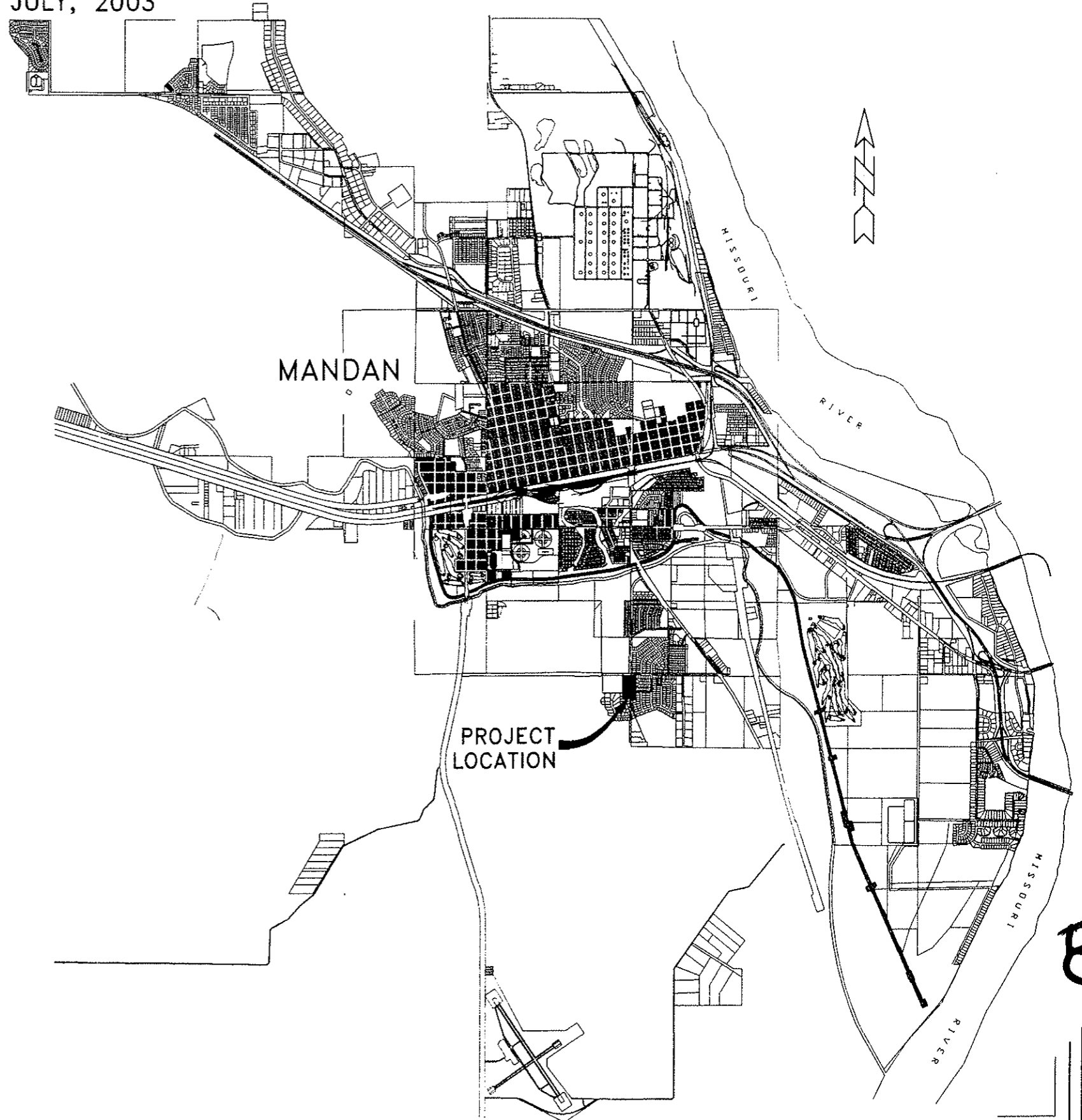


REVISED EAST VIEW PLACE WATER & SEWER IMPROVEMENT MANDAN, NORTH DAKOTA

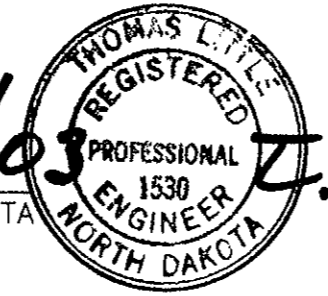
CITY PROJECT NO. 2002-11
JULY, 2003

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3	EAST VIEW PLACE PLAN & PROFILE
4	DETAIL SHEET



APPROVED: *Thomas Little* DATE: *7/11/03*
 THOMAS LITTLE, RPE, CITY ENGINEER, MANDAN, NORTH DAKOTA



PREPARED BY:
 TOMAN ENGINEERING
Ronald Manchester DATE: *7-9-03*
 RONALD MANCHESTER R.P.E. 3252



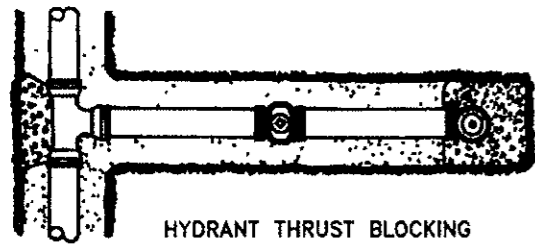
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8

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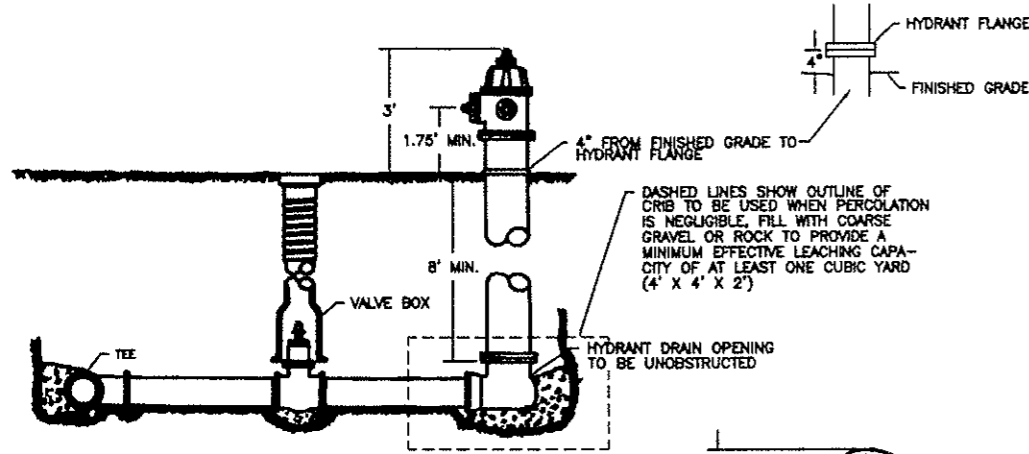
DETAIL SHEET

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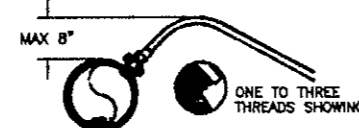


HYDRANT THRUST BLOCKING

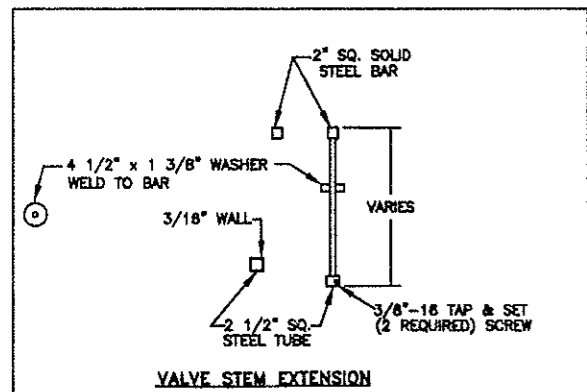
NOTE: (1) PIPE DEFLECTIONS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS
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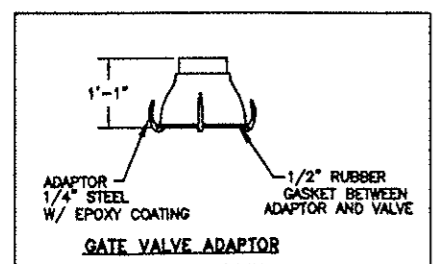
LAYOUT OF FIRE HYDRANT & VALVE



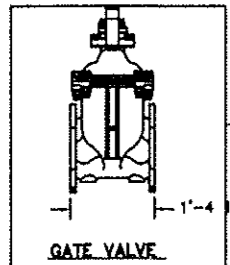
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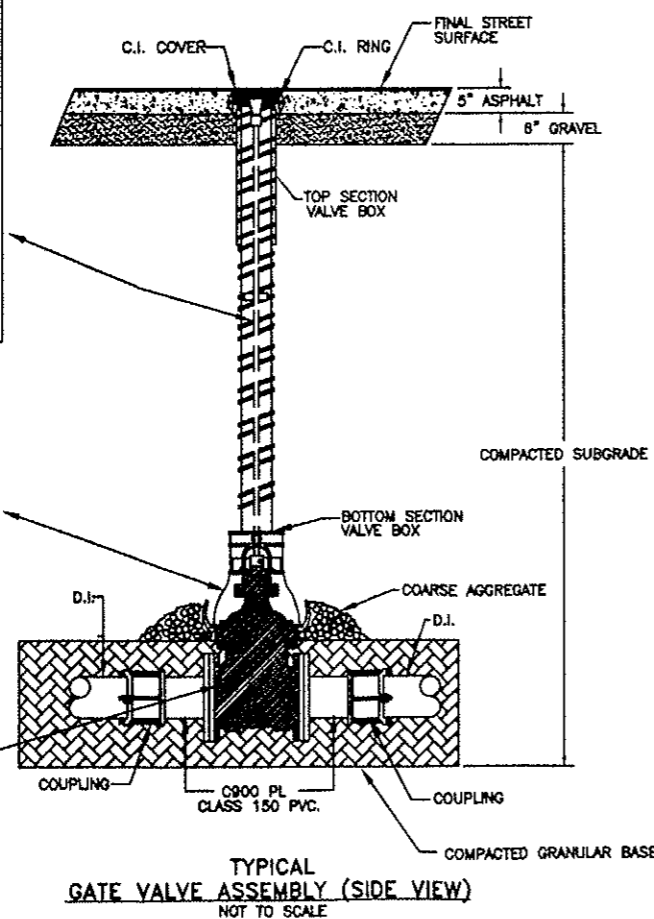
VALVE STEM EXTENSION



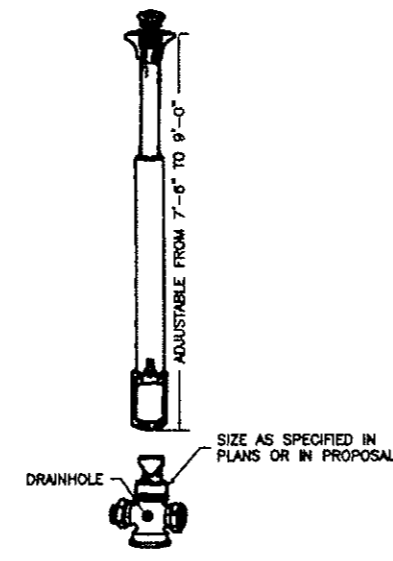
GATE VALVE ADAPTOR



GATE VALVE

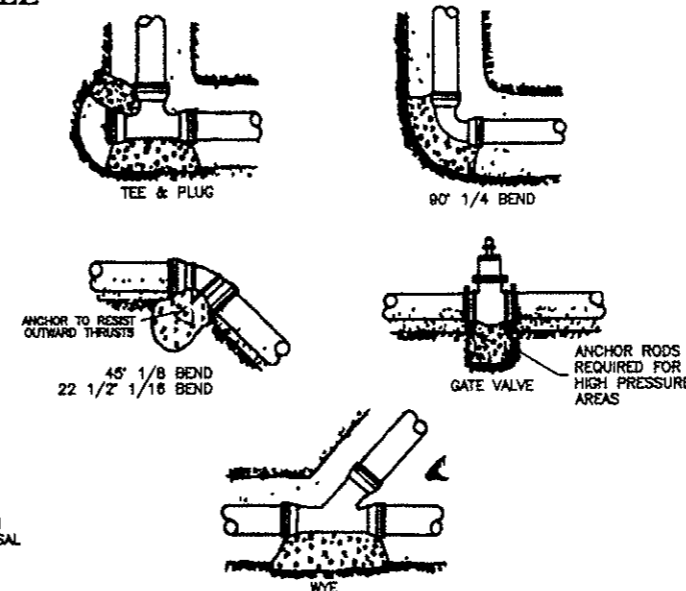


TYPICAL GATE VALVE ASSEMBLY (SIDE VIEW)
NOT TO SCALE

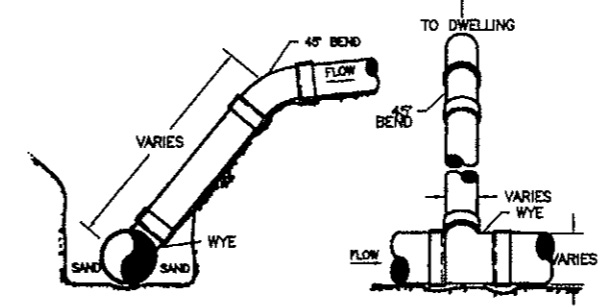


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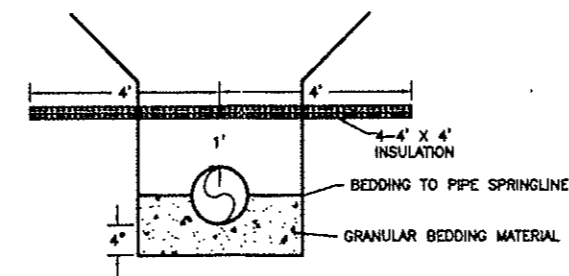
THRUST BLOCK DETAILS



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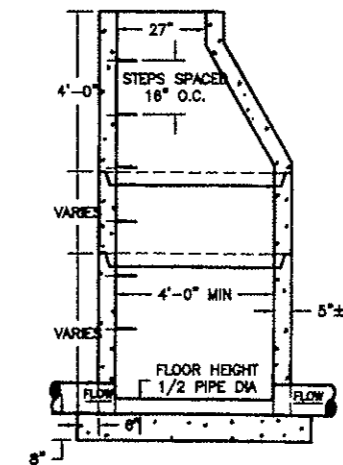


WATERMAIN & SEWERMAIN BEDDING & INSULATION DETAIL

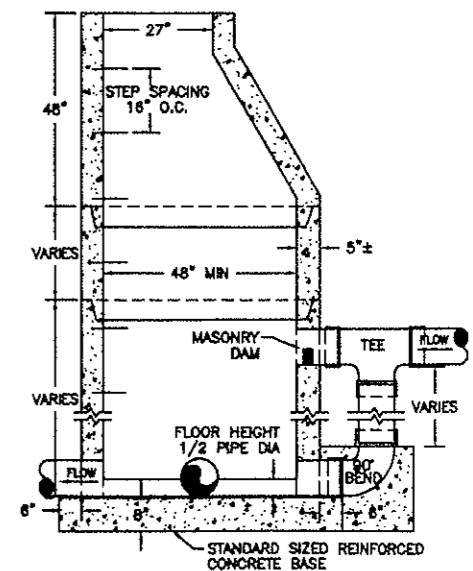
MAXIMUM SIZE OF OUTLET RECOMMENDED WITH SERVICE CLAMPS (INCHES)

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PROJECT: WATER & SEWER IMPROVEMENT EAST VIEW PLACE DETAIL SHEET

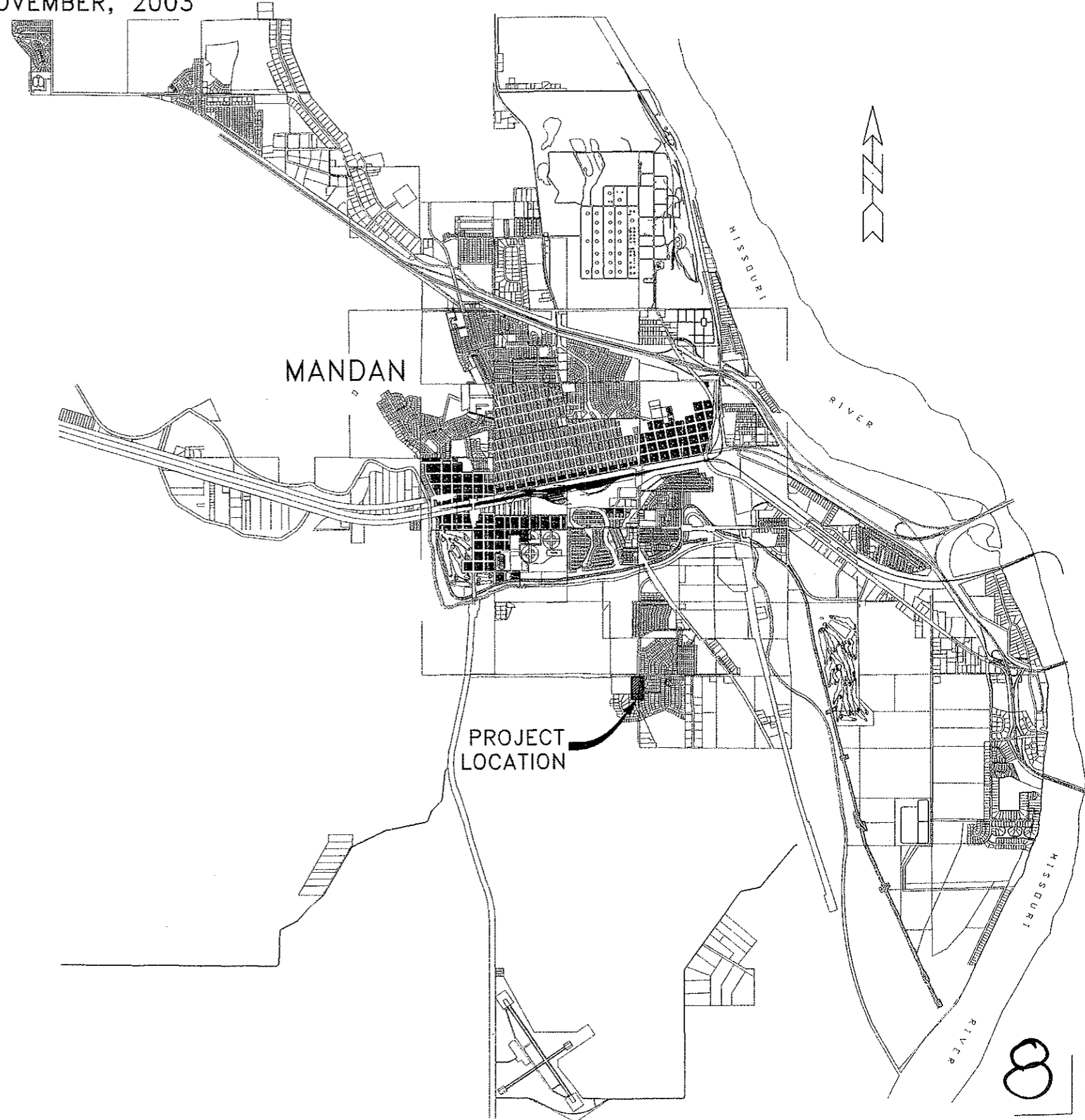
TITLE: WATER & SEWER IMPROVEMENT - EAST VIEW PLACE	DATE: 05/15/03	BY: JLB
NO.:	REV. NO.:	DATE:
REVISIONS:		

SHEET NUMBER
4
OF 4 SHEETS

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tollman@tollmaneng.com

AS-BUILTS - REVISED EAST VIEW PLACE WATER & SEWER IMPROVEMENT MANDAN, NORTH DAKOTA

CITY PROJECT NO. 2002-11
NOVEMBER, 2003



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2	PROJECT LAYOUT
3	EAST VIEW PLACE PLAN & PROFILE
4	DETAIL SHEET

APPROVED: _____ DATE: _____
THOMAS LITTLE, RPE, CITY ENGINEER, MANDAN, NORTH DAKOTA

PREPARED BY:
TOMAN ENGINEERING

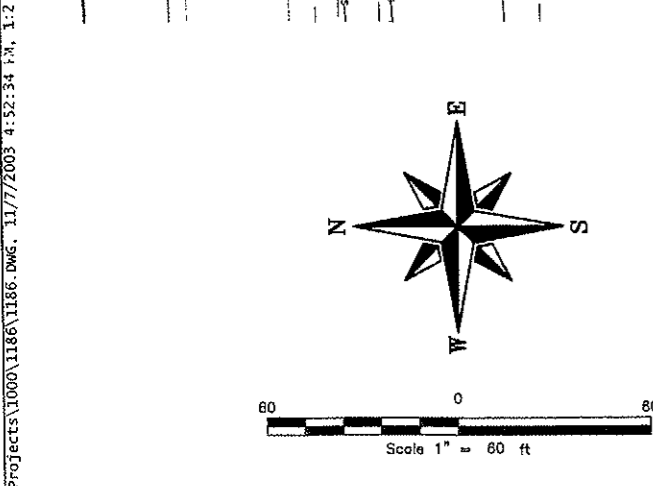
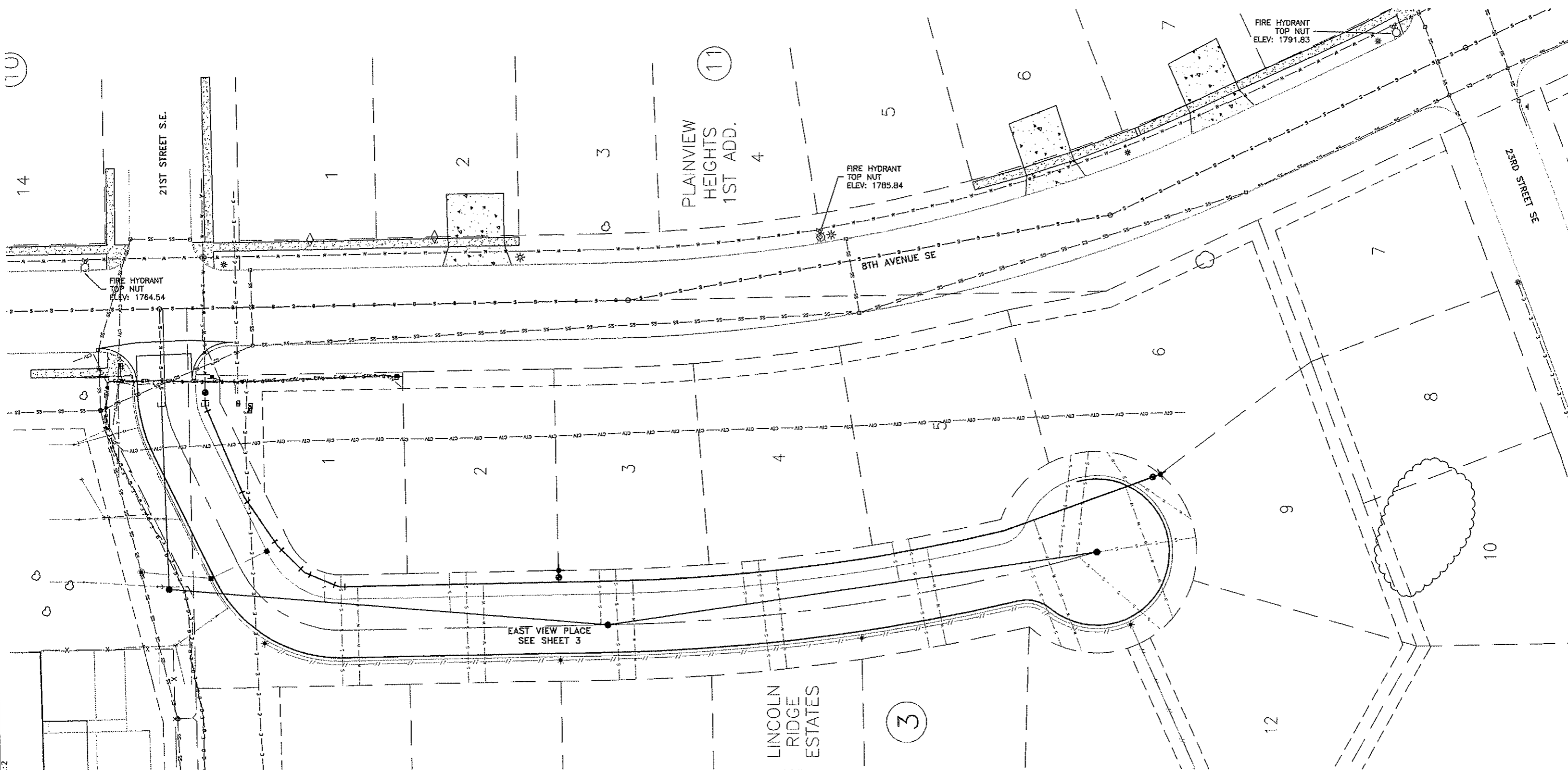
RONALD MANCHESTER R.P.E. 3252 DATE: _____



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AS-BUILT - PROJECT LAYOUT



- LEGEND**
- | | | | |
|---|--------------------------------|------|-------------------------------|
| ▲ | EXISTING SPRINKLER | —●— | EXISTING WATER LINE |
| ○ | EXISTING SANITARY MANHOLE | —○— | EXISTING SANITARY SEWER LINE |
| □ | EXISTING CATCH BASIN | —x— | EXISTING FENCE LINE |
| ⊕ | EXISTING STORM SEWER MANHOLE | —ss— | EXISTING STORM SEWER |
| ⊗ | EXISTING FIRE HYDRANT | —t— | EXISTING TELEPHONE |
| ⊙ | EXISTING GATE VALVE | ⊙ | INSTALLED GATE VALVE |
| ◇ | EXISTING CURB STOP | ⊕ | INSTALLED FIRE HYDRANT |
| * | EXISTING STREET LIGHT | * | INSTALLED STREET LIGHT |
| ○ | EXISTING TREE | ⊕ | INSTALLED STORM SEWER MANHOLE |
| ■ | EXISTING TELEPHONE PEDESTAL | —//— | INSTALLED UNDERGROUND ELEC. |
| ⊠ | EXISTING TRANSFORMER | —●— | INSTALLED SANITARY MANHOLE |
| ■ | EXISTING CONCRETE PAD | —■— | INSTALLED CATCH BASIN |
| — | EXISTING SIDEWALK | — | INSTALLED CURB & GUTTER |
| — | EXISTING TREE LINE | —s— | INSTALLED SANITARY SERVICE |
| — | EXISTING SPRINKLER SYSTEM LINE | —x— | INSTALLED WATER SERVICE |

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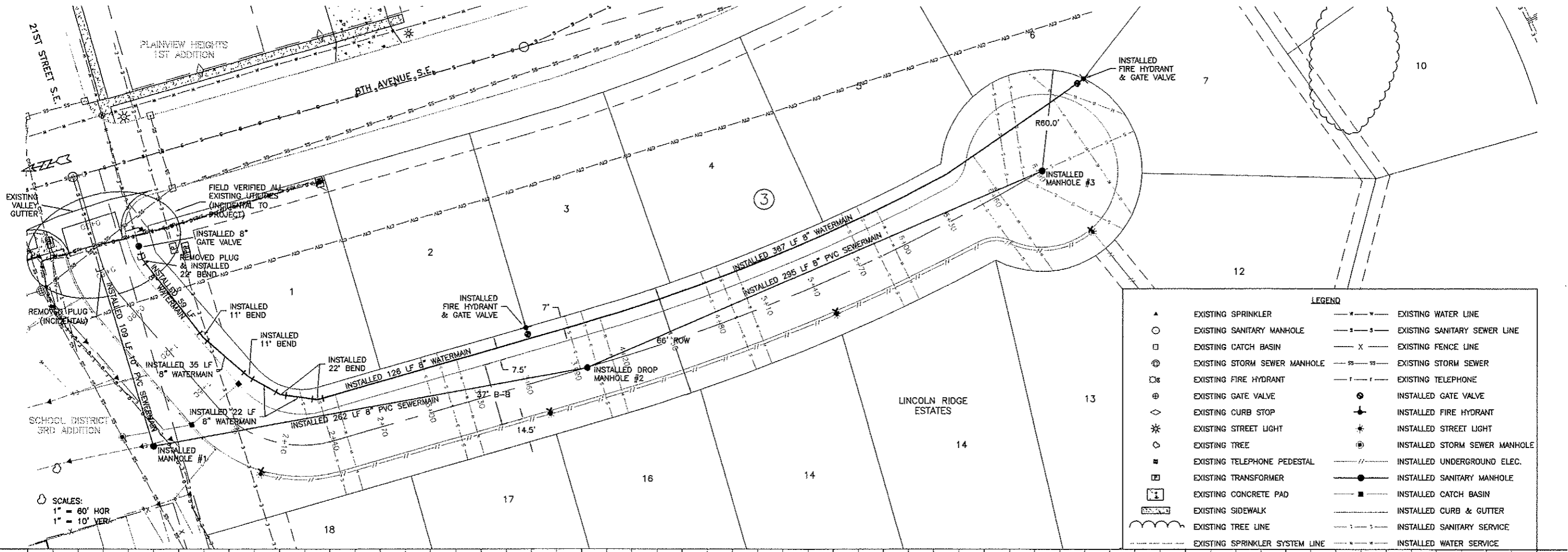
PROJECT: WATER & SEWER IMPROVEMENT
EAST VIEW PLACE
AS-BUILT - PROJECT LAYOUT

NO.	DATE	BY	REVISIONS
1	11/03	AM	AS-BUILT
2	04/19/03	AM	AS-BUILT

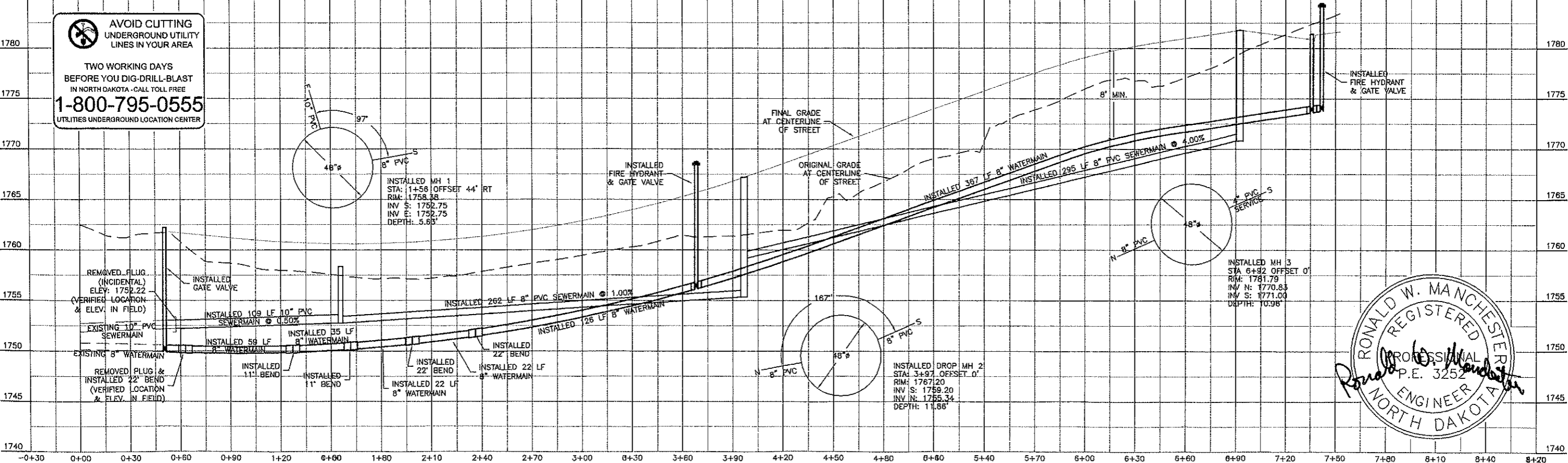
SHEET NUMBER
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OF 4 SHEETS

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AS-BUILT - PLAN & PROFILE

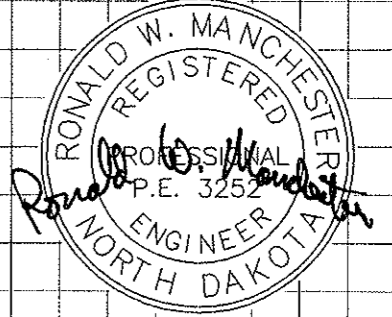


LEGEND			
▲	EXISTING SPRINKLER	—●—	EXISTING WATER LINE
○	EXISTING SANITARY MANHOLE	—S—S—	EXISTING SANITARY SEWER LINE
□	EXISTING CATCH BASIN	—X—	EXISTING FENCE LINE
⊙	EXISTING STORM SEWER MANHOLE	—SS—SS—	EXISTING STORM SEWER
⊠	EXISTING FIRE HYDRANT	—T—T—	EXISTING TELEPHONE
⊕	EXISTING GATE VALVE	⊙	INSTALLED GATE VALVE
◇	EXISTING CURB STOP	⊕	INSTALLED FIRE HYDRANT
*	EXISTING STREET LIGHT	*	INSTALLED STREET LIGHT
○	EXISTING TREE	⊙	INSTALLED STORM SEWER MANHOLE
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PROJECT: WATER & SEWER IMPROVEMENT - EAST VIEW PLACE AS-BUILT - PLAN & PROFILE

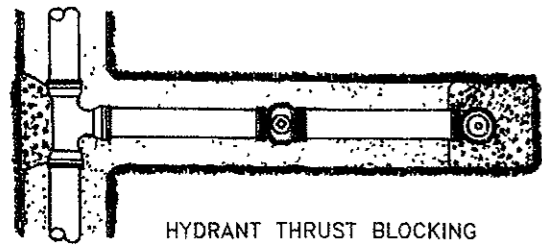
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1	AS-BUILT	AM 11/03	AM	04/18/03	AM	04/18/03	AM

TITLE: WATER & SEWER IMPROVEMENT - EAST VIEW PLACE AS-BUILT

SHEET NUMBER: 3 OF 4 SHEETS

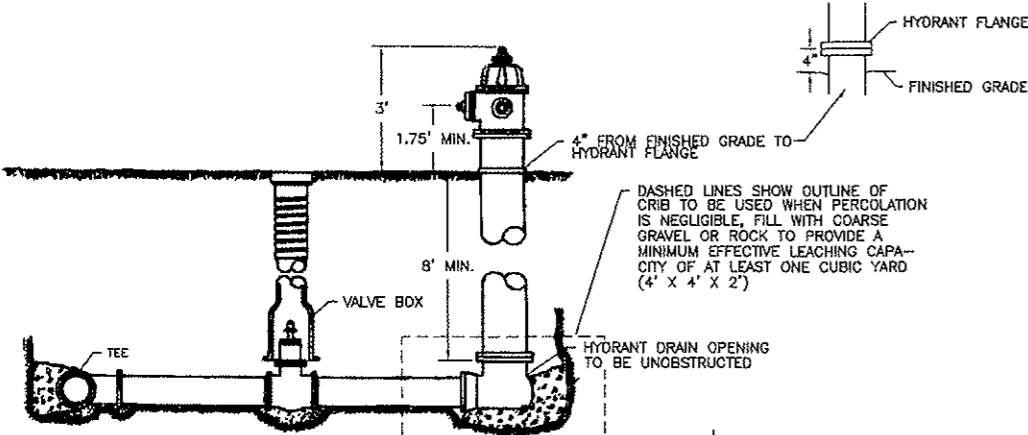
AS-BUILT - DETAIL SHEET

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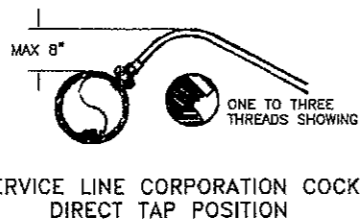


HYDRANT THRUST BLOCKING

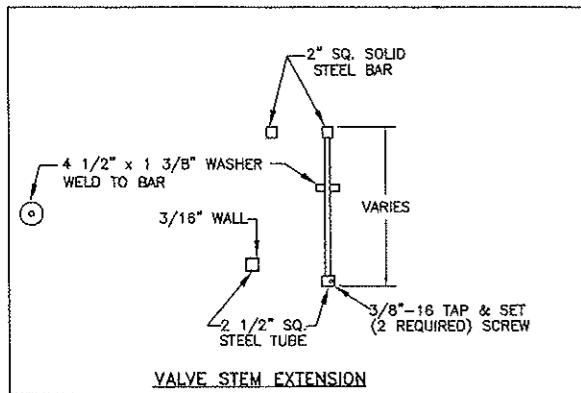
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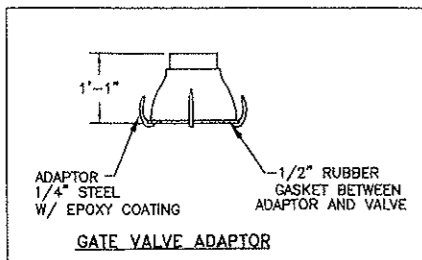
LAYOUT OF FIRE HYDRANT & VALVE



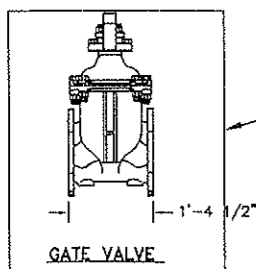
SERVICE LINE CORPORATION COCK DIRECT TAP POSITION



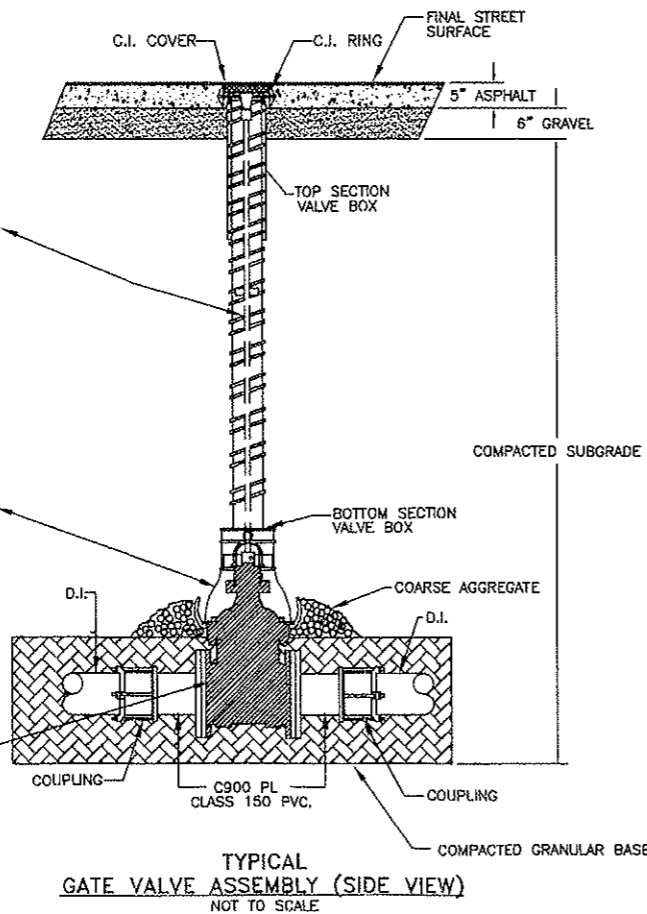
VALVE STEM EXTENSION



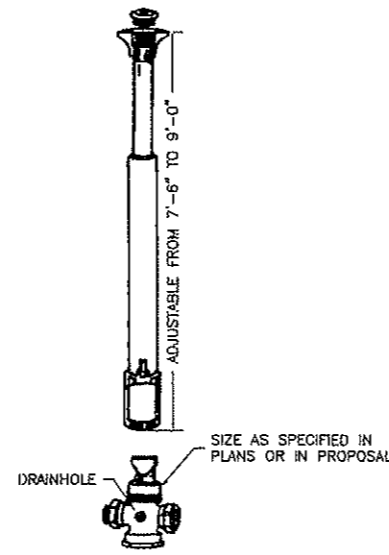
GATE VALVE ADAPTOR



GATE VALVE

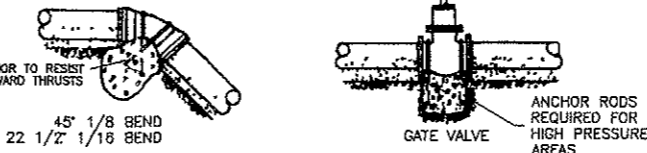
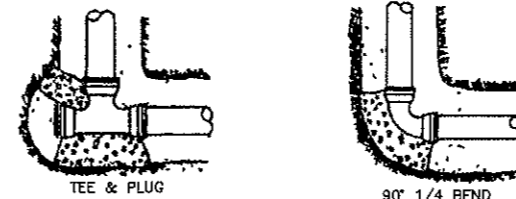


TYPICAL GATE VALVE ASSEMBLY (SIDE VIEW)
NOT TO SCALE

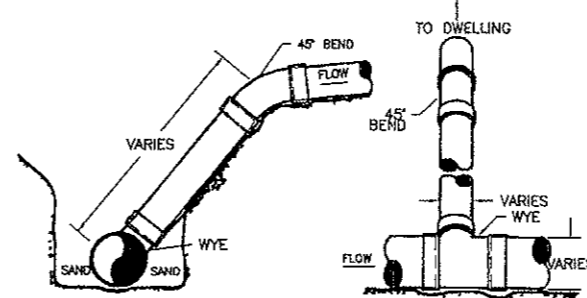


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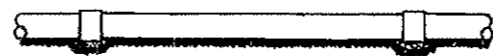


THRUST BLOCK DETAILS

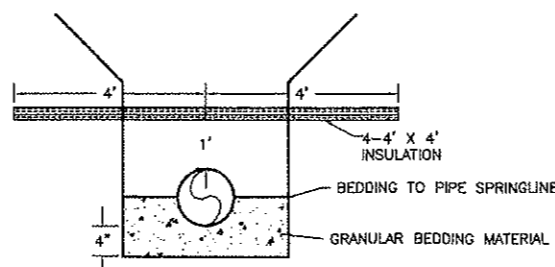


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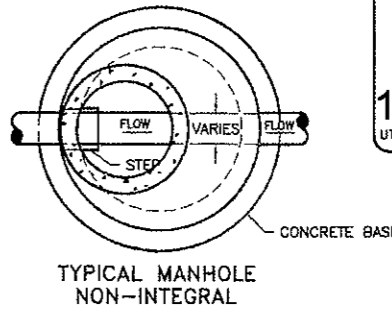
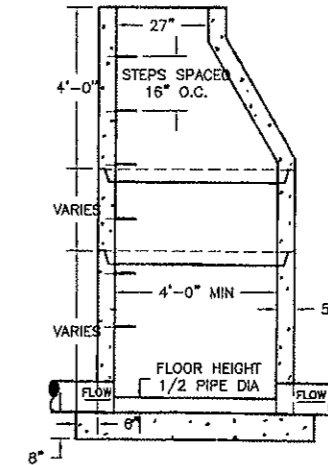


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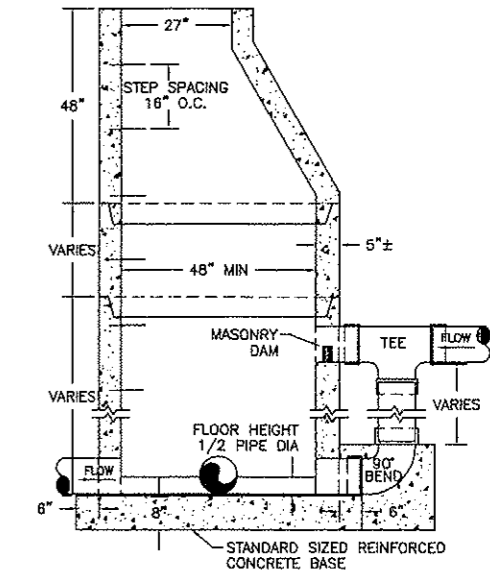
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PROJECT: WATER & SEWER IMPROVEMENT
 EAST VIEW PLACE
 AS-BUILT - DETAIL SHEET

NO.	DATE	BY	REVISIONS
1	11/03	AM	AS-BUILT

SHEET NUMBER
4
OF 4 SHEETS

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