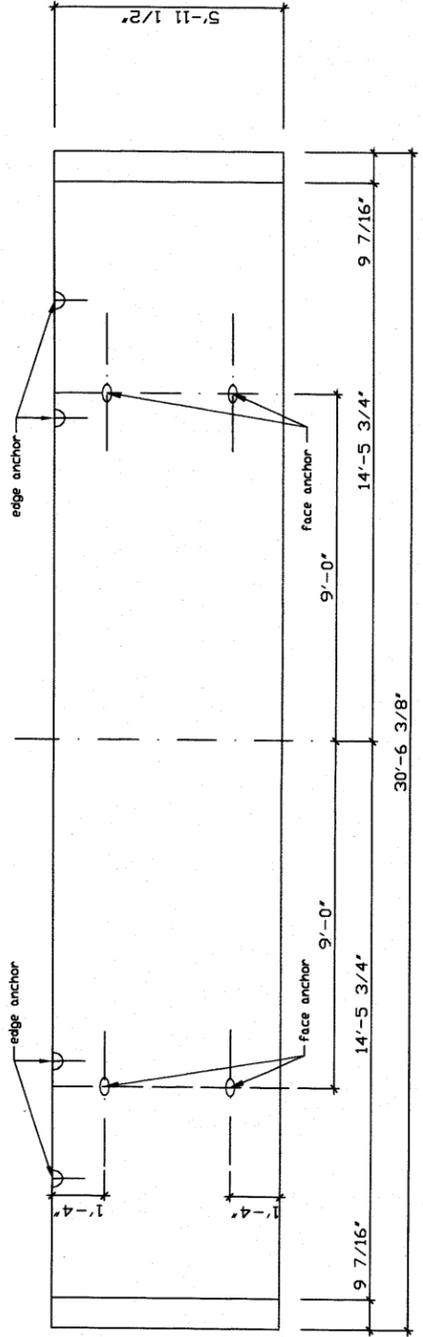
PLAN VIEW



EDGE ANCHOR - 4 TON ERECTION ANCHOR w/  
V-BAR & SHEAR BAR

FACE ANCHOR - 4 TON T-BAR ANCHOR X 6 1/4" LG.

ELEVATION



GENERAL NOTES

- Concrete: AASHTO Class A 5,000 psi compressive strength (28 days)
- Reinforcing Steel: Deformed Bars AASHTO M31, Grade 60  
Welded Wire Fabric AASHTO M55, Grade 65
- Concrete Cover: Inner surfaces 1 1/2"  
Outer surfaces 2" (against fill)
- Finish all edges with 3/4" bevel
- Weight of Arch Element: 27,290 lbs

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BEBO of America, Inc.  
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Montgomery Alabama 36111  
USA  
Telephone: (334) 881 8547  
TeleFax: (334) 888 7989

BEBO SYSTEM

STANDARD TYPE E30/0

ARCH ELEMENT

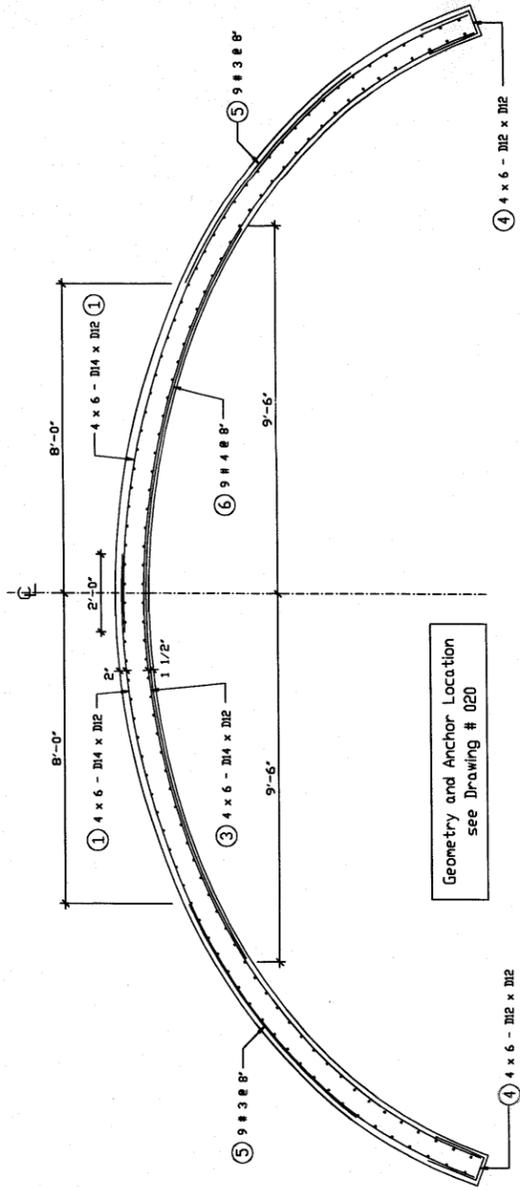
GEOMETRY AND ANCHOR LOCATION



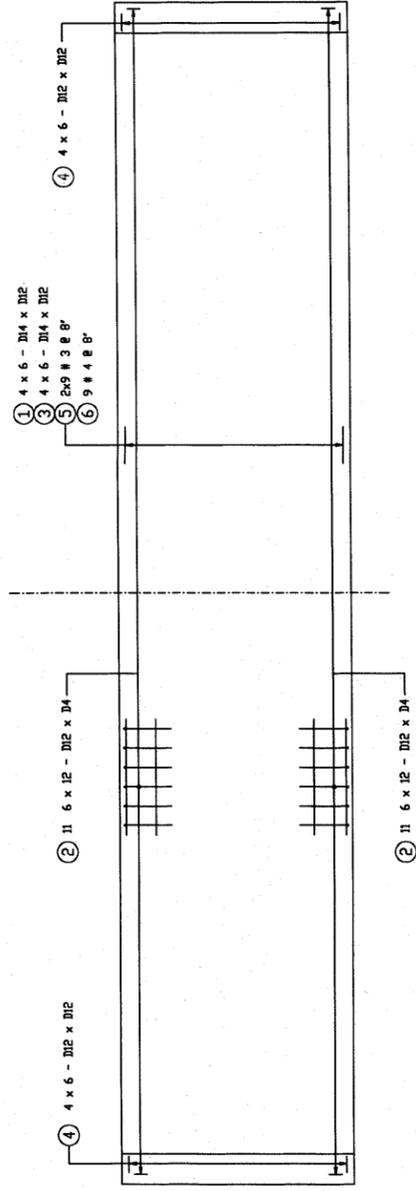
Rev	Date	Drawn	Checked	Size	File #	Document #
01	24 Oct 96	K. Holland	J. Bernal	24/796	Z080-7020H	8752-E30/020
03	12 Nov 98	L. Stalder	J. Bernal			
04	20 Jan 2000	K. Holland	J. Bernal			Version 04

SHEET 2 OF 9

PLAN VIEW



ELEVATION



WELDED WIRE FABRIC		
Mark	Style	Length
1	4 x 6 - D14 x D12	19' 5"
2	6 x 12 - D12 x D14	3' 0"
3	4 x 6 - D14 x D12	35' 9"
4	4 x 6 - D12 x D12	3' 0"

REINFORCING STEEL SCHEDULE

Mark	Size	NO	Length	Type
5	#3	18	7'- 0"	str
6	#4	9	20'- 0"	str

NOTE: SELECT APPROPRIATE SPACERS ( NOT INDICATED ON DRAWING )

GENERAL NOTES

Concrete: AASHTO Class A 5,000 psi compressive strength (28 days)

Reinforcing Steel: Deformed Bars AASHTO M31, Grade 60  
Welded Wire Fabric AASHTO M55, Grade 65

Concrete Cover: Inner surfaces 1 1/2"  
Outer surfaces 2" (against fill)

Finish all edges with 3/4" bevel

Weight of Arch Element: 27,290 lbs

At the option of the precast manufacturer, substitution of welded wire may be permitted which provides equal to, or larger, areas of steel.

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Montgomery Alabama 36111  
USA  
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Telefax: (334) 288 7989

BEBO SYSTEM

SHEET 3 OF 9

STANDARD TYPE E30/0

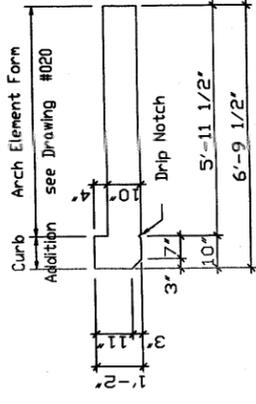
ARCH ELEMENT

REINFORCEMENT



Rev	Date	Drawn	Checked	Size	File #	Document #
01	05. Dec 97	M. Holland	J. Bernhi	24/736'	2020-10201	8752-E30/030
03	27. May 99	M. Holland	J. Bernhi			
04	19. Mar 2000	L. Stauder	J. Bernhi			Version 04

SECTION B-B

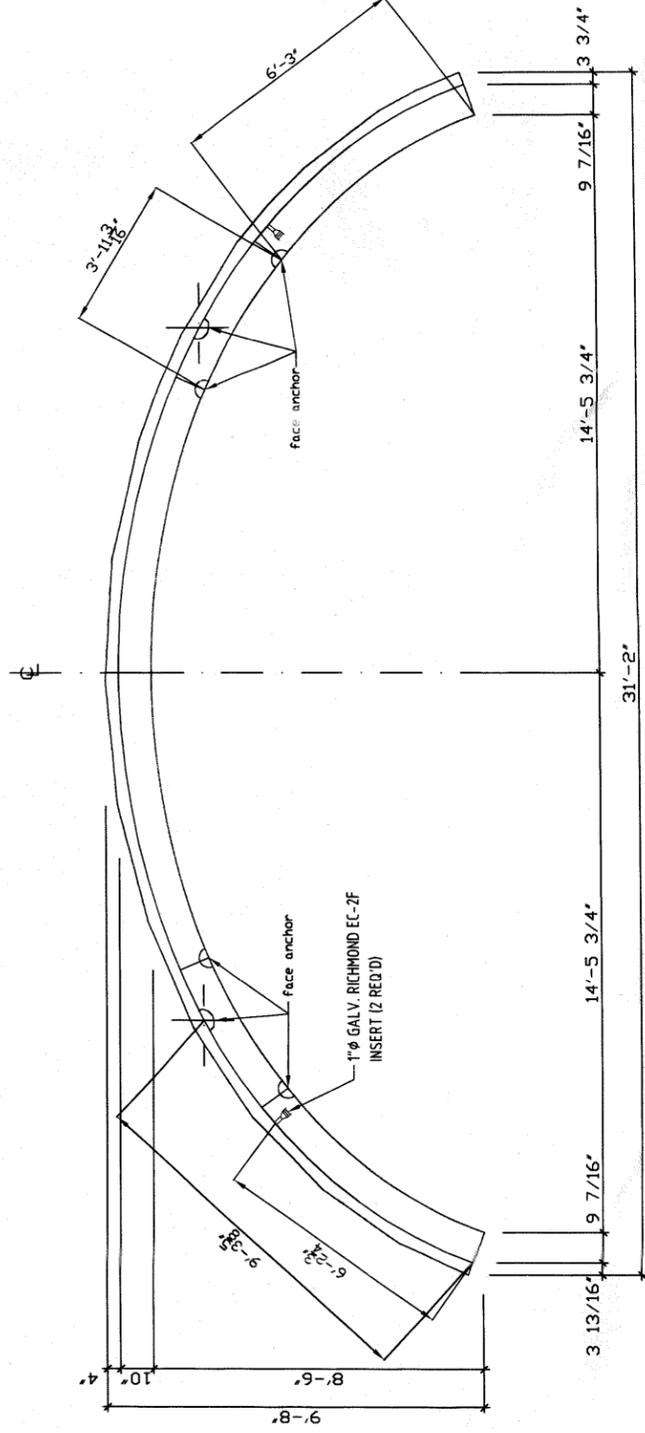


FACE ANCHOR - 4 TON T-BAR ANCHOR X 6 1/4" LG.

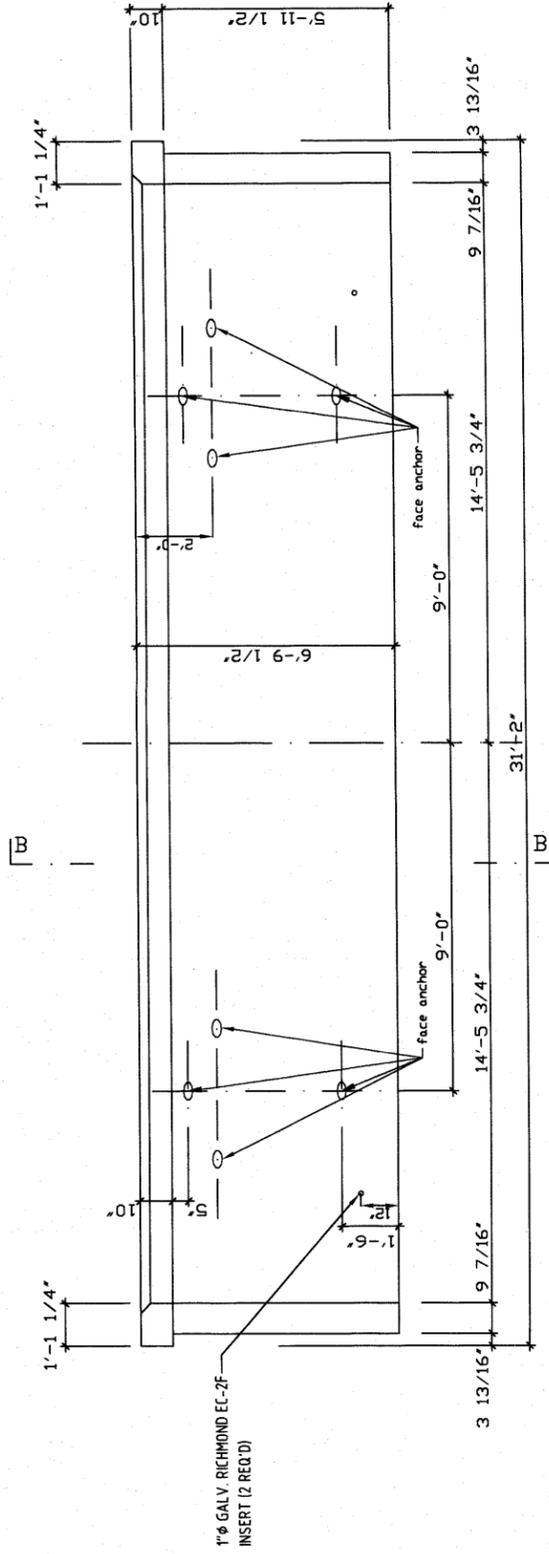
GENERAL NOTES

- Concrete: AASHTO Class A 5,000 psi compressive strength (28 days)
- Reinforcing Steel: Deformed Bars AASHTO M31, Grade 60  
Welded Wire Fabric AASHTO M55, Grade 65
- Concrete Cover: Inner surfaces 1 1/2"  
Outer surfaces 2" (against fill)
- Finish all edges with 3/4" bevel
- Weight of Arch End Element: 32,000 lbs

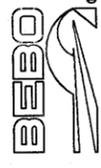
PLAN VIEW



ELEVATION



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BEBO SYSTEM

STANDARD TYPE E30/0  
ARCH END ELEMENT



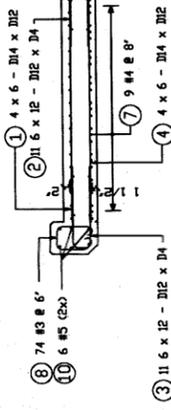
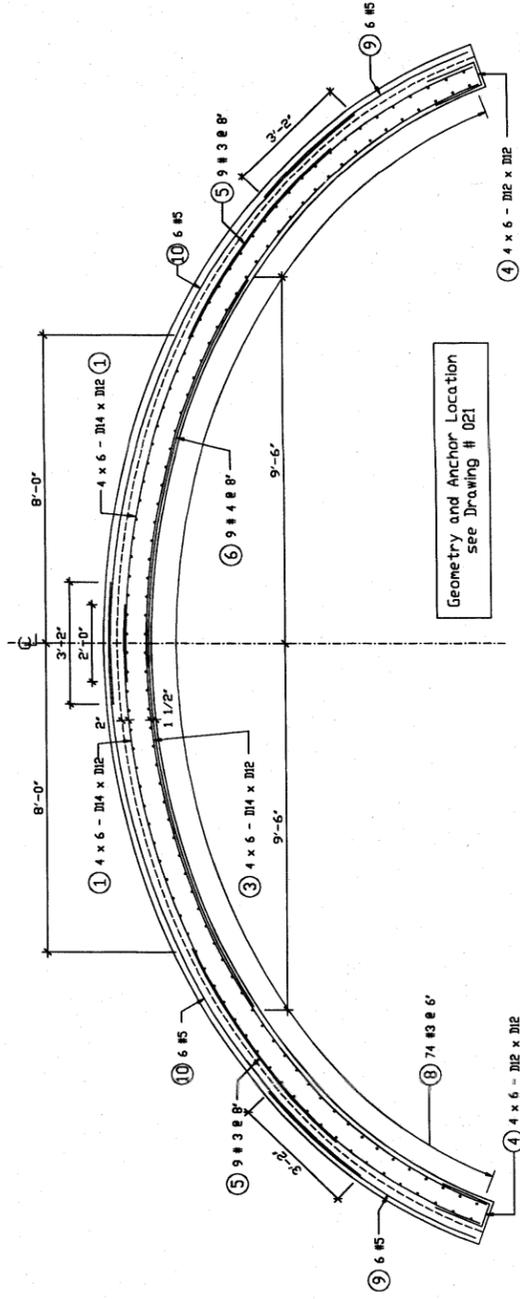
GEOMETRY AND ANCHOR LOCATION

Rev	Date	Drawn	Checked	Size	File #	Document #
01	24 Oct 96	M. Holland	J. Bernick	24"/35"	2021-10211	
02	15 June 98	L. Steuler	J. Bernick			8752-E30/021
03	20 Jun 2000	M. Holland	J. Bernick			Version 03

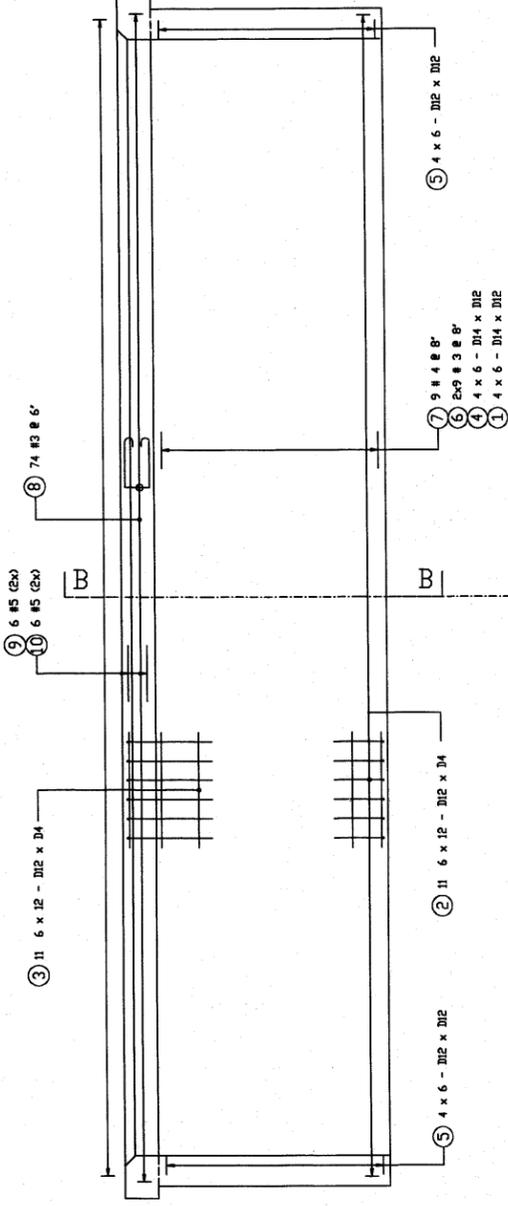
SHEET 4 OF 9

SECTION B-B

PLAN VIEW



ELEVATION



WELDED WIRE FABRIC

Mark	Sheets	Style	Width	Length
1	2	4 x 6 - D14 x D12	508"	19' 6"
2	11	6 x 12 - D12 x D4	300"	3' 0"
3	11	6 x 12 - D12 x D4	300"	4' 8"
4	1	4 x 6 - D14 x D12	508"	35' 8"
5	2	4 x 6 - D12 x D12	508"	3' 0"

REINFORCING STEEL SCHEDULE

Mark	Size	N <sup>o</sup>	Length	Type
6	#3	18	6'- 0"	str.
7	#4	9	20'- 0"	str.
8	#3	74	3'4 1/4"	hent
9	#5	12	6' 6"	hent
10	#5	12	17' 3"	hent

NOTE: SELECT APPROPRIATE SPACERS ( NOT INDICATED ON DRAWING )

GENERAL NOTES

- Concrete: AASHTO Class A, 5,000 psi compressive strength (28 days)
- Reinforcing Steel: Deformed Bars AASHTO M31, Grade 60  
Welded Wire Fabric AASHTO M55, Grade 65
- Concrete Cover: Inner surfaces 1 1/2"  
Outer surfaces 2" (against fill)
- Finish all edges with 3/4" bevel
- Weight of Arch Element: 32,000 lbs

At the option of the precast manufacturer, substitution of welded wire may be permitted which provides equal to, or larger, areas of steel.

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BEBO SYSTEM

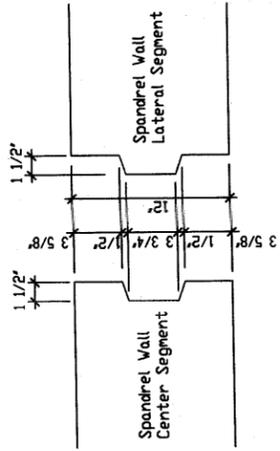
STANDARD TYPE E30/0  
ARCH END ELEMENT  
REINFORCEMENT



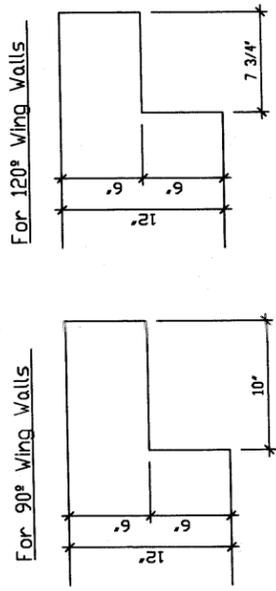
Rev	Date	Drawn	Checked	Size	File #	Document #
17	June 98	L. Stalder	J. Bernini	24/26	Z031-T0311	8752-E30/031
02	27. May 99	M. Holland	J. Bernini			
03	03. Aug. 01	P. Ingold	G. Nick			Version 03

SHEET 5 OF 9

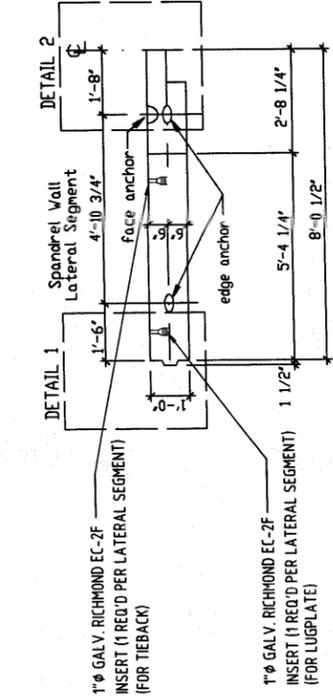
**DETAIL 1**



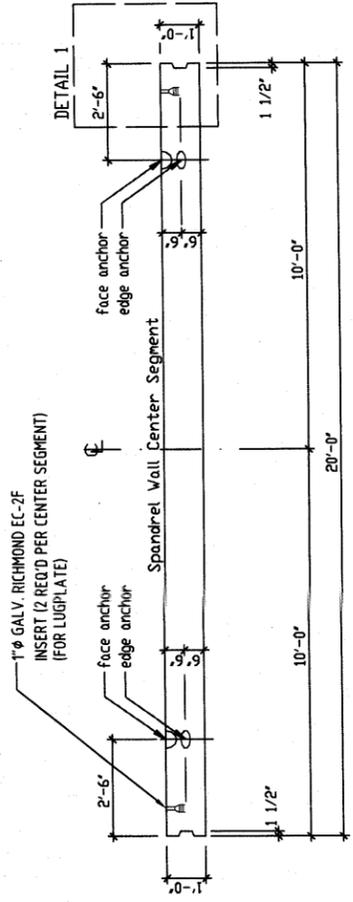
**DETAIL 2**



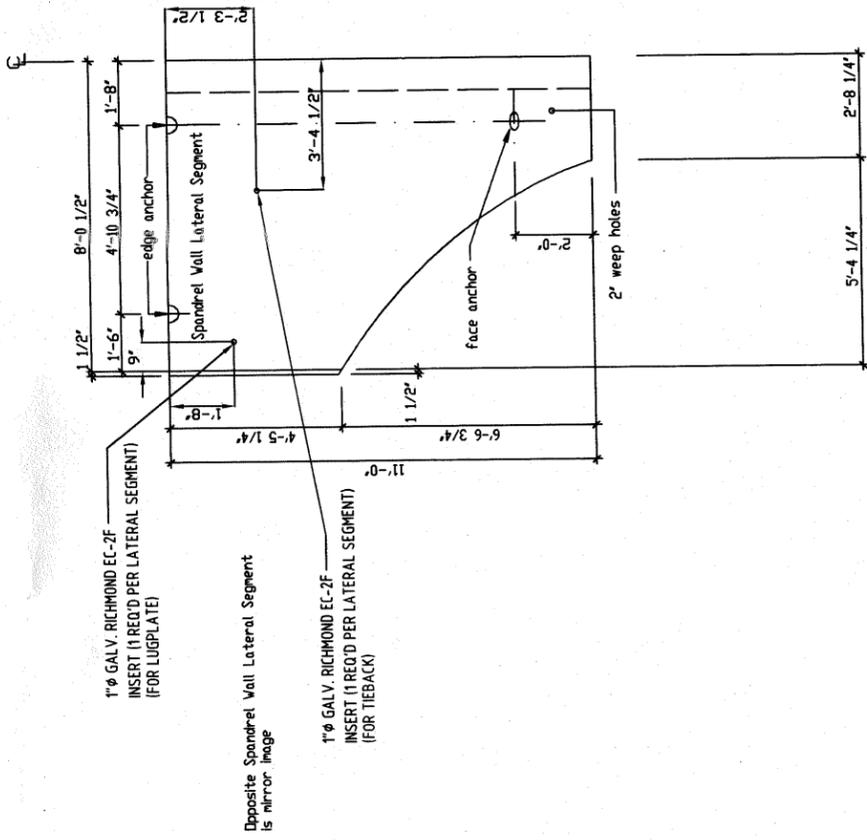
**ELEVATION**



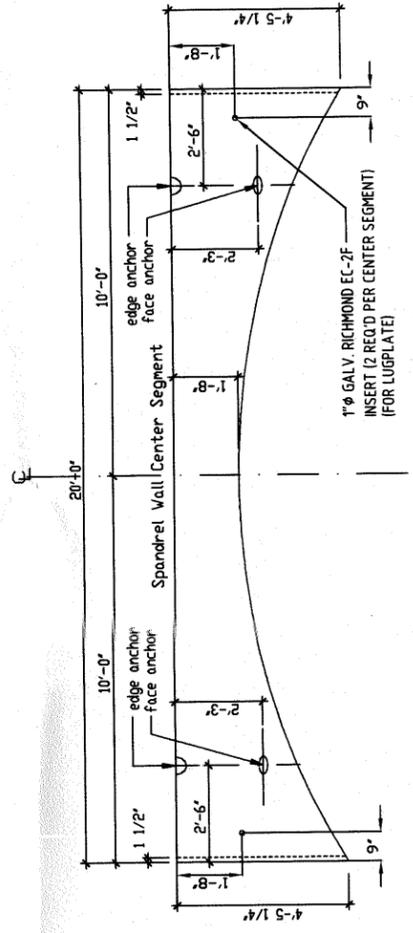
**ELEVATION**



**PLAN VIEW**



**PLAN VIEW**



**GENERAL NOTES**

- Concrete: AASHTO Class A 5,000 psi compressive strength (28 days)
- Reinforcing Steel: Deformed Bars AASHTO M31, Grade 60; Welded Wire Fabric AASHTO M55, Grade 65
- Concrete Cover: Inner surfaces 1 1/2"; Outer surfaces 2" (against fill)
- Finish all visible edges with 3/4" bevel
- Weight of Spandrel Wall Center Segment: 7,560 lbs; Lateral Segment: 9,330 lbs

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BEBO SYSTEM

STANDARD TYPE E30/0

SPANDREL WALL SEGMENTS

GEOMETRY AND ANCHOR LOCATION

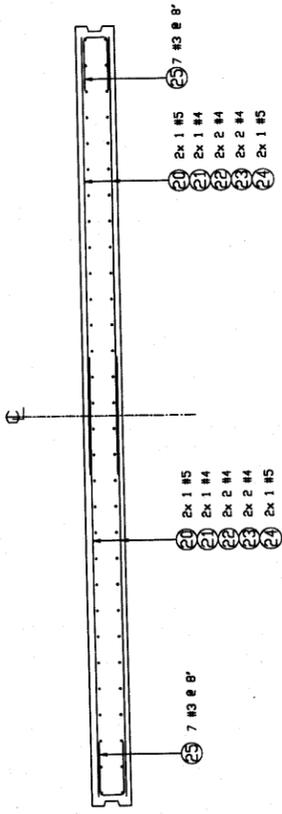
SHEET 6 OF 9

Rev	Date	Drawn	Checked	Size	File #	Document #
01	25 Dec 96	M. Holland	J. Bernick	24"/36"	Z62-10221	8752-E30/022
04	18 Nov 98	M. Holland	J. Bernick			
05	20 Jan 2008	P. J. Jorgensen	J. Bernick			Version 05

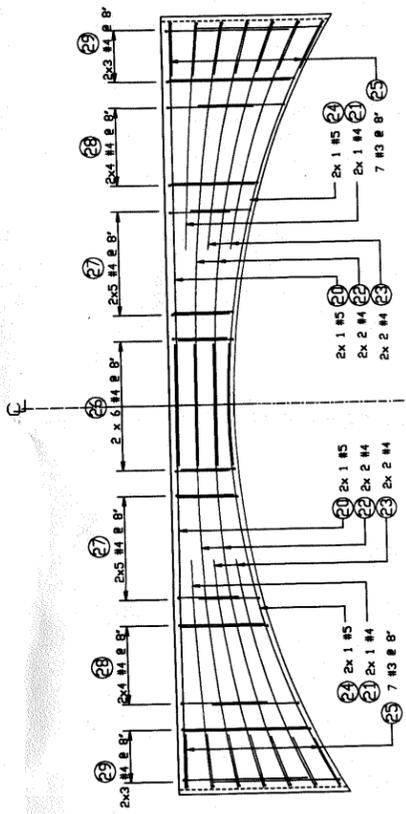
EDGE ANCHOR - 4 TON ERECTION ANCHOR w/ V-BAR & SHEAR BAR

FACE ANCHOR - 4 TON T-BAR ANCHOR X 6 1/4" LG.

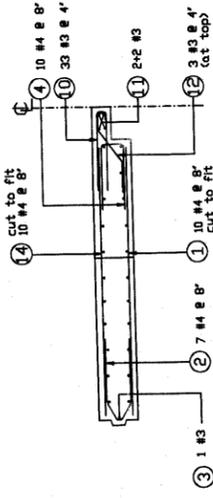
**ELEVATION**  
Spandrel Wall Center Segment



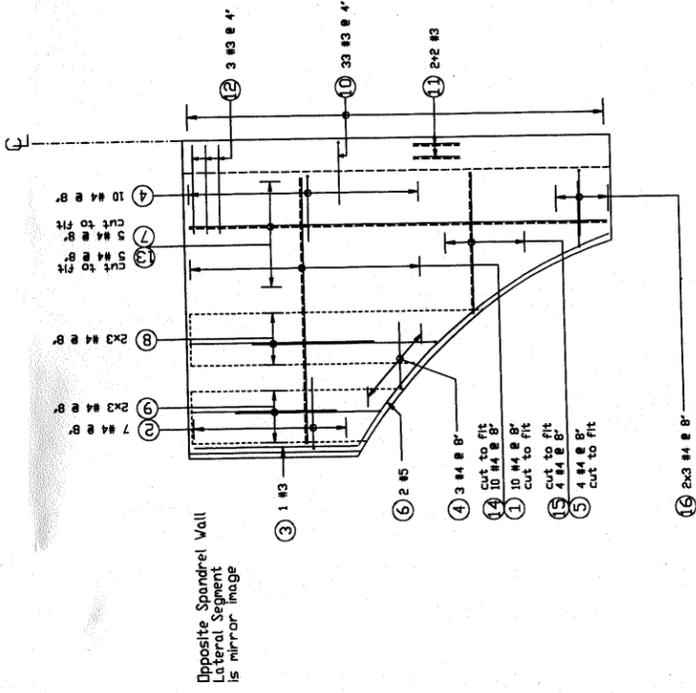
**PLAN VIEW**  
Spandrel Wall Center Segment



**ELEVATION**  
Spandrel Wall Lateral Segment



**PLAN VIEW**  
Spandrel Wall Lateral Segment



Opposite Spandrel Wall Lateral Segment is mirror image

**REINFORCING STEEL SCHEDULE**

Mark	Size	NO	Length	Type
1	#4	10	6'-10"	str.
2	#4	7	4'-6"	bent
3	#3	1	4'-2"	str.
4	#4	13	4'-1 1/2"	bent
5	#4	4	4'-0"	str.
6	#5	2	8'-7"	bent
7	#4	5	10'-10"	str.
8	#4	6	10'-0 1/2"	bent
9	#4	6	8'-0 1/2"	bent
10	#3	33	4'-1 1/2"	bent
11	#3	4	10'-10"	str.
12	#2	4	3'-1 1/2"	bent
13	#4	5	10'-10"	str.
14	#4	10	6'-10"	str.
15	#4	4	4'-0"	str.
16	#4	6	4'-0 1/2"	bent

Schedule for 1 Lateral Segment

NOTE: SELECT APPROPRIATE SPACERS (NOT INDICATED ON DRAWING)

**GENERAL NOTES**

- Concrete: AASHTO Class A 5,000 psi compressive strength (28 days)
- Reinforcing Steel: Deformed Bars AASHTO M31, Grade 60 Welded Wire Fabric AASHTO M55, Grade 65
- Concrete Cover: Inner surfaces 1 1/2" Outer surfaces 2" (against fill)
- Finish all edges with 3/4" bevel
- Weight of Spandrel Wall Center Segment: 7,560 lbs Lateral Segment: 9,770 lbs

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BEBO SYSTEM

STANDARD TYPE E30/0  
SPANDREL WALL SEGMENTS

REINFORCEMENT (Center and Lateral Segment)

Rev	Date	Drawn	Checked	Size	File #	Document #
15	June 98	P.A. Ingold	J. Bernhill	24/26	Z022-10221	8752-E30/032
02	06. Aug. 01	P.A. Ingold	G. Nick			Version 02

Geometry: see Drawing # 022

**REINFORCING STEEL SCHEDULE**

Mark	Size	NO	Length	Type
20	#5	4	11'-5"	str.
21	#4	4	5'-10"	str.
22	#4	8	11'-6"	bent
23	#4	8	6'-2"	bent
24	#5	4	11'-11"	bent
25	#3	14	3'-4 1/2"	bent
26	#4	12	3'-4 1/2"	bent
27	#4	20	3'-8 1/2"	bent
28	#4	16	5'-0 1/2"	bent
29	#4	12	7'-1 1/2"	bent

NOTE: SELECT APPROPRIATE SPACERS (NOT INDICATED ON DRAWING)

Schedule for Center Segment



