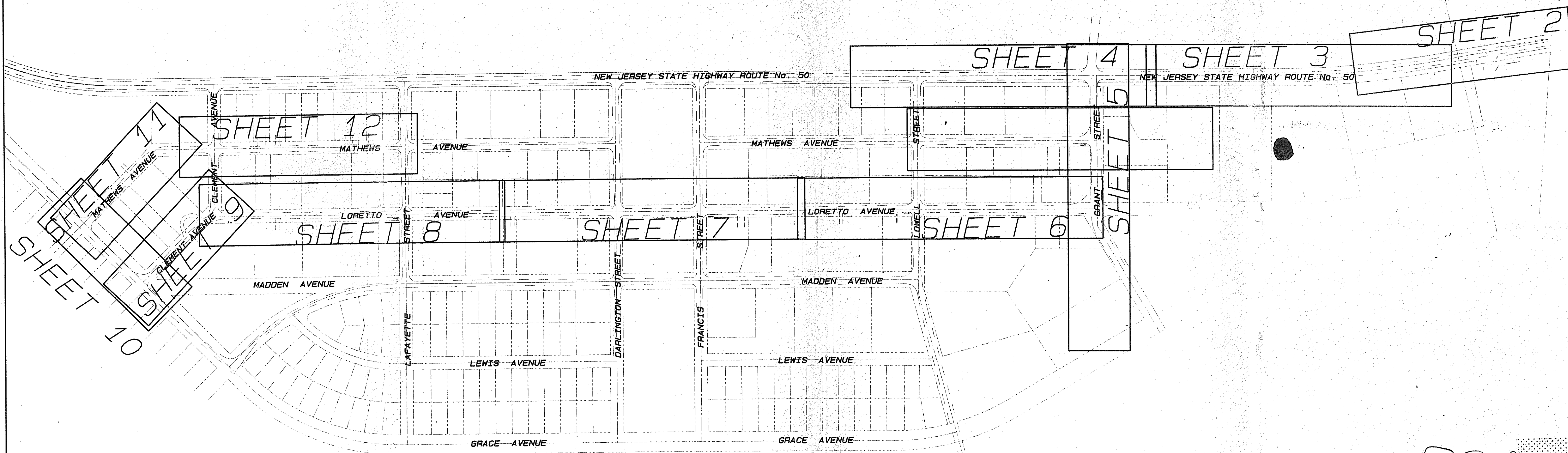
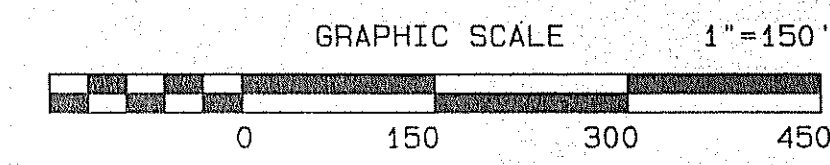


WEYMOUTH TOWNSHIP MUNICIPAL UTILITIES AUTHORITY
 BELCOVILLE WATER MAIN RECONSTRUCTION PROJECT
 CONTRACT #1 - 1997

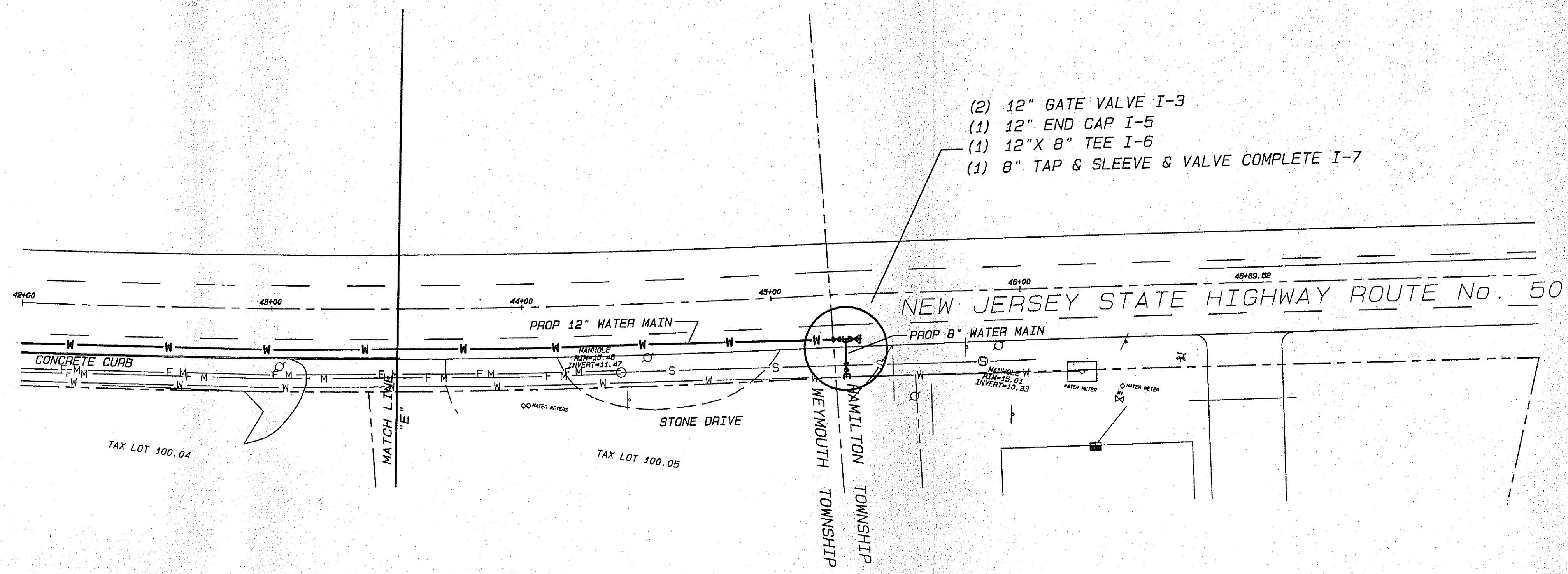


F. Shaul

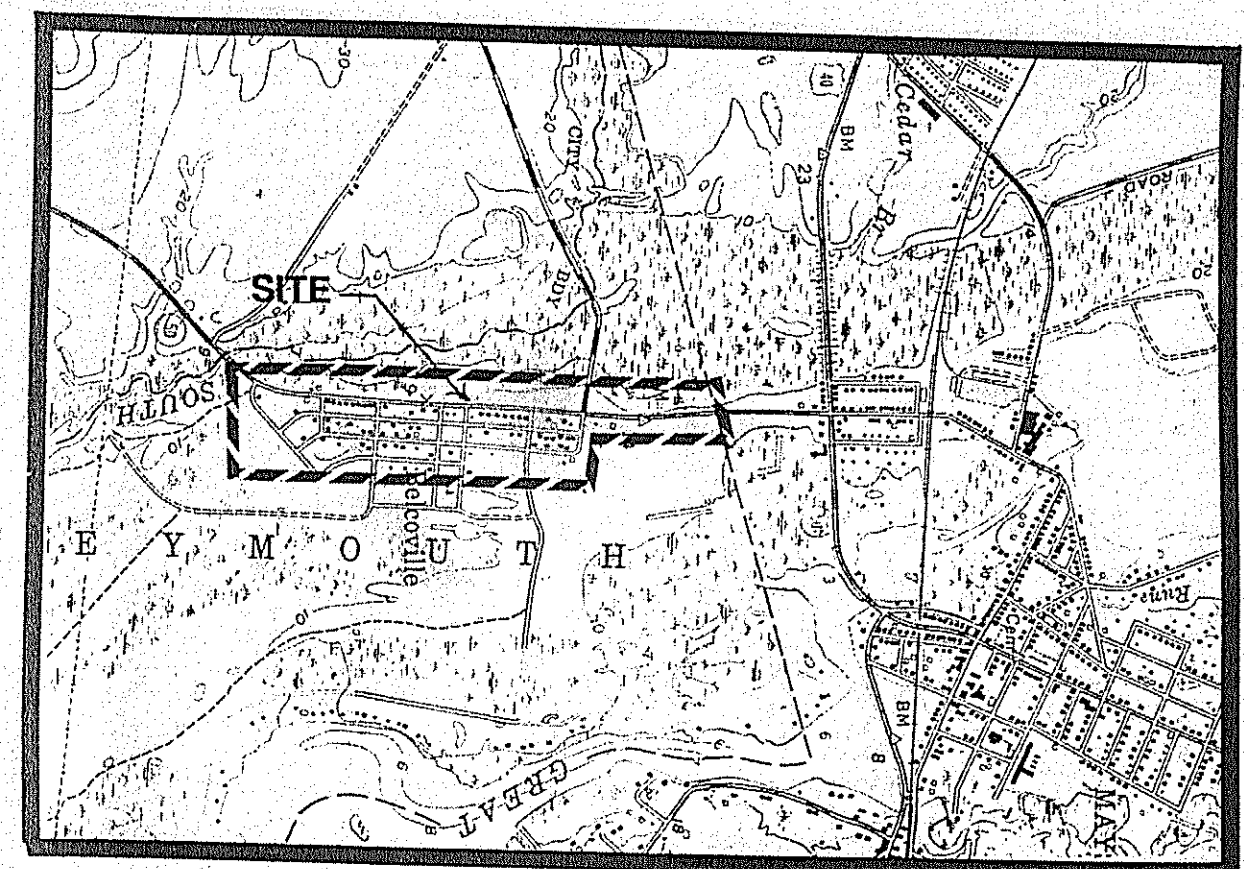
Victor Schmidt
 WTMUA



SPEITEL AND SPEITEL, INC. STRATEGIC PLANNERS, CIVIL ENGINEERS, AND ENVIRONMENTAL PERMIT CONSULTANTS THE PAINTWORKS-SUITE 206 20 E. CLEMENTON ROAD GIBBSBORO, NEW JERSEY 08026 <small>INCORPORATED IN NEW JERSEY LICENSE NO. 27059 DATE 1/1/97</small>	12	REVISIONS	CHK
	11	REVISIONS	CHK
	10	REVISIONS	CHK
	9	REVISIONS	CHK
	8	REVISIONS	CHK
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	5	REVISIONS	CHK
	4	REVISIONS	CHK
	3	REVISIONS	CHK
	2	REVISIONS	CHK
	1	REVISIONS	CHK
BELCOVILLE WATER MAIN SITUATE WEYMOUTH TOWNSHIP ATLANTIC COUNTY NEW JERSEY			
COVER SHEET			
CHECK: <i>ESM</i> CONTRACT: 1309 DATE: 4/2/97 SCALE: 1" = 150' REVISION: 0 SHEET: 1			



N. J. S. H. ROUTE No. 50 PLAN VIEW

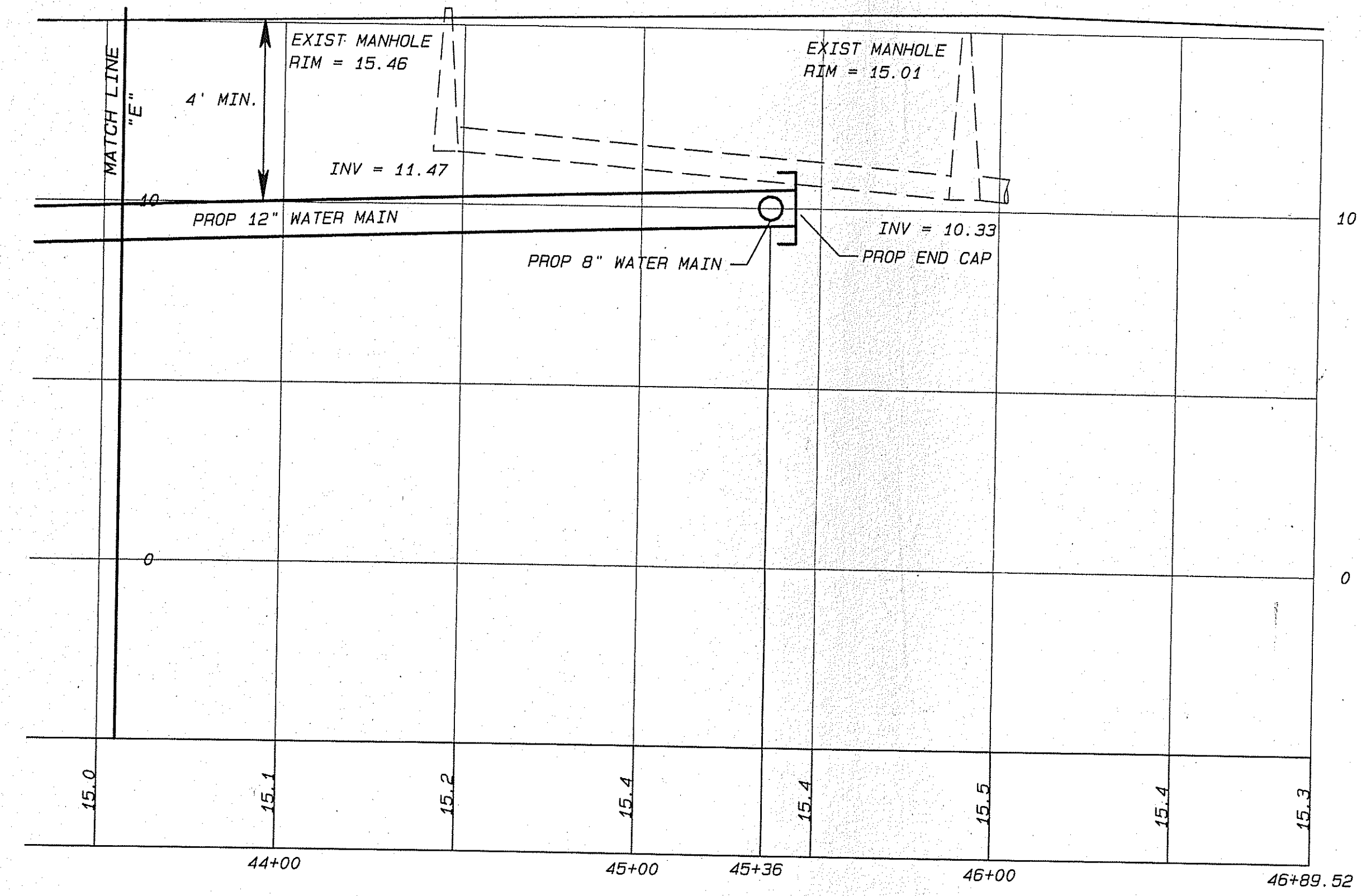


KEY MAP
SCALE: 1" = 2000'

- (2) 12" GATE VALVE I-3
- (1) 12" END CAP I-5
- (1) 12" X 8" TEE I-6
- (1) 8" TAP & SLEEVE & VALVE COMPLETE I-7

BID ITEMS ON THIS SHEET
TO MATCH LINE "E"

ITEM	DESCRIPTION	QUANTITY
I-2	12" CLDIP Water Pipe	185 LF
I-3	12" Gate Valve	2 Units
I-5	12" End Cap	1 Unit
I-6	12" x 8" Tee	1 Unit
I-7	8" Tap and Sleeve and Valve Complete	1 Unit
I-11	8" CLDIP Water Pipe	15 LF
I-23	4" Thick Temporary Patch	40 SY
I-26	Saw Cut Existing Paving	370 SY
I-27	Disposal of Existing Paving	125 LF
I-34	Milling 4" Deep	165 SY
I-35	4" Thick MABC	165 SY
I-36	4" Thick Bituminous Stab. Base	125 SY



N. J. S. H. ROUTE No. 50 PROFILE

NOTES:

- Locations of all existing features taken from plan entitled "Plan and Profile N.J.S.H. Route No. 50, Weymouth Township, Atlantic County, New Jersey. Prepared by Vargo Associates, Michael R. Vargo, PLS, PP, N.J. License No. 33182. Dated January 3, 1997.
- Proposed water mains shall be separated at least 10 feet horizontally from sanitary sewer whenever possible. At proposed water main and sanitary sewer crossings, the sewer shall be encased in concrete for a minimum of ten feet on either side of the crossing.
- At least four feet of cover shall be provided for the proposed water main.

Project:

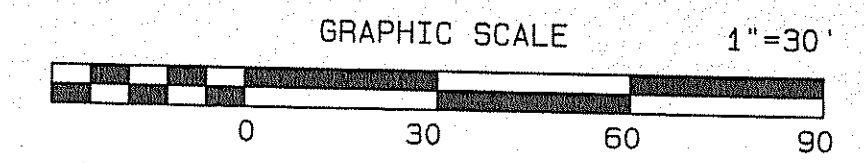
Belcoville Water Main Reconstruction

Applicant:

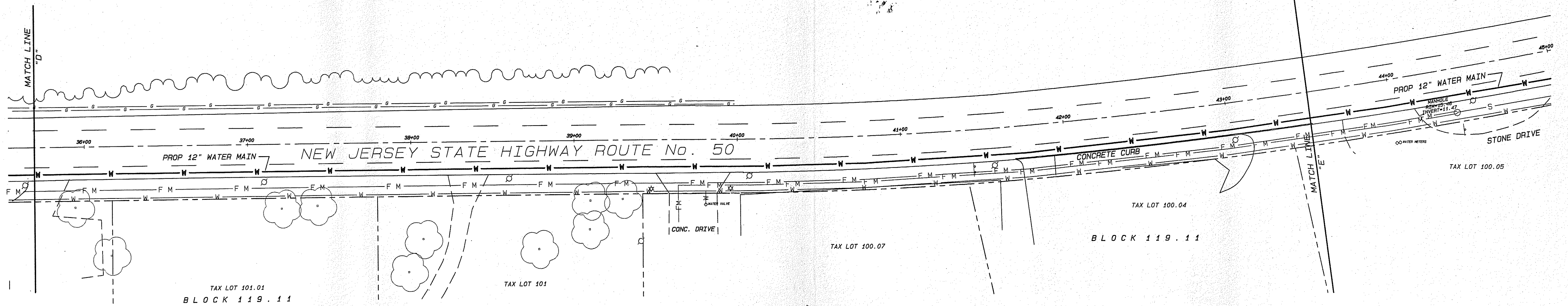
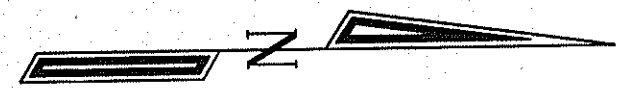
Weymouth Township Municipal Utilities Authority

CONTRACTORS RESPONSIBILITY

Locations of utilities shown on this plan are not necessarily complete. The contractor shall notify all utility companies operating within the construction area and at his own expense verify the location, size, type and elevations of any utilities prior to construction.



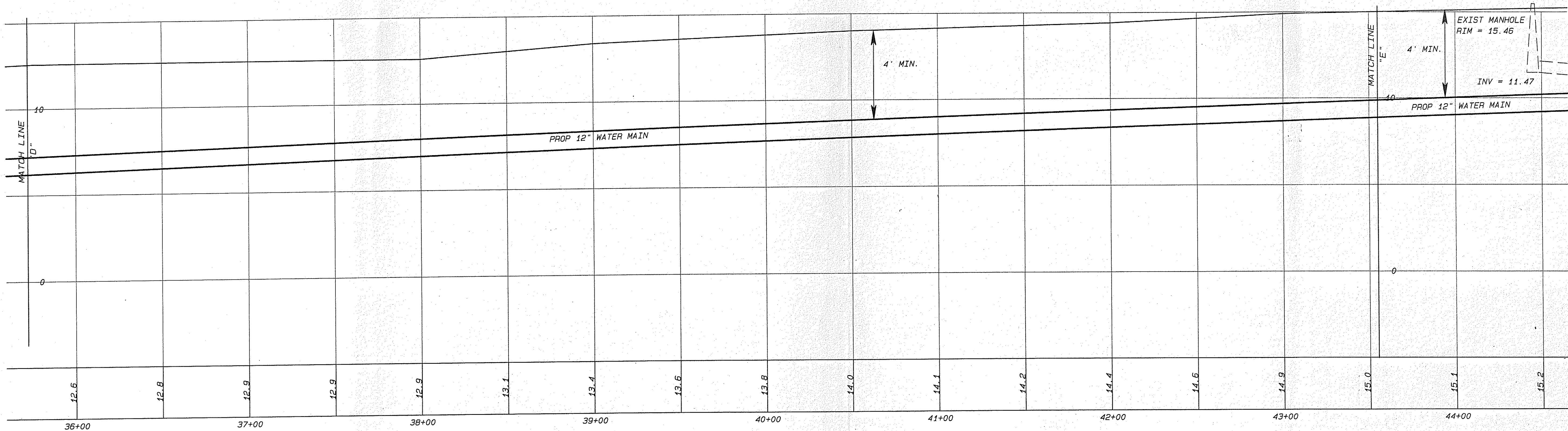
SPEITEL AND SPEITEL, INC. STRATEGIC PLANNERS, CIVIL ENGINEERS, AND ENVIRONMENTAL PERMIT CONSULTANTS THE PAINTWORKS-SUITE 206 20 E. CLEMENTON ROAD 61888BORDO, NEW JERSEY 08008 <small>COMPANION 1997 SPEITEL & SPEITEL, INC. ALL RIGHTS RESERVED AS PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT EXPRESS WRITTEN CONSENT OF SPEITEL & SPEITEL</small>	Weymouth Township ATLANTIC COUNTY NEW JERSEY																																										
PLAN AND PROFILE	BELCOVILLE WATER MAIN SITUATE WEYMOUTH TOWNSHIP ATLANTIC COUNTY NEW JERSEY																																										
CHECK: <i>Amc</i> CONTRACT: 1309 DATE: 2/6/97 SCALE: HOR 1"=30' VER 1"=3' REVISION: 1 SHEET: 2	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%;">1</td> <td style="width: 15%;">CONV PLAN 4/1/97</td> <td style="width: 10%;">B</td> <td style="width: 10%;">7</td> <td style="width: 10%;">CHK</td> <td style="width: 10%;">REVISIONS</td> <td style="width: 10%;">CHK</td> </tr> <tr> <td>2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	1	CONV PLAN 4/1/97	B	7	CHK	REVISIONS	CHK	2							3							4							5							6						
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TAX LOT 101.01
BLOCK 119.11
BID ITEMS ON THIS SHEET
FROM MATCH LINES "E" TO "D"

ITEM	DESCRIPTION	QUANTITY
I-1	12" CLDIP Water Pipe	790 LF
I-23	4" Thick Temporary Patch	175 SY
I-26	Saw Cut Existing Paving	1,580 LF
I-27	Disposal of Existing Paving	527 SY
I-34	Milling 4" Deep	700 SY
I-35	4" Thick MABC	700 SY
I-36	4" Thick Bituminous Stab. Base	527 SY

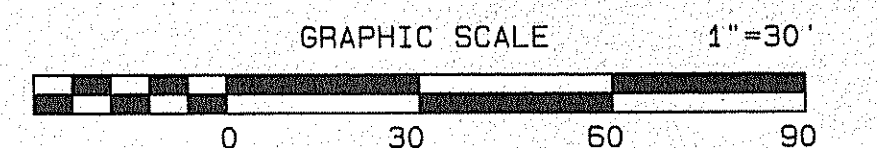
N. J. S. H. ROUTE No. 50 PLAN VIEW



N. J. S. H. ROUTE No. 50 PROFILE

CONTRACTORS RESPONSIBILITY

Locations of utilities shown on this plan are not necessarily complete. The contractor shall notify all utility companies operating within the construction area and at his own expense verify the location, size, type and elevations of any utilities prior to construction.



NO.	DATE	REVISIONS	CHK
1	CON PLAN 4/1/97	1	CHK
2		2	CHK
3		3	CHK
4		4	CHK
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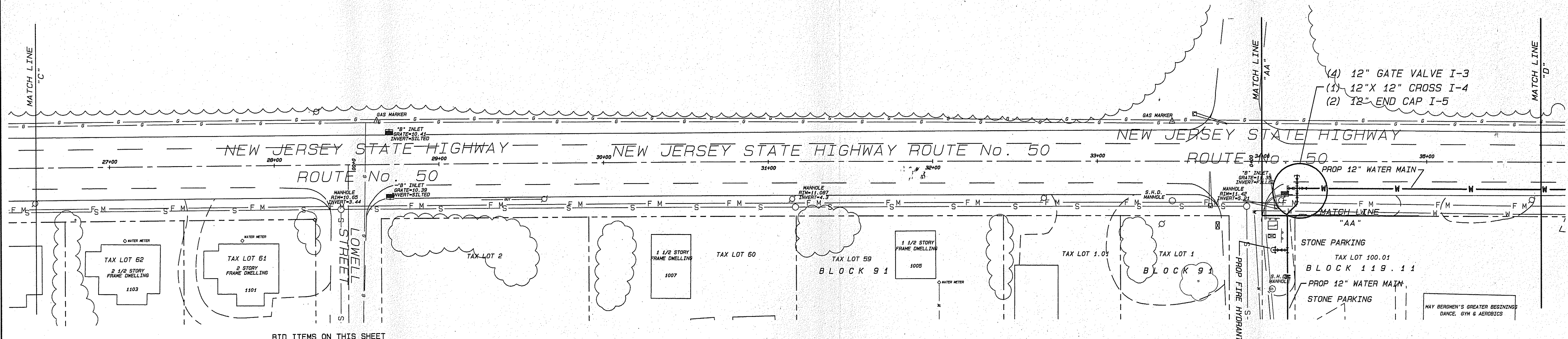
Edmond C. Spetel
Professional Engineer
N. J. License No. 27059
Date: _____

SPEITEL AND SPEITEL, INC.
STRATEGIC PLANNERS, CIVIL ENGINEERS, AND ENVIRONMENTAL PERMIT CONSULTANTS
THE PAINTWORKS-SUITE 206 20 E. CLEMENTON ROAD GIBBSBORO, NEW JERSEY 08026
Company, City, State, and Country: _____
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BELCOVILLE WATER MAIN
SITUATE
WEYMOUTH TOWNSHIP
ATLANTIC COUNTY
NEW JERSEY

PLAN AND PROFILE

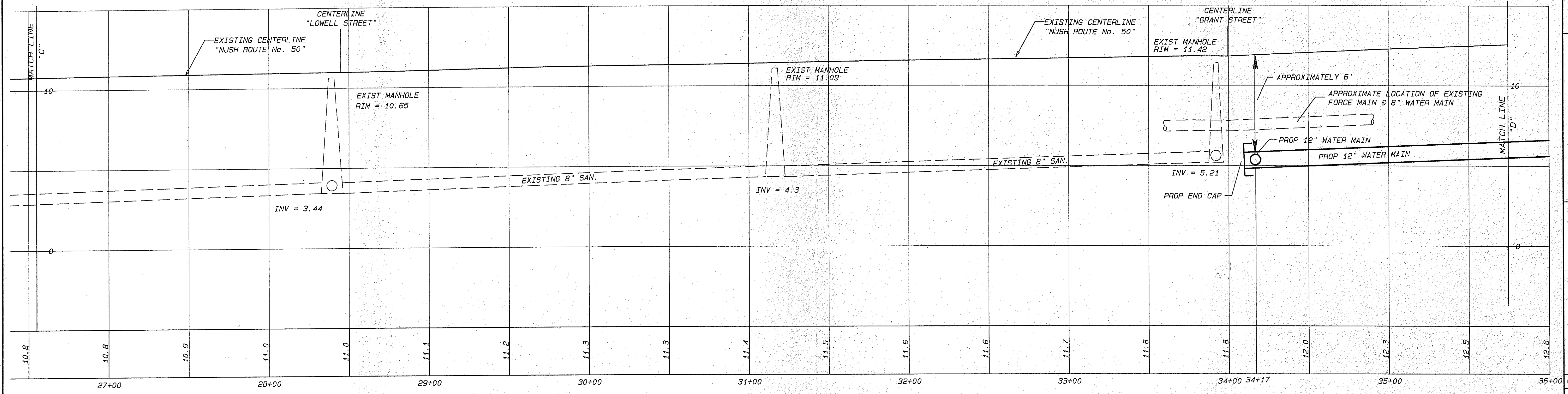
CHECK: *Emc*
CONTRACT: 1309
DATE: 2/6/97
SCALE: HOR 1"=30'
VER 1"=3'
REVISION: 1
SHEET: 3



BID ITEMS ON THIS SHEET FROM MATCH LINE "D" TO MATCH LINE "AA"

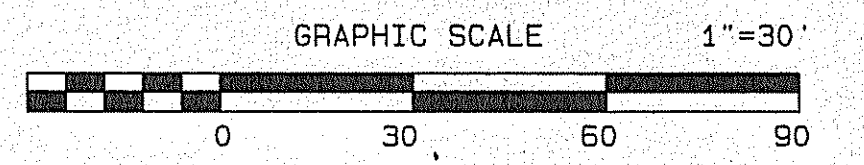
ITEM	DESCRIPTION	QUANTITY
I-2	12" CLOIP Water Pipe	180 LF
I-3	12" Gate Valve	4 Units
I-4	12" x 12" Cross	1 Unit
I-5	12" End Cap	2 Units
I-21	Miscellaneous Fittings	2 Units
I-23	4" Thick Temporary Patch	3 SY
I-24	Saw Cut Existing Paving	310 LF
I-27	Disposal of Existing Paving	115 sqy
I-34	Milling 4" Deep	138 sqy
I-35	4" Thick MABC	138 sqy
I-36	4" Thick Bituminous Stab. Base	103 sqy

N. J. S. H. ROUTE No. 50 PLAN VIEW

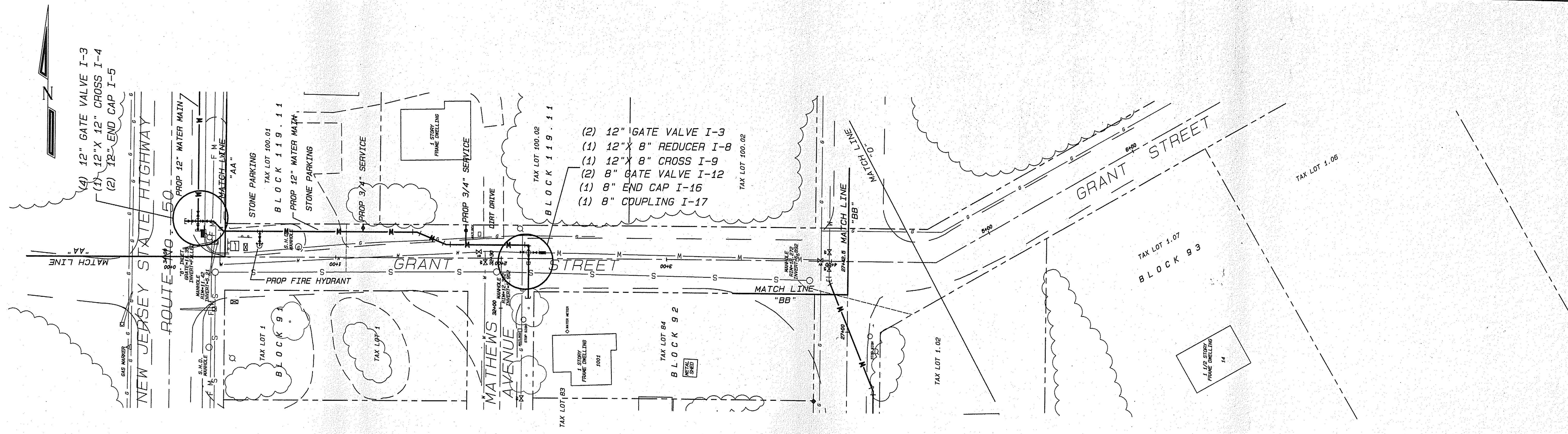


N. J. S. H. ROUTE No. 50 PROFILE

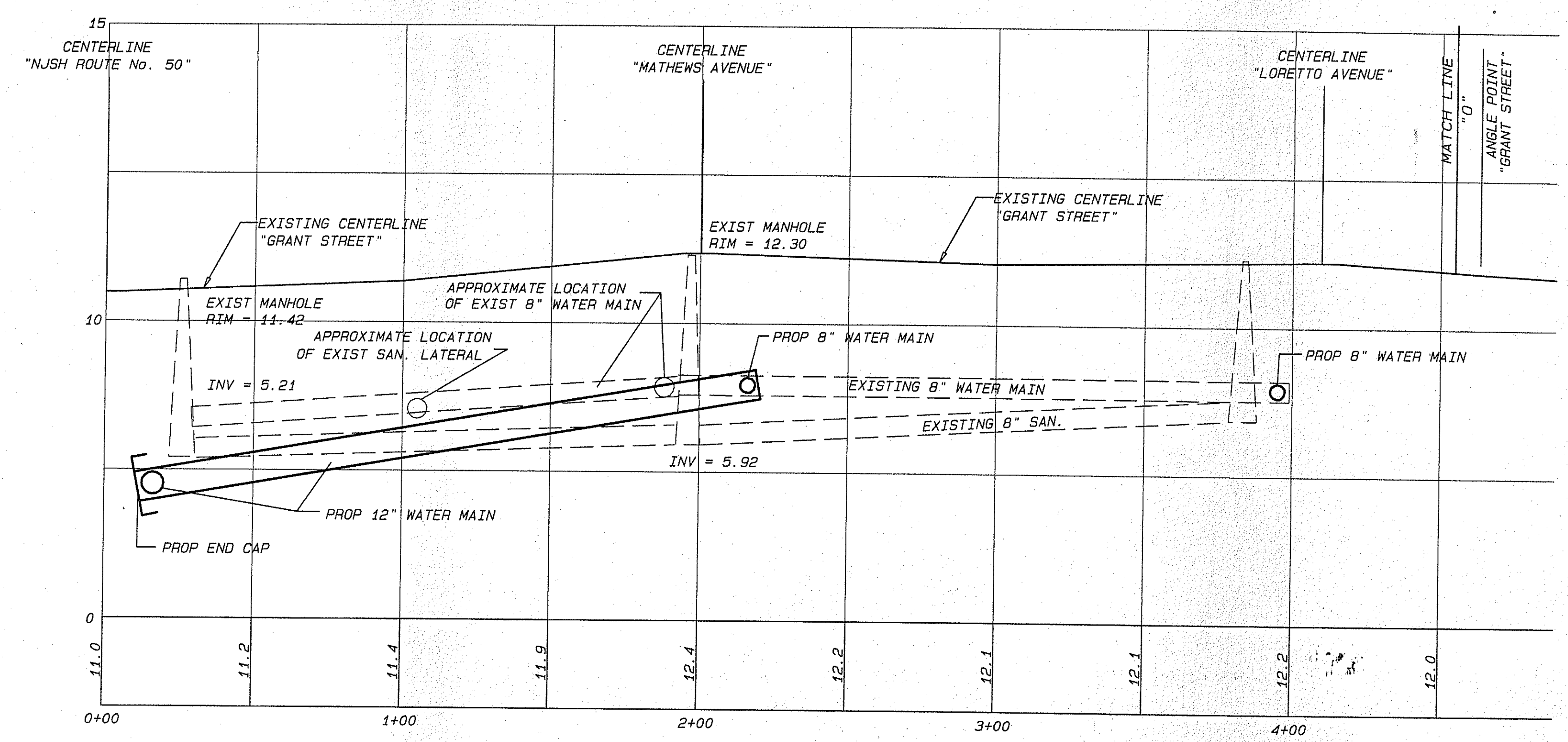
CONTRACTORS RESPONSIBILITY
 Locations of utilities shown on this plan are not necessarily complete. The contractor shall notify all utility companies operating within the construction area and at his own expense verify the location, size, type and elevations of any utilities prior to construction.



SPEITEL AND SPEITEL, INC.	
STRATEGIC PLANNERS, CIVIL ENGINEERS, AND ENVIRONMENTAL PERMIT CONSULTANTS THE PAINTWORKS-SUITE 206 20 E. CLEMENTON ROAD 61888BORDO, NEW JERSEY 08068	
DATE: 2/6/97	
CONTRACT: 1309	
SHEET: 4	
REVISIONS	CHK
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2	CON PLAN 4/1/97
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GRANT STREET PLAN VIEW

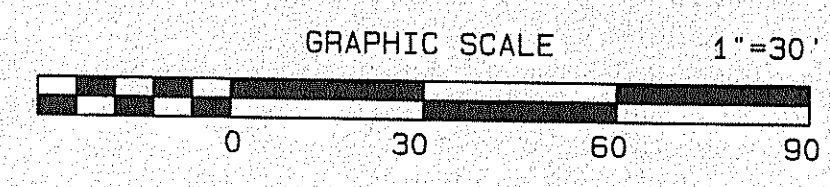


GRANT STREET PROFILE

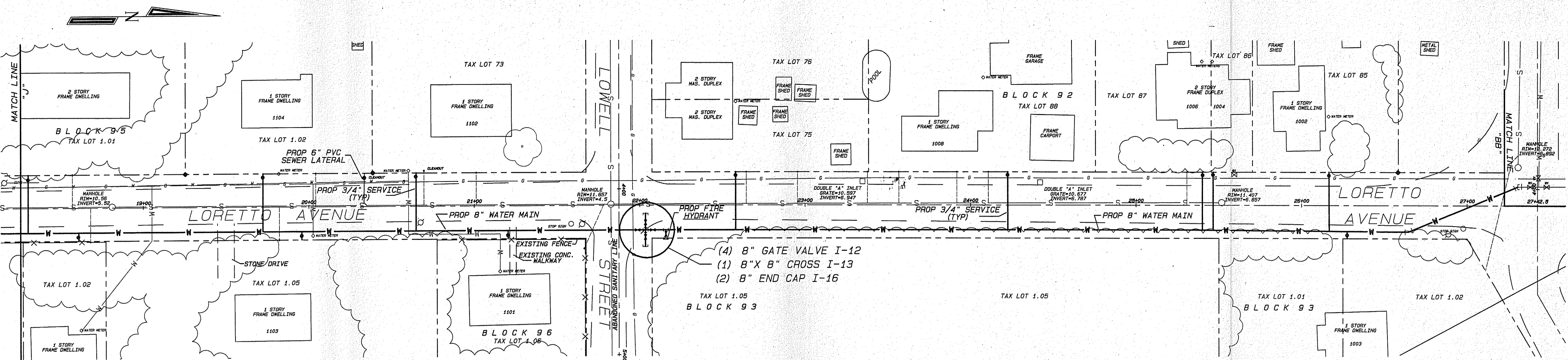
BID ITEMS ON THIS SHEET FROM MATCH LINE "AA" TO MATCH LINE "BB"

ITEM	DESCRIPTION	QUANTITY
I-2	12" CLDIP Water Pipe	195 LF
I-3	12" Gate Valve	2 Units
I-8	12" x 8" Reducer	1 Unit
I-9	12" x 8" Cross	1 Unit
I-10	12" x 6" Hydrant Tee	1 Unit
I-11	8" CLDIP Water Pipe	30 LF
I-12	8" Gate Valve	2 Units
I-16	8" End Cap	1 Unit
I-17	8" Coupling	1 Unit
I-18	Fire Hydrant w/Valve and Thrust Blocks	1 Unit
I-19	3/4" Copper Service	2 Units
I-21	Miscellaneous Fittings	4 Units
I-22	6" Thick Crushed Recycled Asphalt	65 SY
I-23	4" Thick Temporary Patch	65 SY
I-24	2" Thick FABC-1	65 SY
I-25	Topsoil, Fertilize and Seed	90 SY
I-26	Saw-Cut Existing Paving	190 LF
I-27	Disposal of Existing Paving	65 SY
I-28	Demolition	1 (Lump Sum)
I-33	Stone Driveway	20 SY

CONTRACTORS RESPONSIBILITY
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SPEITEL AND SPEITEL, INC. STRATEGIC PLANNERS, CIVIL ENGINEERS, AND ENVIRONMENTAL PERMIT CONSULTANTS THE PAINTWORKS-SUITE 206 20 E. CLEMENTON ROAD GIBBSBORO, NEW JERSEY 08026 <small>COPYRIGHT 1997 SPEITEL & SPEITEL, INC. ALL RIGHTS RESERVED NO PARTITION OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT EXPRESS WRITTEN CONSENT OF SPEITEL & SPEITEL.</small>	Edmond C. Speitel Professional Engineer N.J. License No. 27059 Date: _____	REVISIONS 12 11 10 9 8 7 6 5 4 3 2 1 CON PLAN 4/1/97 2/7	REVISIONS CHK DATE	
	BELCOVILLE WATER MAIN SITUATE WEYMOUTH TOWNSHIP ATLANTIC COUNTY NEW JERSEY			
	PLAN AND PROFILE			
	CHECK: <i>EMC</i> CONTRACT: 1309 DATE: 2/19/97 SCALE: 1" = 30' REVISION: 1 SHEET: 5			

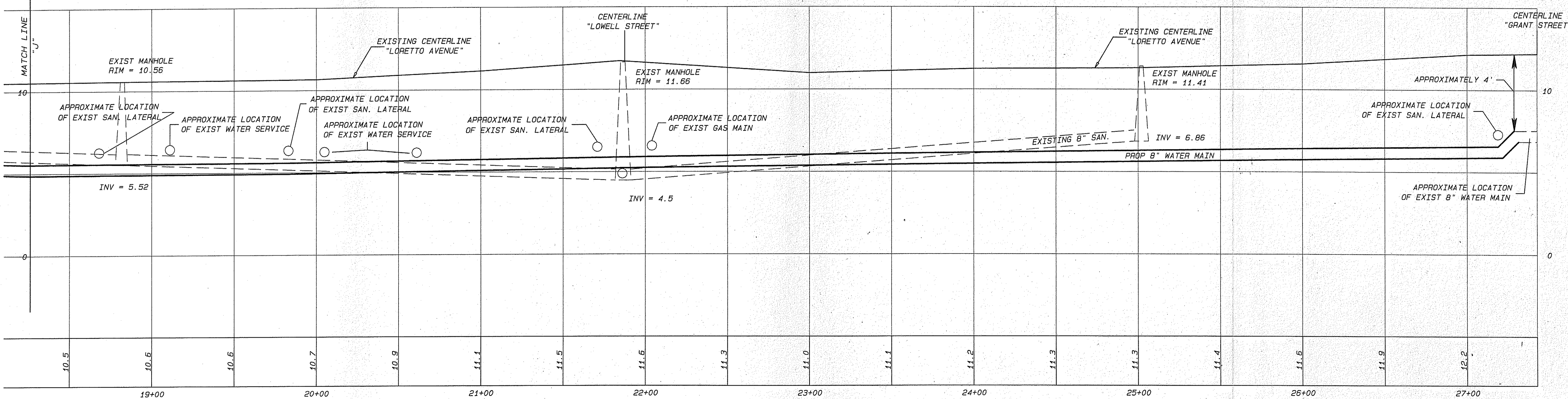


(4) 8" GATE VALVE I-12
 (1) 8" X 8" CROSS I-13
 (2) 8" END CAP I-16

BID ITEMS ON THIS SHEET
 FROM MATCH LINE BB
 AND MATCH LINE "J"

ITEM	DESCRIPTION	QUANTITY
I-11	8" CLDIP Water Pipe	940 LF
I-12	8" Gate Valve	4 Units
I-13	8" x 8" Cross	1 Unit
I-14	8" x 8" Hydrant Tee	1 Unit
I-15	8" End Cap	2 Units
I-16	Fire Hydrant (w/Valve and Thrust Blocks)	1 Unit
I-19	3/4" Copper Service (Proposed Services Located between Lowell Street and Match Line "J")	6 Units
I-21	Miscellaneous Fittings	1 Unit
I-22	6" Thick Crushed Recycled Asphalt	60 SY
I-23	4" Thick Temporary Patch	60 SY
I-24	2" Thick FABC-1	60 SY
I-25	Topsoil, Fertilize and Seed	540 SY
I-26	Saw Cut Existing Paving	180 LF
I-27	Disposal of Existing Paving	60 SY
I-28	Demolition	1 (Lump Sum)
I-30	6" PVC Sewer Lateral	1 Unit
I-31	4" Thick Concrete Sidewalk	30 SF
I-33	Stone Driveway	10 SY
IIIB-10	3/4" Copper Service (Proposed Services Located Between Lowell Street and Grant Avenue)	6 Units

LORETTO AVENUE PLAN VIEW



LORETTO AVENUE PROFILE

CONTRACTORS RESPONSIBILITY
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SPEITEL AND SPEITEL, INC.

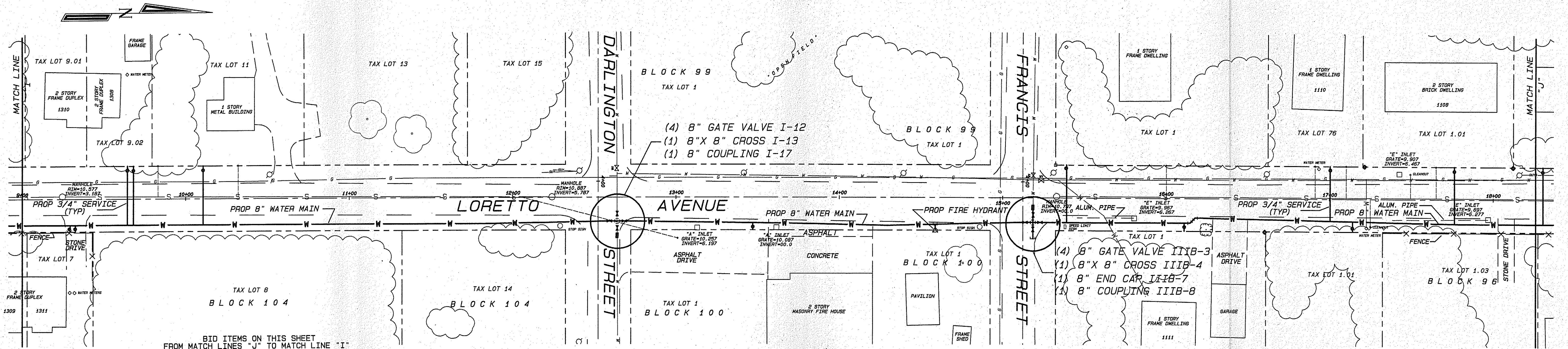
STRATEGIC PLANNERS, CIVIL ENGINEERS, AND ENVIRONMENTAL PERMIT CONSULTANTS
 THE PAINTWORKS-SUITE 206 20 E. CLEMENTON ROAD GIBBSBORO, NEW JERSEY 08026
CONTRACTOR: SPEITEL AND SPEITEL, INC. ALL RIGHTS RESERVED BY SPEITEL AND SPEITEL, INC. DOCUMENT MAY BE REPRODUCED WITHOUT WRITTEN CONSENT OF SPEITEL AND SPEITEL, INC.

**WYMOUTH TOWNSHIP
 ATLANTIC COUNTY
 NEW JERSEY**

PLAN AND PROFILE

NO.	DATE	REVISIONS	CHK
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1	CON. PLAN 4/2/97	2/7	

DATE: 2/18/97
 SCALE: 1" = 30'
 REVISION: 1
 SHEET: 6



BID ITEMS ON THIS SHEET FROM MATCH LINES "J" TO MATCH LINE "I"

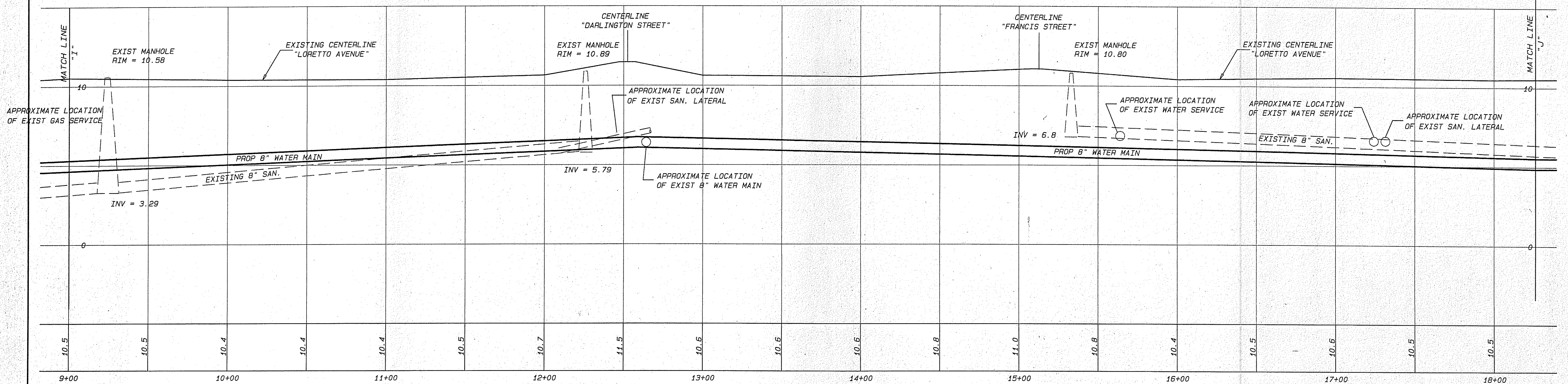
ITEM	DESCRIPTION	QUANTITY
I-11	8" CLDIP Water Pipe	930 LF
I-12	8" Gate Valve	4 Units
I-13	8" x 8" Cross	1 Unit
I-15	8" x 6" Hydrant Tee	1 Unit
I-17	8" Coupling	1 Unit
I-18	Fire Hydrant (w/Valve and Thrust Blocks)	1 Unit
I-19	3/4" Copper Service	11 Units
I-21	Miscellaneous Fittings	2 Units
I-22	6" Thick Crushed Recycled Asphalt	170 SY*
I-23	4" Thick Temporary Patch	170 SY*
I-24	2" Thick FABC-1	170 SY*
I-25	Topsoil, Fertilizer and Seed	430 SY
I-26	Saw Cut Existing Paving	510 LF
I-27	Disposal of Existing Paving	170 SY
I-28	Demolition	1 (Lump Sum)
I-32	Paved Driveway	15 SY
I-33	Stone Driveway	25 SY
IIIB-2	8" CLDIP Water Pipe	10 LF
IIIB-3	8" Gate Valve	4 Units
IIIB-7	8" End Cap	1 Unit
IIIB-8	8" Coupling	1 Unit
IIIB-13	6" Thick Crushed Recycled Asphalt	20 SY
IIIB-14	4" Thick Temporary Patch	20 SY
IIIB-15	2" Thick FABC-1	20 SY
IIIB-17	Saw Cut Existing Paving	30 LF
IIIB-18	Disposal of Existing Paving	20 SY

* Includes asphalt in shoulder in front of fire house. Contractor is to notify local fire official before beginning construction in front of the fire house.

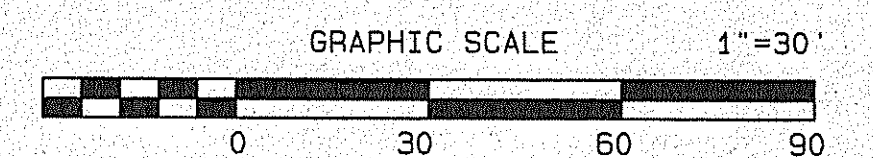
LORETTO AVENUE PLAN VIEW

CONTRACTORS RESPONSIBILITY

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LORETTO AVENUE PROFILE



12	11	10	9	8	7
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REVISIONS

CHK

REVISIONS

DATE

Edmond C. Speitel
 N.J. LICENSE NO. 27055

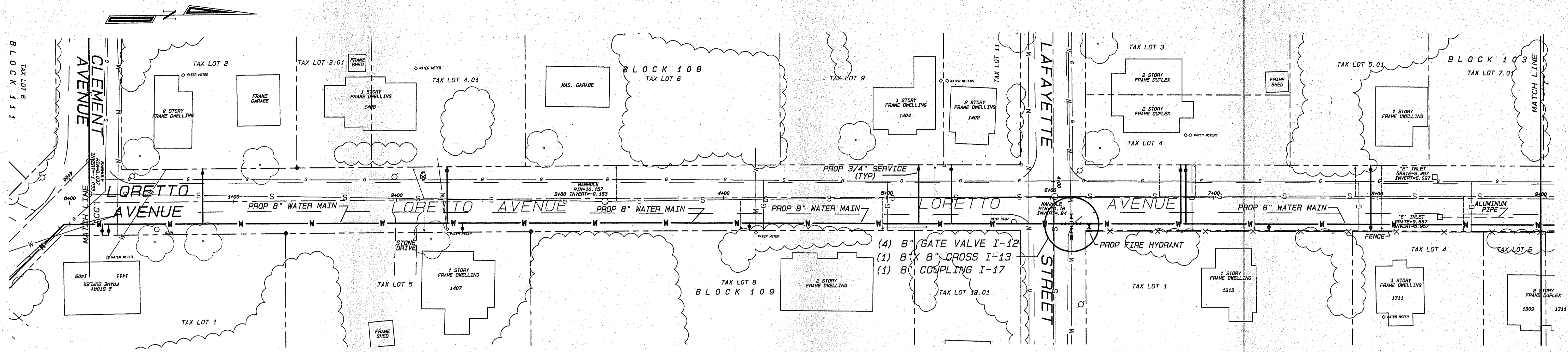
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SPEITEL AND SPEITEL, INC.
 STRATEGIC PLANNERS, CIVIL ENGINEERS, AND ENVIRONMENTAL PERMIT CONSULTANTS
 THE PAINTWORKS-SUITE 206 20 E. CLEMENTON ROAD GIBBSBORO, NEW JERSEY 08026
CONTRACT NO. 1309, SPEITEL & SPEITEL, INC. ALL RIGHTS RESERVED BY SPEITEL & SPEITEL, INC. DOCUMENT MAY BE REPRODUCED WITHOUT EXPRESS WRITTEN CONSENT OF SPEITEL & SPEITEL, INC.

BELLEVILLE WATER MAIN SITUATE
 WEYMOUTH TOWNSHIP
 ATLANTIC COUNTY
 NEW JERSEY

PLAN AND PROFILE

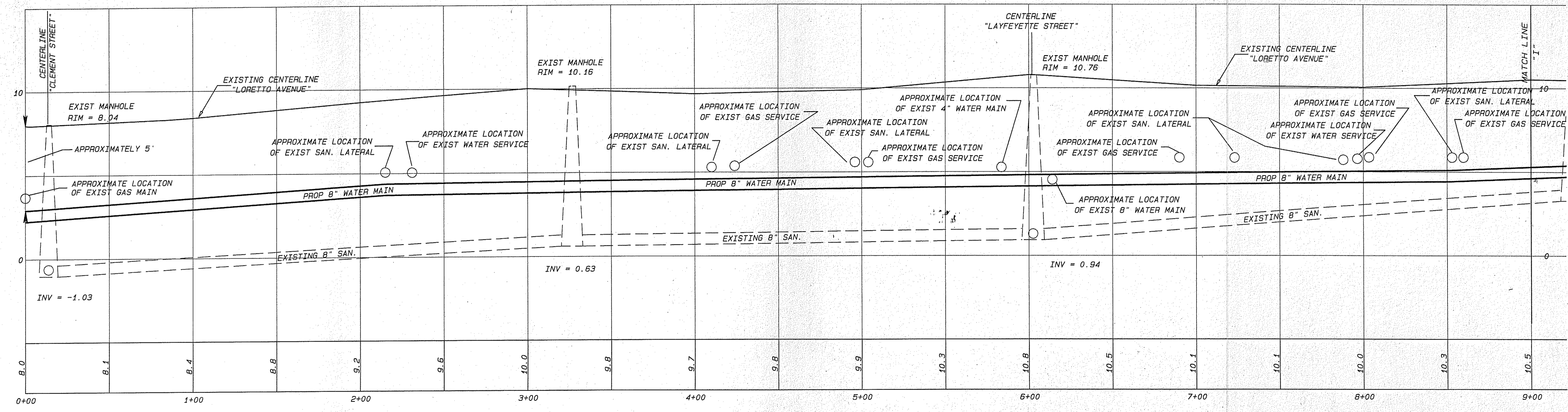
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 SCALE: 1" = 30'
 REVISION: 1
 SHEET: 7



LORETTO AVENUE PLAN VIEW

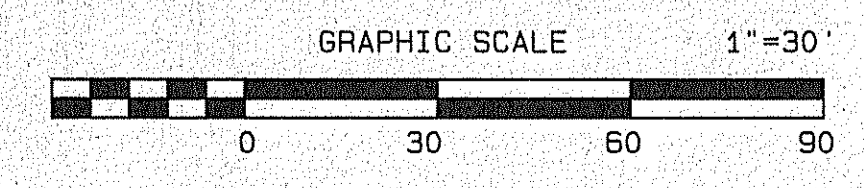
BID ITEMS ON THIS SHEET FROM MATCH LINE "I" TO MATCH LINE "CC"

ITEM	DESCRIPTION	QUANTITY
I-11	8" C/DIP Water Pipe	900 LF
I-12	8" Gate Valve	4 Units
I-13	8" x 8" Cross	1 Unit
I-15	8" x 6" Hydrant Tee	1 Unit
I-17	8" Coupling	1 Unit
I-18	Fire Hydrant (w/Valve and Thrust Block)	1 Unit
I-19	3/4" Copper Service	13 Units
I-22	6" Thick Crushed Recycled Asphalt	30 SY
I-23	4" Thick Temporary Patch	30 SY
I-24	2" Thick FABC-1	30 SY
I-25	Topsoil, Fertilizer and Seed	580 SY
I-26	Saw Cut Existing Paving	90 LF
I-27	Disposal of Existing Paving	30 SY
I-28	Demolition	1 (Lump Sum)
I-33	Stone Driveway	10 SY



LORETTO AVENUE PROFILE

CONTRACTORS RESPONSIBILITY
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12	REVISIONS	CHK
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1	CON PLAN 4/2/97	B

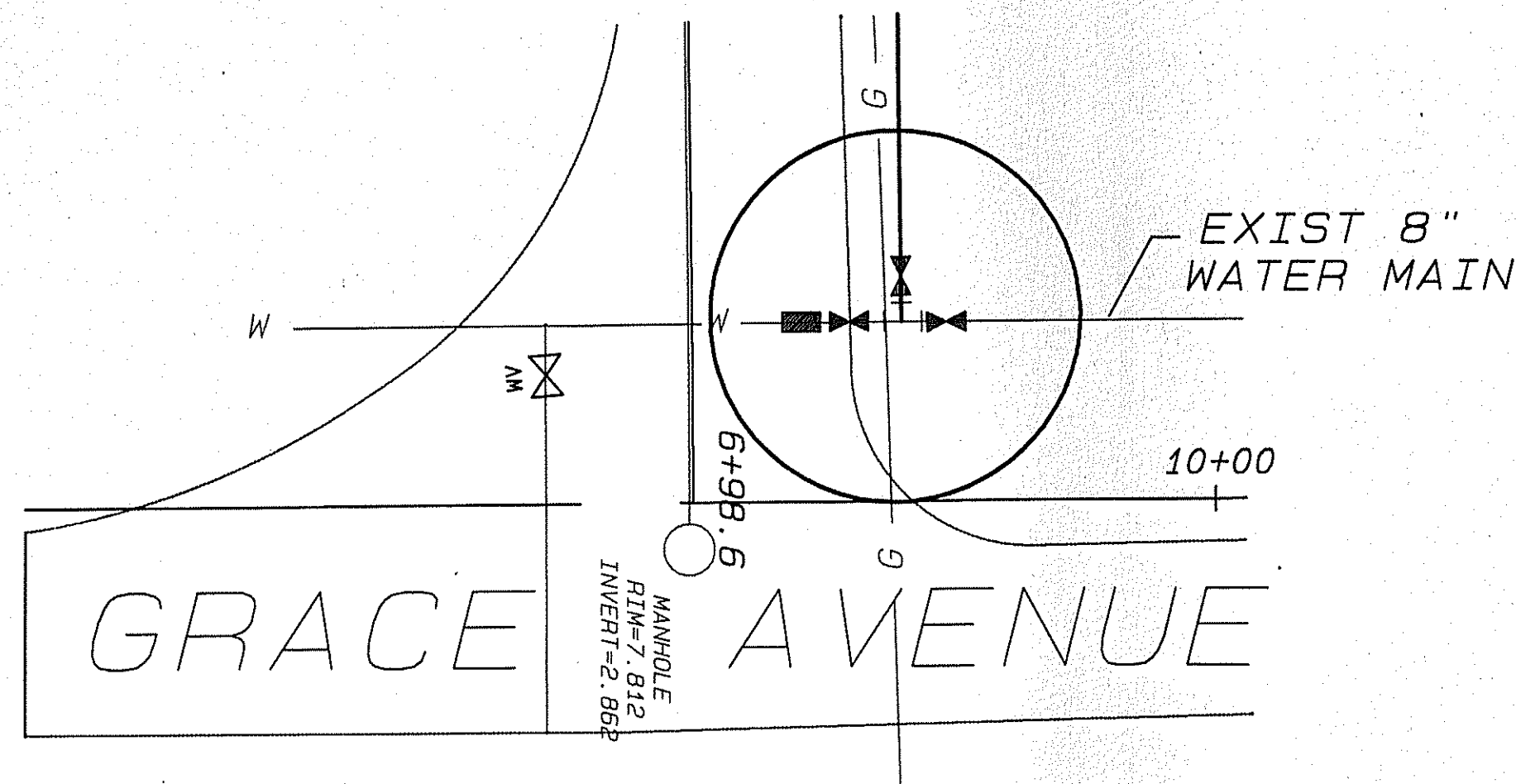
Edmond C. Speitel
 PROFESSIONAL ENGINEER
 N.J. LICENSE NO. 27019

SPEITEL AND SPEITEL, INC.
 STRATEGIC PLANNERS, CIVIL ENGINEERS, AND ENVIRONMENTAL PERMIT CONSULTANTS
 THE PAINTWORKS-SUITE 206 20 E. CLEMENTON ROAD GIBBSBORO, NEW JERSEY 08026

BELVOILLE WATER MAIN SITUATE
 WEYMOUTH TOWNSHIP
 ATLANTIC COUNTY
 NEW JERSEY

PLAN AND PROFILE

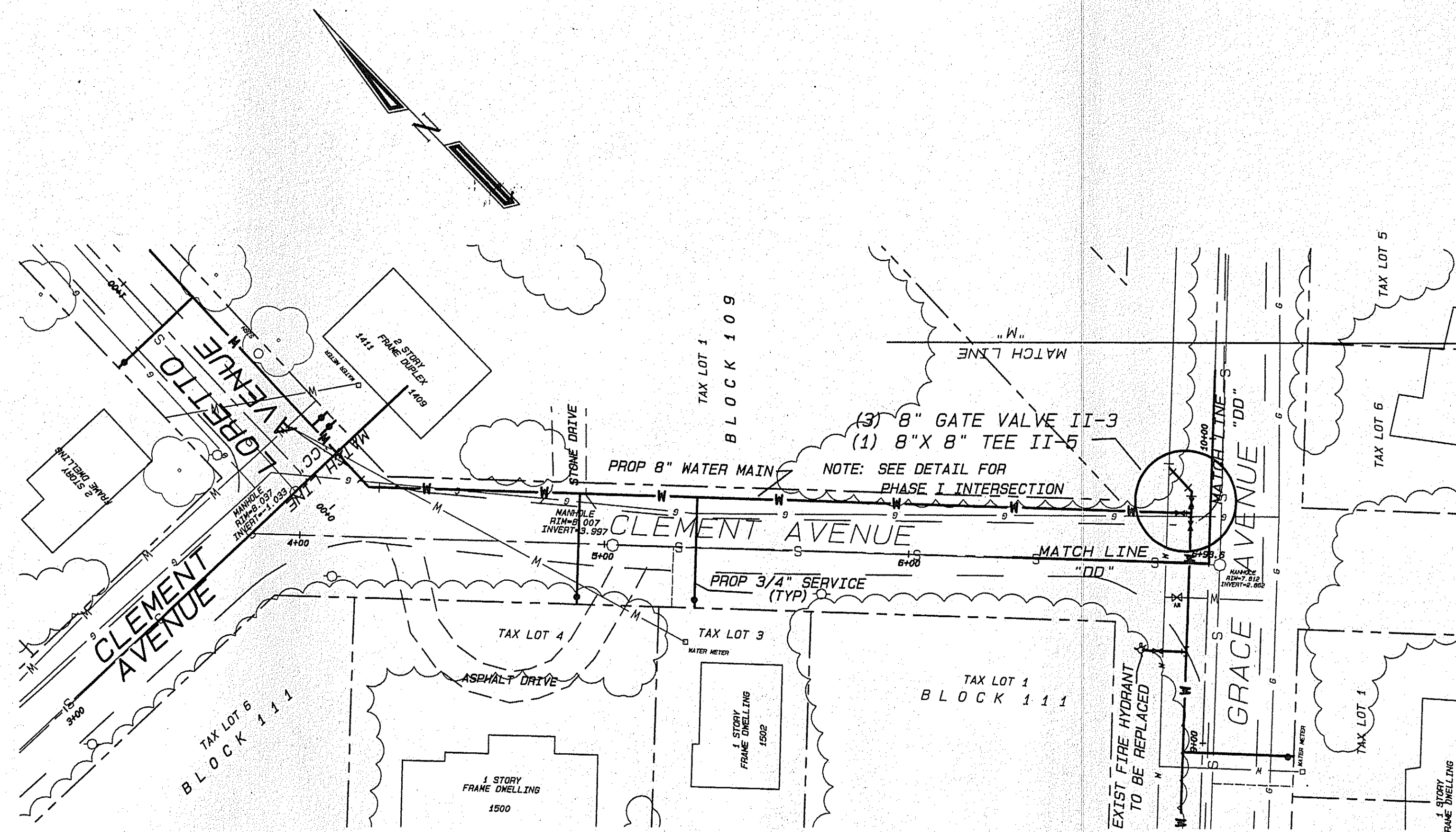
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 SHEET: 8



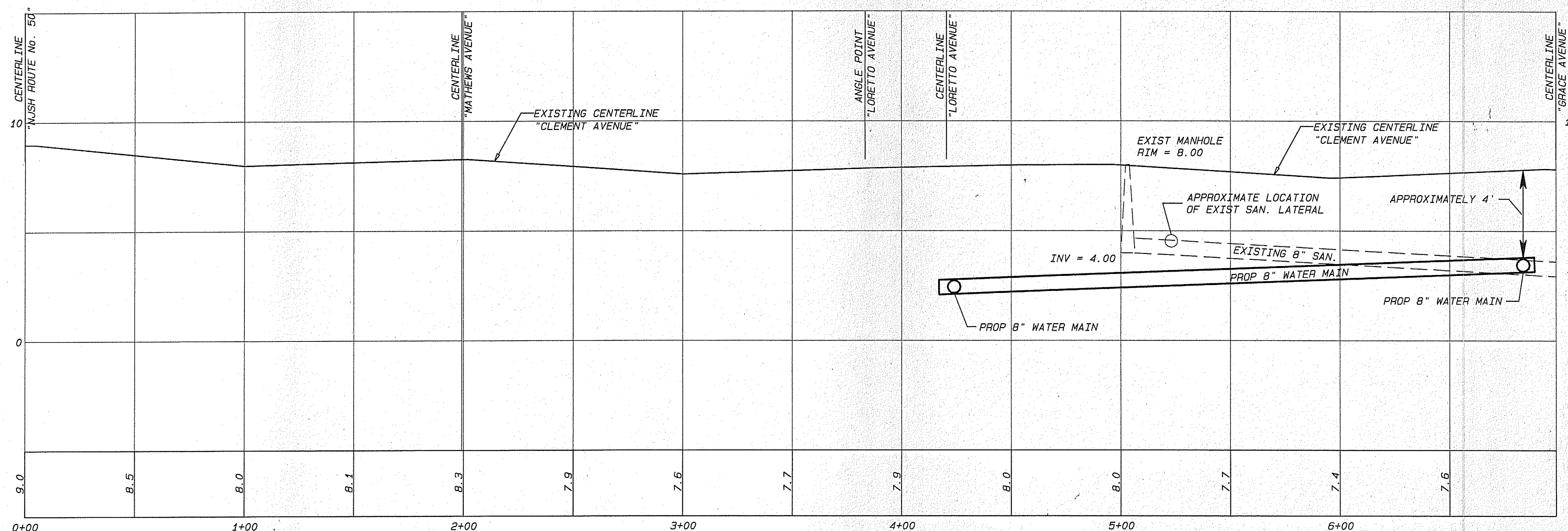
PHASE I INTERSECTION
DETAIL

BID ITEMS ON THIS SHEET
FROM MATCH LINE "CC"
MATCH LINE "DD"

ITEM	DESCRIPTION	QUANTITY
I-11	8" CLDIP Water Pipe	280 LF
I-12	8" Gate Valve	3 Units
I-14	8" x 8" Tee	1 Unit
I-17	8" Coupling	1 Unit
I-19	3/4" Copper Service	2 Units
I-21	Miscellaneous Fittings	1 Unit
I-22	6" Thick Crushed Recycled Asphalt	15 SY
I-23	4" Thick Temporary Patch	15 SY
I-24	2" Thick FABC-1	15 SY
I-25	Topsoil, Fertilizer and Seed	155 SY
I-26	Saw Cut Existing Paving	40 LF
I-27	Disposal of Existing Paving	15 SY
I-28	Demolition	1 (Lump Sum)
I-33	Stone Driveway	10 SY
END OF PHASE I IMPROVEMENTS		
SEE DETAIL FOR PHASE I INTERSECTION AT GRACE AVENUE		
BEGINNING OF PHASE II IMPROVEMENTS		
ITEM	DESCRIPTION	QUANTITY
II-2	8" CLDIP Water Pipe	40 LF
II-12	Miscellaneous Fittings	2 Units
II-13	6" Thick Crushed Recycled Asphalt	10 Units
II-14	4" Thick Temporary Patch	10 SY
II-15	2" Thick FABC-1	10 SY
II-16	Topsoil, Fertilizer and Seed	15 SY
II-17	Saw Cut Existing Paving	15 LF
II-18	Disposal of Existing Paving	10 SY

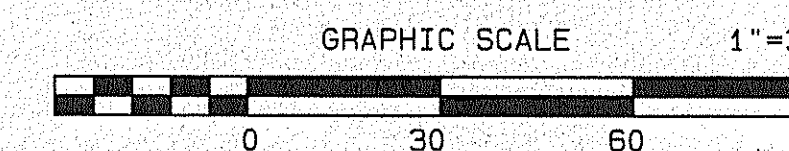


CLEMENT AVENUE PLAN VIEW

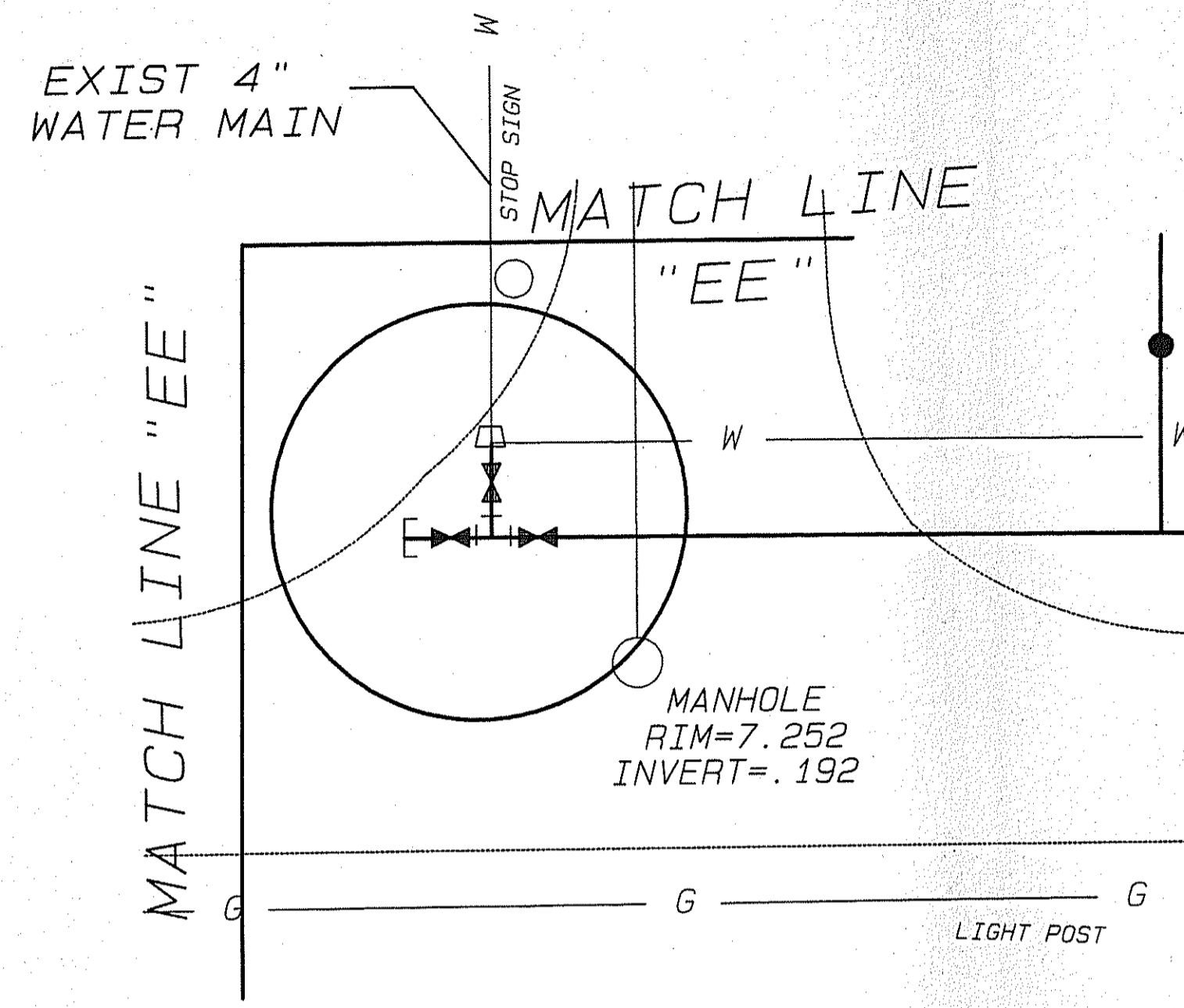


CLEMENT AVENUE PROFILE

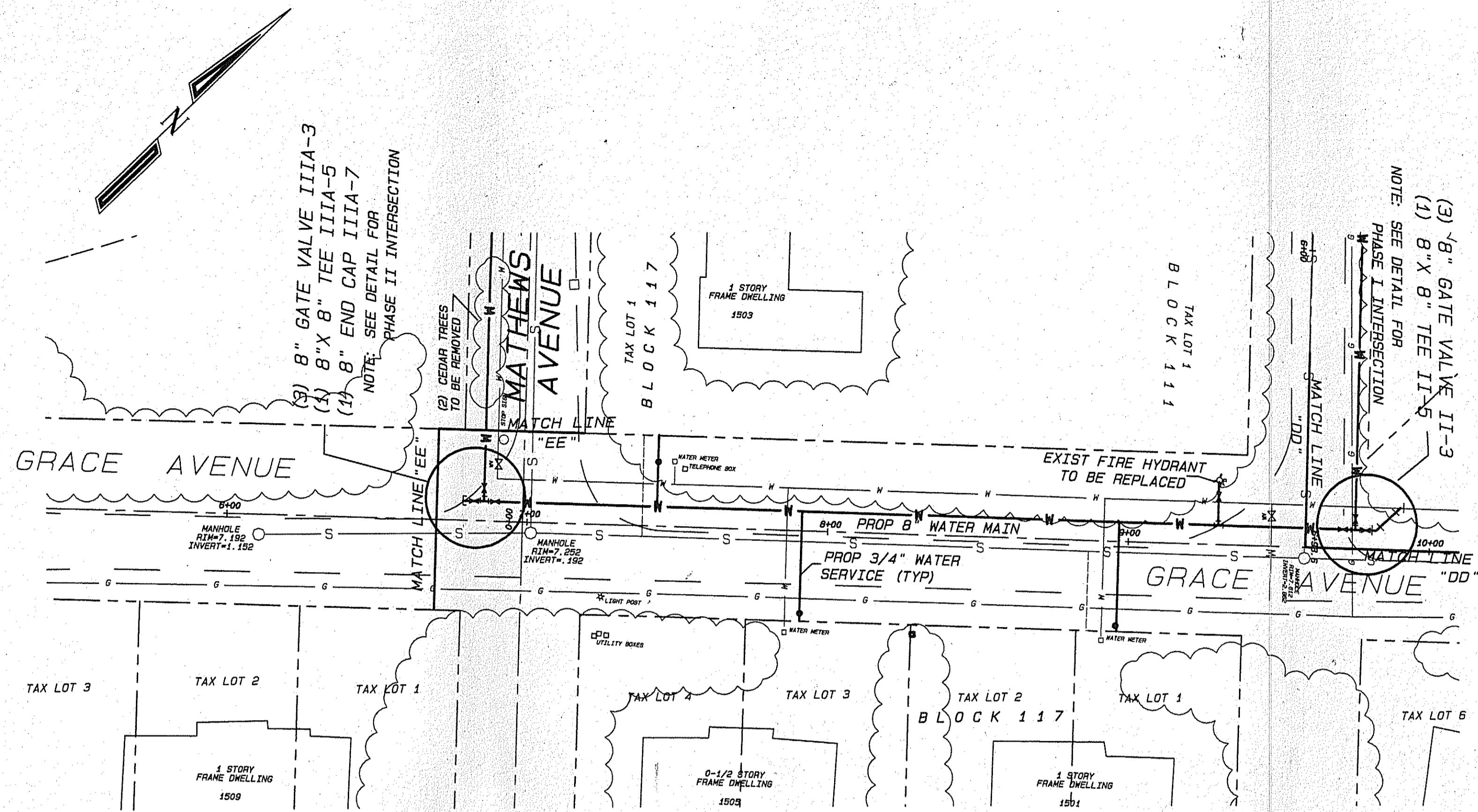
CONTRACTORS RESPONSIBILITY
Locations of utilities shown on this plan are not necessarily complete. The contractor shall notify all utility companies operating within the construction area and at his own expense verify the location, size, type and elevations of any utilities prior to construction.



SPEITEL AND SPEITEL, INC. STRATEGIC PLANNERS, CIVIL ENGINEERS, AND ENVIRONMENTAL PERMIT CONSULTANTS THE PAINTWORKS-SUITE 206 20 E. CLEMENTON ROAD GIBBSBORO, NEW JERSEY 08026 PROFESSIONAL LICENSE NO. 127858 N.J. REG. NO. 127858 DATE: 2/18/97	12	CHK
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	10	CHK
	9	CHK
	8	CHK
	7	CHK
	6	CHK
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	3	CHK
	2	CHK
	1	CHK
CHECK: <i>RMC</i> CONTRACT: 1309 DATE: 2/18/97 SCALE: 1" = 30' REVISION: 1 SHEET: 9		BELCOVILLE WATER MAIN SITUATE WEYMOUTH TOWNSHIP ATLANTIC COUNTY NEW JERSEY



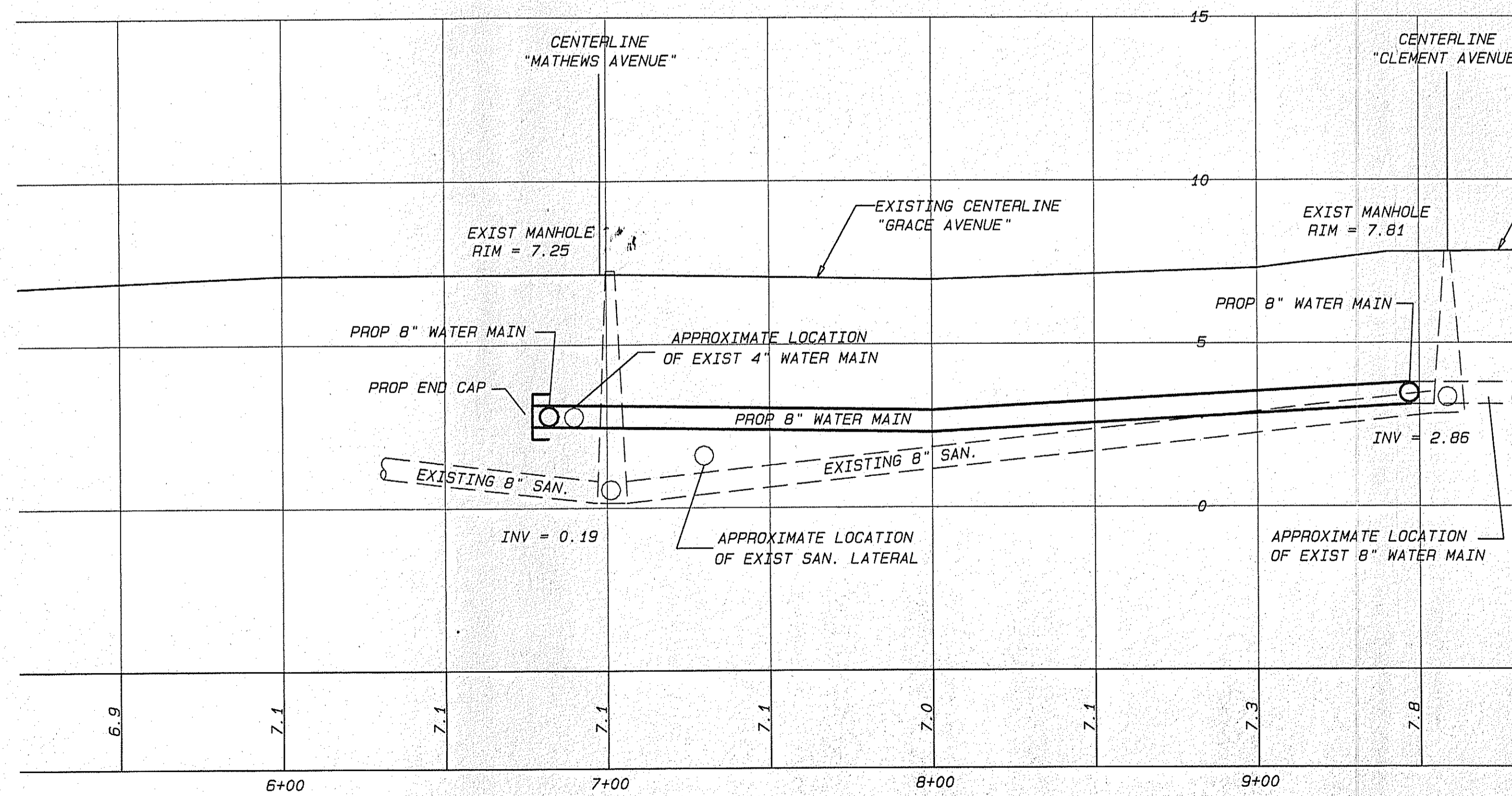
PHASE II INTERSECTION
DETAIL



GRACE AVENUE PLAN VIEW

BID ITEMS ON THIS SHEET
FROM MATCH LINE "DD" TO
MATCH LINE "EE"

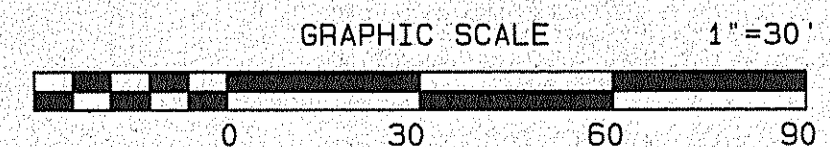
ITEM	DESCRIPTION	QUANTITY
II-2	8" CLDIP Water Pipe	290 LF
II-3	8" Gate Valve	3 Units
II-5	8" x 8" Tee	1 Unit
II-6	8" x 6" Hydrant Tee	1 Unit
II-7	8" End Cap	1 Unit
II-9	Fire Hydrant w/Valve and Thrust Blocks	1 Unit
II-10	3/4" Copper Service	3 Units
II-12	Miscellaneous Fittings	1 Unit
II-13	6" Thick Crushed Recycled Asphalt	50 SY
II-14	4" Thick Temporary Patch	50 SY
II-15	2" Thick FABC-1	140 SY
II-16	Topsoil, Fertilizer and Seed	75 LF
II-17	Saw Cut Existing Paving	50 SY
II-18	Disposal of Existing Paving	50 SY
II-19	Demolition	1 (Lump Sum)
END OF PHASE II IMPROVEMENTS		
SEE DETAIL FOR PHASE II INTERSECTION AT MATTHEWS AVENUE		
BEGINNING OF PHASE IIIA IMPROVEMENTS		
ITEM	DESCRIPTION	QUANTITY
IIIA-2	8" CLDIP Water Pipe	15 LF
IIIA-13	6" Thick Crushed Recycled Asphalt	5 SY
IIIA-14	4" Thick Temporary Patch	5 SY
IIIA-15	2" Thick FABC-1	5 SY
IIIA-16	Topsoil, Fertilizer and Seed	15 SY
IIIA-17	Saw Cut Existing Paving	10 LF
IIIA-18	Disposal of Existing Paving	5 SY



GRACE AVENUE PROFILE

CONTRACTORS RESPONSIBILITY

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12	CHK	REVISIONS
11	CHK	REVISIONS
10	CHK	REVISIONS
9	CHK	REVISIONS
8	CHK	REVISIONS
7	CHK	REVISIONS
6	CHK	REVISIONS
5	CHK	REVISIONS
4	CHK	REVISIONS
3	CHK	REVISIONS
2	CHK	REVISIONS
1	CHK	REVISIONS

DATE: 2/18/97

CONTRACT: 1309

DATE: 2/18/97

SCALE: 1" = 30'

REVISION: 1

SHEET: 10

CHECK: BMC

CONTRACTORS RESPONSIBILITY

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GRAPHIC SCALE 1"=30'

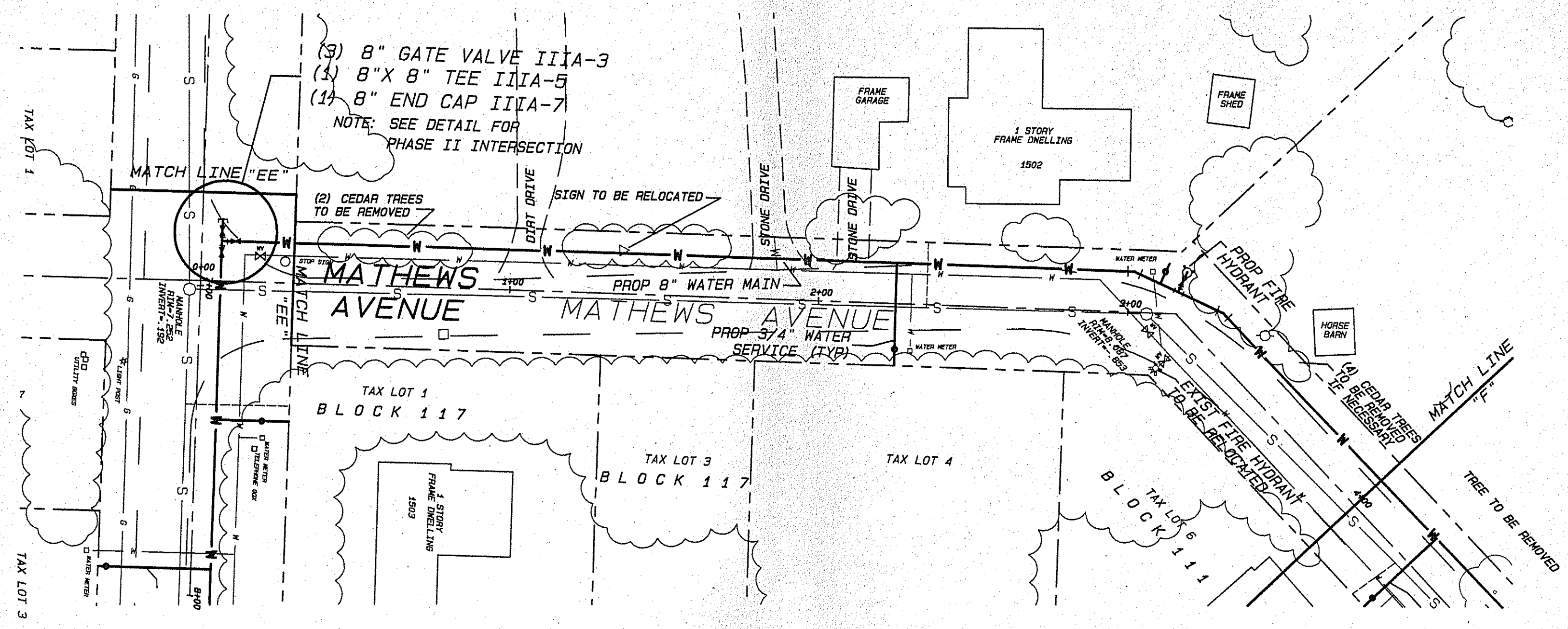
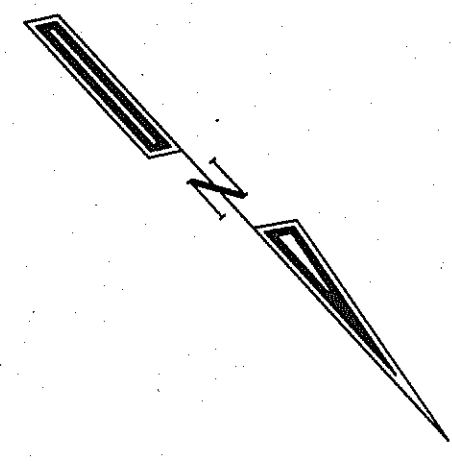
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SPEITEL AND SPEITEL, INC.
STRATEGIC PLANNERS, CIVIL ENGINEERS, AND ENVIRONMENTAL PERMIT CONSULTANTS
THE PAINTWORKS-SUITE 206 20 E. CLEMENTON ROAD GIBBSBORO, NEW JERSEY 08026
EDMUND C. SPEITEL, INC. ALL RIGHTS RESERVED NO PART OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT EXPRESS WRITTEN CONSENT OF SPEITEL & SPEITEL

Edmond C. Speitel
REGISTERED PROFESSIONAL ENGINEER
N.J. LICENSE NO. 27059

BELCOVILLE WATER MAIN
SITUATE
WEYMOUTH TOWNSHIP
ATLANTIC COUNTY
NEW JERSEY

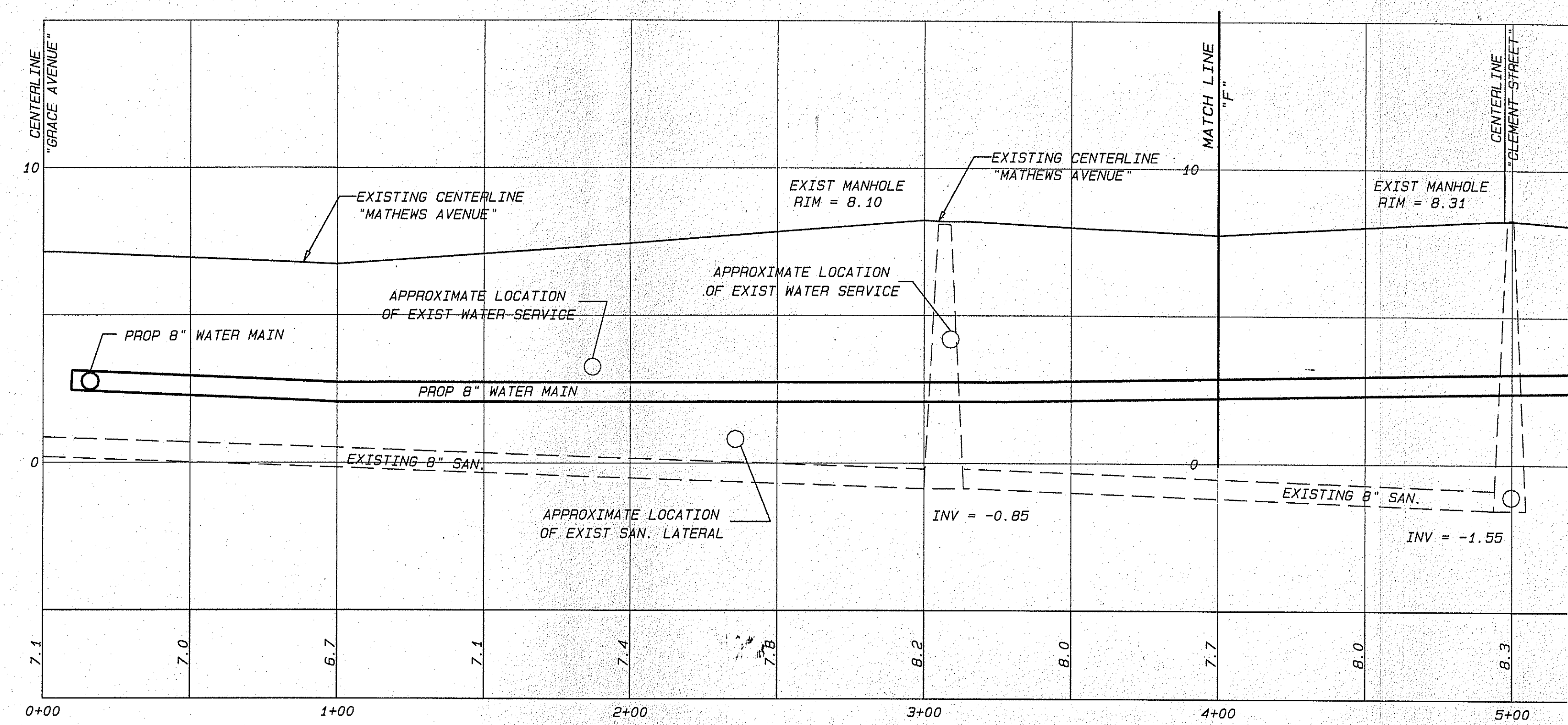
PLAN AND PROFILE



MATHEWS AVENUE PLAN VIEW

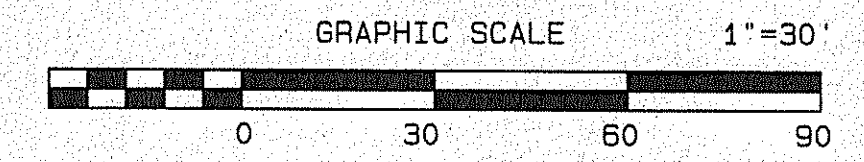
BID ITEMS ON THIS SHEET FROM MATCH LINE "EE" TO MATCH LINE "F"

ITEM	DESCRIPTION	QUANTITY
IIIA-2	8" CLDIP Water Pipe	375 LF
IIIA-6	8" x 6" Hydrant Tee	1 Unit
IIIA-10	3/4" Copper Service	2 Units
IIIA-12	Miscellaneous Fittings	2 Units
IIIA-13	6" Thick Crushed Recycled Asphalt	30 SY
IIIA-14	4" Thick Temporary Patch	30 SY
IIIA-15	2" Thick FABC-1	30 SY
IIIA-16	Topsoil, Fertilizer and Seed	190 SY
IIIA-17	Saw Cut Existing Paving	70 LF
IIIA-18	Disposal of Existing Paving	30 SY
IIIA-19	Demolition	1 (Lump Sum)
IIIA-20	Installation of Relocated Fire Hydrant (w/New Valve and Thrust Block)	1 Unit
IIIA-21	Stone Driveway	20 SY

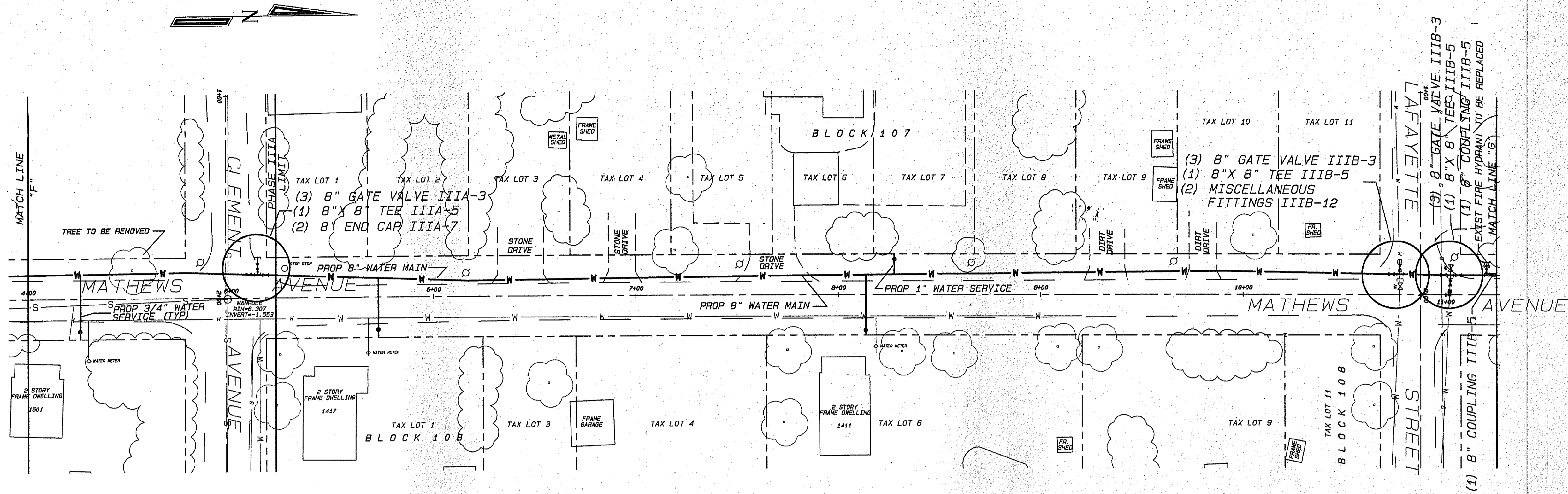


MATHEWS AVENUE PROFILE

CONTRACTORS RESPONSIBILITY
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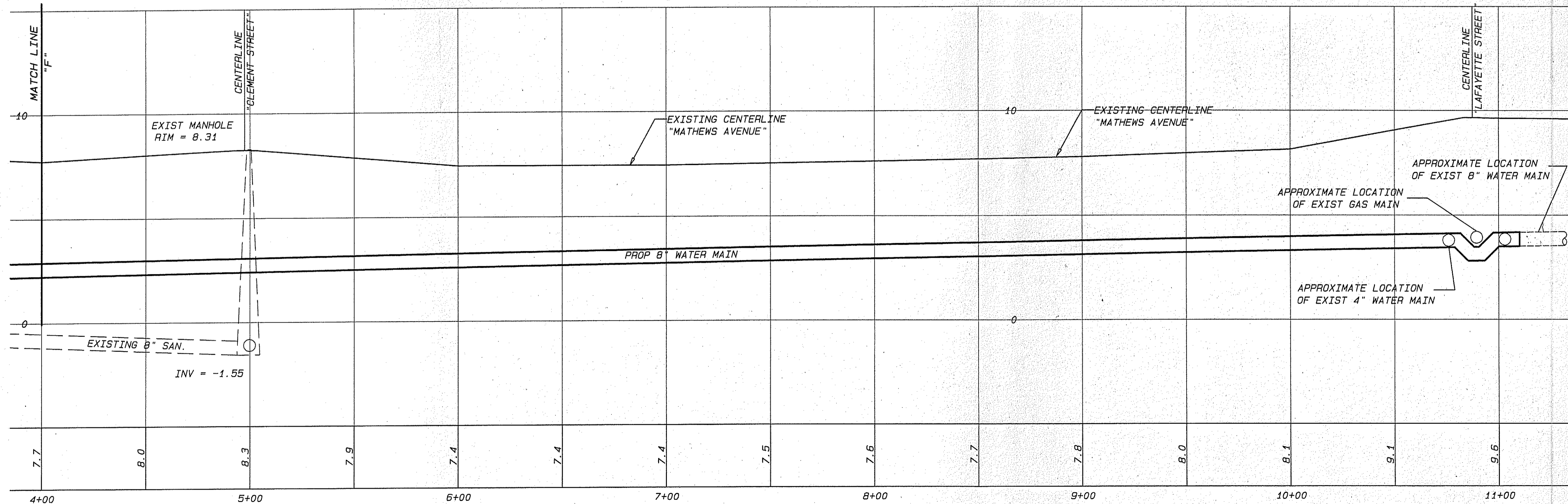


SPEITEL AND SPEITEL, INC.		STRATEGIC PLANNERS, CIVIL ENGINEERS, AND ENVIRONMENTAL PERMIT CONSULTANTS THE PAINTWORKS-SUITE 206 20 E. CLEMENTON ROAD STEUBEN, NEW JERSEY 08026 COPYRIGHT 1997 SPEITEL & SPEITEL, INC. ALL RIGHTS RESERVED NO PARTION OF THIS DOCUMENT MAY BE REPRODUCED WITHOUT EXPRESS WRITTEN CONSENT OF SPEITEL & SPEITEL	
BELCOVILLE WATER MAIN SITUATE WEYMOUTH TOWNSHIP ATLANTIC COUNTY NEW JERSEY		Edmond C. Speitel Professional Engineer N.J. License No. 27059 Date: 1/15/97	
PLAN AND PROFILE	CHECK: <i>Bmc</i>	REVISIONS	CHK
	CONTRACT: 1309	1	12
	DATE: 2/18/97	2	11
	SCALE: 1" = 30'	3	10
	REVISION: 1	4	9
	SHEET: 11	5	8
		6	7
		7	6
		8	5
		9	4
		10	3
		11	2
		12	1



MATHEWS AVENUE PLAN VIEW

BID ITEMS ON THIS SHEET FROM MATCH LINE "F" TO MATCH LINE "G"



MATHEWS AVENUE PROFILE

ITEM	DESCRIPTION	QUANTITY
IIIA-2	8" CLDIP Water Pipe	120 LF
IIIA-3	8" Gate Valve	3 Units
IIIA-5	8" x 8" Tee	1 Unit
IIIA-7	8" End Cap	2 Units
IIIA-10	3/4" Copper Service	1 Unit
IIIA-13	6" Thick Crushed Recycled Asphalt	30 SY
IIIA-14	4" Thick Temporary Patch	30 SY
IIIA-15	2" Thick FABC-1	30 SY
IIIA-16	Topsoil, Fertilizer and Seed	60 SY
IIIA-17	Saw Cut Existing Paving	70 LF
IIIA-18	Disposal of Existing Paving	30 SY
IIIA-19	Demolition	1 (Lump Sum)
END OF PHASE IIIA IMPROVEMENTS		
SEE DETAIL FOR PHASE IIIA INTERSECTION AT CLEMENT AVENUE		
BEGINNING OF PHASE IIIB IMPROVEMENTS		
ITEM	DESCRIPTION	QUANTITY
IIIB-2	8" CLDIP Water Pipe	630 LF
IIIB-3	8" Gate Valve	5 Units
IIIB-5	8" x 8" Tee	2 Units
IIIB-6	8" x 6" Hydrant Tee	1 Unit
IIIB-8	8" Coupling	2 Units
IIIB-9	Fire Hydrant (w/Valve and Thrust Blocks)	1 Unit
IIIB-10	3/4" Copper Service	2 Units
IIIB-11	1" Copper Service	1 Unit
IIIB-12	Miscellaneous Fittings	6 Units
IIIB-13	6" Thick Crushed Recycled Asphalt	35 SY
IIIB-14	4" Thick Temporary Patch	35 SY
IIIB-15	2" Thick FABC-1	35 SY
IIIB-16	Topsoil, Fertilizer and Seed	360 SY
IIIB-17	Saw Cut Existing Paving	90 LF
IIIB-18	Disposal of Existing Paving	35 SY
IIIB-19	Demolition	1 (Lump Sum)
IIIB-20	Stone Driveway	45 SY
END OF PHASE IIIB IMPROVEMENTS		

SPEITEL AND SPEITEL, INC.
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 THE PAINTWORKS-SUITE 206 20 E. CLEMENTON ROAD GIBBSBORO, NEW JERSEY 08026
CONTRACT NO. SPEITEL & SPEITEL, INC. 144. ALL RIGHTS RESERVED IN WHOLE OR IN PART. DOCUMENT MAY BE REPRODUCED WITHOUT EXPRESS WRITTEN CONSENT OF SPEITEL & SPEITEL.

BELCOVILLE WATER MAIN
 SITUATE
 WEYMOUTH TOWNSHIP
 ATLANTIC COUNTY
 NEW JERSEY

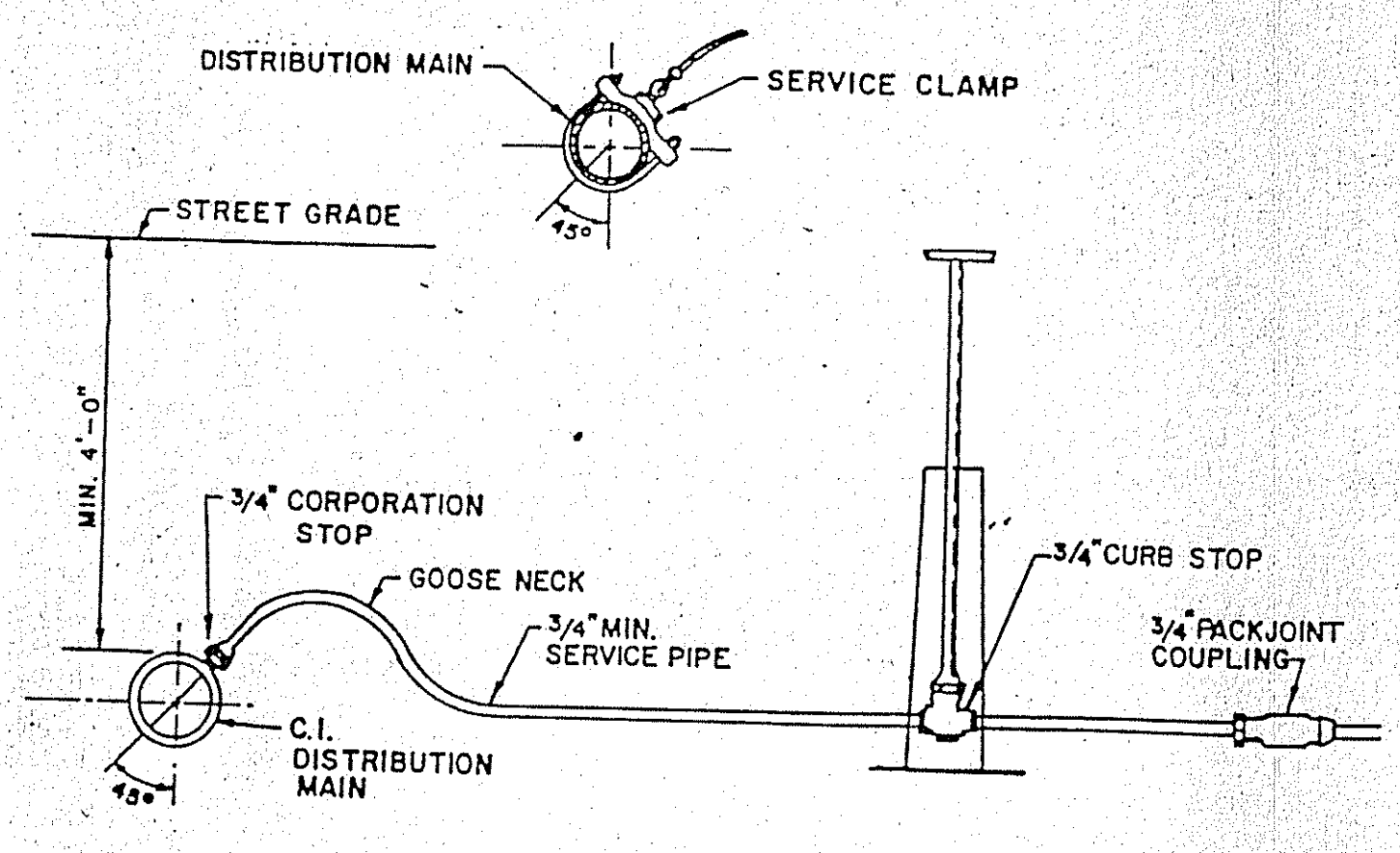
PLAN AND PROFILE

12	REVISIONS	CHK
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1	CON. PLAN 4/2/97	CHK

DATE: 2/18/97
 REVISION: 1
 SHEET: 12

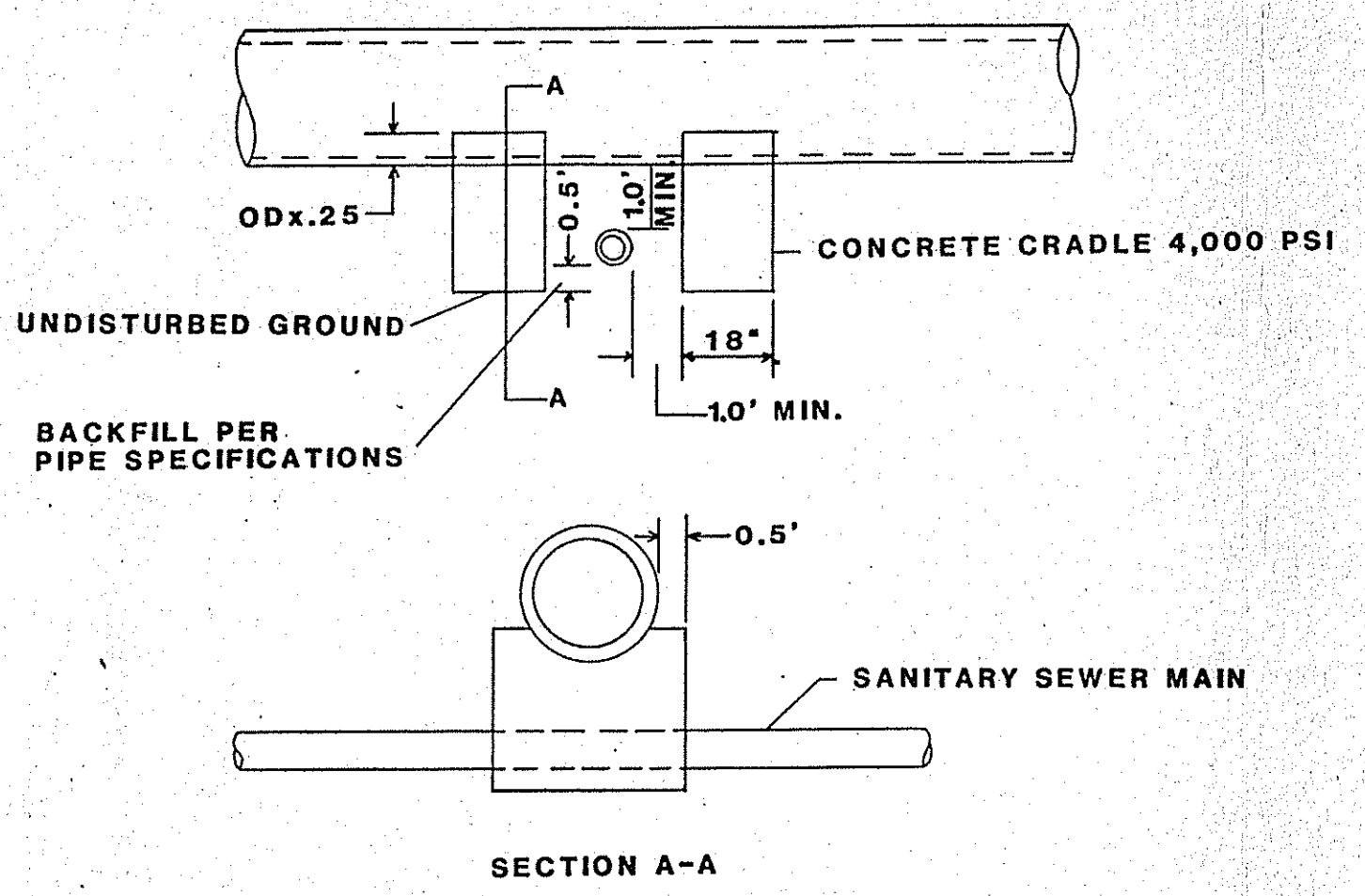
CONTRACTORS RESPONSIBILITY
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GRAPHIC SCALE 1"=30'
 0 30 60 90



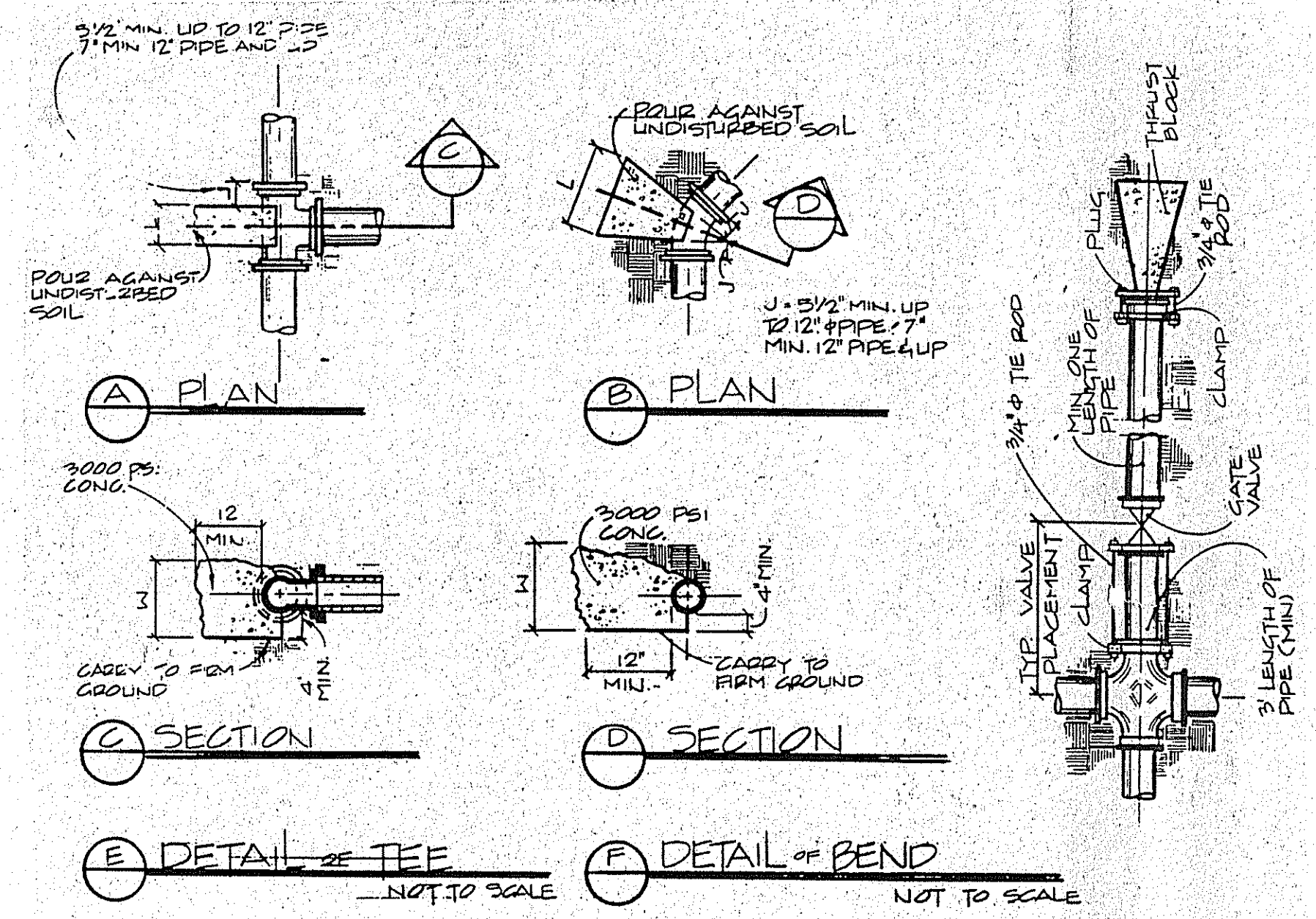
- NOTES:**
- Service pipe to be 3/4" minimum "K" Copper.
 - Corporation cock to be 3/4" packjoint type similar to Ford F1000 or approved equal.
 - Curb stop to be 3/4" packjoint type similar to Ford B44-333 or 266-333 or approved equal.
 - Couplings to be 3/4" packjoint type similar to Ford C44-33 or approved equal.
 - Location of curb stop and box to be in planter area or one (1) foot on resident's side of proposed sidewalk and never outside of street R.O.W.
 - No deviation from these specifications shall be made without approval of the Heymouth Township Municipal Utilities Authority (MUA).
 - No connection will be back-filled until written approval is made by the Heymouth Township MUA.
 - Violators will be required to expose the work for inspection before approval will be granted.
 - All new applicants for water service will be provided with an approved remote read-out meter. No substitutions will be permitted unless approved by the Heymouth Township MUA.
 - ALL SERVICES TO BE JETTED UNDER PAVED ROADS**

TYPICAL WATER SERVICE HOUSE CONNECTION

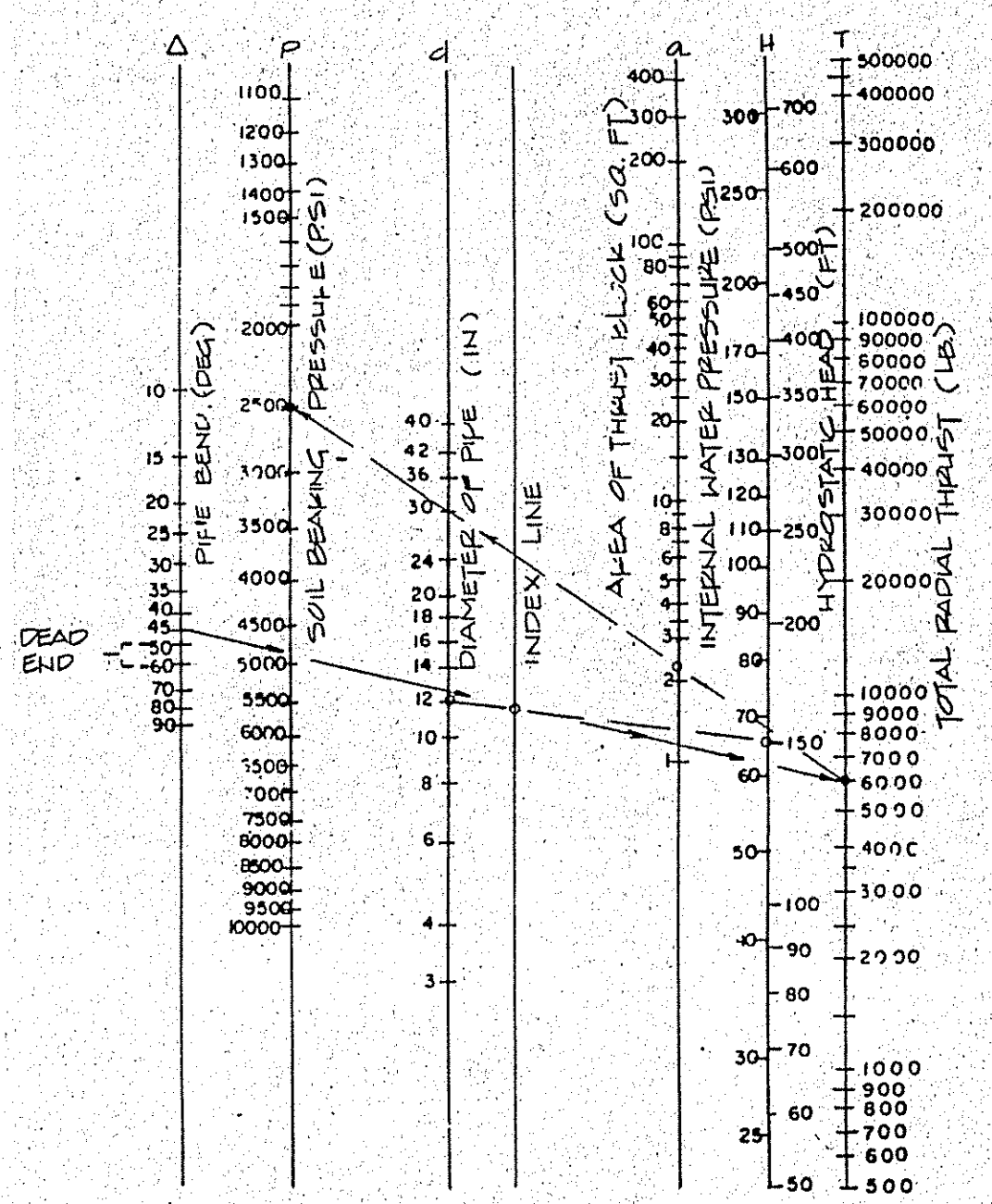


- NOTES:**
- PROVIDE EIGHTEEN INCHES (18") VERTICAL CLEARANCE BETWEEN SEWER/WATER MAINS AND PIPES CROSSING ABOVE. IF THIS IS NOT POSSIBLE, SUPPORT THE TOP PIPE WITH CONCRETE CRADLES. IN NO CASE SHALL THE VERTICAL CLEARANCE BETWEEN PIPES BE LESS THAN TWELVE INCHES (12").
 - PROVIDE 4'-0" MINIMUM COVER OVER WATER MAINS AND SERVICE CONNECTIONS.

CONCRETE CRADLE DETAIL



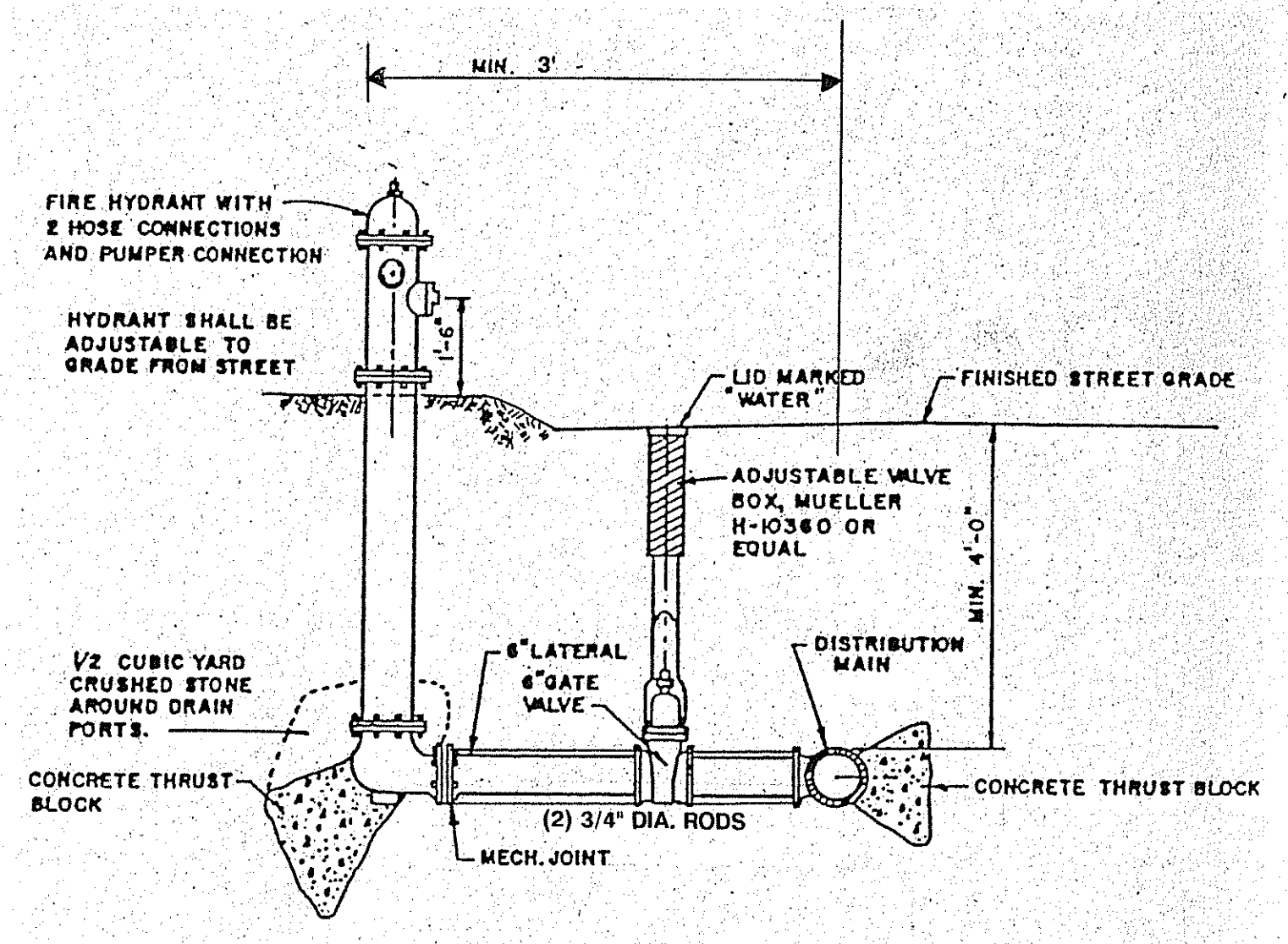
THRUST BLOCK DETAIL



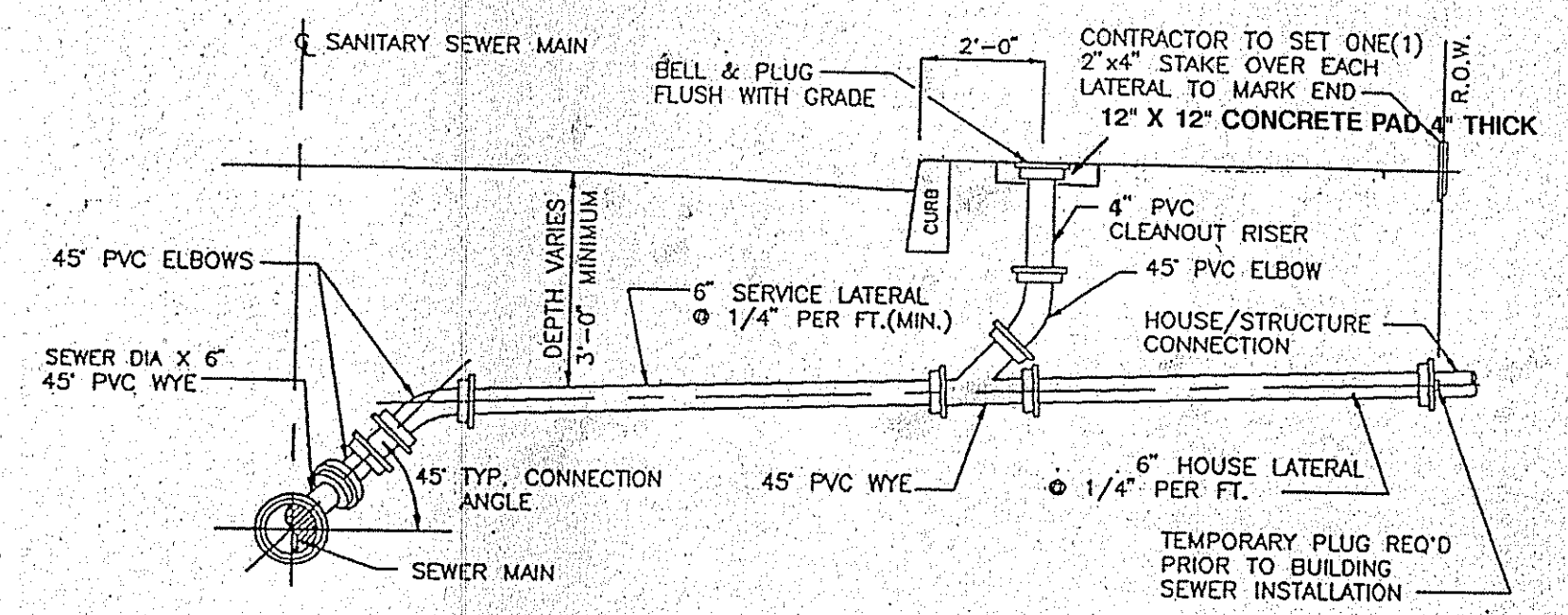
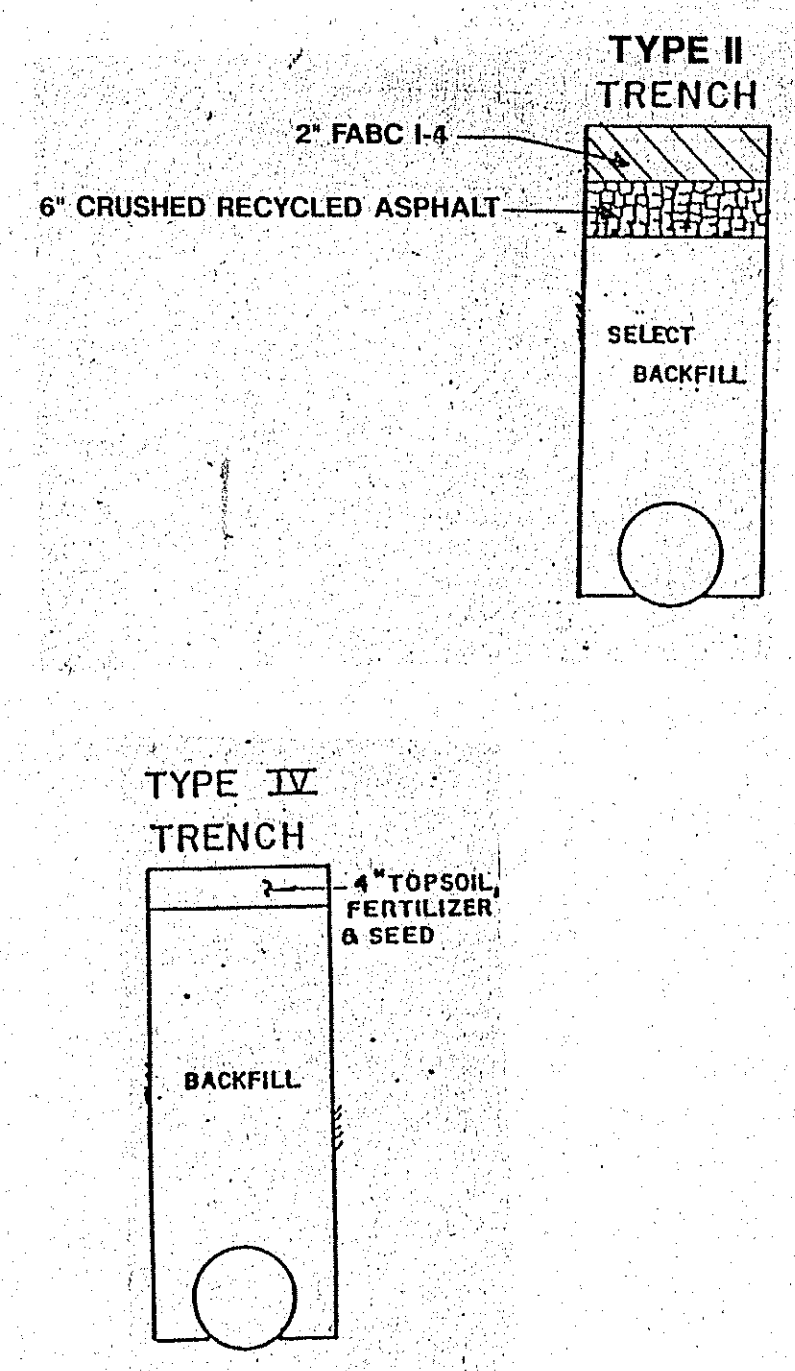
- LEGEND**
- H = HYDRAULIC HEAD (FT.)
 - d = DIAMETER OF PIPE (IN.)
 - Δ = PIPE BEND (DEGREE)
 - T = TOTAL RADIAL THRUST (LB.)
 - P = SOIL BEARING PRESSURE (PSI)
 - A = AREA OF THRUST BLOCK (SQ. FT.)

NOTE:
EXAMPLE SHOWN ON GRAPH IS FOR A 12" 45° PIPE BEND SUBJECTED TO 150' HYDROSTATIC HEAD.

NOMOGRAPH FOR BEARING AREA OF THRUST BLOCKS



FIRE HYDRANT ASSEMBLY



DETAIL 1 SANITARY SERVICE LATERAL

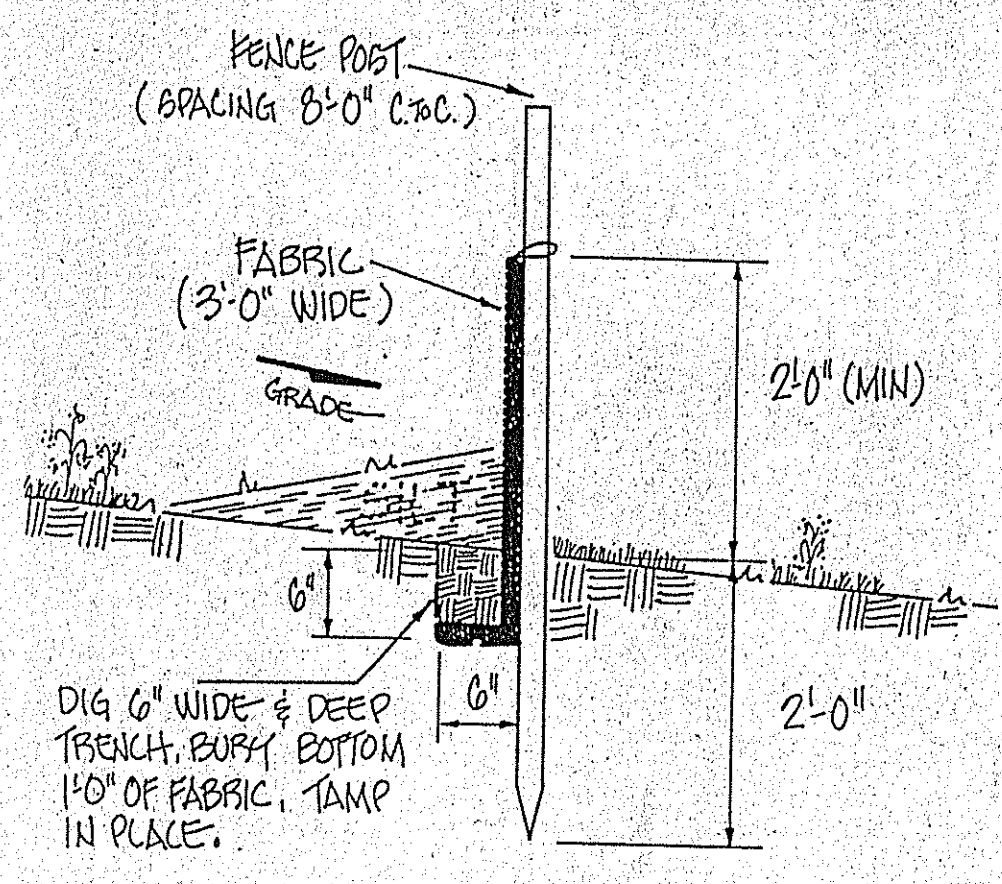
SOIL EROSION AND SEDIMENT CONTROL NOTES
PLACEMENT OF UTILITY LINES

This project includes the installation of approximately 5,750 lineal feet of water main within the Right-Of-Way of various roads in Belcoville, Weymouth Township. Contractor shall provide soil erosion and sediment control measures as described herein.

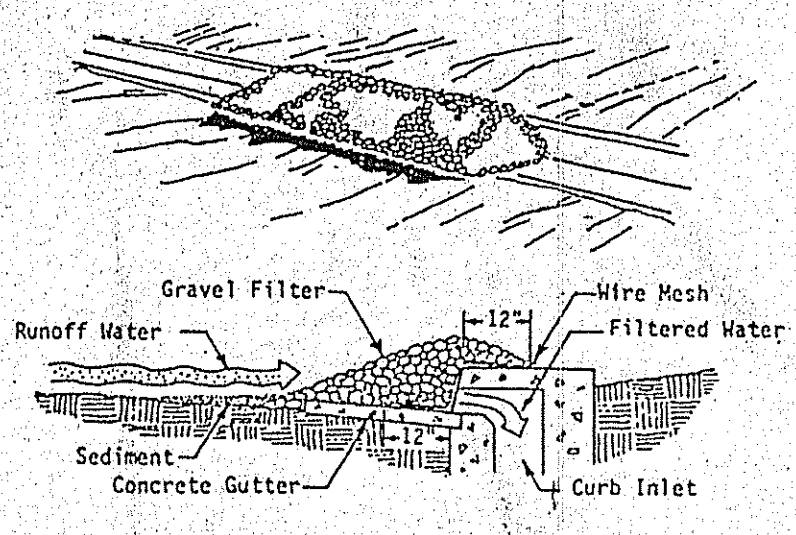
- Contractor shall install sediment and erosion control devices indicated herein prior to any major soil disturbances, in their proper sequence and maintain until permanent protection is established.
- Inlet sediment filters shall be installed prior to any land disturbance and maintained until the site is stabilized.
- Silt fence shall be installed on the downslope side of each utility line placement in 400 foot sections along the length of the utility line. This shall occur as follows: flap to be anchored at a depth of 6". After length of pipeline is installed and trench is backfilled, area is to be stabilized as indicated in Note 5.
- Clearing and removal of all existing vegetation, curbing, bituminous and concrete pavements in those areas where necessary. All remaining vegetation should be properly protected and remain in its natural state.
- Stabilization of the disturbed areas with the following:
 - Limed with 90 lbs/1000 sq. ft. of lime (50%)
 - Fertilized with 14 lbs/1000 sq. ft. of 10-20-10 or equivalent
 - Seeded with Kentucky Blue Grass, Red Top, Creeping Red Fescue and Perennial Rye Grass at 5 lbs/1000 sq. ft.
 - Mulched with 50 lbs/1000 sq. ft. of suitable wood fiber mulch material
- THE CONTRACTOR SHALL MAINTAIN ALL PAVED PUBLIC RIGHTS-OF-WAY IN A CLEAN SWEEP CONDITION.

GRAVEL CURB INLET SEDIMENT FILTER

- Hardware cloth or comparable wire mesh with 1/2 inch openings shall be placed over the curb inlet opening so that at least 12 inches of wire extends across the inlet cover and at least 12 inches of wire extends across the concrete gutter from the inlet opening, as illustrated.
- Stone shall be piled against the wire so as to anchor it against the gutter and inlet cover and to cover the inlet opening completely. Two (2) to three (3) inch coarse aggregate shall be used.
- If the stone filter becomes clogged with sediment so that it no longer adequately performs its function, the stone must be pulled away from the inlet, cleaned and replaced.



SILT FENCE DETAIL



Specific Application

This method of inlet protection is applicable at curb inlets where ponding in front of the structure is not likely to cause inconvenience or damage to adjacent structures and unprotected areas.

GRAVEL CURB INLET SEDIMENT FILTER

DATE	REVISIONS	CHK
11/19/97	1	JK
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12/1/97	96	JK
12/1/97	97	JK
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12/1/97	100	JK

SPEITEL AND SPEITEL, INC.
STRATEGIC PLANNERS, CIVIL ENGINEERS, AND ENVIRONMENTAL PERMIT CONSULTANTS
THE PAINTWORKS-SUITE 206 206 E. CLEMENTON ROAD STEUBENS, NEW JERSEY 08086
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BELCOVILLE WATER MAIN SITUATE Weymouth Township ATLANTIC COUNTY NEW JERSEY

DETAIL SHEET

CHECK: *BMC*
CONTRACT: 1309
DATE: 2/19/97
SCALE: NTS
REVISION: 2
SHEET: 13