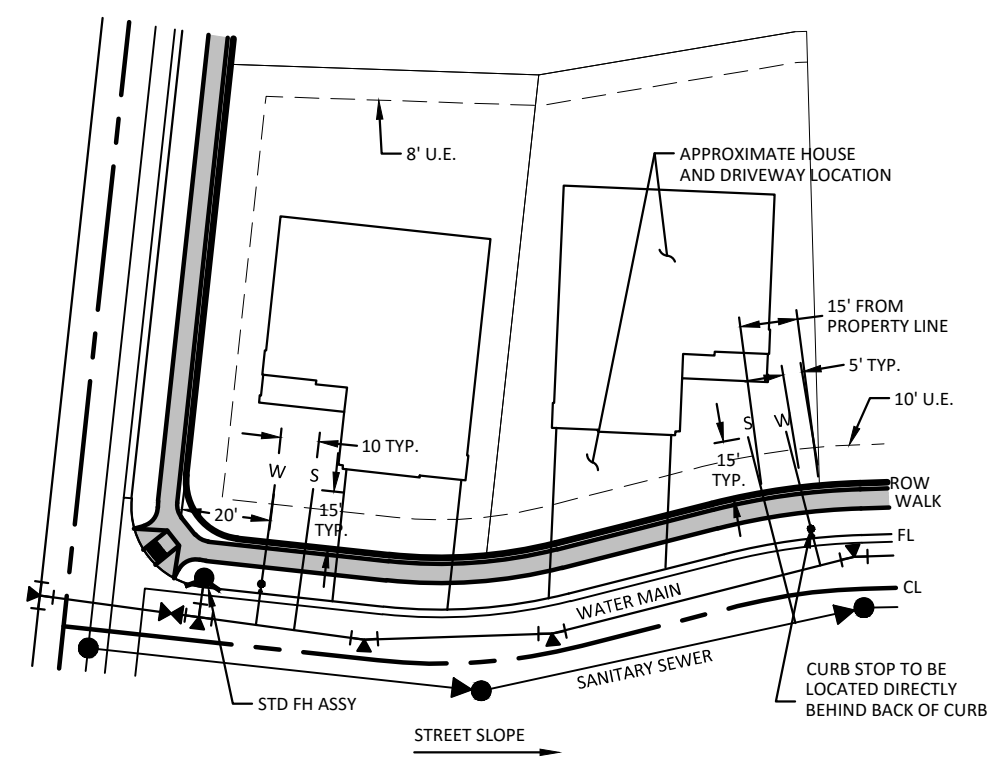
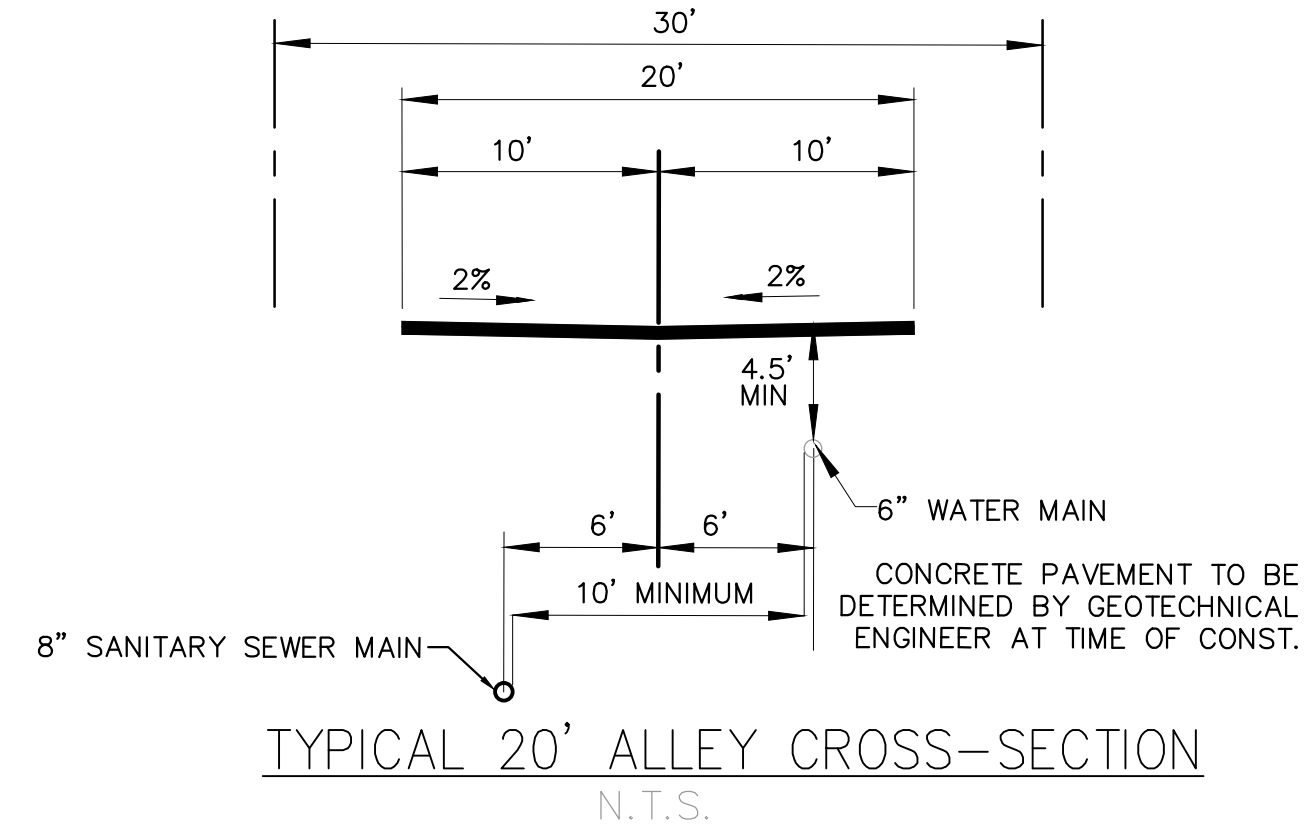
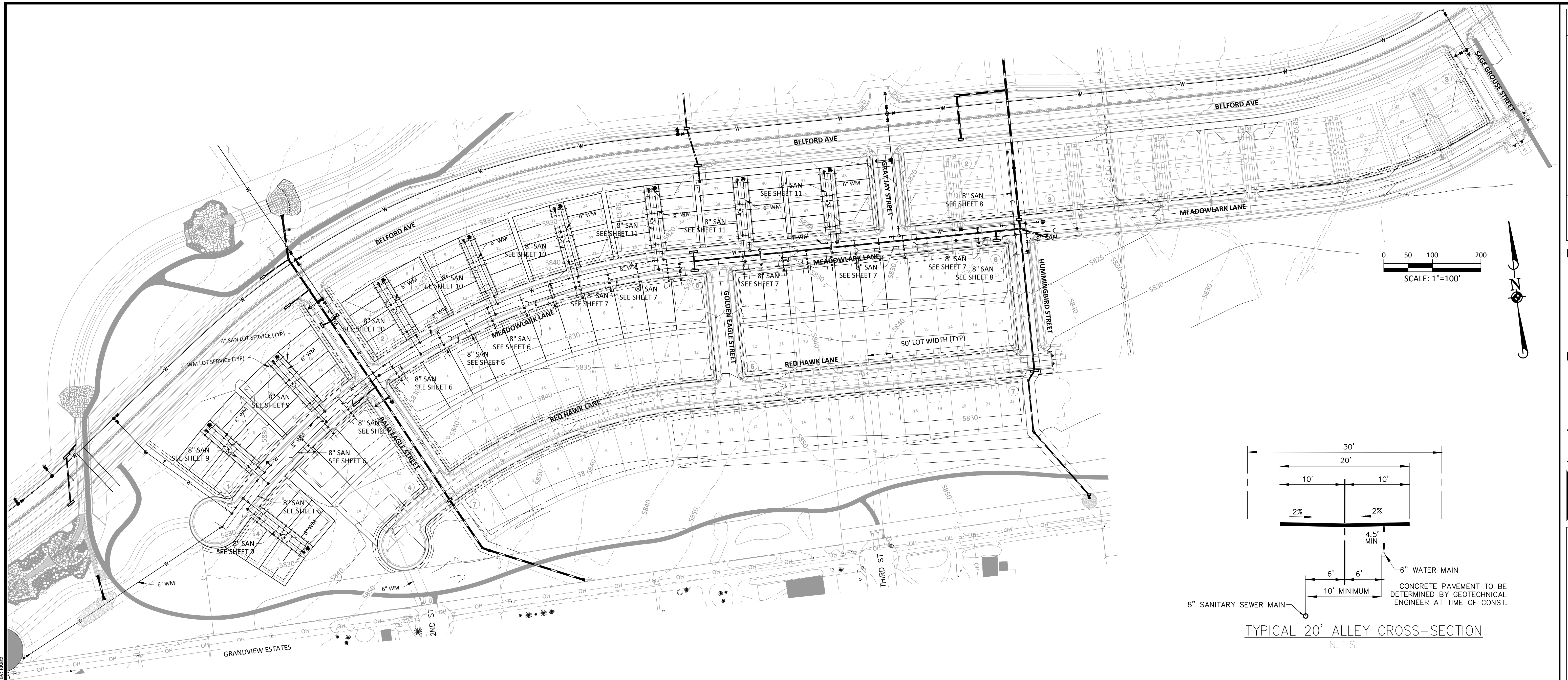






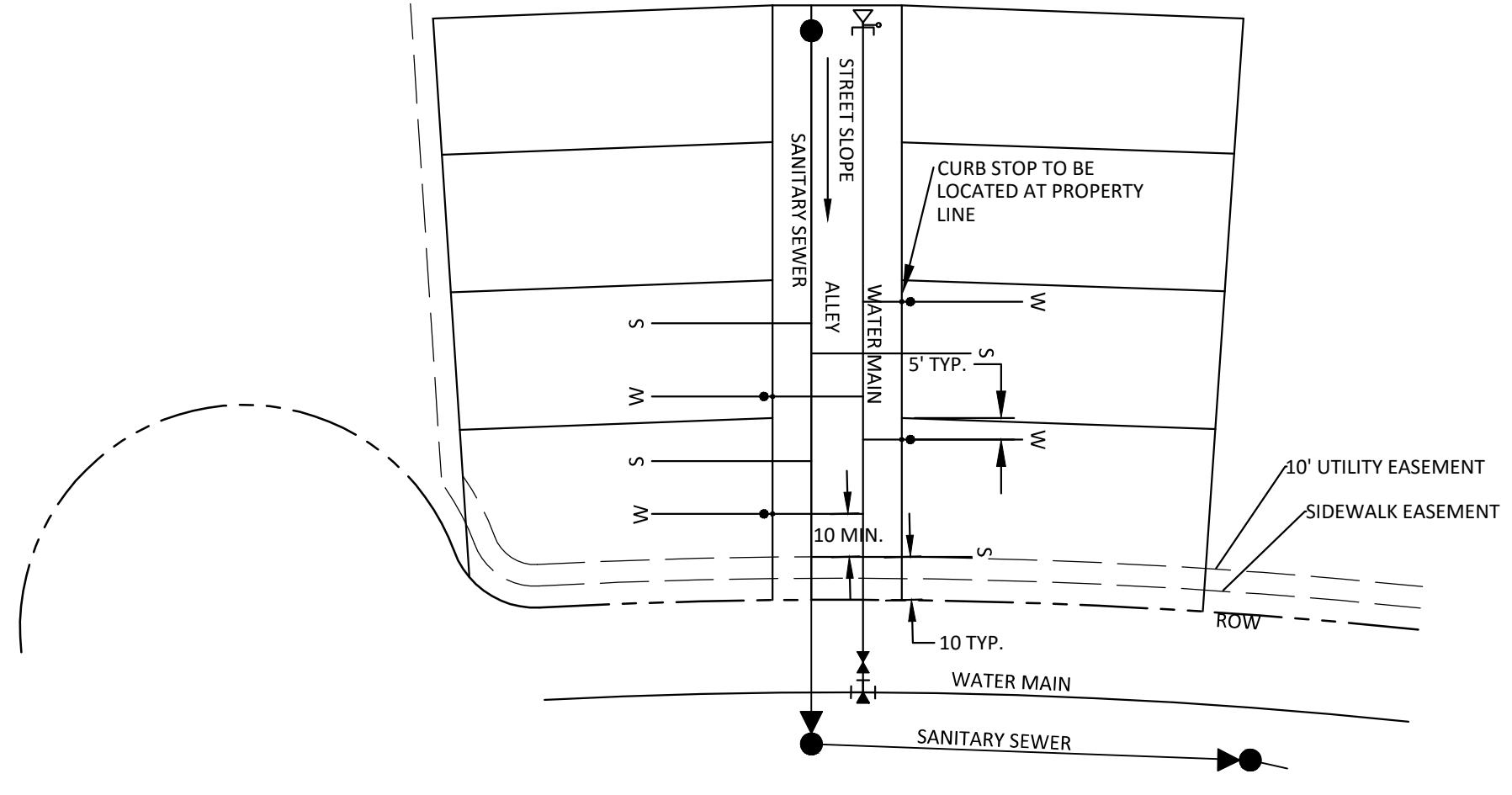
Plotted: 10/17/2016 10:07 AM. Draw Name: p:\c\p\3\compsouth05-residential.cdw\Drawings\Plan Set\District\PHASE 1\USA-Overall\Utility.dwg. Updated By: BKZ



**TYPICAL SINGLE FAMILY LOT SERVICE DETAIL**  
N.T.S.

NOTES:

- 1.) SERVICE LOCATIONS ARE TYPICAL, UNLESS OTHERWISE NOTED. REFER TO STREET & UTILITY PLAN AND PROFILES, AND AREA GRADING PLAN FOR EXACT LOCATIONS.
- 2.) INSIDE METER SETTING IS REQUIRED FOR RESIDENTIAL DEVELOPMENT. WRITTEN PERMISSION MAY BE ALLOWED BY THE DISTRICT FOR SPECIFIC SITUATIONS.



**TYPICAL DUPLEX LOT SERVICE DETAIL**  
N.T.S.

NOTE: SERVICE LOCATIONS ARE TYPICAL, UNLESS OTHERWISE NOTED. REFER TO UTILITY PLAN AND PROFILES FOR EXACT LOCATIONS.

**TOWN OF PARKER BUILDING DEPT FIRE LIFE SAFETY APPROVAL**

ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO WATER UTILITY STANDARDS. THE NUMBER AND LOCATIONS OF THE FIRE HYDRANTS AS SHOWN ON THE OVERALL UTILITY PLAN ARE CORRECT AS SPECIFIED BY THE TOWN OF PARKER, COMMUNITY DEVELOPMENT DEPARTMENT.

BY: \_\_\_\_\_  
(SIGNATURE OF FIRE CODE OFFICIAL OR DESIGNATED REPRESENTATIVE)

DATE SIGNED: \_\_\_\_\_

NOTE: UNDERGROUND FIRE LINE (UFL) SUBMITTAL DOCUMENTS MUST MEET THE REQUIREMENTS OF NFPA 24 WHEN SUBMITTING FOR REVIEW

**DISTRICT APPROVALS**

THESE DESIGNS, PLANS, AND CONTRACT DOCUMENTS ARE REVIEWED FOR CONCEPT AND GENERAL CONFORMANCE TO THE DISTRICT'S MINIMUM STANDARDS ONLY, AND THE PRIMARY RESPONSIBILITY FOR DESIGN ADEQUACY IS TO REMAIN WITH THE ENGINEER OF RECORD. THIS REVIEW DOES NOT IMPLY RESPONSIBILITY BY EITHER THE STONEGATE VILLAGE METROPOLITAN DISTRICT OR THE DISTRICT ENGINEER FOR COMPLETENESS, ACCURACY OR CORRECTNESS OF CALCULATIONS. THE REVIEW DOES NOT IMPLY THAT QUANTITIES OF ITEMS INDICATED ON THE PLANS ARE THE FINAL QUANTITIES REQUIRED. THE REVIEW SHALL NOT BE CONSTRUED FOR ANY REASON AS ACCEPTANCE OF FINANCIAL RESPONSIBILITY BY THE STONEGATE VILLAGE METROPOLITAN DISTRICT FOR ADDITIONAL ITEMS AND ADDITIONAL QUANTITIES OF ITEMS SHOWN THAT MAY BE REQUIRED DURING THE CONSTRUCTION PHASE.

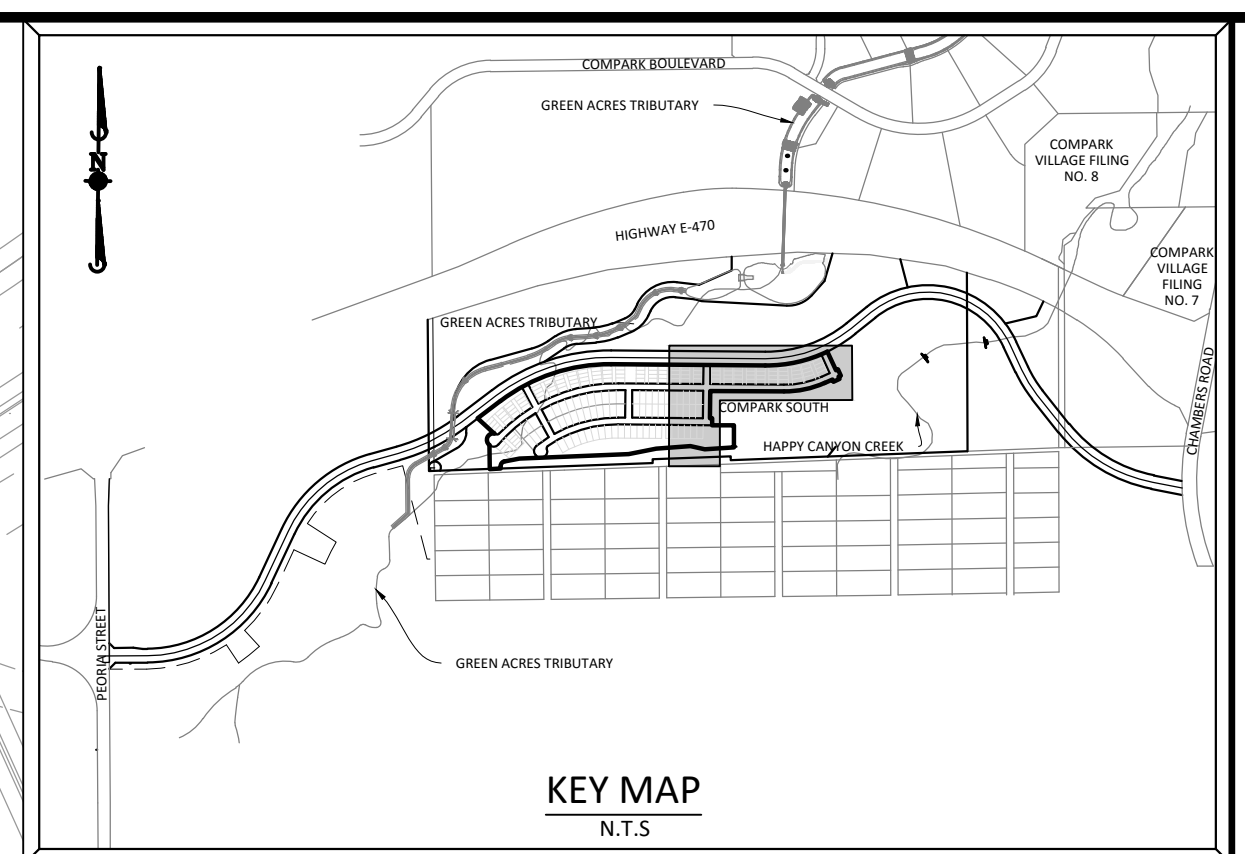
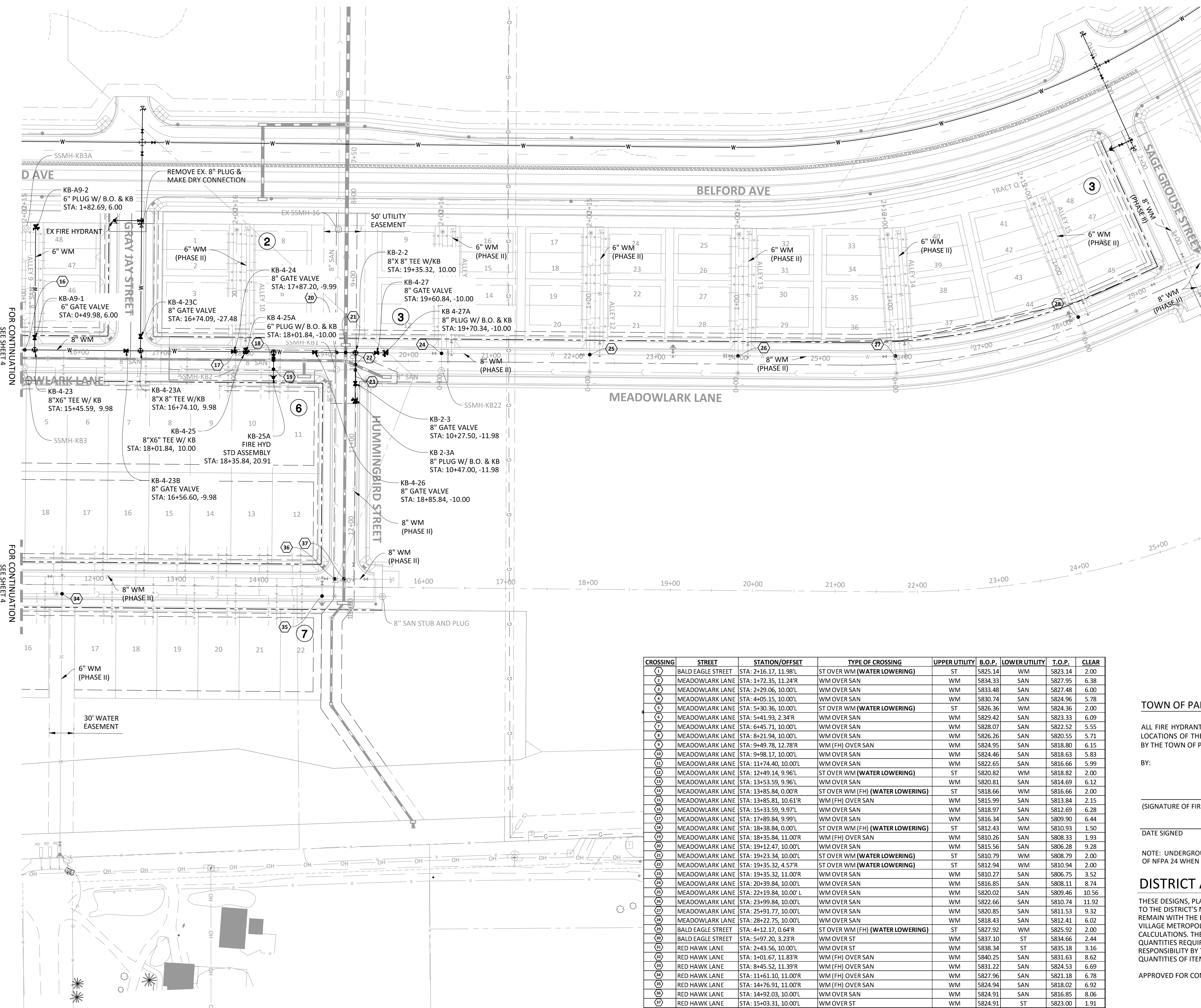
APPROVED FOR CONSTRUCTION WITHIN ONE YEAR OF THE EARLIEST OF THESE DATES:

BY \_\_\_\_\_ DATE \_\_\_\_\_  
STONEGATE VILLAGE METROPOLITAN DISTRICT ENGINEER

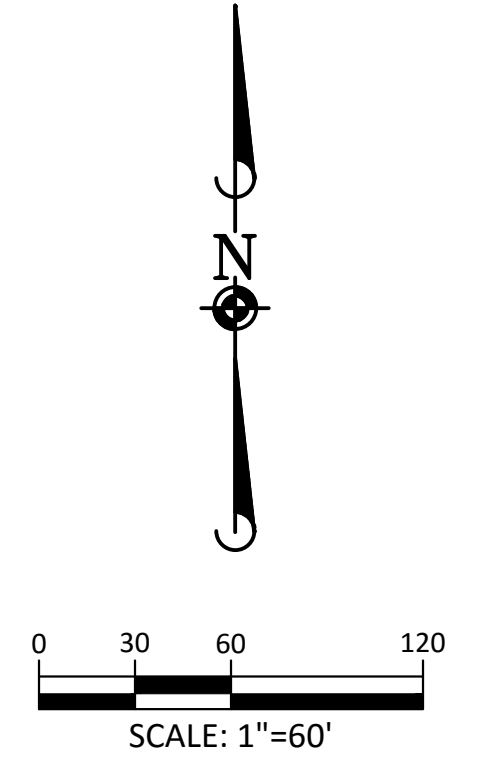
BY \_\_\_\_\_ DATE \_\_\_\_\_  
STONEGATE VILLAGE METROPOLITAN DISTRICT MANAGER



Plotted: 10/17/2016 10:13 AM Draw Name: p:\c\p\3\3\comprh05\residential\cd\dwg\final\Drawings\Plan Set\District\PHASE 1\05A-Water Plans.dwg Updated By: Blazt



**SOURCE BENCHMARKS:**  
 DOUGLAS COUNTY BM 1.115010  
 A DOUGLAS COUNTY GIS MONUMENT SET IN CONCRETE LOCATED APPROXIMATELY 130 FEET  
 SOUTHWESTERLY OF THE CENTERLINE OF CHAMBERS ROAD AND 95 FEET NORTHWESTERLY OF  
 THE CENTERLINE OF COMPARK BOULEVARD. ELEVATION = 5752.84 (NAVD 88)



CROSSING	STREET	STATION/OFFSET	TYPE OF CROSSING	UPPER UTILITY	B.O.P.	LOWER UTILITY	T.O.P.	CLEAR
⊙	BALD EAGLE STREET	STA: 2+16.17, 11.98'L	ST OVER WM (WATER LOWERING)	ST	5825.14	WM	5823.14	2.00
⊙	MEADOWLARK LANE	STA: 1+72.35, 11.24'R	WM OVER SAN	WM	5834.33	SAN	5827.95	6.38
⊙	MEADOWLARK LANE	STA: 2+29.06, 10.00'L	WM OVER SAN	WM	5833.48	SAN	5827.48	6.00
⊙	MEADOWLARK LANE	STA: 4+05.15, 10.00'L	WM OVER SAN	WM	5830.74	SAN	5824.96	5.78
⊙	MEADOWLARK LANE	STA: 5+30.36, 10.00'L	ST OVER WM (WATER LOWERING)	ST	5826.36	WM	5824.36	2.00
⊙	MEADOWLARK LANE	STA: 5+41.93, 2.34'R	WM OVER SAN	WM	5829.42	SAN	5823.33	6.09
⊙	MEADOWLARK LANE	STA: 6+45.71, 10.00'L	WM OVER SAN	WM	5828.07	SAN	5822.52	5.55
⊙	MEADOWLARK LANE	STA: 8+21.94, 10.00'L	WM OVER SAN	WM	5826.26	SAN	5820.55	5.71
⊙	MEADOWLARK LANE	STA: 9+49.78, 12.78'R	WM (FH) OVER SAN	WM	5824.95	SAN	5818.80	6.15
⊙	MEADOWLARK LANE	STA: 9+98.17, 10.00'L	WM OVER SAN	WM	5824.46	SAN	5818.63	5.83
⊙	MEADOWLARK LANE	STA: 11+74.40, 10.00'L	WM OVER SAN	WM	5822.65	SAN	5816.66	5.99
⊙	MEADOWLARK LANE	STA: 12+49.14, 9.96'L	ST OVER WM (WATER LOWERING)	ST	5820.82	WM	5818.82	2.00
⊙	MEADOWLARK LANE	STA: 13+53.59, 9.96'L	WM OVER SAN	WM	5820.81	SAN	5814.69	6.12
⊙	MEADOWLARK LANE	STA: 13+85.84, 0.00'R	ST OVER WM (FH) (WATER LOWERING)	ST	5818.66	WM	5816.66	2.00
⊙	MEADOWLARK LANE	STA: 13+85.81, 10.61'R	WM (FH) OVER SAN	WM	5815.99	SAN	5813.84	2.15
⊙	MEADOWLARK LANE	STA: 15+33.59, 9.97'L	WM OVER SAN	WM	5818.97	SAN	5812.69	6.28
⊙	MEADOWLARK LANE	STA: 17+89.84, 9.99'L	WM OVER SAN	WM	5816.34	SAN	5809.90	6.44
⊙	MEADOWLARK LANE	STA: 18+38.84, 11.00'L	ST OVER WM (FH) (WATER LOWERING)	ST	5812.43	WM	5810.93	1.50
⊙	MEADOWLARK LANE	STA: 18+35.84, 11.00'R	WM (FH) OVER SAN	WM	5810.26	SAN	5808.33	1.93
⊙	MEADOWLARK LANE	STA: 19+12.47, 10.00'L	WM OVER SAN	WM	5815.56	SAN	5806.28	9.28
⊙	MEADOWLARK LANE	STA: 19+23.34, 10.00'L	ST OVER WM (WATER LOWERING)	ST	5810.79	WM	5808.79	2.00
⊙	MEADOWLARK LANE	STA: 19+35.32, 4.57'R	WM OVER SAN	WM	5812.94	WM	5810.94	2.00
⊙	MEADOWLARK LANE	STA: 19+35.32, 11.00'R	WM OVER SAN	WM	5810.27	SAN	5806.75	3.52
⊙	MEADOWLARK LANE	STA: 20+38.84, 10.00'L	WM OVER SAN	WM	5816.85	SAN	5808.11	8.74
⊙	MEADOWLARK LANE	STA: 22+19.84, 10.00'L	WM OVER SAN	WM	5820.02	SAN	5809.46	10.56
⊙	MEADOWLARK LANE	STA: 23+49.84, 10.00'L	WM OVER SAN	WM	5822.66	SAN	5810.74	11.92
⊙	MEADOWLARK LANE	STA: 25+91.77, 10.00'L	WM OVER SAN	WM	5820.85	SAN	5811.53	9.32
⊙	MEADOWLARK LANE	STA: 28+22.75, 10.00'L	WM OVER SAN	WM	5818.43	SAN	5812.41	6.02
⊙	BALD EAGLE STREET	STA: 4+12.17, 0.64'R	ST OVER WM (FH) (WATER LOWERING)	ST	5827.92	WM	5825.92	2.00
⊙	BALD EAGLE STREET	STA: 5+97.20, 3.23'R	WM OVER ST	WM	5837.10	ST	5834.66	2.44
⊙	RED HAWK LANE	STA: 2+43.56, 10.00'L	WM OVER ST	WM	5838.34	ST	5835.18	3.16
⊙	RED HAWK LANE	STA: 1+01.67, 11.83'R	WM (FH) OVER SAN	WM	5840.25	SAN	5831.63	8.62
⊙	RED HAWK LANE	STA: 8+45.52, 11.39'R	WM (FH) OVER SAN	WM	5831.22	SAN	5824.53	6.69
⊙	RED HAWK LANE	STA: 11+61.10, 11.00'R	WM (FH) OVER SAN	WM	5827.96	SAN	5821.18	6.78
⊙	RED HAWK LANE	STA: 14+76.91, 11.00'R	WM (FH) OVER SAN	WM	5824.94	SAN	5818.02	6.92
⊙	RED HAWK LANE	STA: 14+92.03, 10.00'L	WM OVER SAN	WM	5824.91	SAN	5816.85	8.06
⊙	RED HAWK LANE	STA: 15+03.31, 10.00'L	WM OVER ST	WM	5824.91	ST	5823.00	1.91

**NOTE:** WATER MAIN SHALL BE CONSTRUCTED USING MANUFACTURER SPECIFICATION AND/OR A MAXIMUM OF 1" DEFLECTION AT THE JOINT, WHICHEVER IS MORE STRICT, AND HIGH DEFLECTION COUPLING WITH A MAXIMUM DEFLECTION OF 3".

1" DEFLECTION = 1,150' RADIUS      3" DEFLECTION = 385' RADIUS  
 (ASSUMING 20' SECTION OF PIPE)

**TOWN OF PARKER BUILDING DEPT FIRE LIFE SAFETY APPROVAL**

ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO WATER UTILITY STANDARDS. THE NUMBER AND LOCATIONS OF THE FIRE HYDRANTS AS SHOWN ON THE OVERALL UTILITY PLAN ARE CORRECT AS SPECIFIED BY THE TOWN OF PARKER, COMMUNITY DEVELOPMENT DEPARTMENT.

BY: \_\_\_\_\_  
 (SIGNATURE OF FIRE CODE OFFICIAL OR DESIGNATED REPRESENTATIVE)

DATE SIGNED \_\_\_\_\_

NOTE: UNDERGROUND FIRE LINE (UFL) SUBMITTAL DOCUMENTS MUST MEET THE REQUIREMENTS OF NFPA 24 WHEN SUBMITTING FOR REVIEW

**DISTRICT APPROVALS**

THESE DESIGNS, PLANS, AND CONTRACT DOCUMENTS ARE REVIEWED FOR CONCEPT AND GENERAL CONFORMANCE TO THE DISTRICT'S MINIMUM STANDARDS ONLY, AND THE PRIMARY RESPONSIBILITY FOR DESIGN ADEQUACY IS TO REMAIN WITH THE ENGINEER OF RECORD. THIS REVIEW DOES NOT IMPLY RESPONSIBILITY BY EITHER THE STONEGATE VILLAGE METROPOLITAN DISTRICT OR THE DISTRICT ENGINEER FOR COMPLETENESS, ACCURACY OR CORRECTNESS OF CALCULATIONS. THE REVIEW DOES NOT IMPLY THAT QUANTITIES OF ITEMS INDICATED ON THE PLANS ARE THE FINAL QUANTITIES REQUIRED. THE REVIEW SHALL NOT BE CONSTRUED FOR ANY REASON AS ACCEPTANCE OF FINANCIAL RESPONSIBILITY BY THE STONEGATE VILLAGE METROPOLITAN DISTRICT FOR ADDITIONAL ITEMS AND ADDITIONAL QUANTITIES OF ITEMS SHOWN THAT MAY BE REQUIRED DURING THE CONSTRUCTION PHASE.

APPROVED FOR CONSTRUCTION WITHIN ONE YEAR OF THE EARLIEST OF THESE DATES:

BY \_\_\_\_\_ DATE \_\_\_\_\_  
 STONEGATE VILLAGE METROPOLITAN DISTRICT ENGINEER

BY \_\_\_\_\_ DATE \_\_\_\_\_  
 STONEGATE VILLAGE METROPOLITAN DISTRICT MANAGER

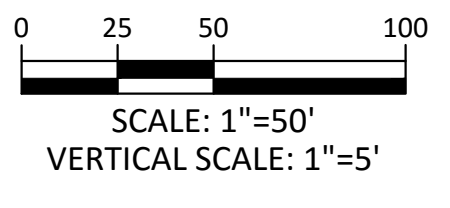
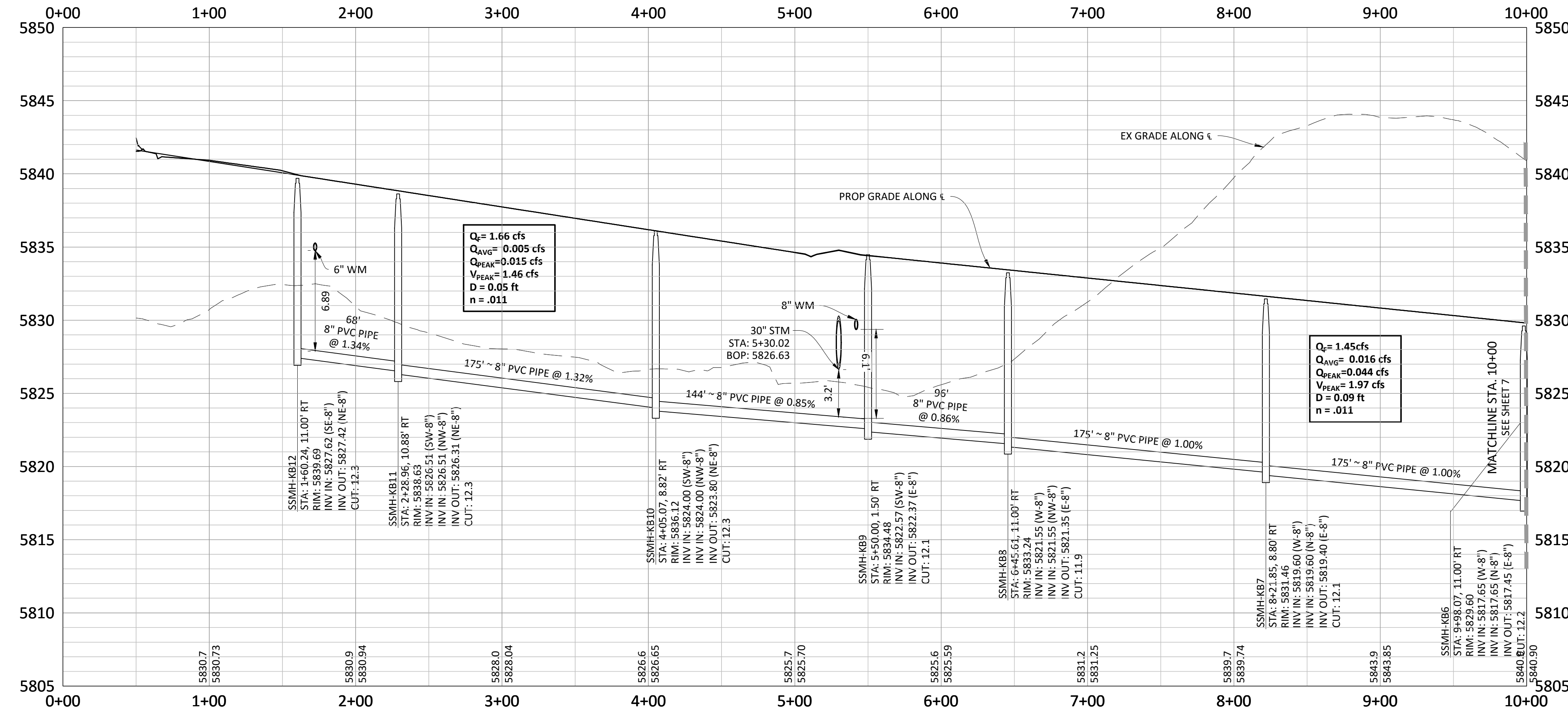
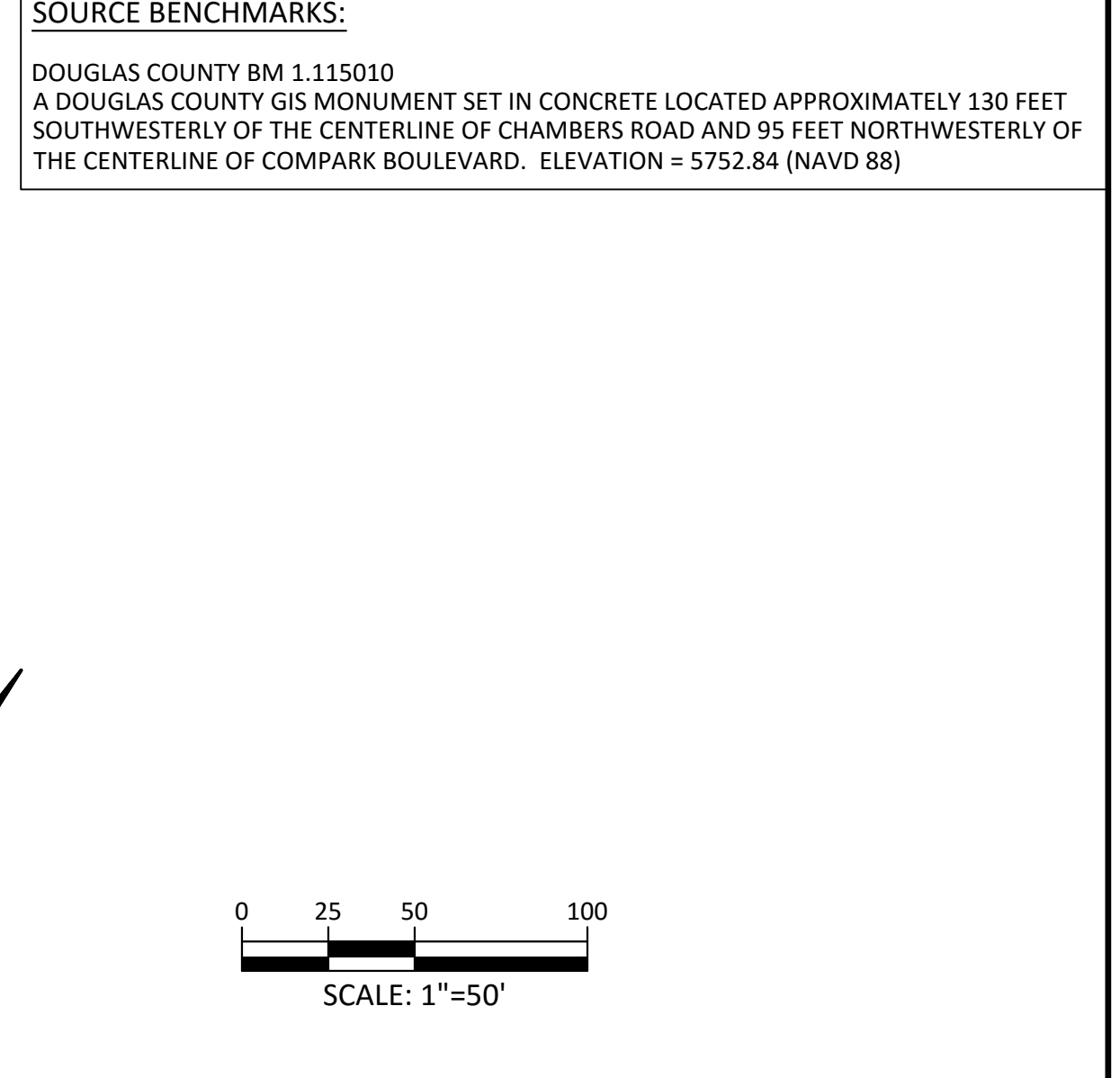
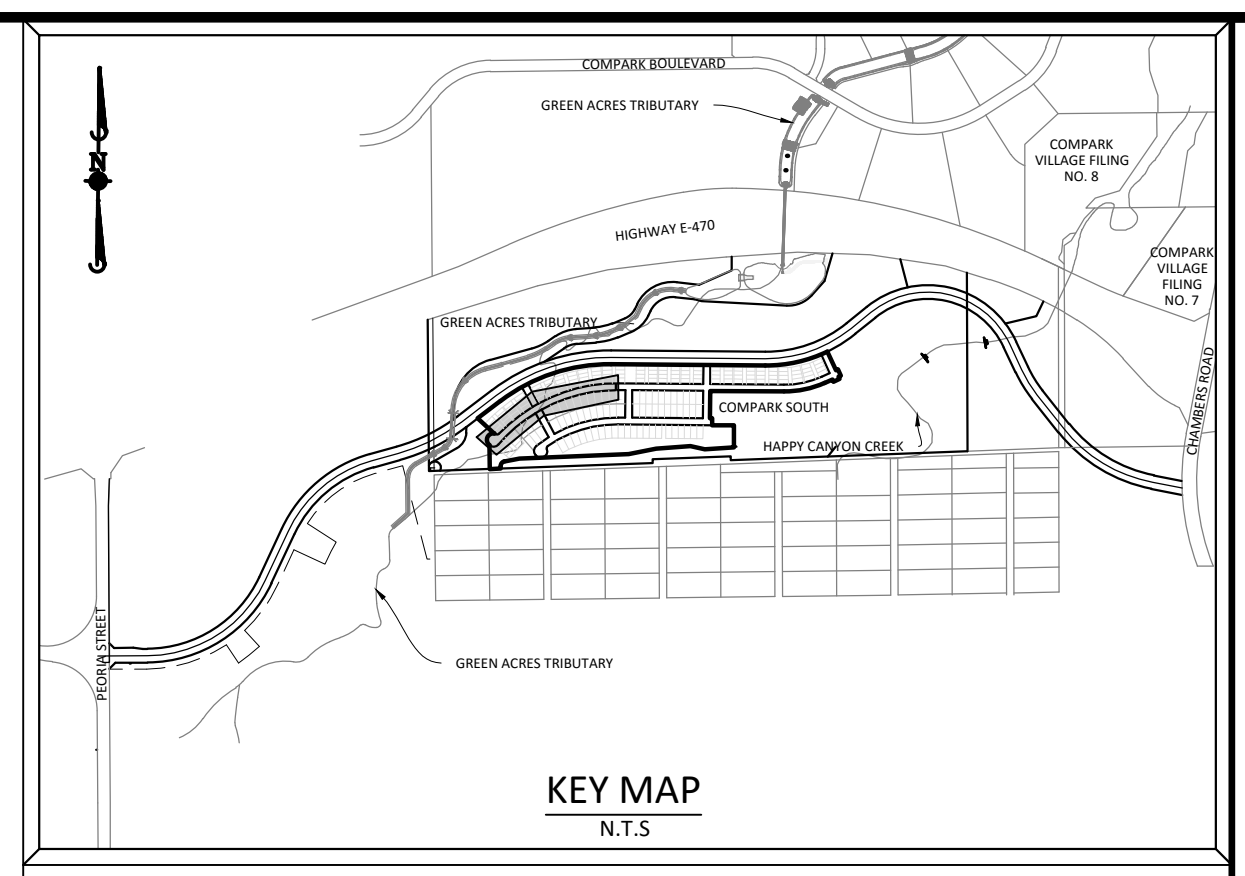
DATE	
REVISIONS	

**Manhard CONSULTING LTD**  
 8000 E. Arapahoe Court, Suite 110, Denver, CO 80112    phone: 720.880.0000    fax: 720.880.0000    manhard.com  
 Construction Managers • Environmental Scientists • Landscape Architects • Planners

**COMPARK VILLAGE SOUTH FILING NO. 2 - PHASE I**  
**TOWN OF PARKER, COLORADO**  
**WATER PLAN - EAST**

PROJ. MGR.: RIM  
 PROJ. ASSOC.: RAK  
 DRAWN BY: RAK  
 DATE: 10/2016

Plotted: 10/17/2016 10:18 AM. Draw Name: p:\c\p\c3\compsouth\residential\c3\plan\Drawings\Plan Set\District\PHASE 1\05A\_P&P\_1-Street G.dwg. Uploaded By: Rkatz

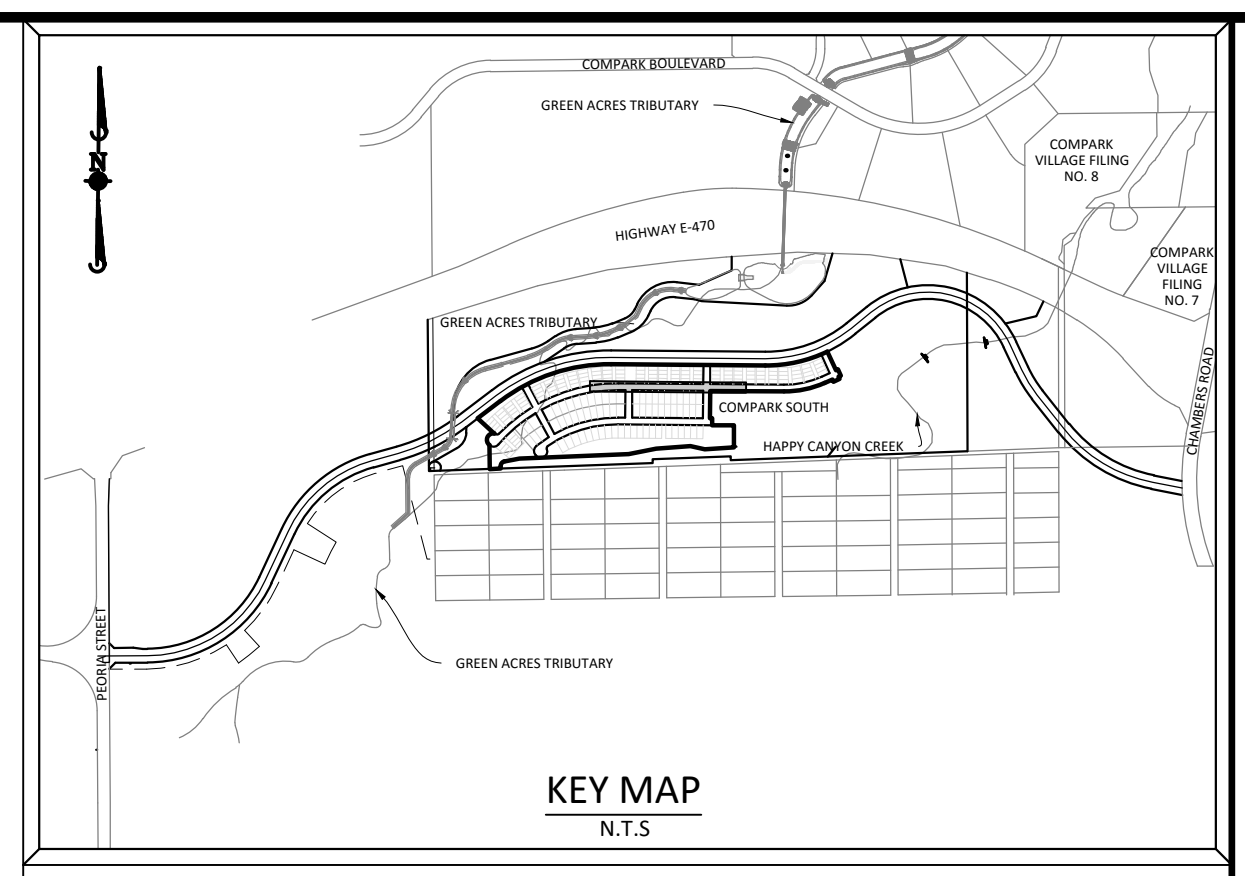
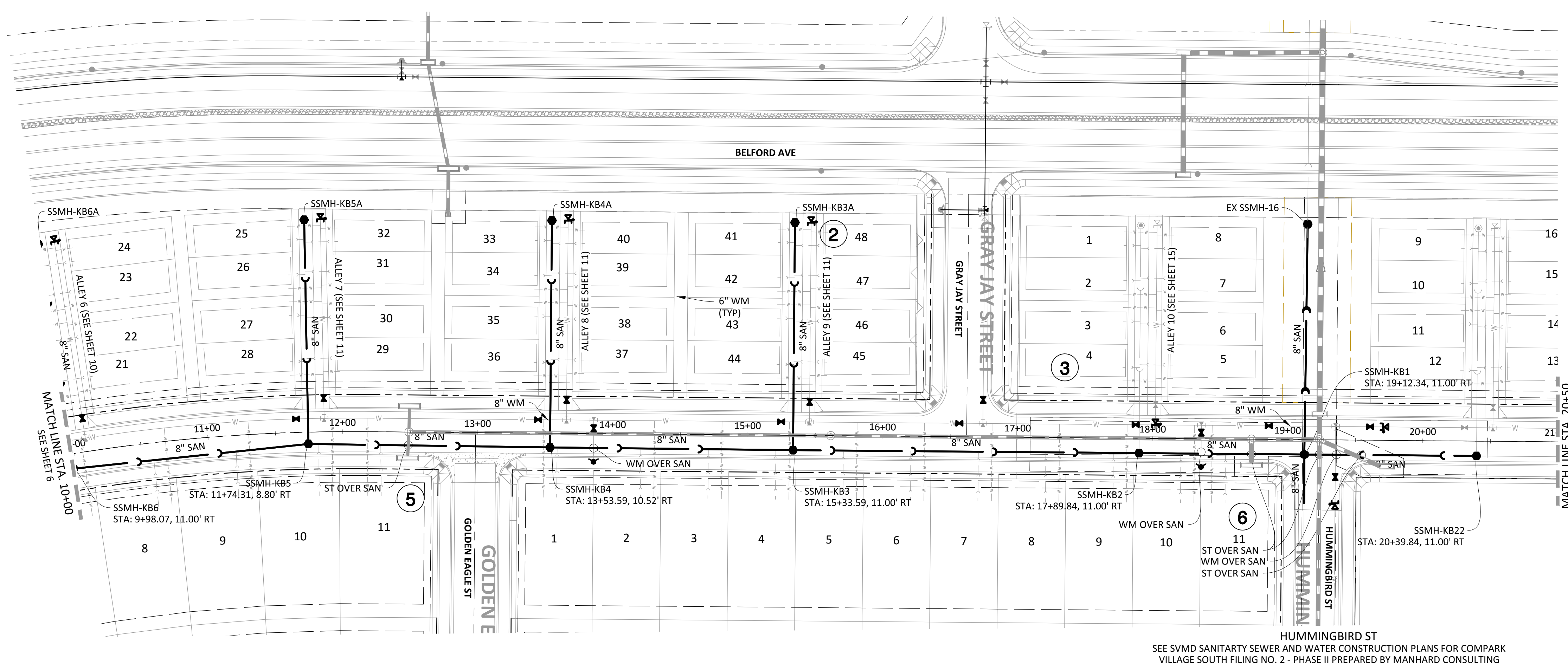


**Manhard CONSULTING LTD.**  
 800 E. Arapahoe Court, Suite 110, Denver, CO 80211 • 303.733.0000 • manhard.com  
 Construction Managers • Environmental Scientists • Landscape Architects • Planners

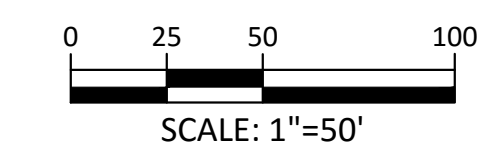
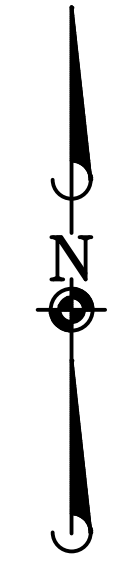
PROJ MGR: RIM  
 PROJ ASSOC: RAK  
 DRAWN BY: RAK  
 DATE: 10/2016

**SHEET**  
**6 OF 14**  
 CLCPKC3

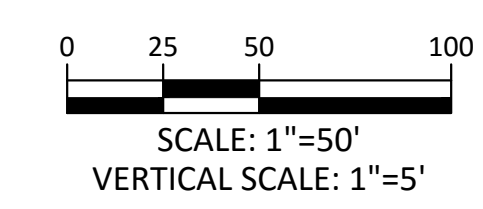
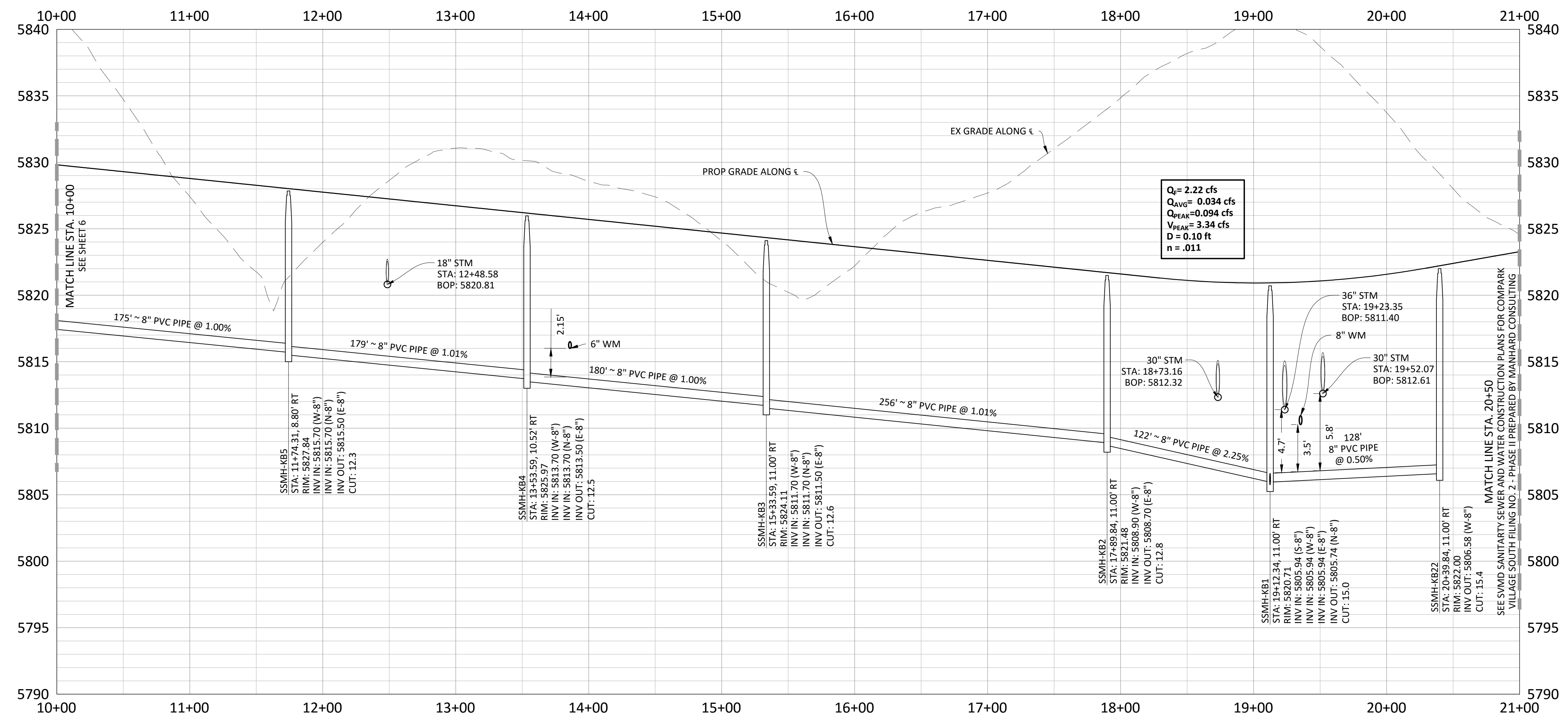
COMPARK VILLAGE SOUTH FILING NO. 2 - PHASE I  
 TOWN OF PARKER, COLORADO  
 SANITARY SEWER PLAN AND PROFILE - MEADOWLARK LANE



**SOURCE BENCHMARKS:**  
 DOUGLAS COUNTY BM 1.115010  
 A DOUGLAS COUNTY GIS MONUMENT SET IN CONCRETE LOCATED APPROXIMATELY 130 FEET  
 SOUTHWESTERLY OF THE CENTERLINE OF CHAMBERS ROAD AND 95 FEET NORTHWESTERLY OF  
 THE CENTERLINE OF COMPARK BOULEVARD. ELEVATION = 5752.84 (NAVD 88)



### MEADOWLARK LANE



Plotted: 10/17/2016 10:18 AM Draw Name: p:\c\p\3\compsouth05-residential.cdw\Draw\Plan Set\District\PHASE 1\05A\_P&P\_1-Street G.dwg Updated By: Rkatz

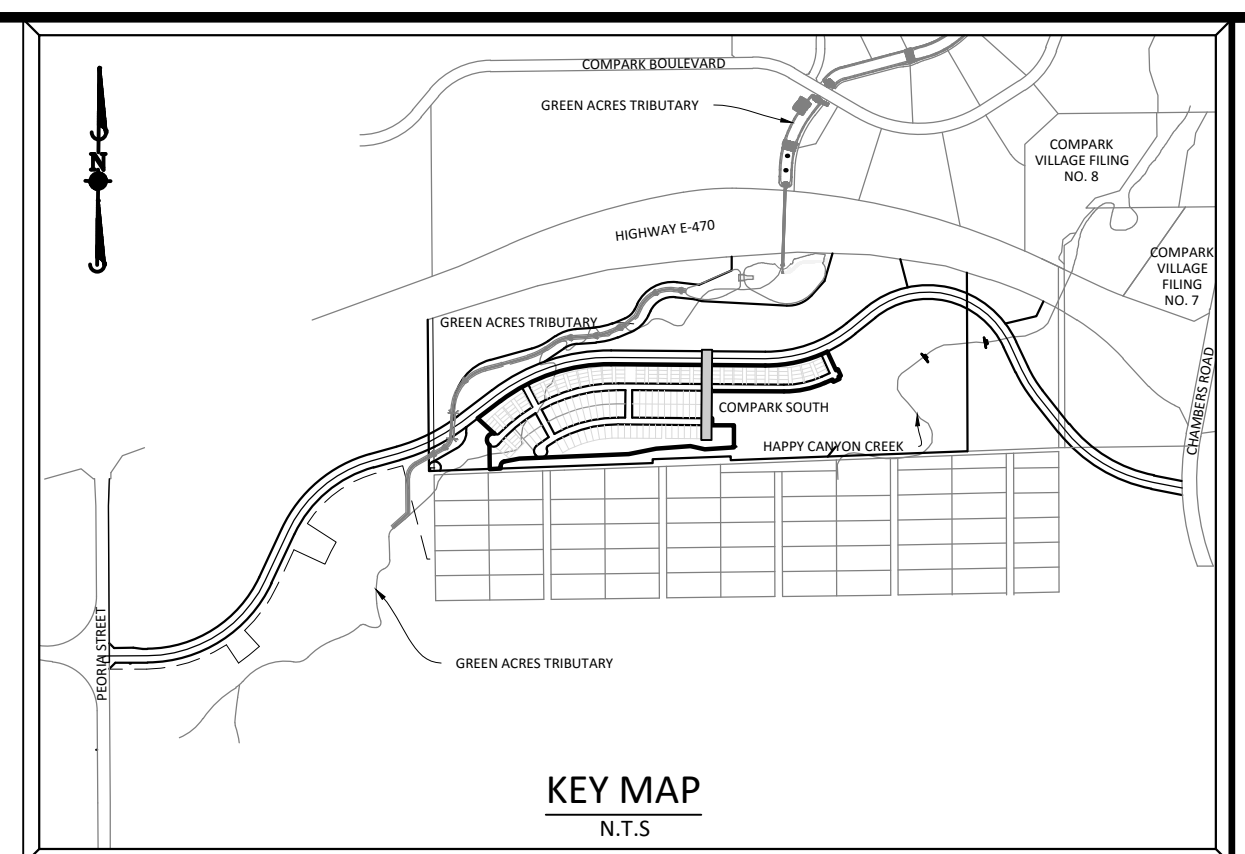
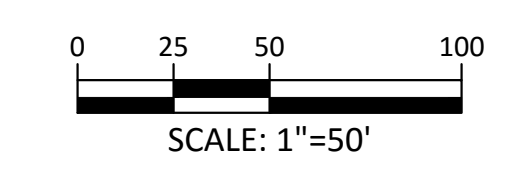
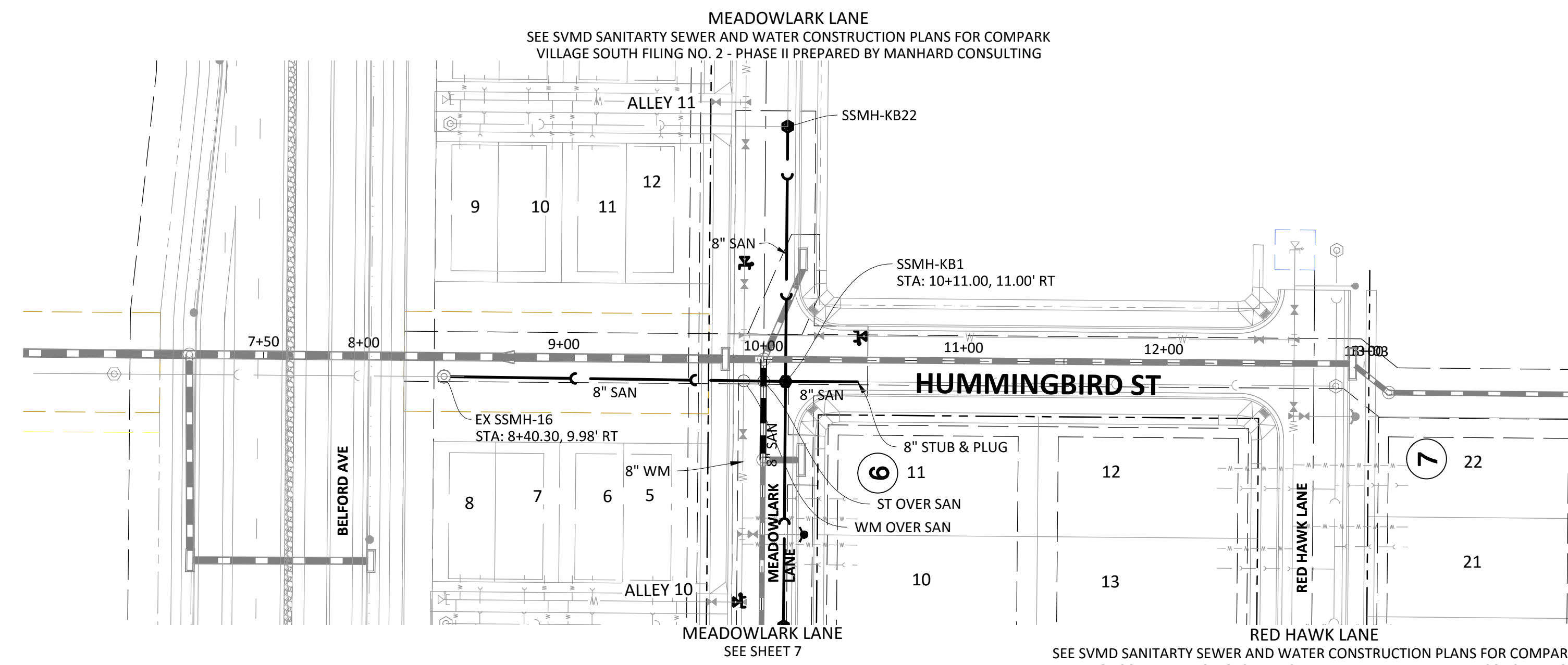
**Manhard CONSULTING LTD**  
 800 E. Arapahoe Court, Suite 110, Denver, CO 80212 ph:303.733.0000 fax:303.733.0000 manhard.com  
 Construction Managers • Environmental Scientists • Landscape Architects • Planners

COMPARK VILLAGE SOUTH FILING NO. 2 - PHASE I  
 TOWN OF PARKER, COLORADO  
 SANITARY SEWER PLAN AND PROFILE - MEADOWLARK LANE

PROJ MGR: RIM  
 PROJ ASSOC: RAK  
 DRAWN BY: RAK  
 DATE: 10/2016

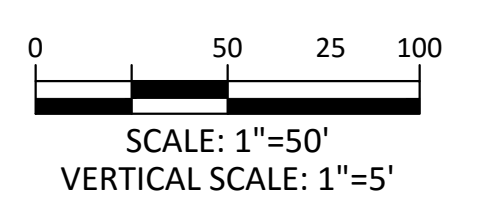
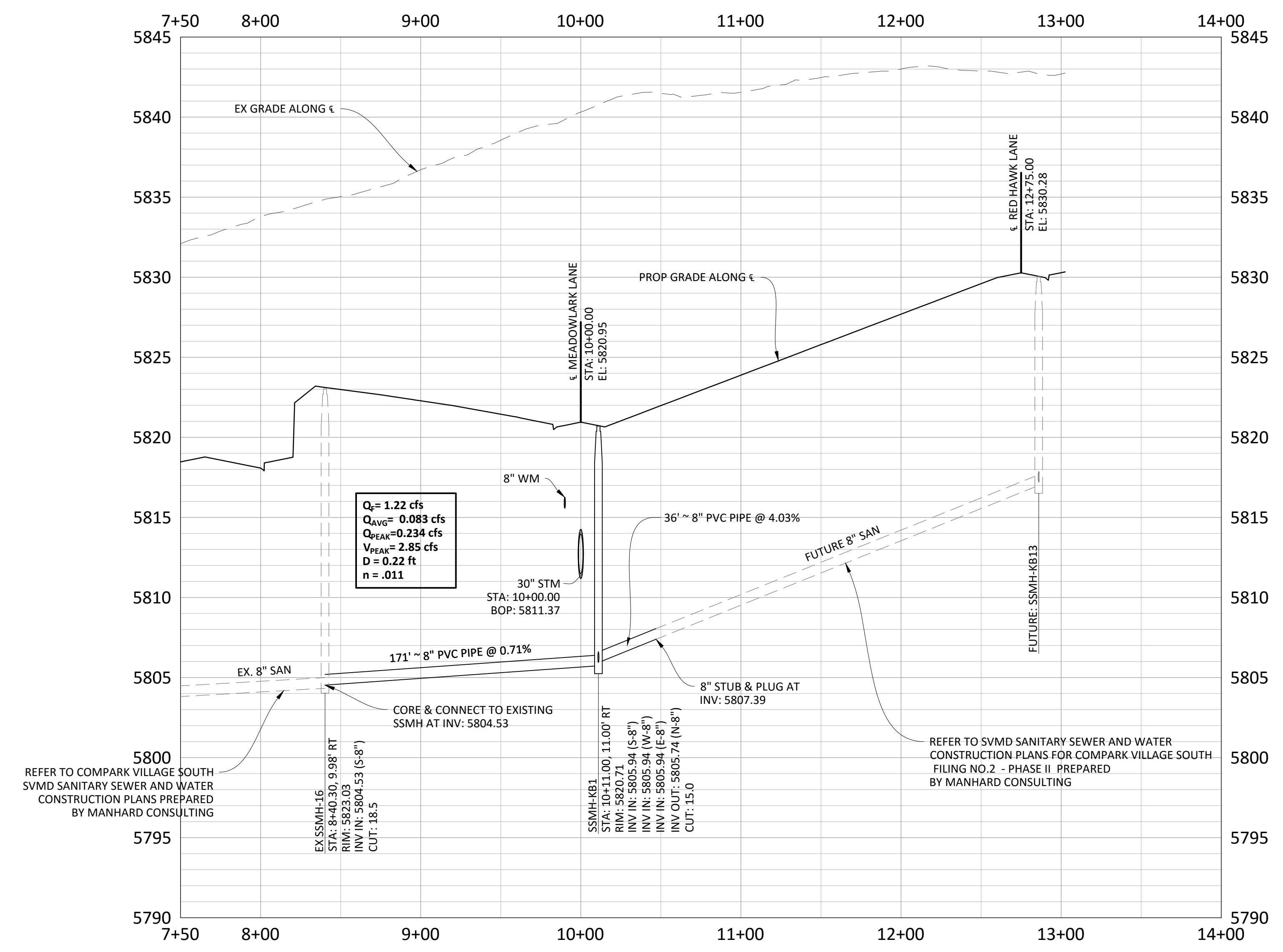
SHEET  
**7** OF 14  
 CLCPKC3

Plotted: 10/17/2016 10:23 AM Draw Name: p:\cplpc3\compsouth05.residential.cdw\Drawings\Plan Set\District\PHASE 1\05A\_P&P\_3-Street C.dwg Updated By: Rkz



SOURCE BENCHMARKS:  
DOUGLAS COUNTY BM 1.115010  
A DOUGLAS COUNTY GIS MONUMENT SET IN CONCRETE LOCATED APPROXIMATELY 130 FEET SOUTHWESTERLY OF THE CENTERLINE OF CHAMBERS ROAD AND 95 FEET NORTHWESTERLY OF THE CENTERLINE OF COMPARK BOULEVARD. ELEVATION = 5752.84 (NAVD 88)

**HUMMINGBIRD ST**



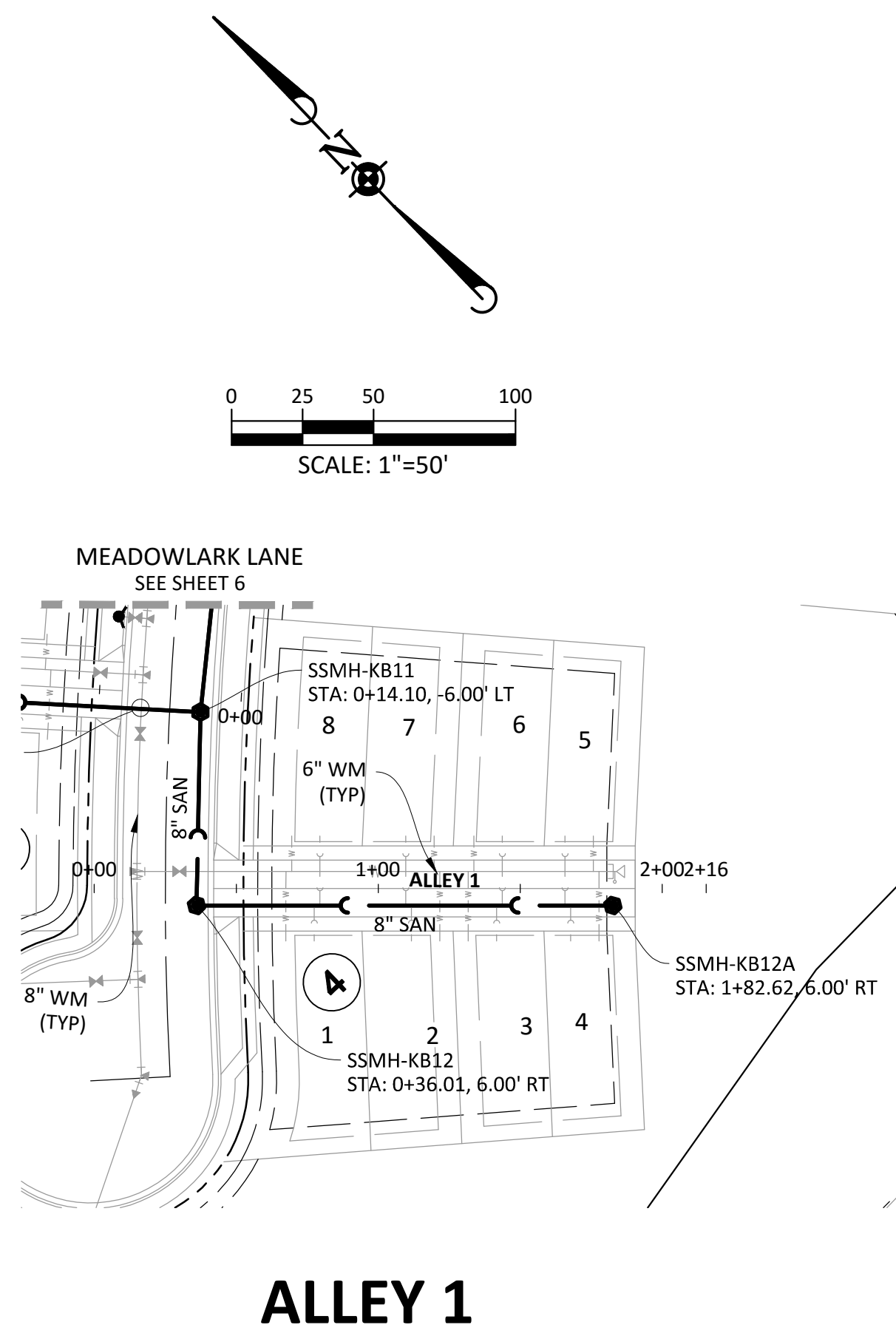
Manhard CONSULTING LTD.  
 800 E. Arapahoe Court, Suite 110, Denver, CO 80212 | Phone: 303.733.0000 | Fax: 303.733.0000 | manhard.com  
 Environmental Scientists • Environmental Engineers • Construction Managers • Landscape Architects • Planners

COMPARK VILLAGE SOUTH FILING NO. 2 - PHASE I  
 TOWN OF PARKER, COLORADO  
 SANITARY SEWER PLAN AND PROFILE - HUMMINGBIRD ST

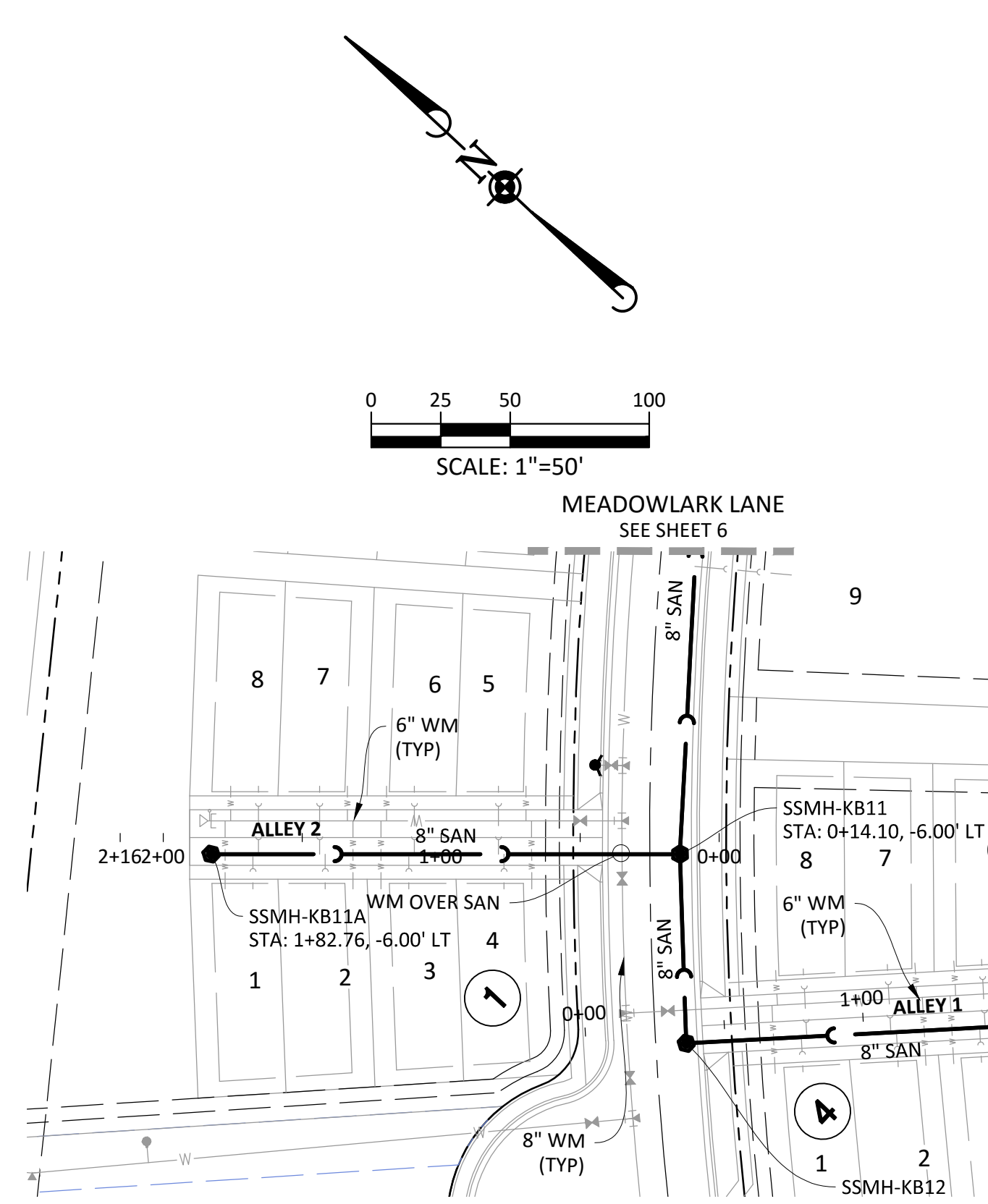
PROJ MGR: RIM  
 PROJ ASSOC: RAK  
 DRAWN BY: RAK  
 DATE: 10/2016

SHEET  
**8** OF **14**  
 CLCPKC3

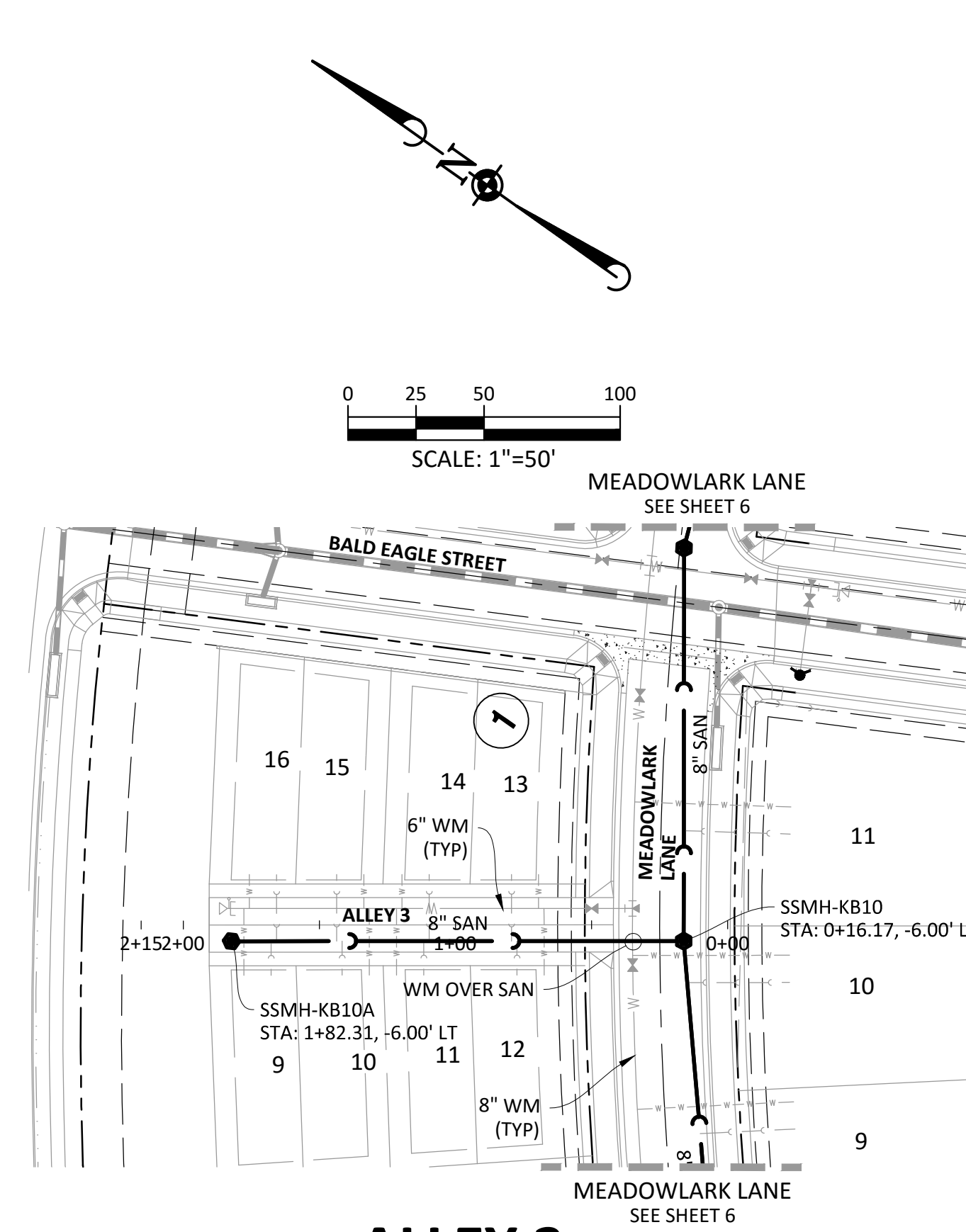
Plotted: 10/17/2016 10:27 AM Draw Name: p:\c\p\3\compsouth\residential\cd\Draw\Plan Set\District\PHASE 1\05A-28P-4-Alley 1-3.dwg Updated By: Rkatz



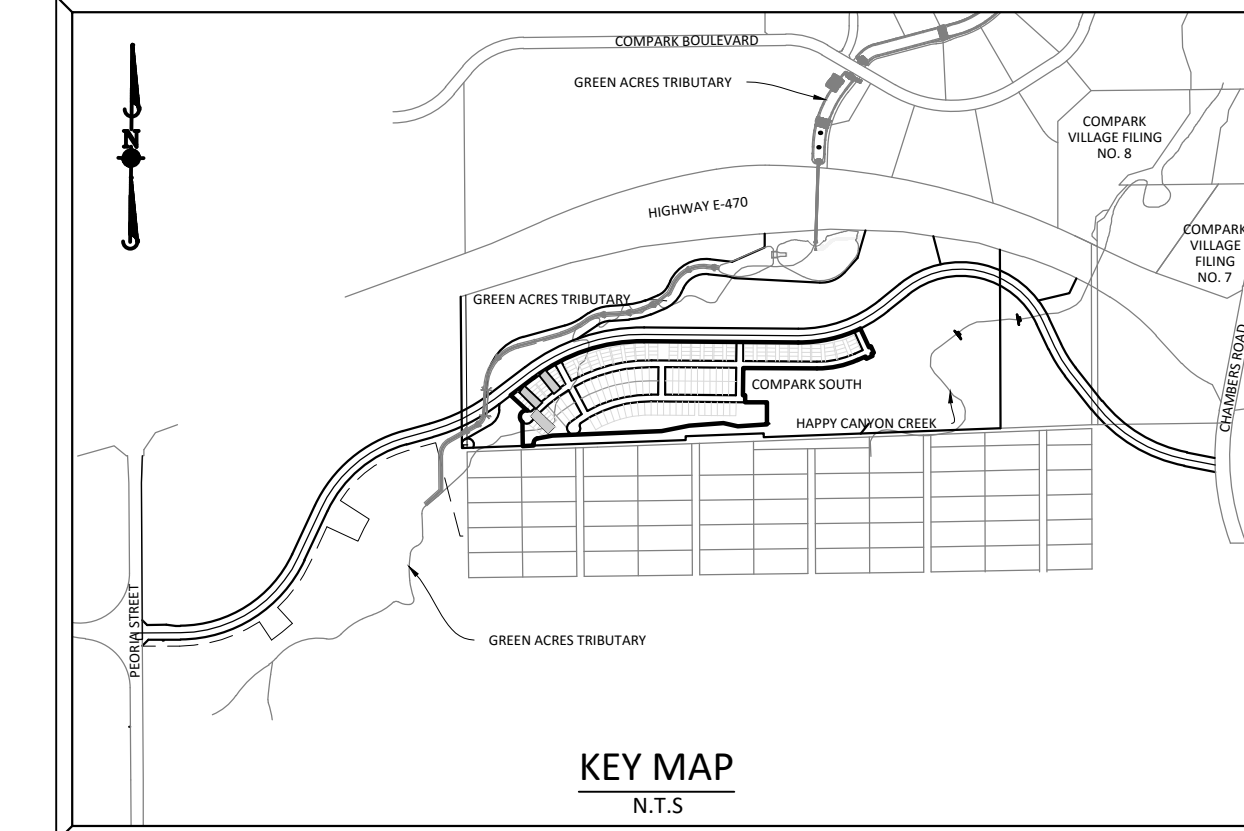
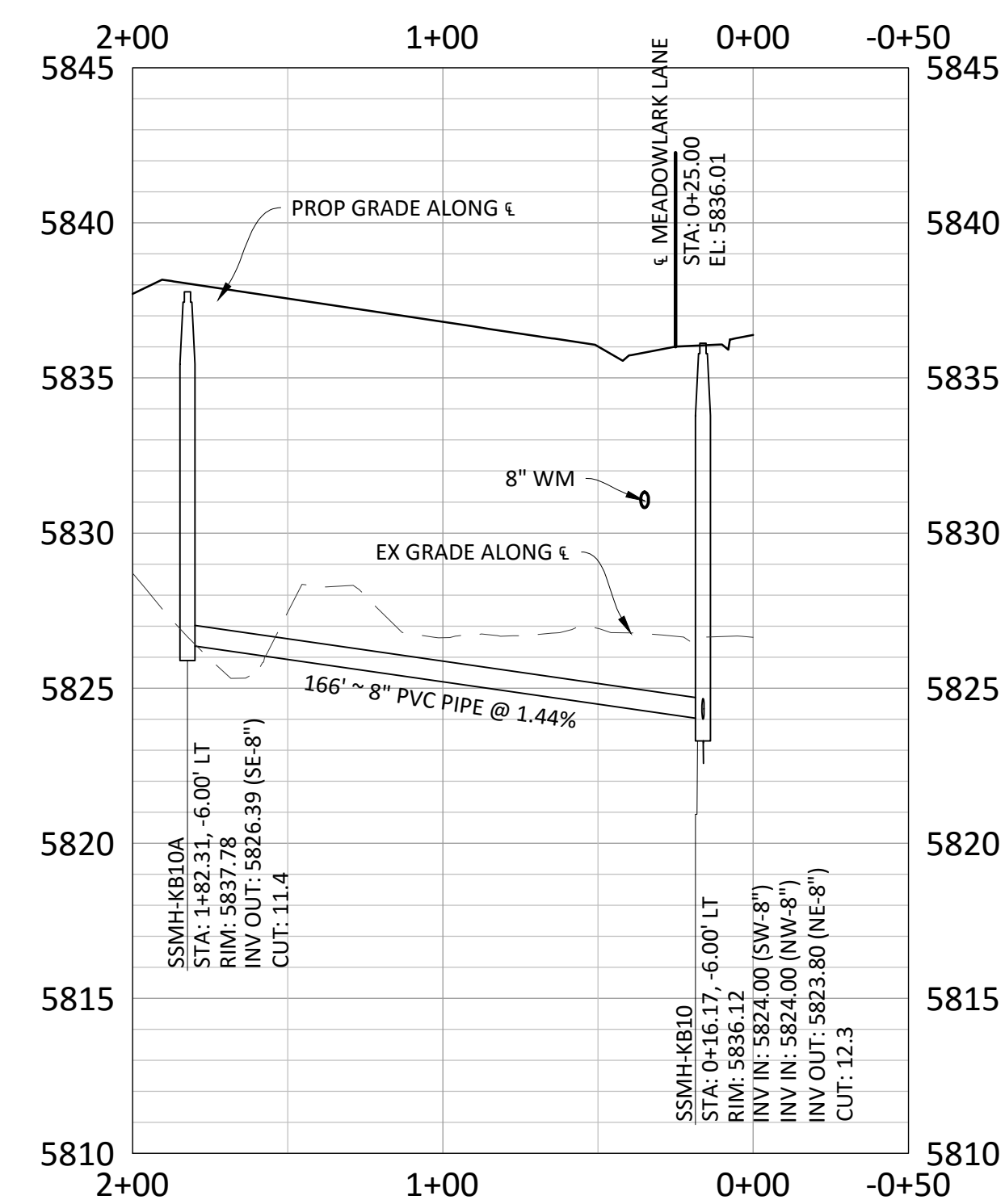
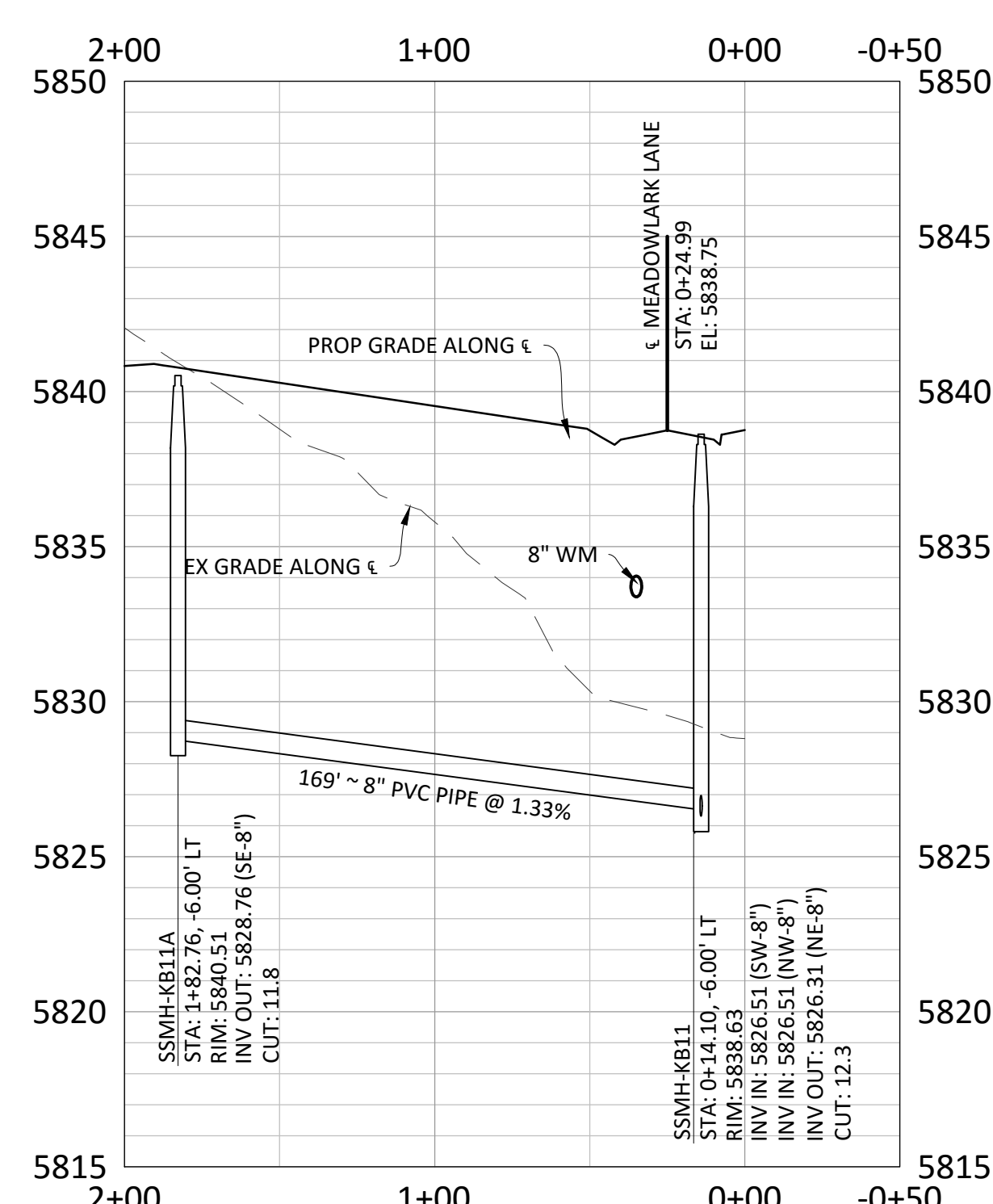
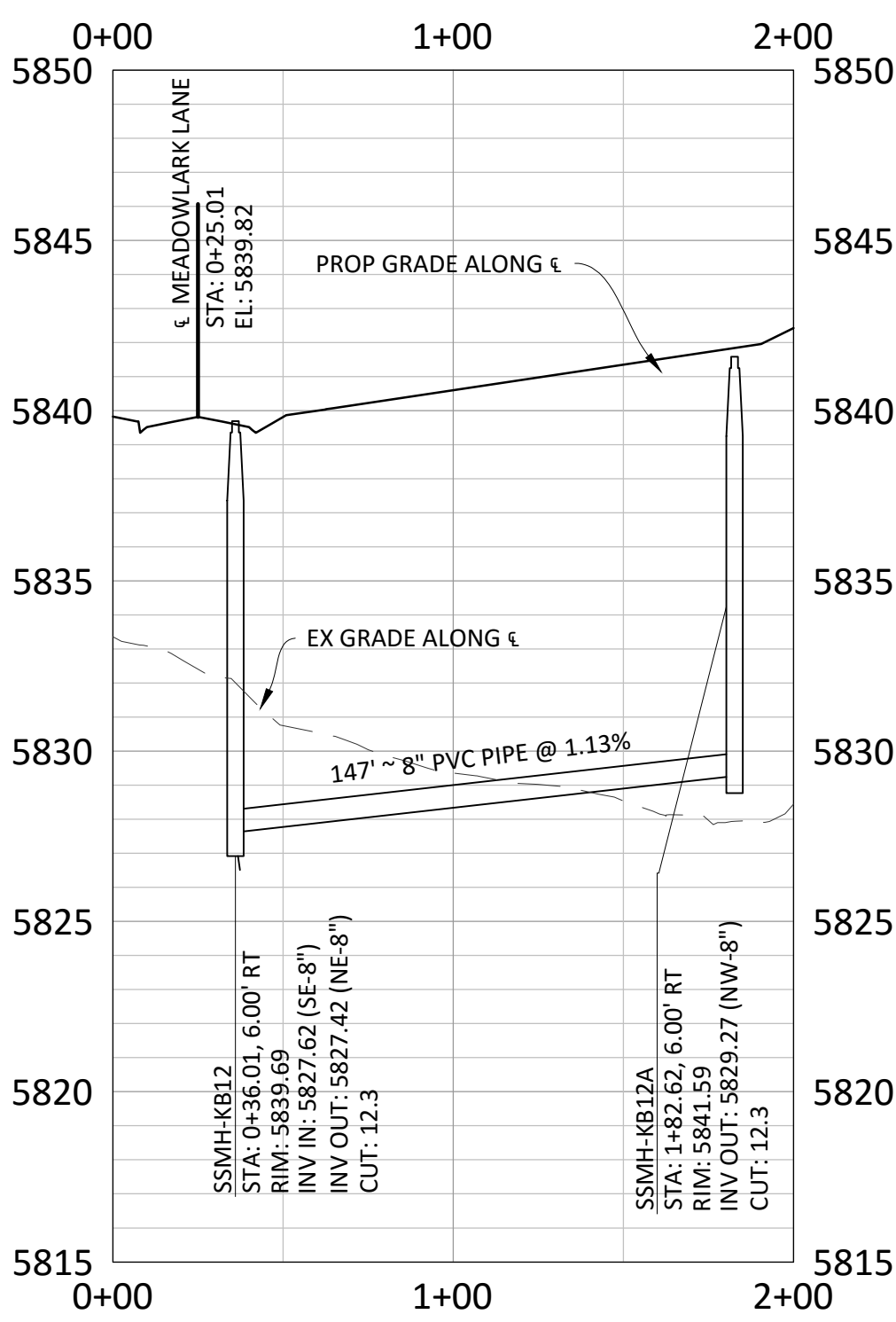
**ALLEY 1**



**ALLEY 2**



**ALLEY 3**



**SOURCE BENCHMARKS:**  
 DOUGLAS COUNTY BM 1.115010  
 A DOUGLAS COUNTY GIS MONUMENT SET IN CONCRETE LOCATED APPROXIMATELY 130 FEET  
 SOUTHWESTERLY OF THE CENTERLINE OF CHAMBERS ROAD AND 95 FEET NORTHWESTERLY OF  
 THE CENTERLINE OF COMPARK BOULEVARD. ELEVATION = 5752.84 (NAVD 88)

DATE	
REVISIONS	
DRAWN BY	

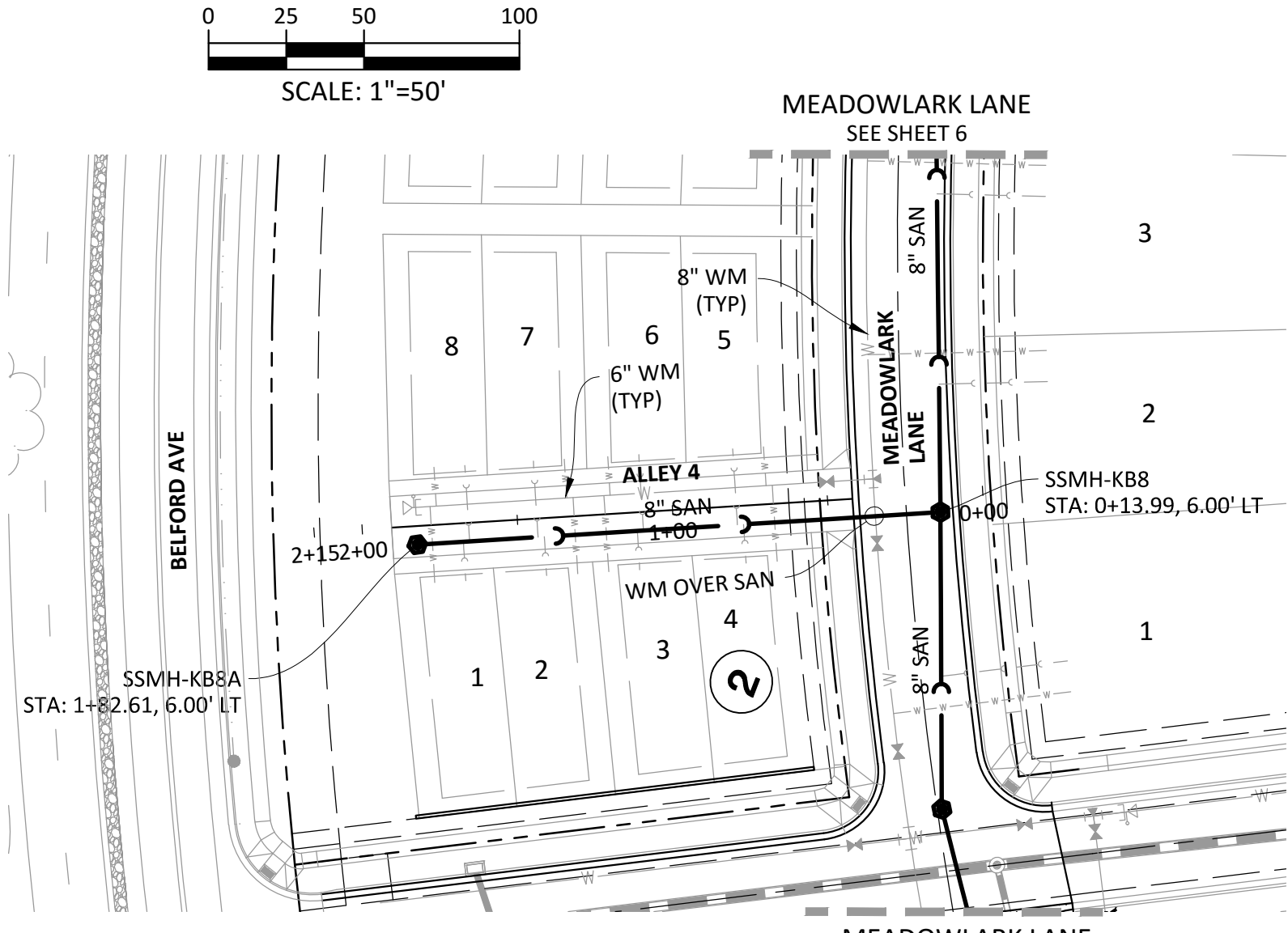
**Manhard**  
 CONSULTING LTD  
 800 E. Arapahoe Court, Suite 110, Denver, CO 80212 | 303.733.0000 | manhard.com  
 Environmental Engineers • Environmental Scientists • Landscaping Architects • Planners  
 Construction Managers • Environmental Subcontractors

**COMPARK VILLAGE SOUTH FILING NO. 2 - PHASE I**  
**TOWN OF PARKER, COLORADO**  
**SANITARY SEWER PLAN AND PROFILE - ALLEY 1-3**

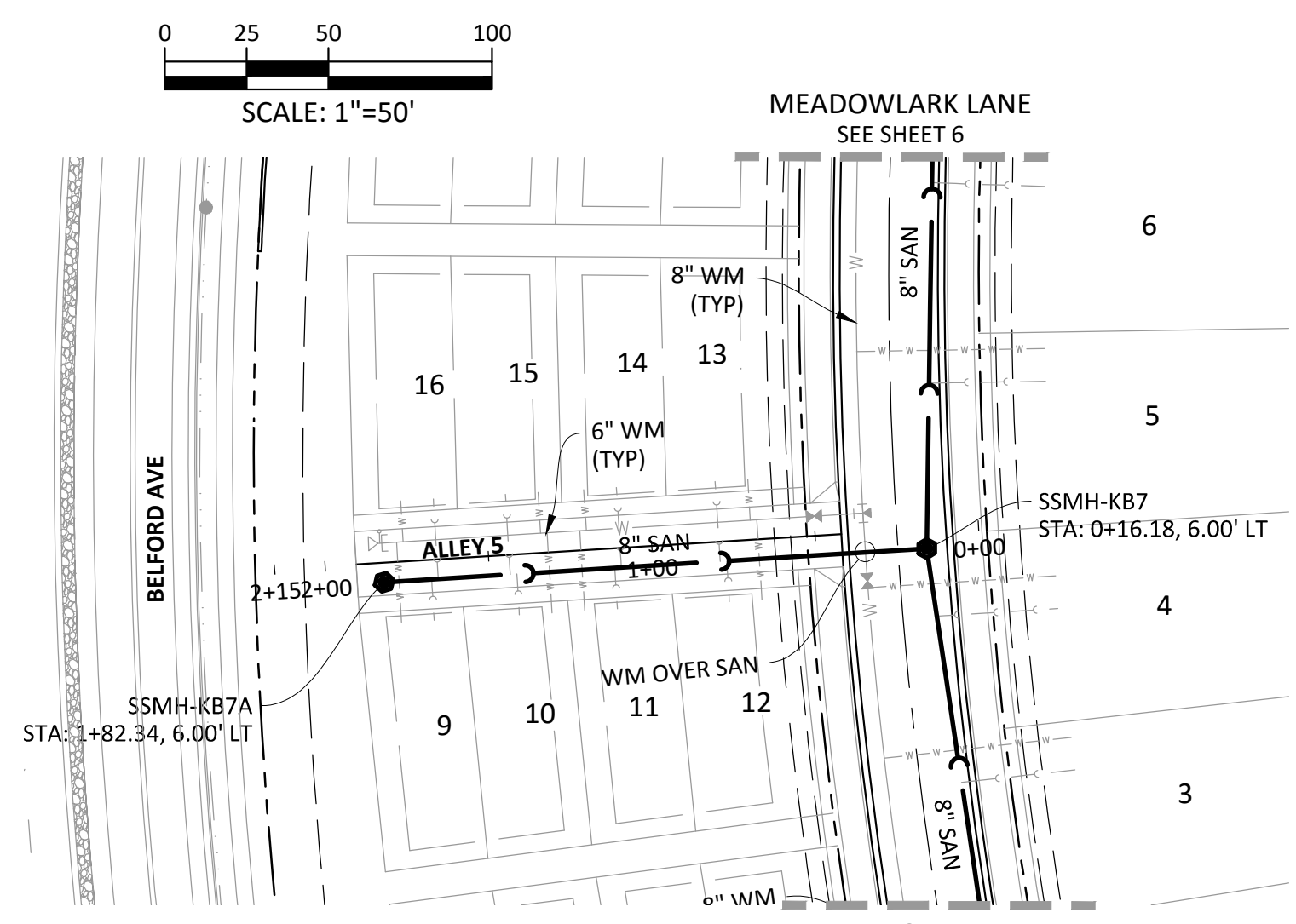
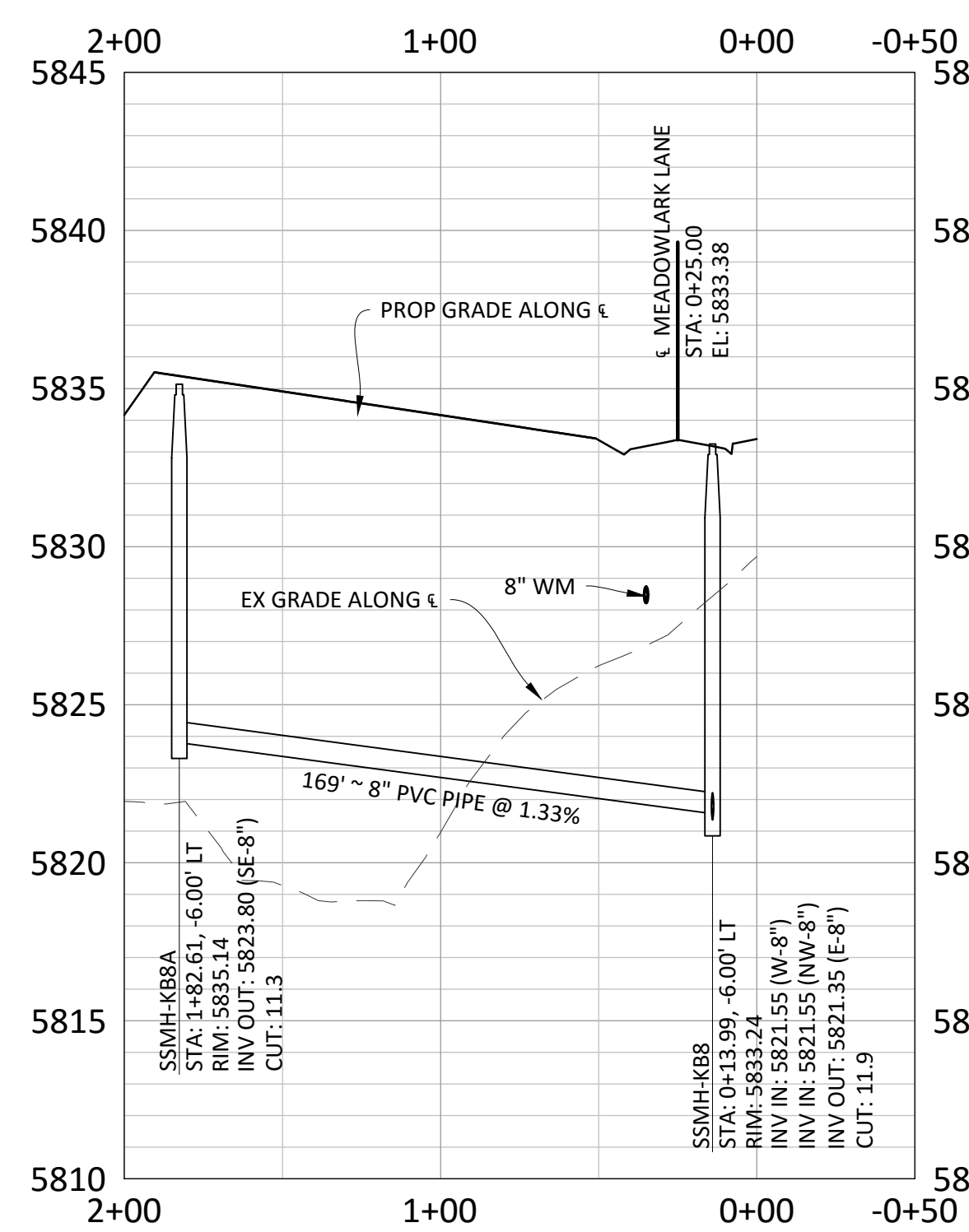
PROJ. MGR.:	RJM
PROJ. ASSOC.:	RAK
DRAWN BY:	RAK
DATE:	10/2016
SHEET	
<b>9</b> OF <b>14</b>	
CLCPKC3	

© 2013 MANHARD CONSULTING, LTD. ALL RIGHTS RESERVED.

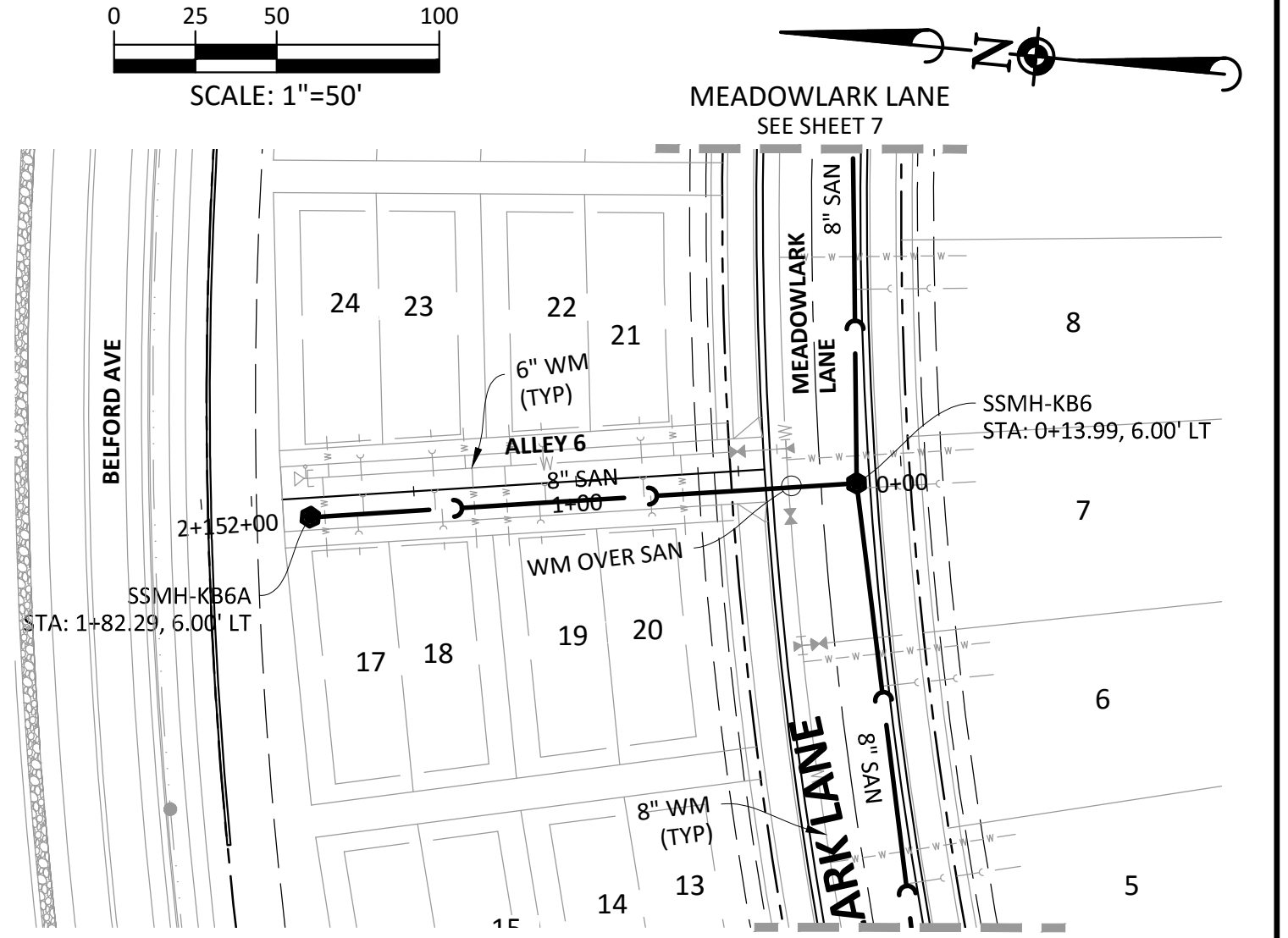
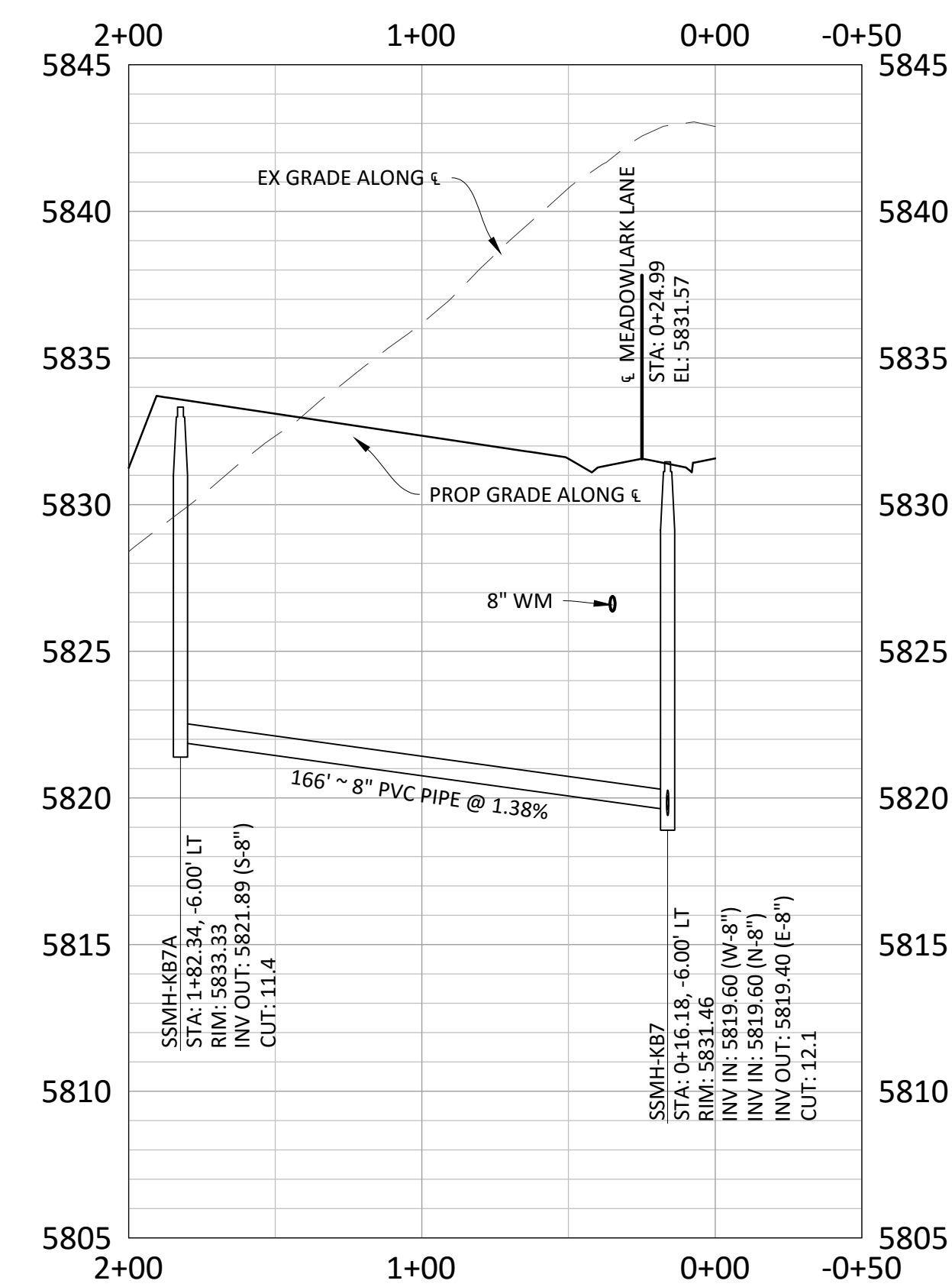
Plotted: 10/17/2016 10:30 AM Draw Name: p:\cplpc3\compsouth05.residential.cdw\Drawings\Plan Set\District\PHASE 1\05A-289-5-Alley 4-6.dwg Updated By: Blatz



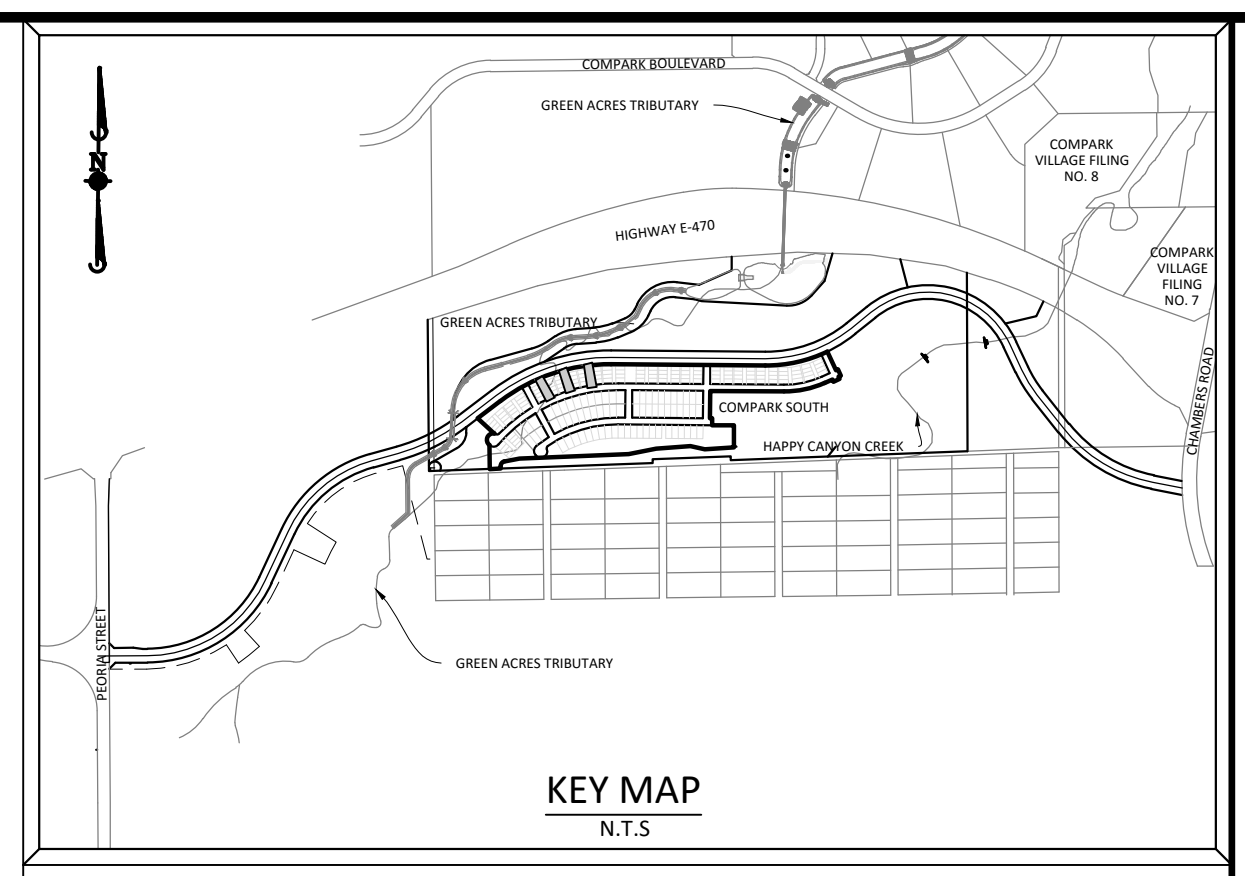
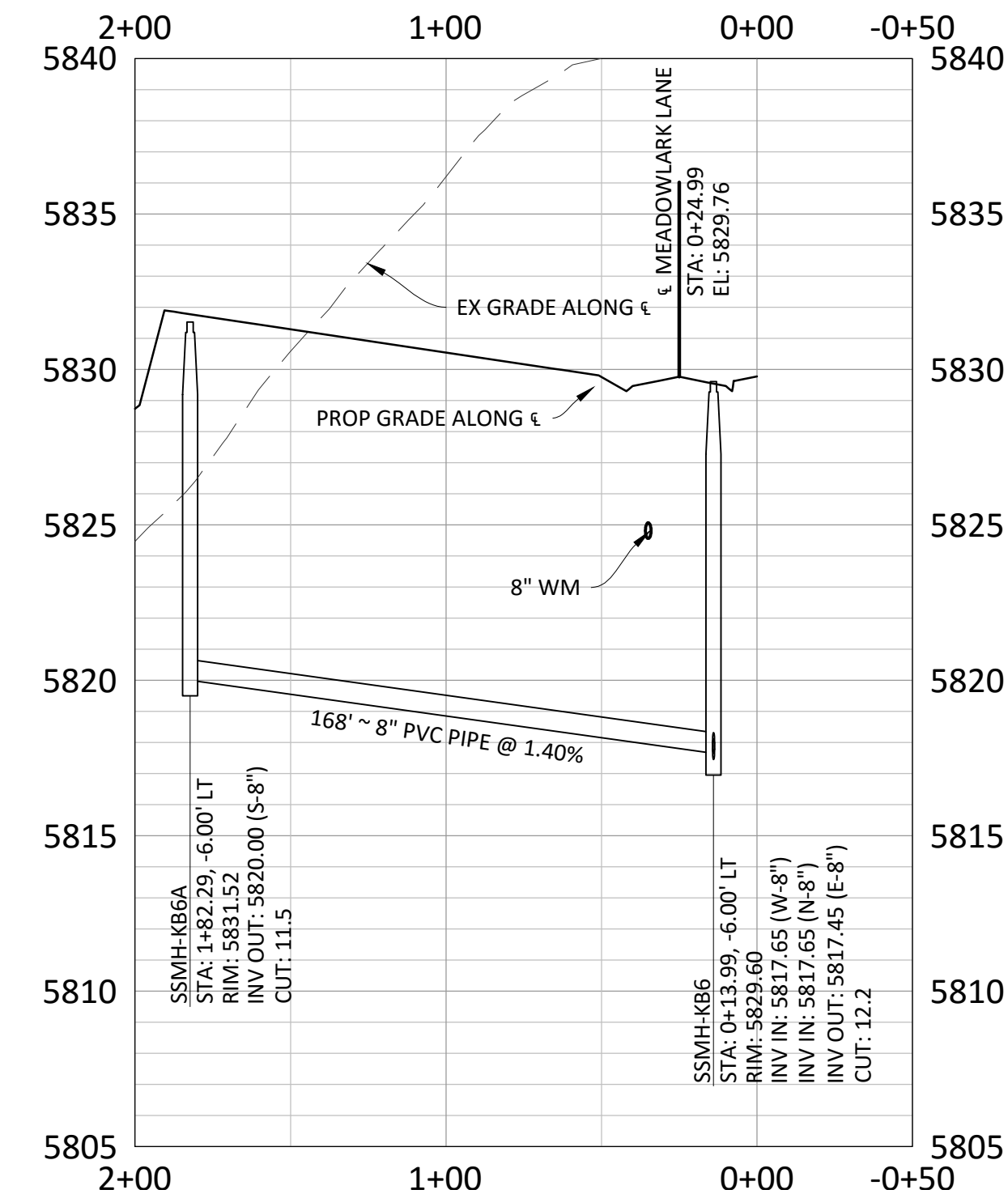
**ALLEY 4**



**ALLEY 5**

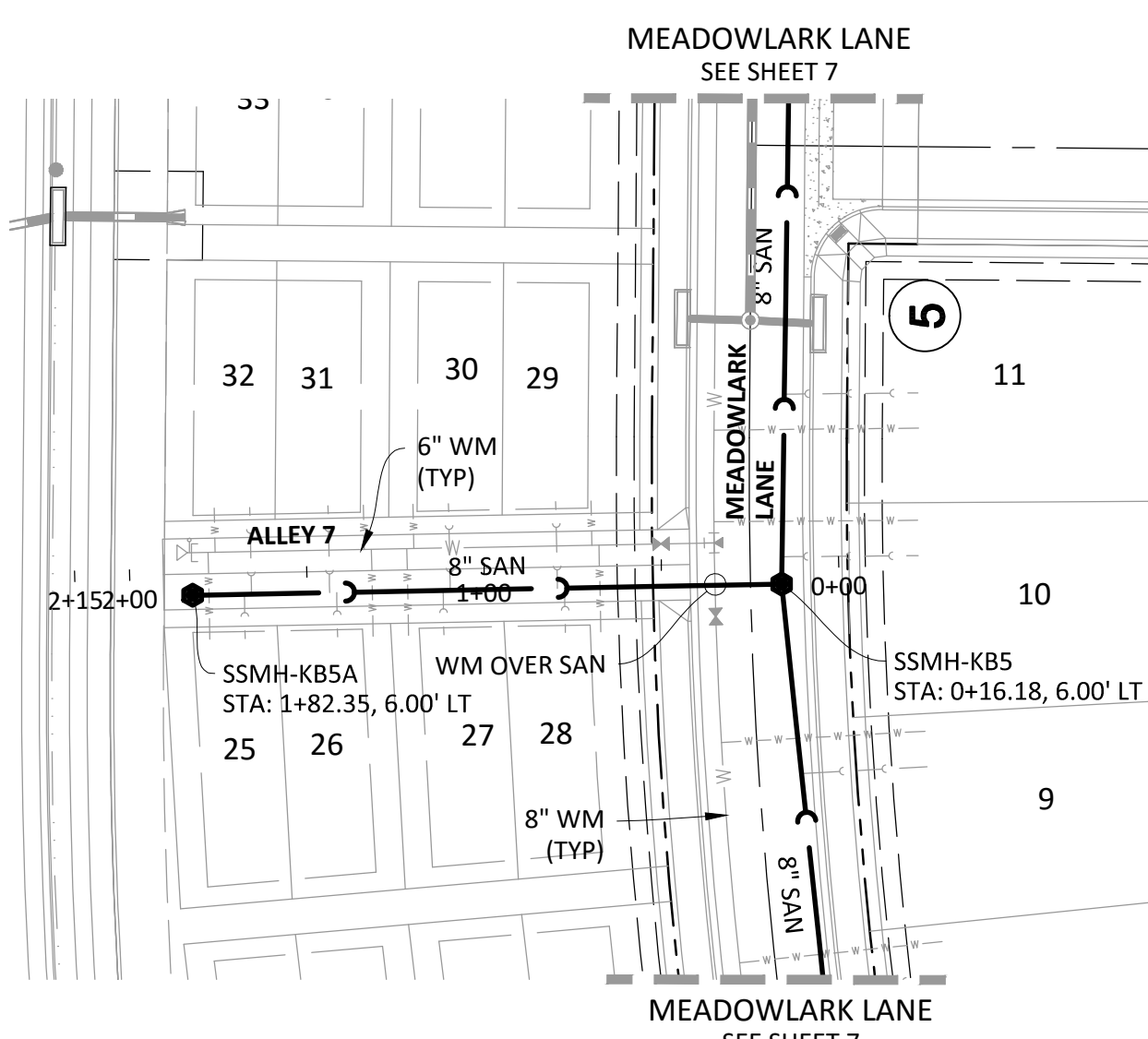
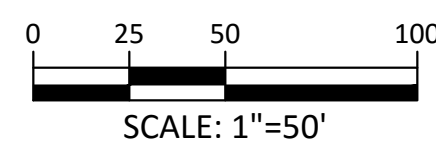
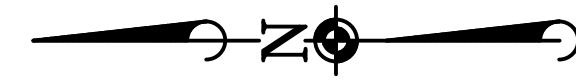


**ALLEY 6**

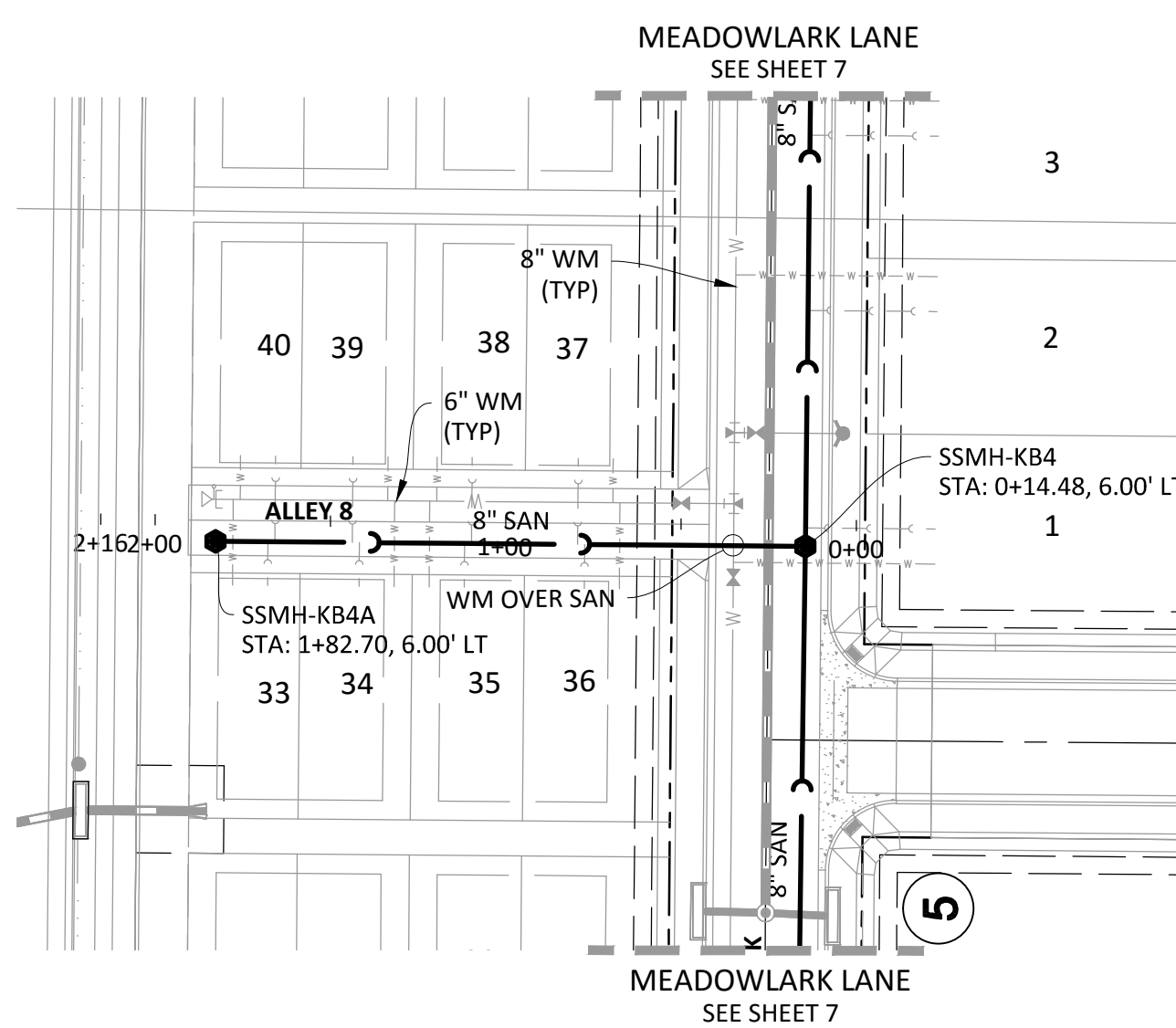
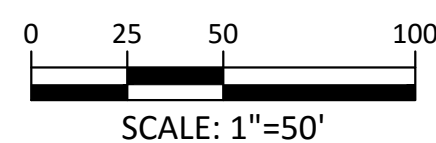
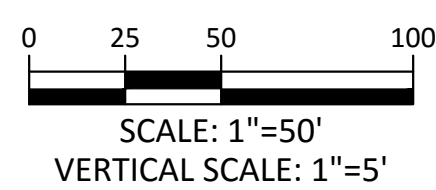
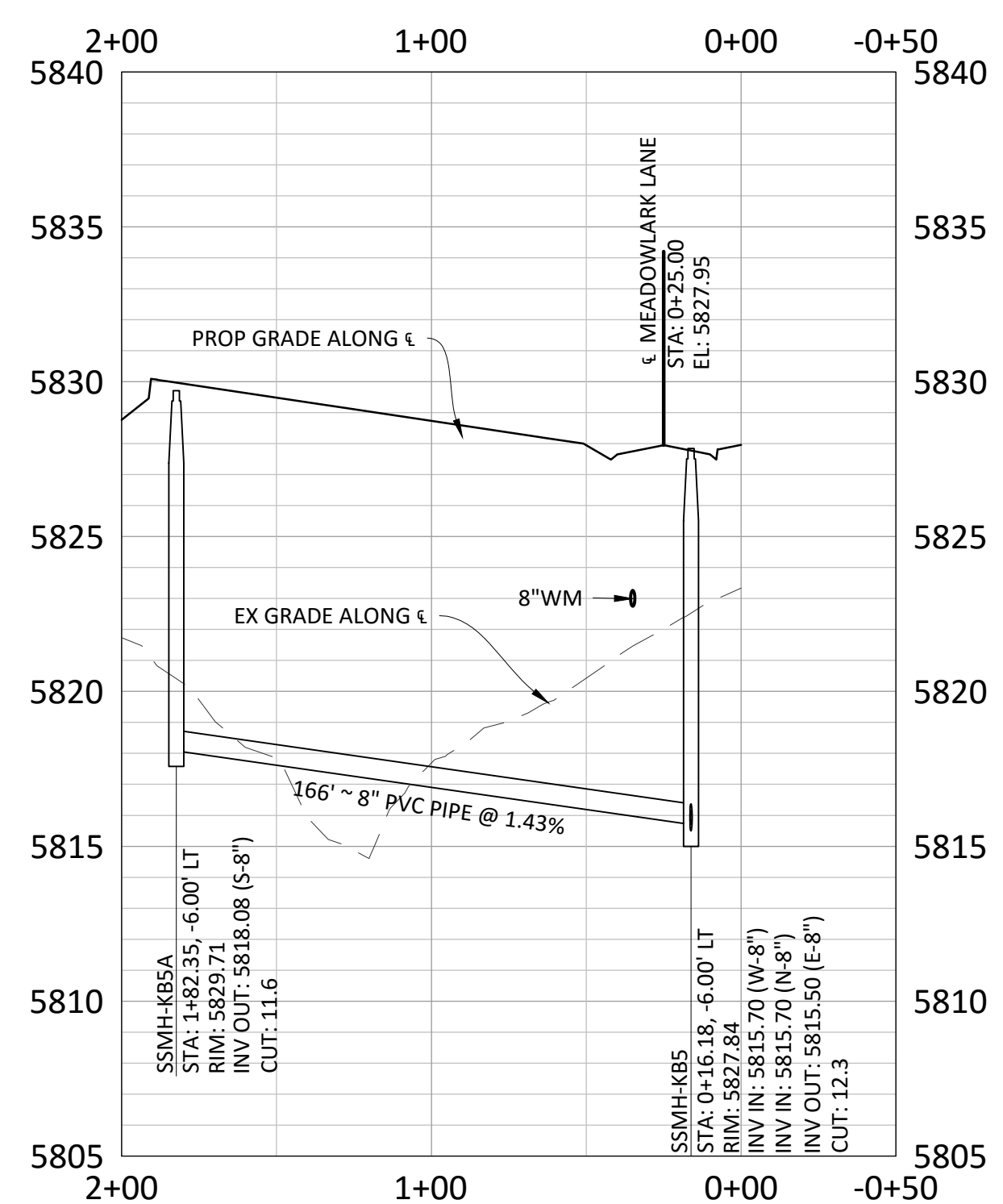


DRAWN BY: \_\_\_\_\_  
 REVIEWED: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
**Manhard CONSULTING LTD.**  
 800 E. Arapahoe Court, Suite 110, Denver, CO 80212 ph: 303.733.0000 fax: 303.733.0000 manhard.com  
 Construction Managers • Environmental Scientists • Landscape Architects • Planners

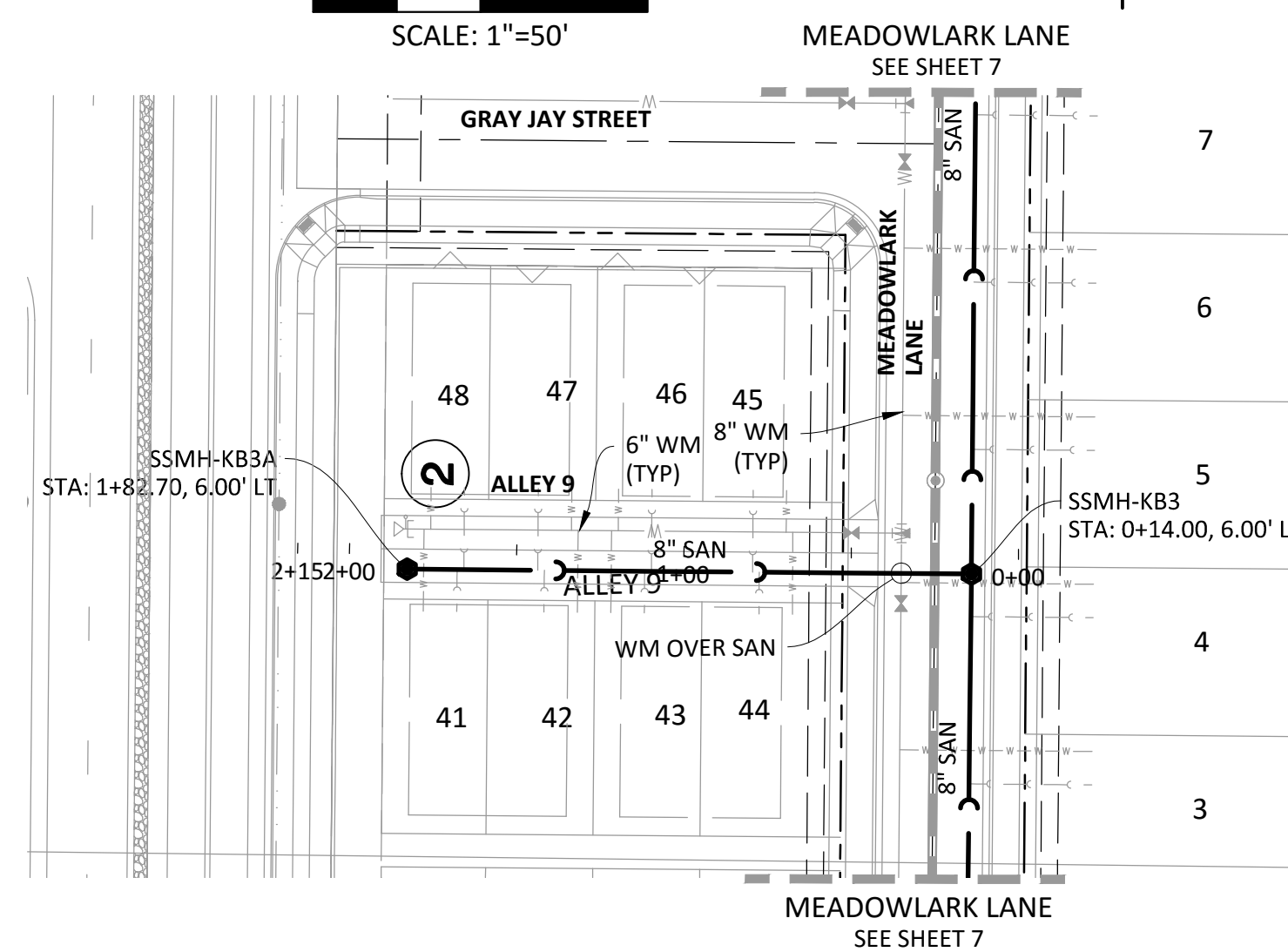
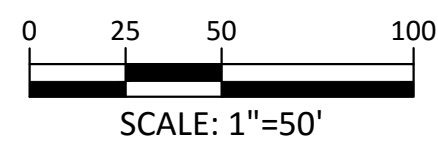
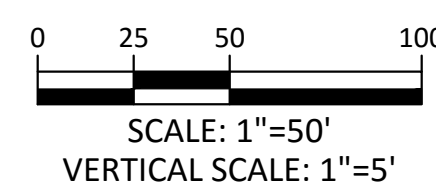
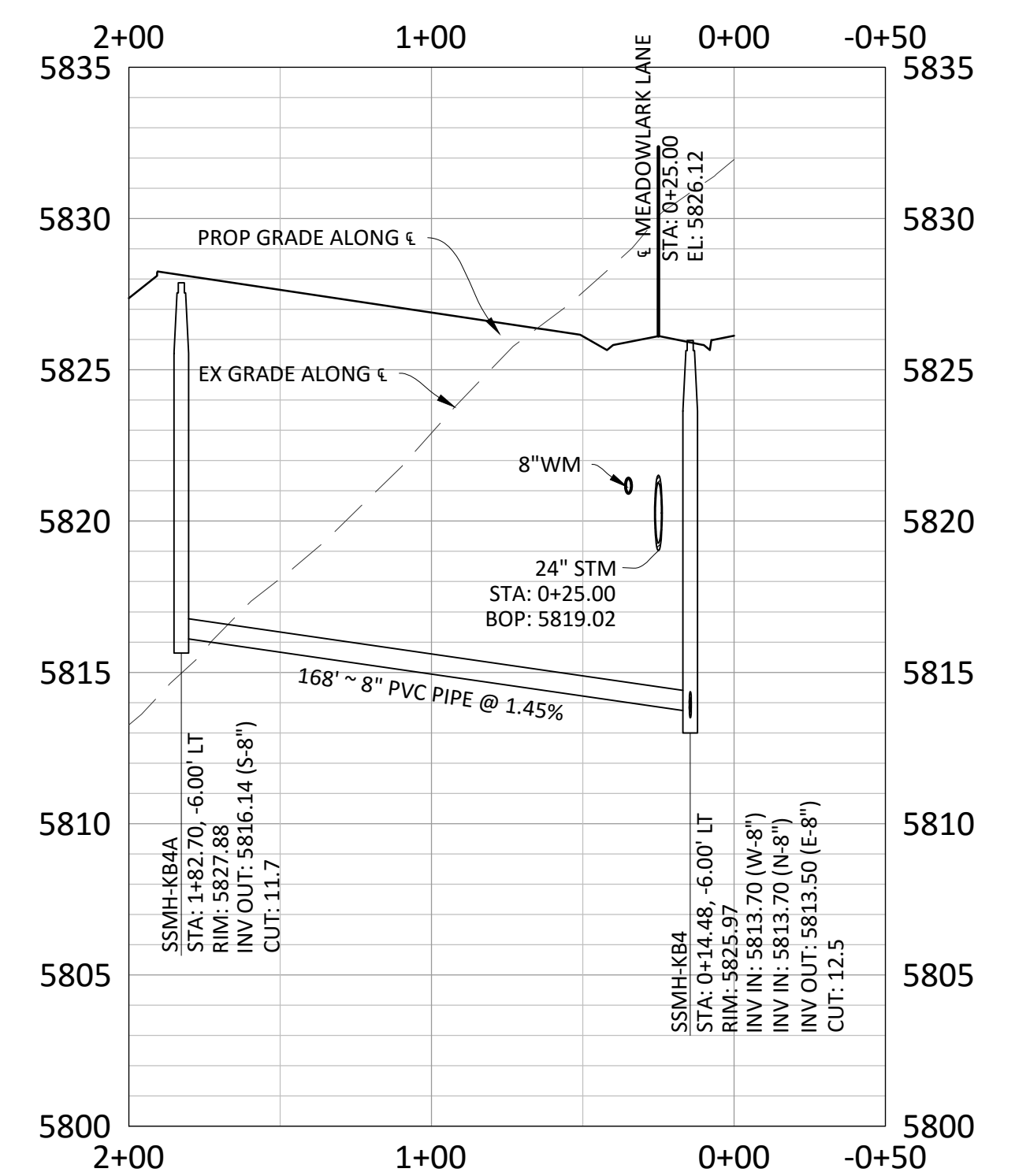
PROJ MGR: RIM  
 PROJ ASSOC: RAK  
 DRAWN BY: RAK  
 DATE: 10/2016  
 SHEET  
**10 OF 14**  
 CLCPKC3



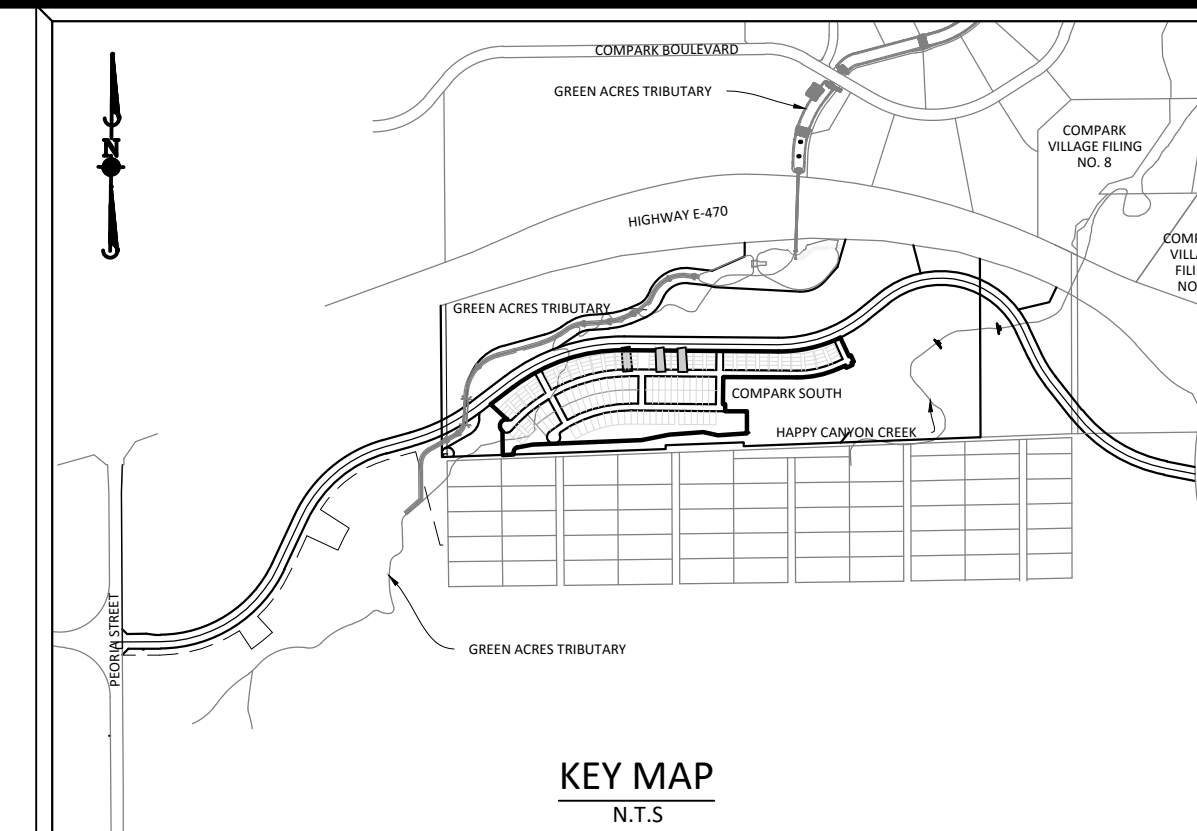
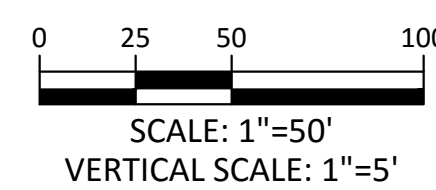
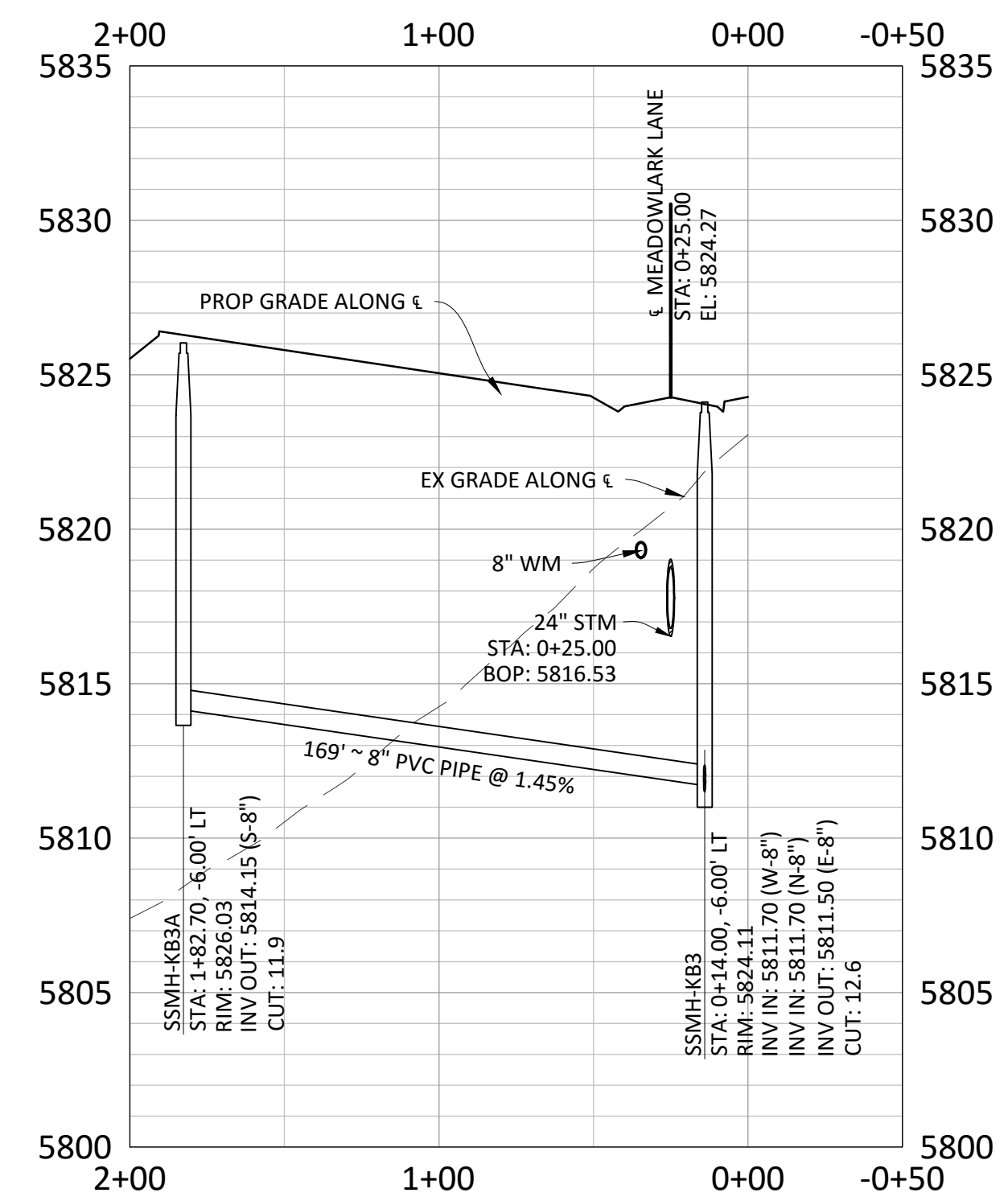
**ALLEY 7**



**ALLEY 8**



**ALLEY 9**



**KEY MAP**  
N.T.S.

**SOURCE BENCHMARKS:**  
DOUGLAS COUNTY BM 1.115010  
A DOUGLAS COUNTY GIS MONUMENT SET IN CONCRETE LOCATED APPROXIMATELY 130 FEET SOUTHWESTERLY OF THE CENTERLINE OF CHAMBERS ROAD AND 95 FEET NORTHWESTERLY OF THE CENTERLINE OF COMPARK BOULEVARD. ELEVATION = 5752.84 (NAVD 88)

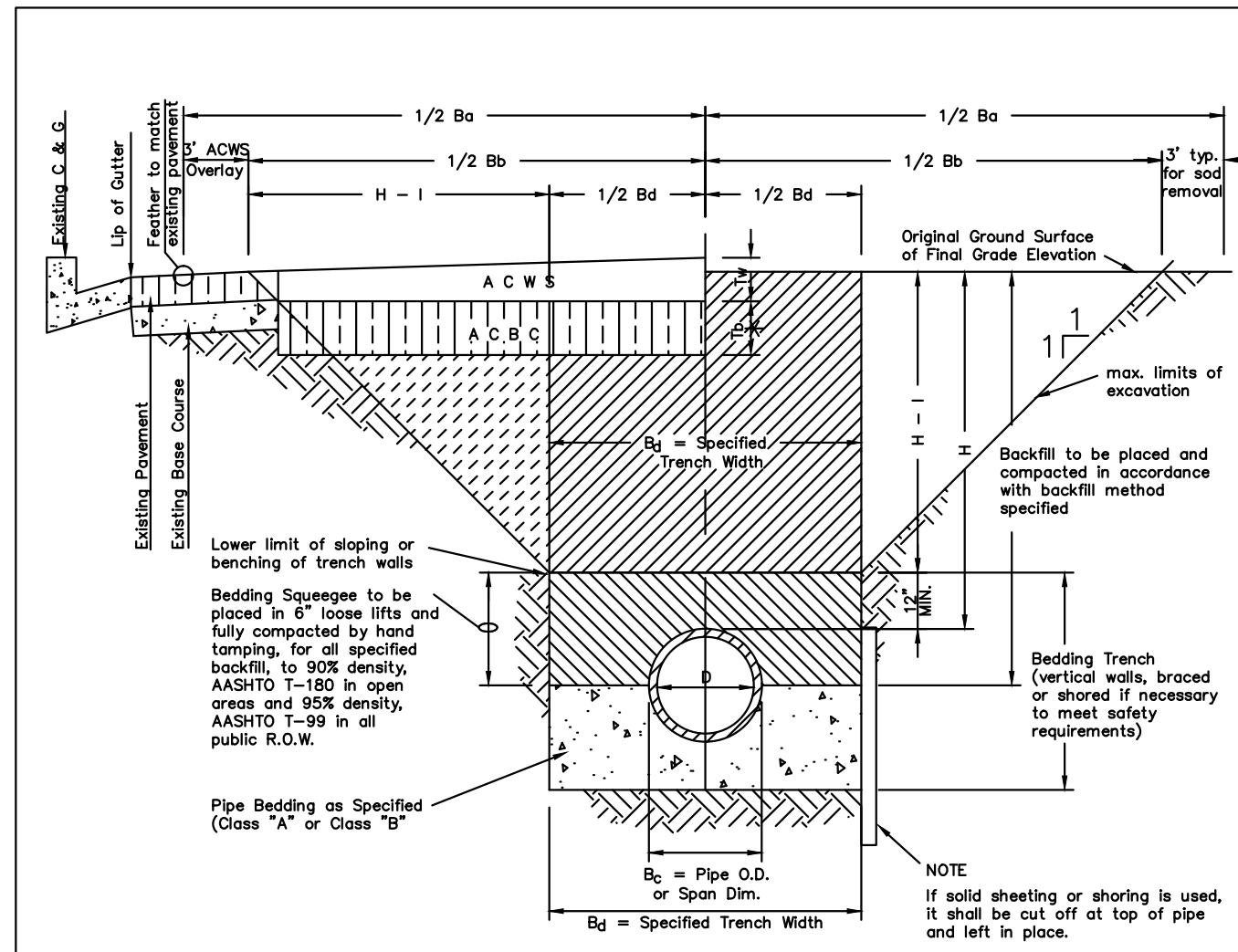
**Manhard**  
CONSULTING LTD.  
1800 E. Arapahoe Court, Suite 110, Denver, CO 80202  
303.733.0000  
manhard.com

**COMPARK VILLAGE SOUTH FILING NO. 2 - PHASE I**  
**TOWN OF PARKER, COLORADO**  
**SANITARY SEWER PLAN AND PROFILE - ALLEY 7-9**

PROJ. MGR.: RIM  
PROJ. ASSOC.: RAK  
DRAWN BY: RAK  
DATE: 10/2016

SHEET  
**11** OF **14**  
CLCPKC3

Plotted: 10/17/2016 10:34 AM. Draw Name: p:\cplc3\compark05-residential.cdw\Draw\Plan Set\District\PHASE 1\05A-289-6-Alley 7-9.dwg. Updated By: Rkatz



**TYPICAL TRENCH DETAIL**

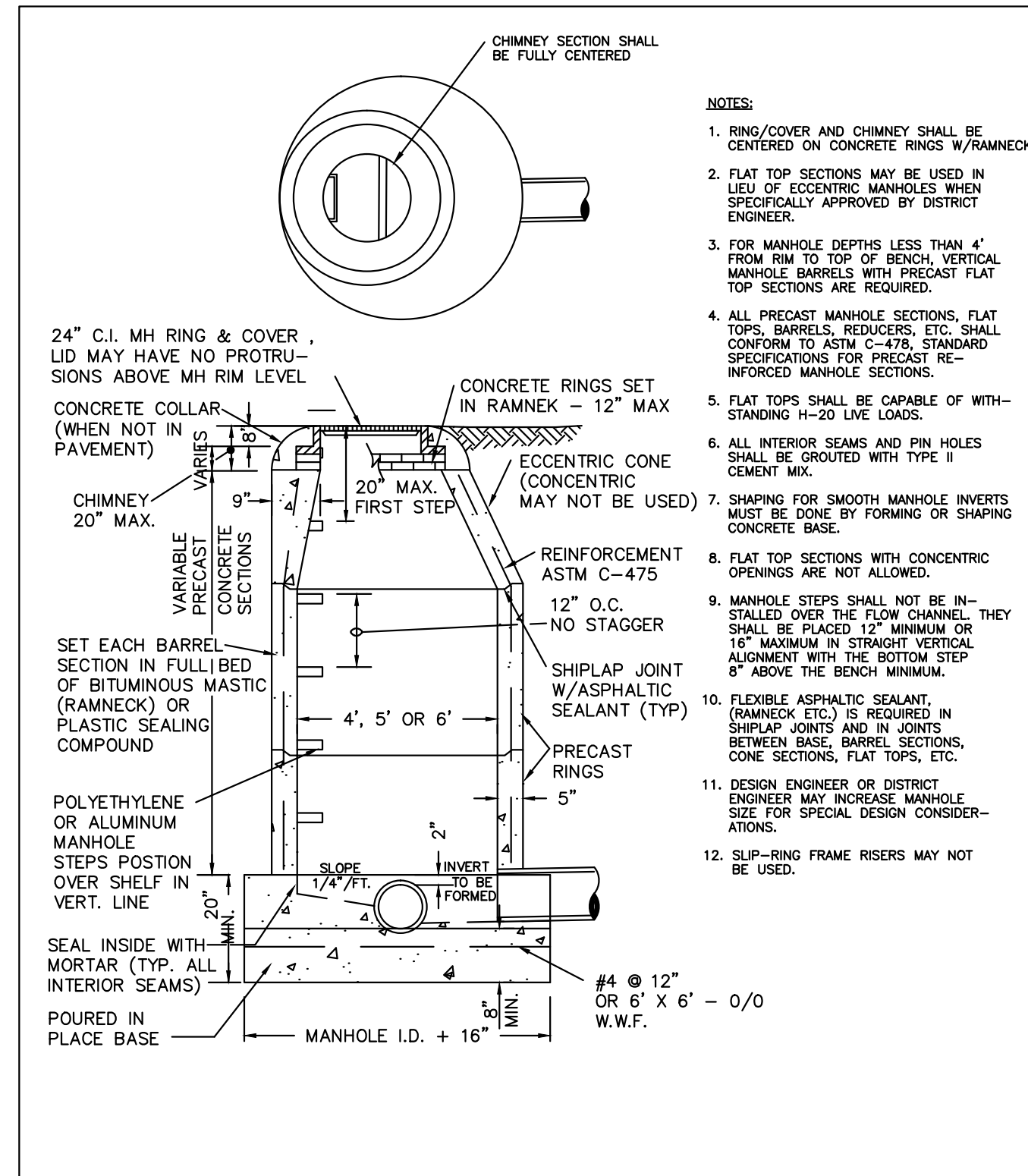
$T_b$  = Thickness of Asphaltic Concrete Base Course (A C B C)  
 $T_w$  = Thickness of Asphaltic Concrete Wearing Surface (A C W S)  
 $T_o$  = Total Asphalt Thickness ( $T_b + T_w$ )  
 $B_c$  = Outside Pipe or Conduit Span Dimension  
 $B_d$  = Specified Bedding Trench Width and Max Bedding Trench Width at a point 12" above Top of Pipe (See Note 2)  
 $B_p$  = Max. Pay Width of Asphaltic Concrete Base Course (or Asphaltic Concrete Cold Mix) (See Note 3 & Table 1)  
 $B_w$  = Max. Pay Width of Asphaltic Concrete Wearing Surface or Sod Replacement (See Note 3 and Table 1)  
 $H$  = Depth of Surface to Top of Pipe  
 $H$ -in Depth from Surface to 1 ft. above Top of Pipe

STREET WIDTH	ASPHALTIC BASE COURSE (T <sub>b</sub> )	ASPHALTIC WEARING SURFACE (T <sub>w</sub> )	TOTAL THICKNESS (T <sub>o</sub> )
UP TO 36'	4"	2"	6"
36' TO 44'	4"	3"	7"
44' TO 48'	5"	3"	8"
WIDER THAN 48'	6"	3"	9"

**NOTES:**

1. Sloping or benching of trench side walls, where permitted shall be in accordance with applicable Federal, State and Local safety regulations.
2. Trench shall be braced and shored as necessary to afford safe working conditions or to protect adjacent utilities, structures, etc. Unless otherwise specified on the plans, no pavement will be made for removal, replacement or relocation of curb and gutter, utilities, sidewalks, structures, etc. outside the maximum limits of excavation as shown and the contractor shall be responsible for protection of same.
3. If dimension  $B_w$  is  $\leq 5'$ , then existing asphalt pavement shall be removed and replaced up to the gutter. Maximum asphalt pay width,  $B_p$  &  $B_w$  shall then be based upon this actual width.

2000 REVISION

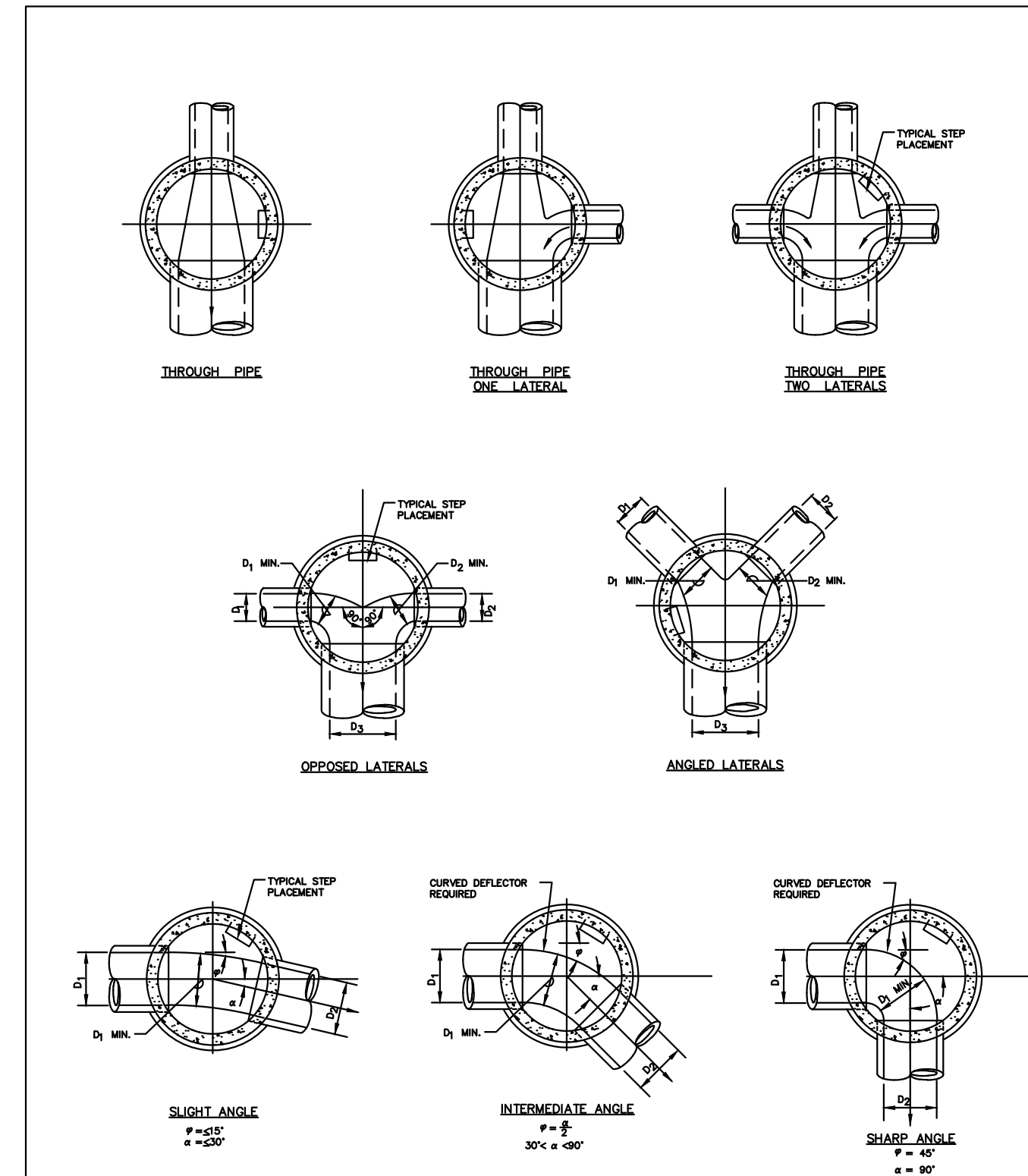


**STONEGATE VILLAGE METROPOLITAN DISTRICT**  
**SEWER TRENCHING AND BEDDING DETAIL**

SCALE: NONE DATE: 4/00

APPROVED: R.J.G. DISTRICT ENGINEER

SHEET 1

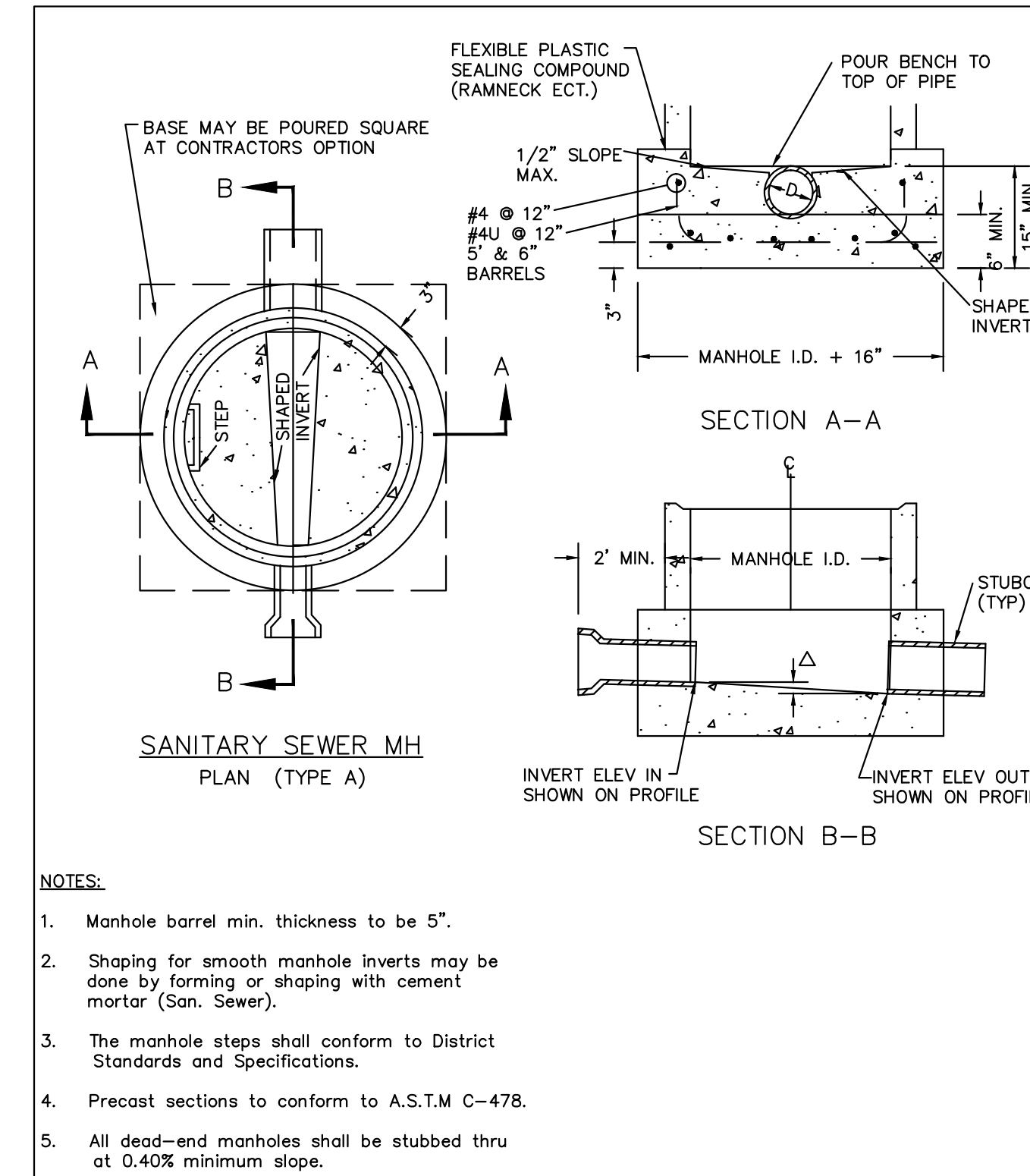


**STONEGATE VILLAGE METROPOLITAN DISTRICT**  
**TYPICAL BASE CHANNELIZATION DETAILS**

SCALE: NONE DATE: 4/00

APPROVED: R.J.G. DISTRICT ENGINEER

SHEET 15

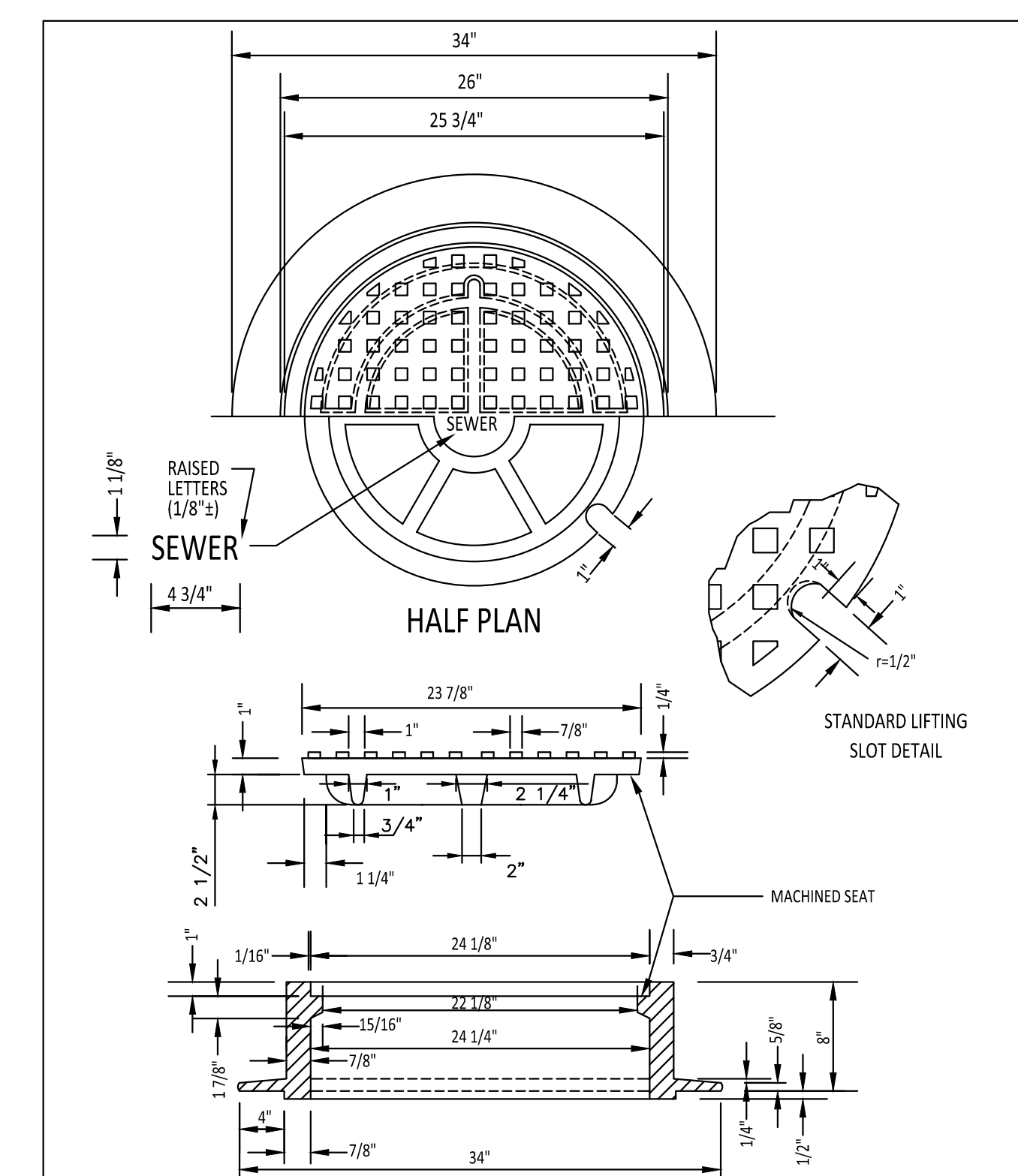


**STONEGATE VILLAGE METROPOLITAN DISTRICT**  
**CAST-IN-PLACE MANHOLE BASE DETAIL**

SCALE: NONE DATE: 4/00

APPROVED: R.J.G. DISTRICT ENGINEER

SHEET 13

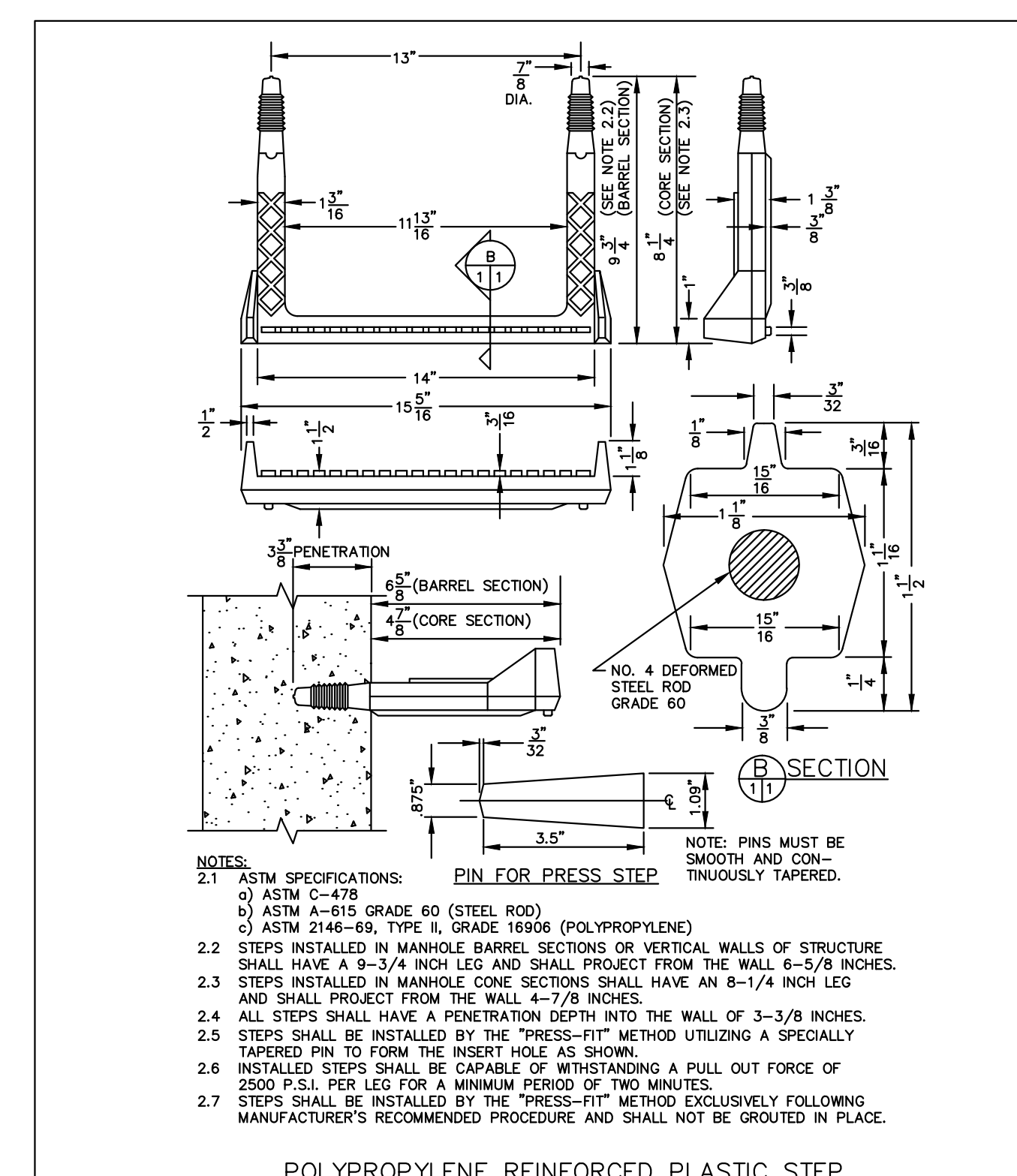


**STONEGATE VILLAGE METROPOLITAN DISTRICT**  
**24\"/>**

SCALE: NONE DATE: 4/00

APPROVED: R.J.G. DISTRICT ENGINEER

SHEET 17

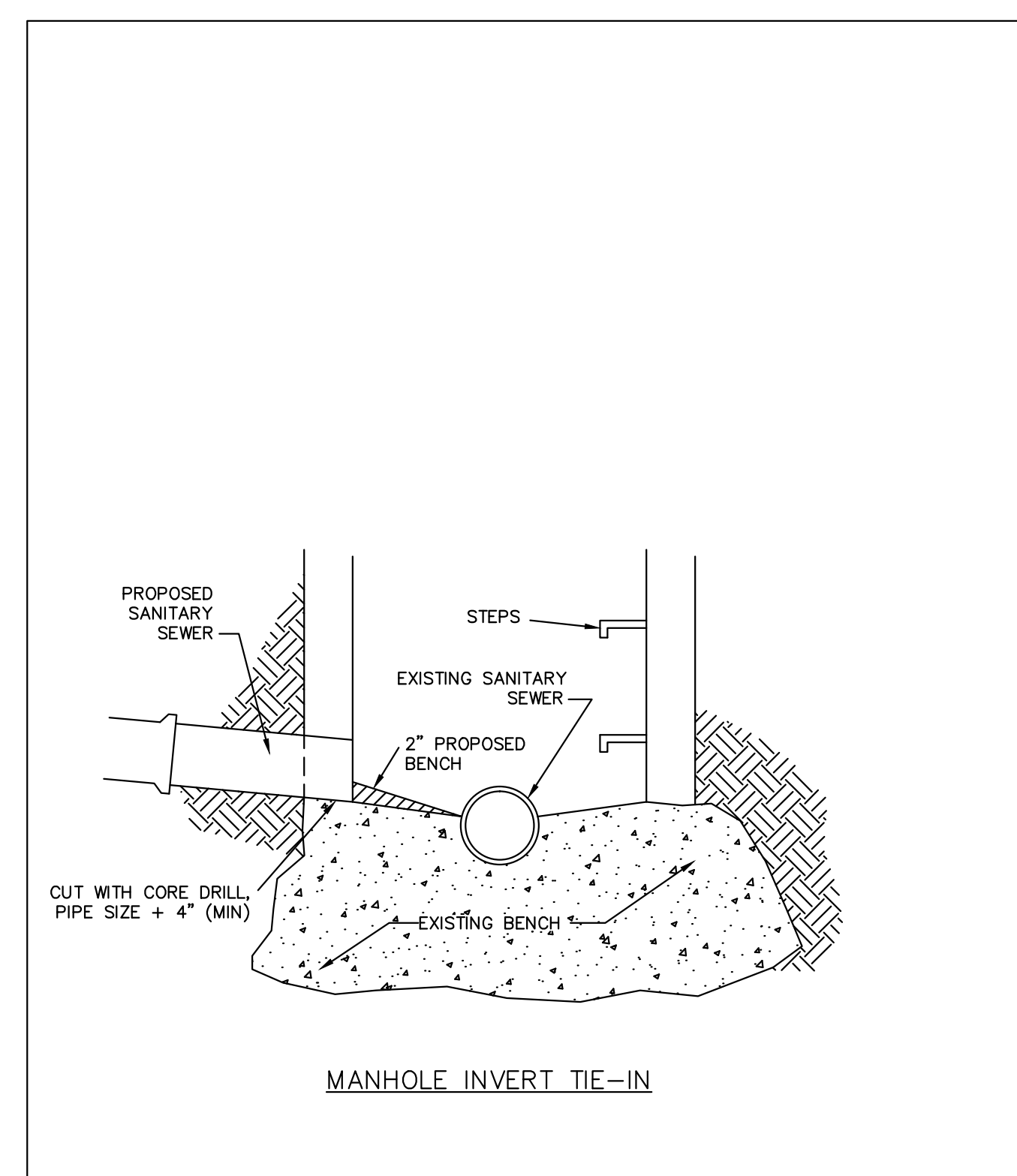


**STONEGATE VILLAGE METROPOLITAN DISTRICT**  
**POLYPROPYLENE REINFORCED PLASTIC MANHOLE STEP**

SCALE: NONE DATE: 4/00

APPROVED: R.J.G. DISTRICT ENGINEER

SHEET 20

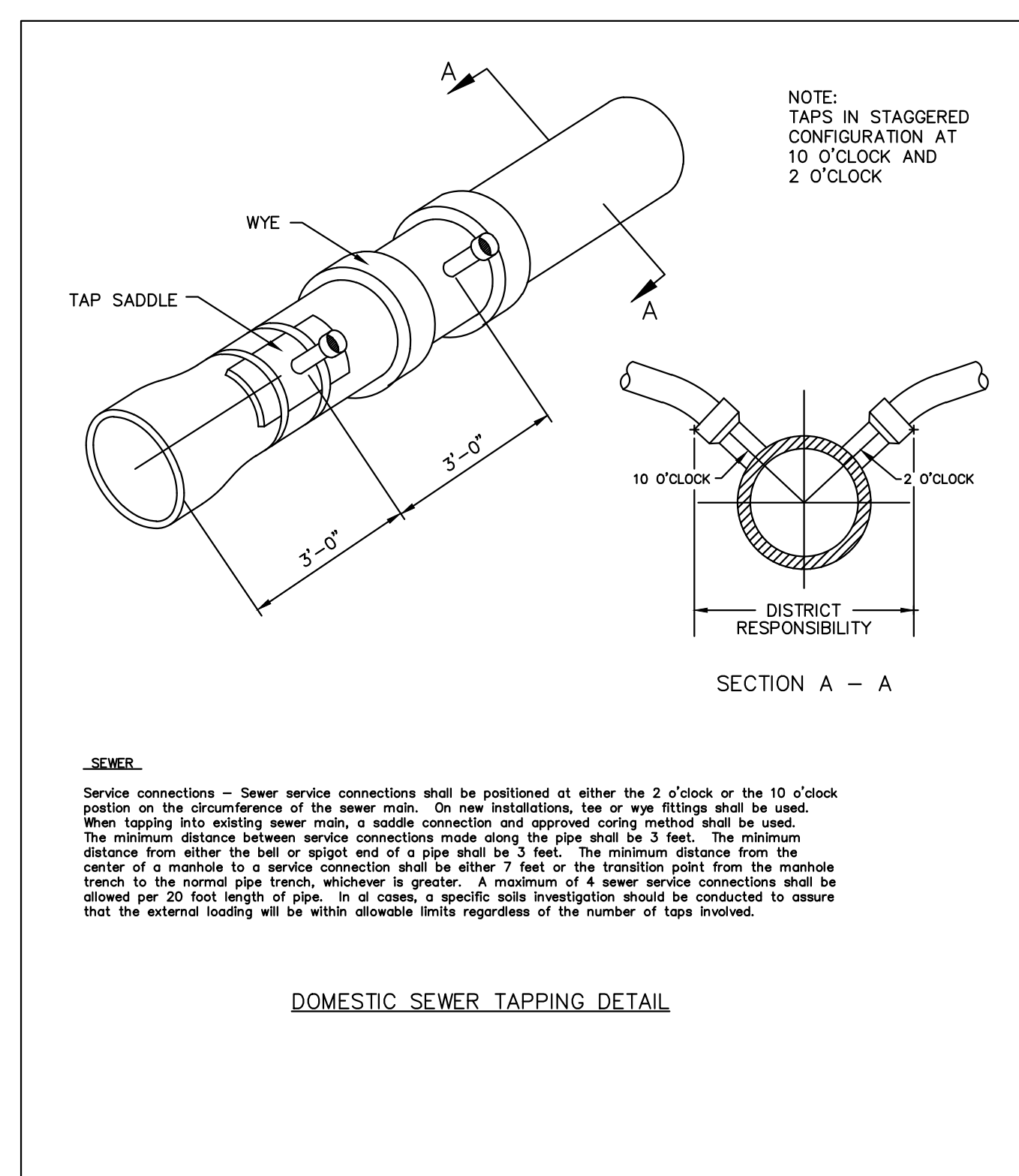


**STONEGATE VILLAGE METROPOLITAN DISTRICT**  
**MANHOLE INVERT TIE-IN DETAIL**

SCALE: NONE DATE: 4/00

APPROVED: R.J.G. DISTRICT ENGINEER

SHEET 22



**STONEGATE VILLAGE METROPOLITAN DISTRICT**  
**DOMESTIC SEWER TAPPING DETAIL**

SCALE: NONE DATE: 4/00

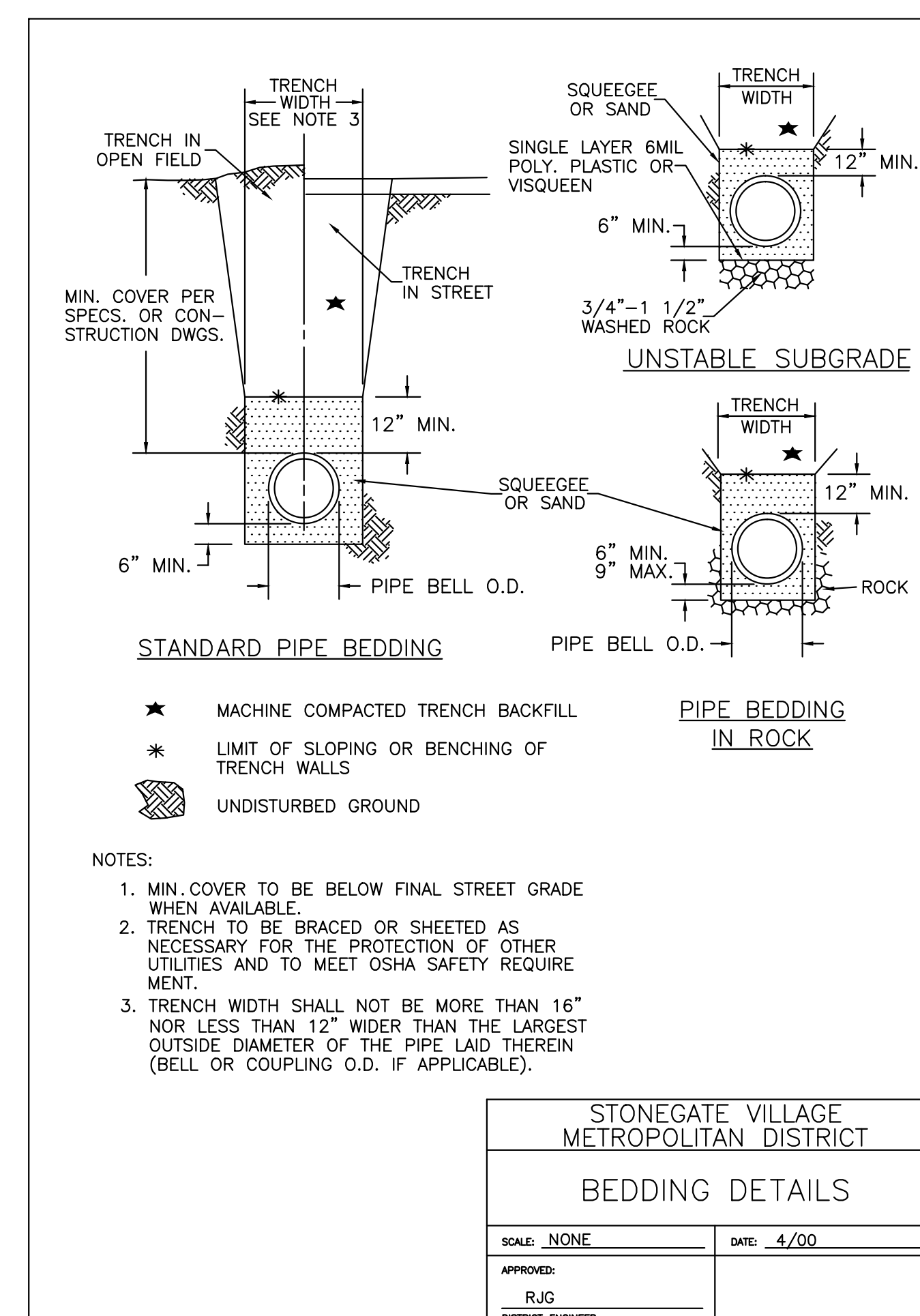
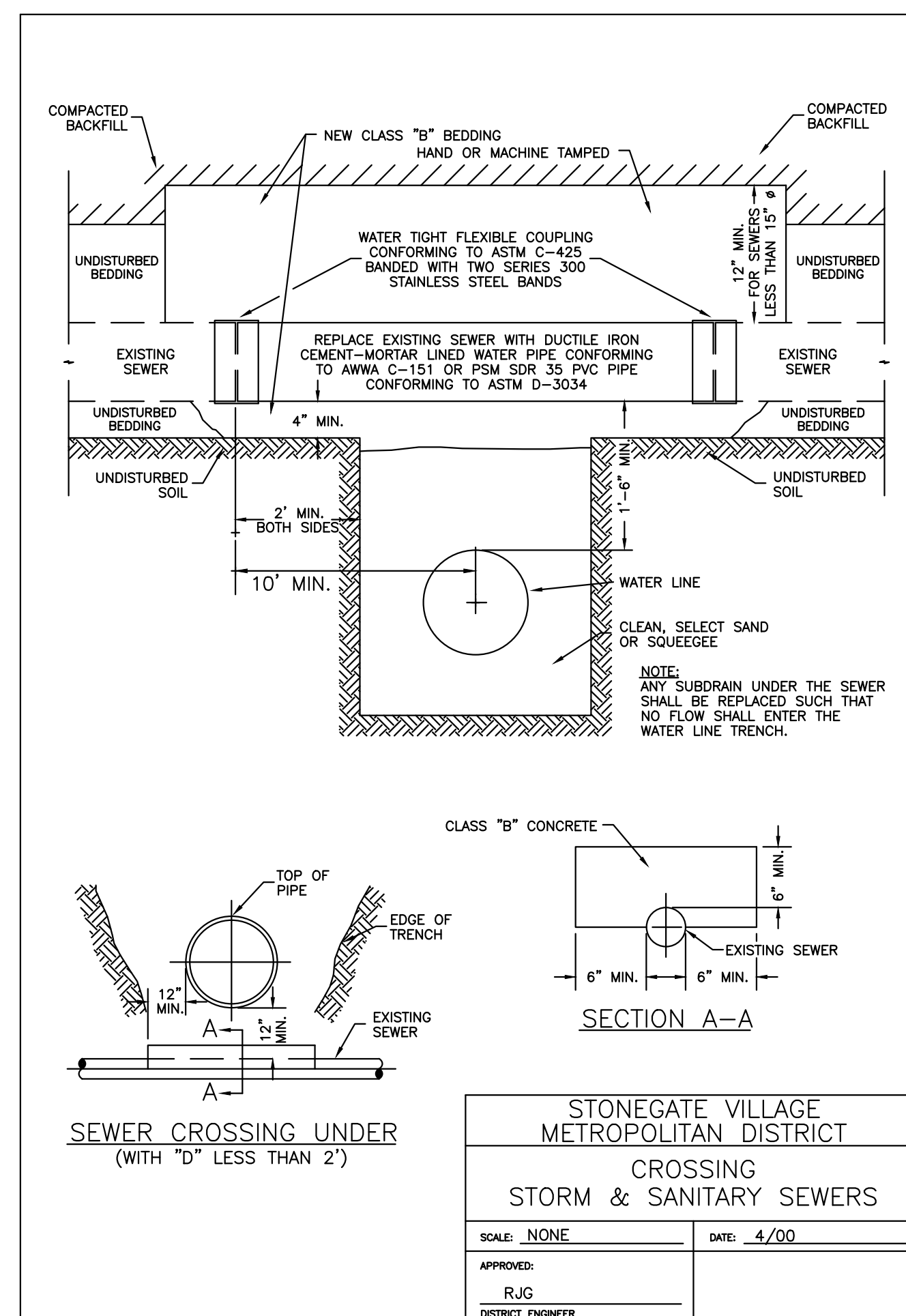
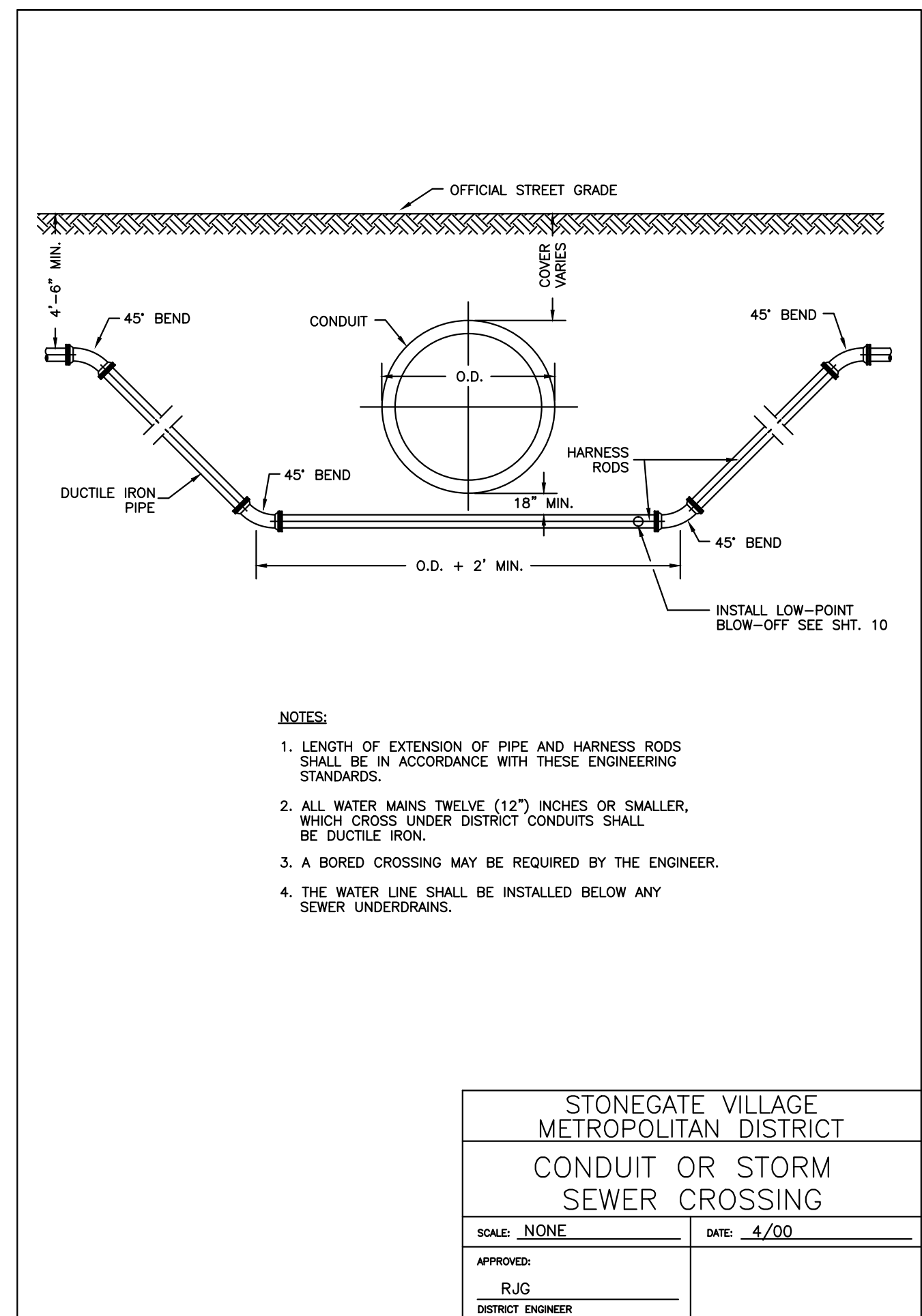
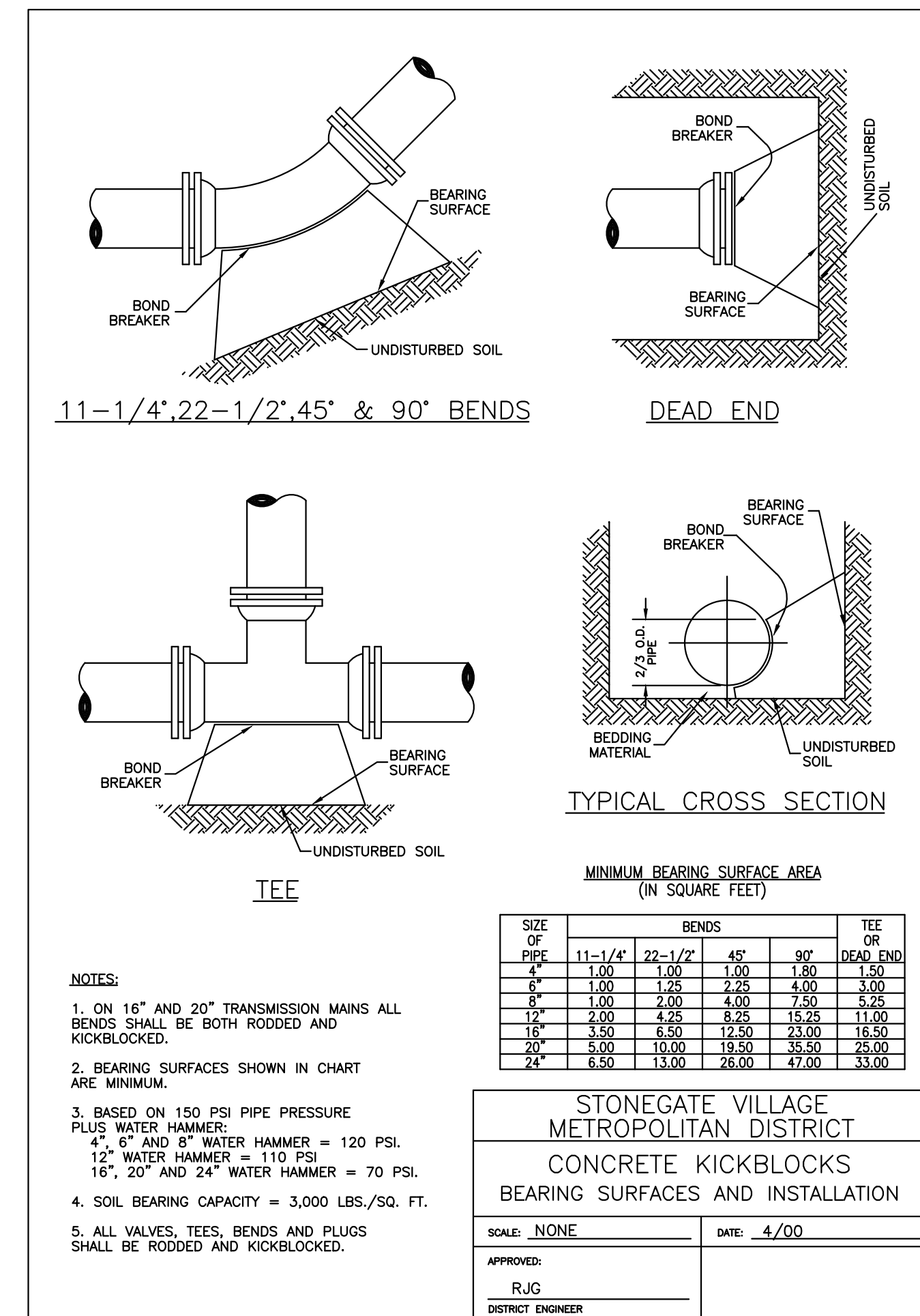
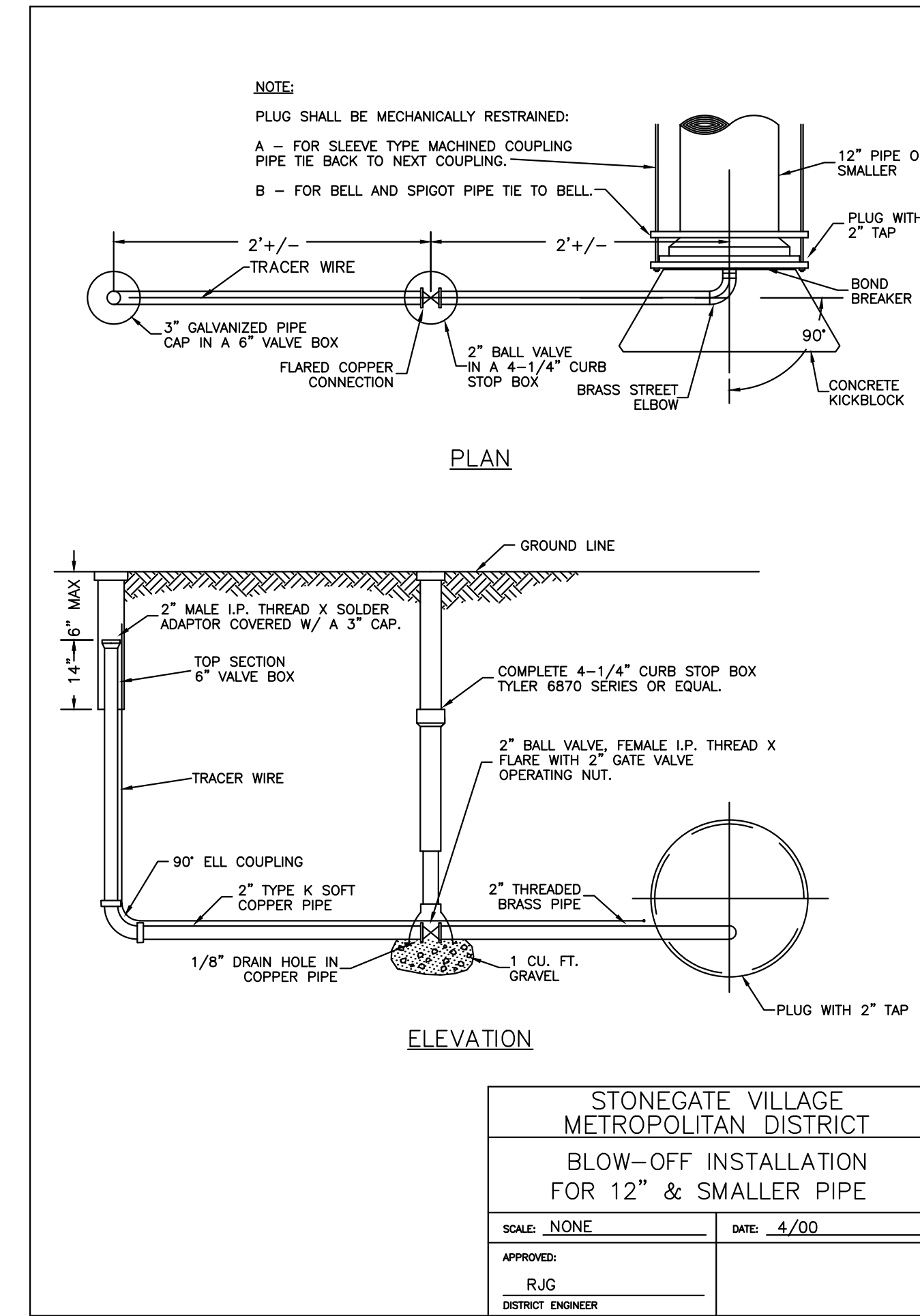
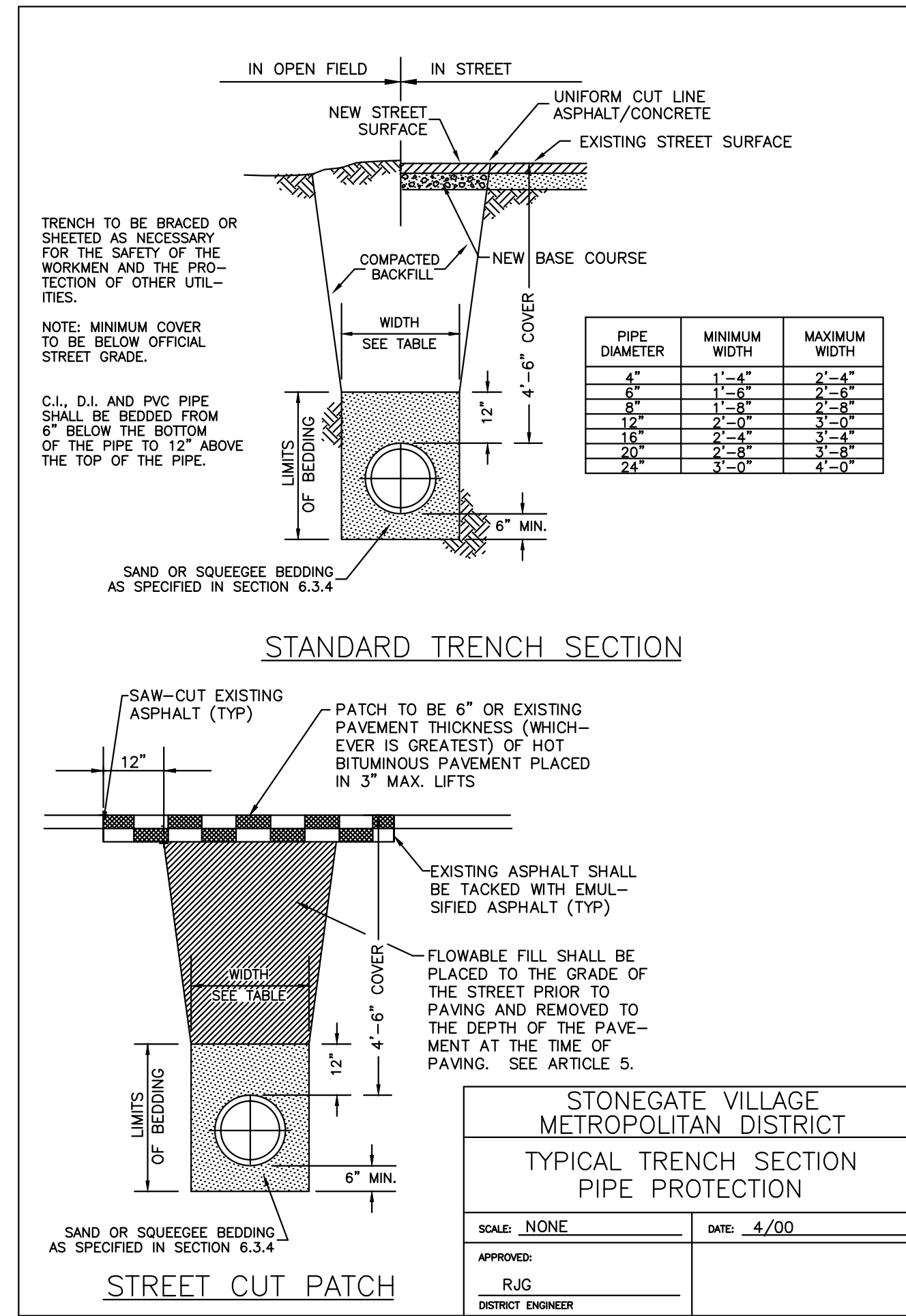
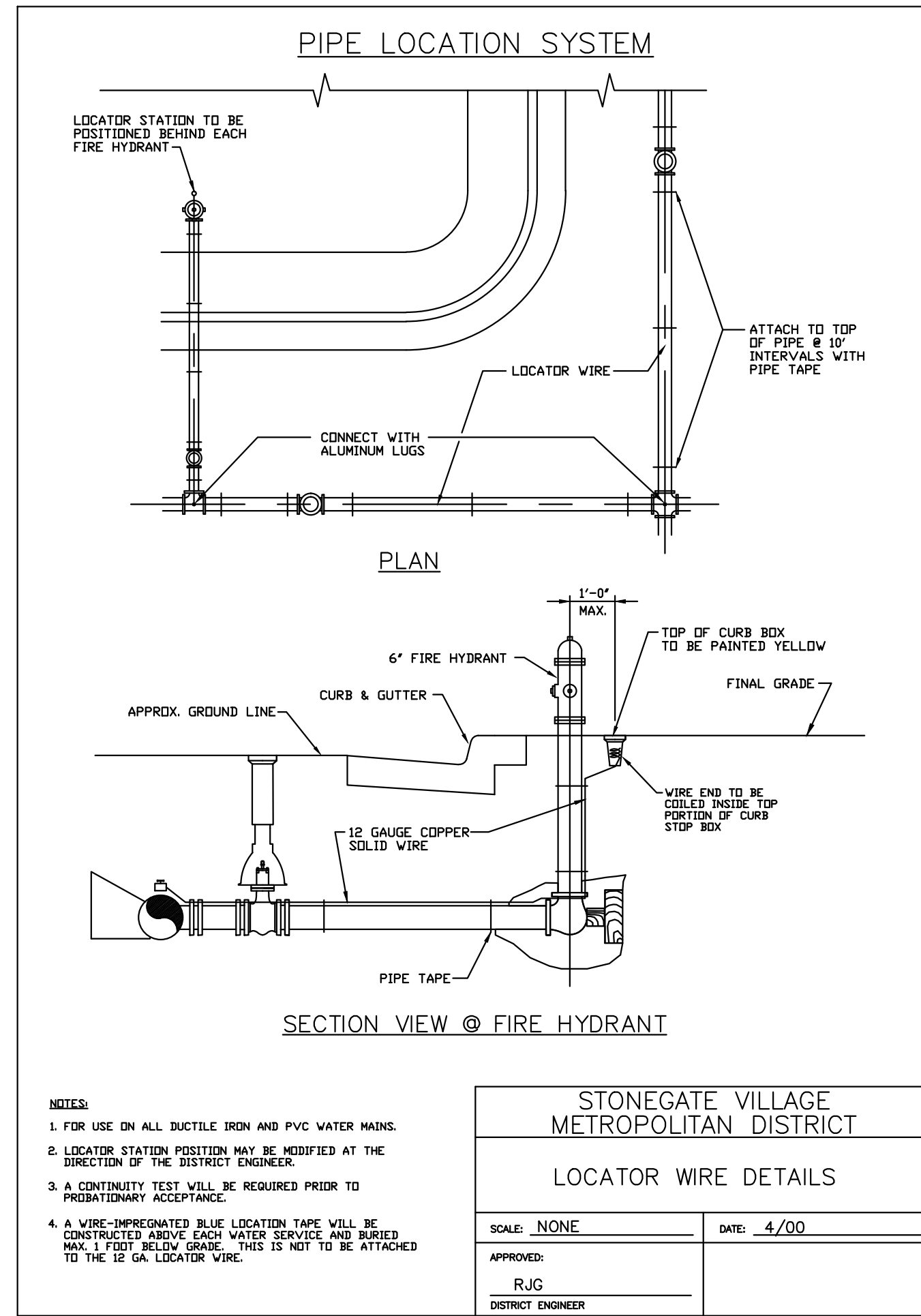
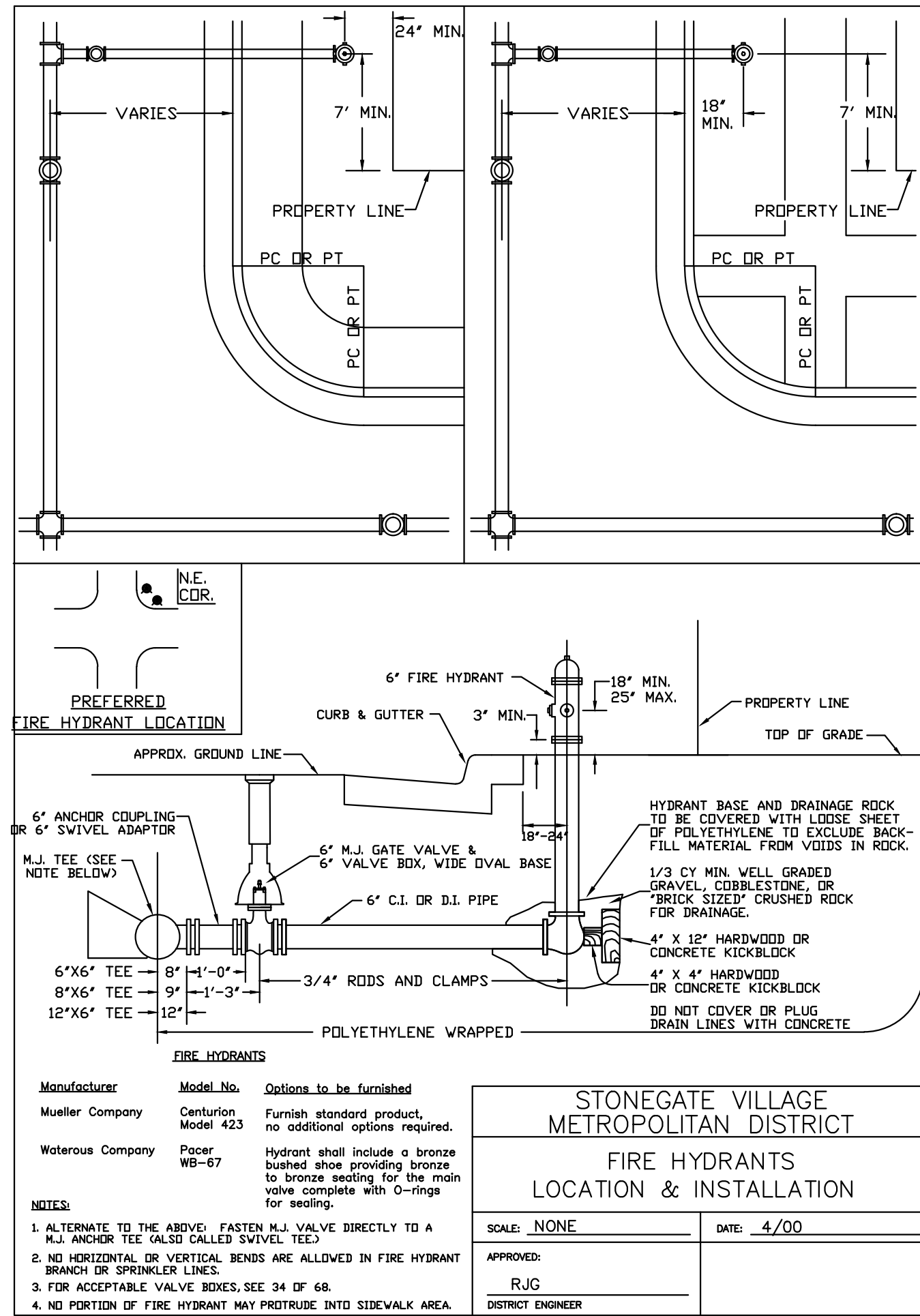
APPROVED: R.J.G. DISTRICT ENGINEER

SHEET 27

Path: 10/17/2016 10:35 AM C:\arc\3\comsub05-residential\_csb\den\env\road\_drawing\Plan\_Sanitary\PHASE 1\05A-SANITARY-DETAILS.dwg Updated By: DManacelli

DRAWN BY: \_\_\_\_\_  
 REVISIONS: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
**Manhard CONSULTING LTD.**  
 800 E. Arapahoe Court, Suite 110, Centennial, CO 80115 PH: 303.708.0000 FAX: 303.708.0000 manhard.com  
 Construction Managers • Environmental Scientists • Landscape Architects • Planners

**COMPARK VILLAGE SOUTH FILING NO. 2 - PHASE I**  
**TOWN OF PARKER, COLORADO**  
**SANITARY SEWER CONSTRUCTION DETAILS**  
 PROJ. MGR.: RJM  
 PROJ. ASSOC.: RAK  
 DRAWN BY: RAK  
 DATE: 10/2016  
**SHEET**  
**12 OF 14**  
 CLCPK3

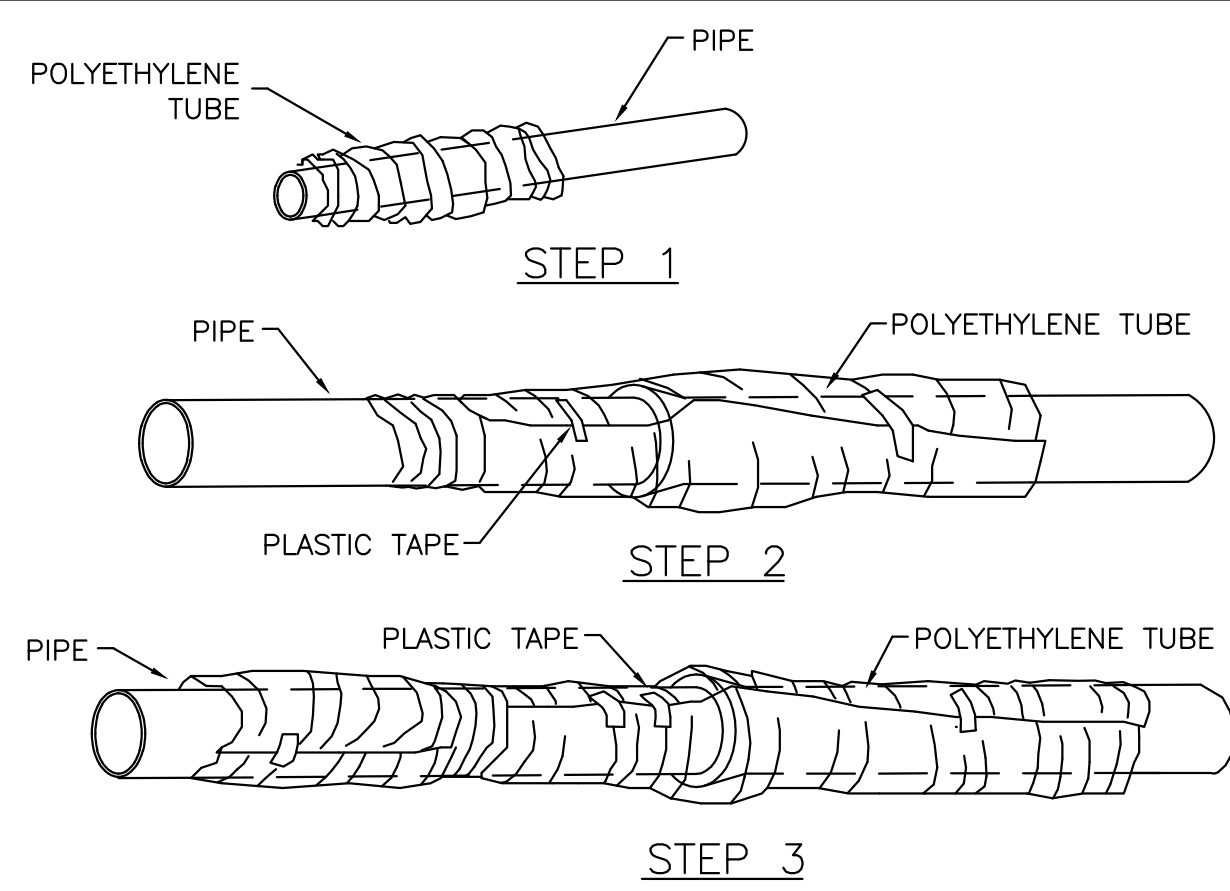


**Manhard CONSULTING LTD.**  
 8000 E. Arapahoe Court, Suite 110, Greenwood, CO 80121  
 303.778.0000 303.778.0000 manhard.com  
 Construction Managers • Environmental Scientists • Landscape Architects • Planners

**COMPARK VILLAGE SOUTH FILING NO. 2 - PHASE I**  
 TOWN OF PARKER, COLORADO  
 WATER SYSTEM CONSTRUCTION DETAILS

PROJ. MGR.: RJM  
 PROJ. ASSOC.: RAK  
 DRAWN BY: RAK  
 DATE: 10/2016

SHEET  
**13** OF **14**  
 CLCPK3



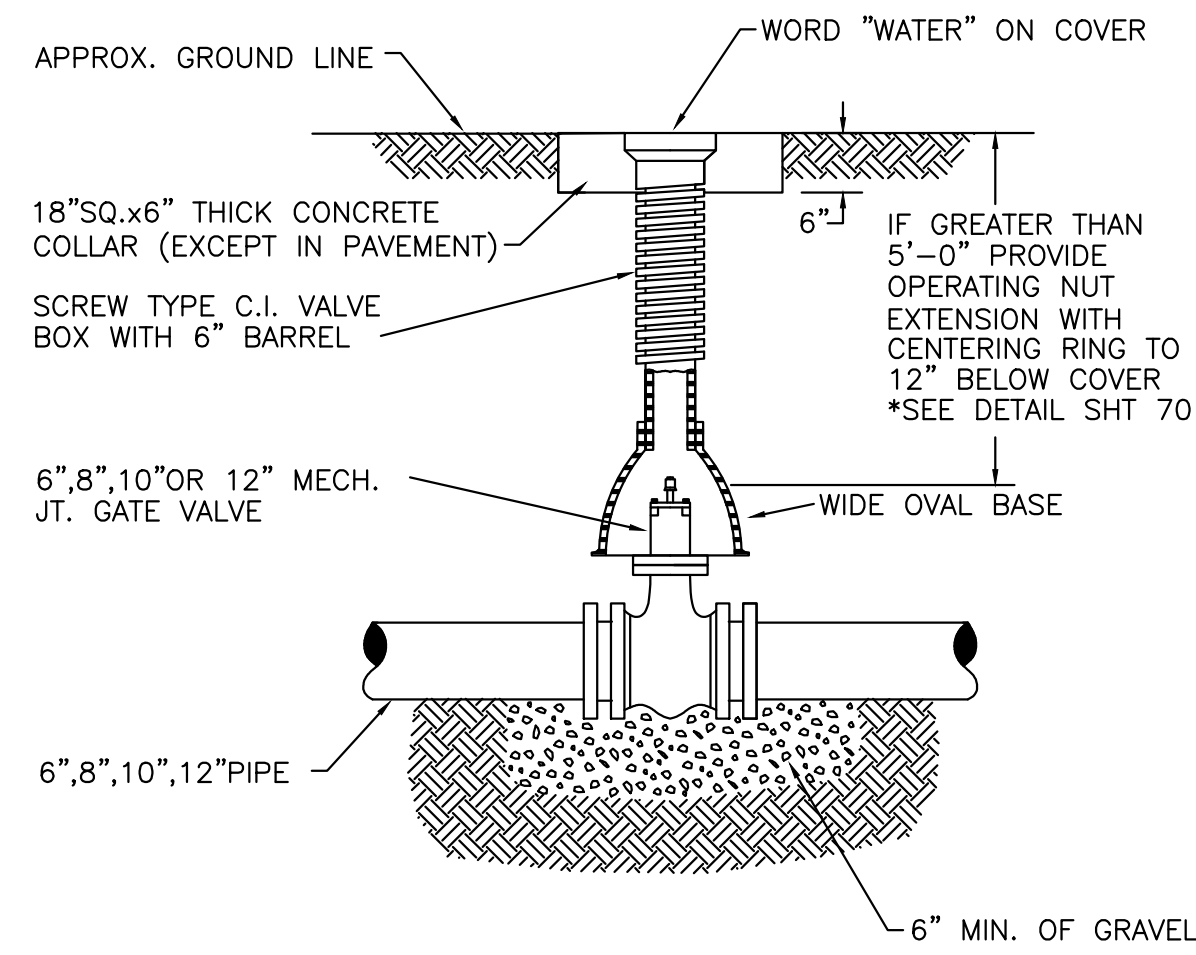
**FIELD INSTALLATION - POLYETHYLENE WRAP**

- STEP 1 - PLACE TUBE OF POLYETHYLENE MATERIAL ON PIPE PRIOR TO LOWERING IT INTO TRENCH.
- STEP 2 - PULL THE TUBE OVER THE LENGTH OF THE PIPE. TAPE TUBE TO PIPE AT JOINT. FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH TAPE TO HOLD THE PLASTIC TUBE IN PLACE.
- STEP 3 - OVERLAP FIRST TUBE WITH ADJACENT TUBE AND SECURE WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE MATERIAL COVERING THE PIPE SHALL BE LOOSE. EXCESS MATERIAL SHALL BE NEATLY DRAWN UP AROUND THE PIPE BARREL, FOLDED ON TOP OF PIPE AND TAPED IN PLACE.

STONEGATE VILLAGE METROPOLITAN DISTRICT  
**POLYETHYLENE WRAP**

SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER



**6-INCH VALVE BOXES**

**Materials:**  
Valve box parts shall be made from gray cast iron, ASTM A48 Class 20A. Use of an aluminum alloy as a casting material is not acceptable.

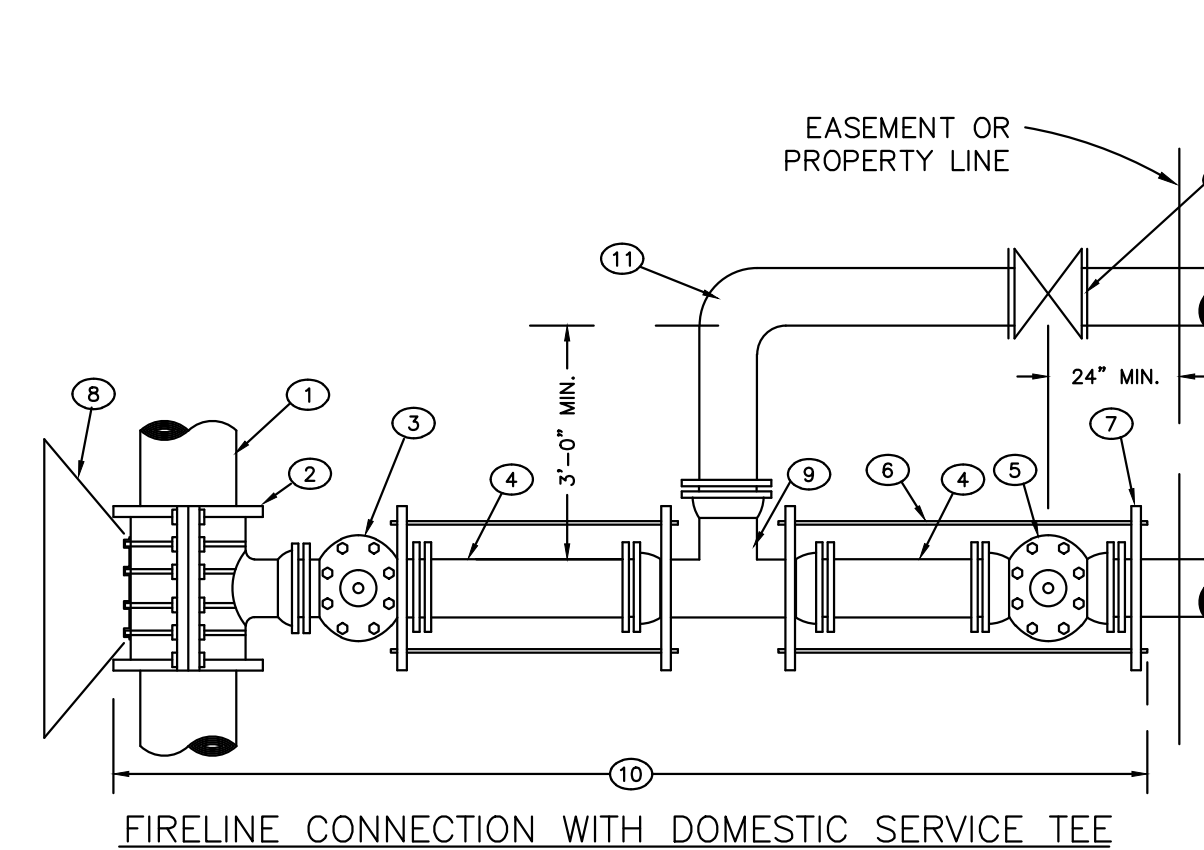
**Approved Patterns:**  
Valve boxes shall be the three-piece adjustable screw type and the following two patterns are acceptable.

1. Tyler screw-type 6-inch cast iron valve box assembly series 6860 with No. 160 oval base.
  2. Clay and Bailey screw-type 6-inch cast iron valve box assembly No. P-108 with No. 160 large oval base.
- NOTES:**
1. VALVE BOXES SHALL BE:
    - A. TYLER SCREW-TYPE 6" C.I. ASSY. SERIES 6860 W/NO.160 LARGE OVAL BASE OR
    - B. CLAY & BAILEY SCREW-TYPE 6" C.I. ASSY. NO.P-108 W/NO.160 LARGE OVAL BASE.
  2. ALL C.I. SHALL BE WRAPPED WITH 8 MIL. MIN. THICKNESS POLYETHYLENE.
  3. VALVE NUT SHALL BE CENTERED.
  4. VALVE BOX SHALL BE PLUMB.

STONEGATE VILLAGE METROPOLITAN DISTRICT  
**VALVE BOX DETAIL**

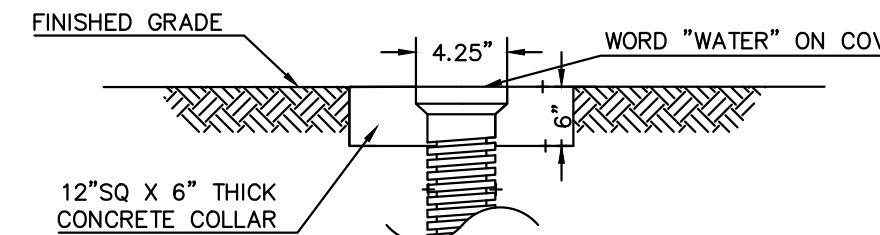
SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER



**FIRELINE CONNECTION WITH DOMESTIC SERVICE TEE**

**CURB STOP BOX IN PAVEMENT/LANDSCAPING DETAIL**



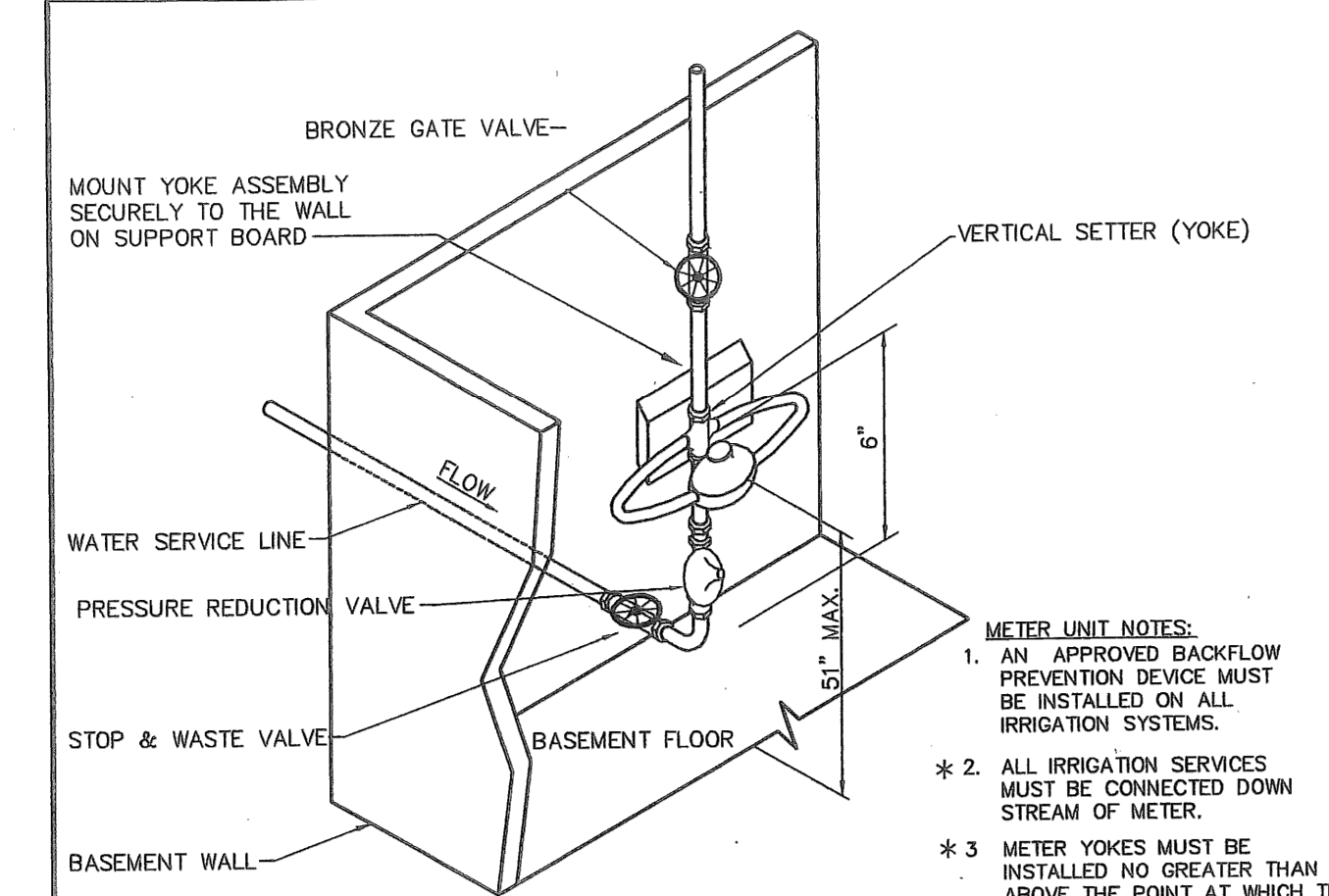
1. EXISTING MAIN
2. TAPPING SLEEVE OR M.J. ANCHORING TEE (SWIVEL TEE WHERE APPLICABLE)
3. TAPPING VALVE OR DOMESTIC SERVICE TEE OR SERVICE TAP
4. DOUBLE SPIGOT PIPE
5. PROPERTY LINE VALVE
6. TEES (WEDGES MAY BE USED IN PLACE OF RODDING)
7. PIPE CLAMP
8. CONCRETE KICKBLOCK
9. DOMESTIC SERVICE TEE OR SERVICE TAP
10. POLYETHYLENE WRAPPED
11. 90° FITTING (BEND FOR 2" & SMALLER)
12. VALVE OR CURBSTOP AS REQUIRED

**COMMERCIAL AND MULTI-FAMILY USE ONLY**

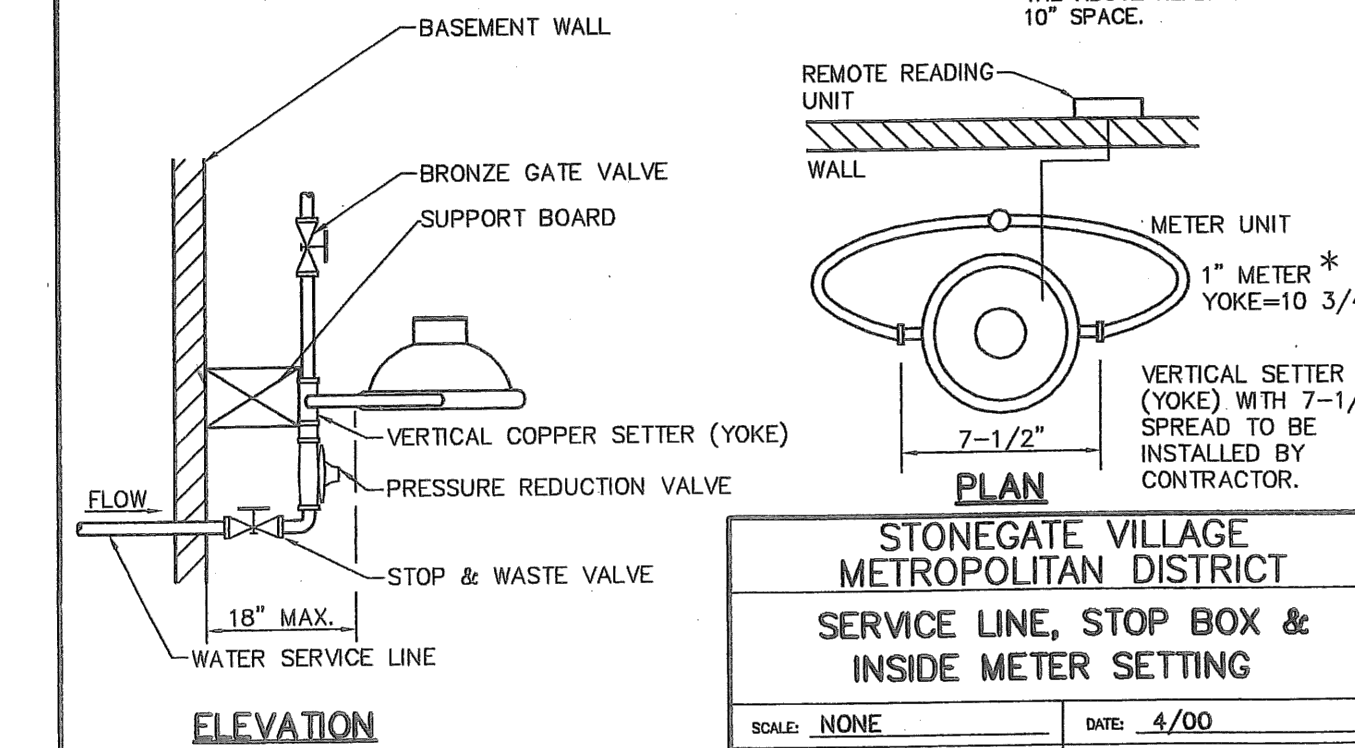
STONEGATE VILLAGE METROPOLITAN DISTRICT  
**COMBINATION FIRE/SERVICE TAP**

SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER



**ISOMETRIC VIEW**



STONEGATE VILLAGE METROPOLITAN DISTRICT  
**SERVICE LINE, STOP BOX & INSIDE METER SETTING**

SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 47

**LENGTH OF TIED PIPE**

PIPE SIZE	4"		6"		8"		12"		16"		20"		24"	
	D	L	D	L	D	L	D	L	D	L	D	L	D	L
TEE OR VALVE	3/4"	6.0'	3/4"	13.0'	3/4"	20.0'	3/4"	40.0'	3/4"	60.0'	3/4"	80.0'	3/4"	155.0'
90° BEND	3/4"	6.0'	3/4"	13.0'	3/4"	20.0'	3/4"	40.0'	3/4"	60.0'	3/4"	80.0'	3/4"	155.0'
45° BEND	3/4"	2.0'	3/4"	4.0'	3/4"	6.0'	3/4"	11.0'	3/4"	17.0'	3/4"	24.0'	3/4"	45.0'
22-1/2° BEND	3/4"	1.0'	3/4"	2.0'	3/4"	3.0'	3/4"	5.0'	3/4"	7.0'	3/4"	10.0'	3/4"	12.0'
11-1/4° BEND	3/4"	0.0'	3/4"	0.0'	3/4"	1.0'	3/4"	1.0'	3/4"	1.0'	3/4"	2.0'	3/4"	3.0'

**NOTES:**

1. LENGTH OF TIED PIPE MEASURED EACH WAY FROM VALVES AND BENDS.
2. CLAMPS AND RODS NOT ALLOWED FOR 24" AND LARGER PIPES.
3. D = DIAMETER, L = LENGTH, G = GRADE, M.S. = MILD STEEL, H.S. = HIGH STRENGTH
4. MINIMUM 4.5' GROUND COVER REQUIRED.
5. BASED ON 150 PSI INTERNAL PRESSURE.
6. M.S. MEANS MILD STEEL ROD A.S.T.M. STANDARD DESIGNATION A-36.
7. H.S. MEANS HIGH STRENGTH ROD A.S.T.M. STANDARD DESIGNATION A-193 GRADE B-7.
8. NUTS SHALL BE A.S.T.M. STANDARD DESIGNATION A-307 GRADE A OR B HEXAGON HEAVY SERIES.
9. SEE THE ROD DETAIL DRAWING. ALSO, THE ROD COUPLING DETAILS, CLAMP DETAILS AND SET CLAMP DETAILS.
10. LISTED REFER TO THE AMOUNT OF THE LENGTH OF THE RODS.
11. STAR BOLTS NOT ALLOWED ON PIPE LARGER THAN 16".
12. MINIMUM OF 4 RODS REQUIRED ON 16" PIPE IF STAR BOLTS ARE USED.
13. TEES ARE TO BE RODDED ON BRANCH ONLY.
14. ALL VALVES TO BE RODDED IN BOTH DIRECTIONS.

STONEGATE VILLAGE METROPOLITAN DISTRICT  
**LENGTH OF TIED PIPE**

SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER

**PIPE BEDDING**

(a) Installation of Bedding and Pipe: After completion of the trench excavation and proper preparation of the foundation, six inches (6") of bedding material shall be placed on the trench bottom for support under the pipe. Bell holes shall be dug deep enough to provide a minimum of two inches (2") of clearance between the bell and bedding material. All pipe shall be installed in such a manner as to insure full support of the pipe barrel over its entire length. After the pipe is adjusted for line and grade, and the joint is made, the bedding material shall be carefully placed and tamped under the haunches of the pipe and in the previously dug bell holes.

Tamping is herein defined as the act of placing approved bedding material under the haunches of the pipe, paying particular attention to voids, bell holes, and sling holes. The purpose of tamping is to ensure uniform support for the pipe.

The limits of bedding shall be from six inches (6") below the bottom of the pipe to twelve inches (12") above the top of the pipe. Approved bedding material may then be installed to the groundline. See Section 6 of the Standard Drawings for a typical trench cross section.

(b) Bedding Material: The bedding material shall be a clean well-graded sand or squeegee sand and shall conform to the following limits when tested by means of laboratory sieves:

Well-Graded Sand	
Sieve Size	Total Percent Passing by Weight
3/8 inch	100
No. 4	95-100
No. 8	80-100
No. 16	50-85
No. 30	25-60
No. 50	10-30
No. 100	2-10
No. 200	0

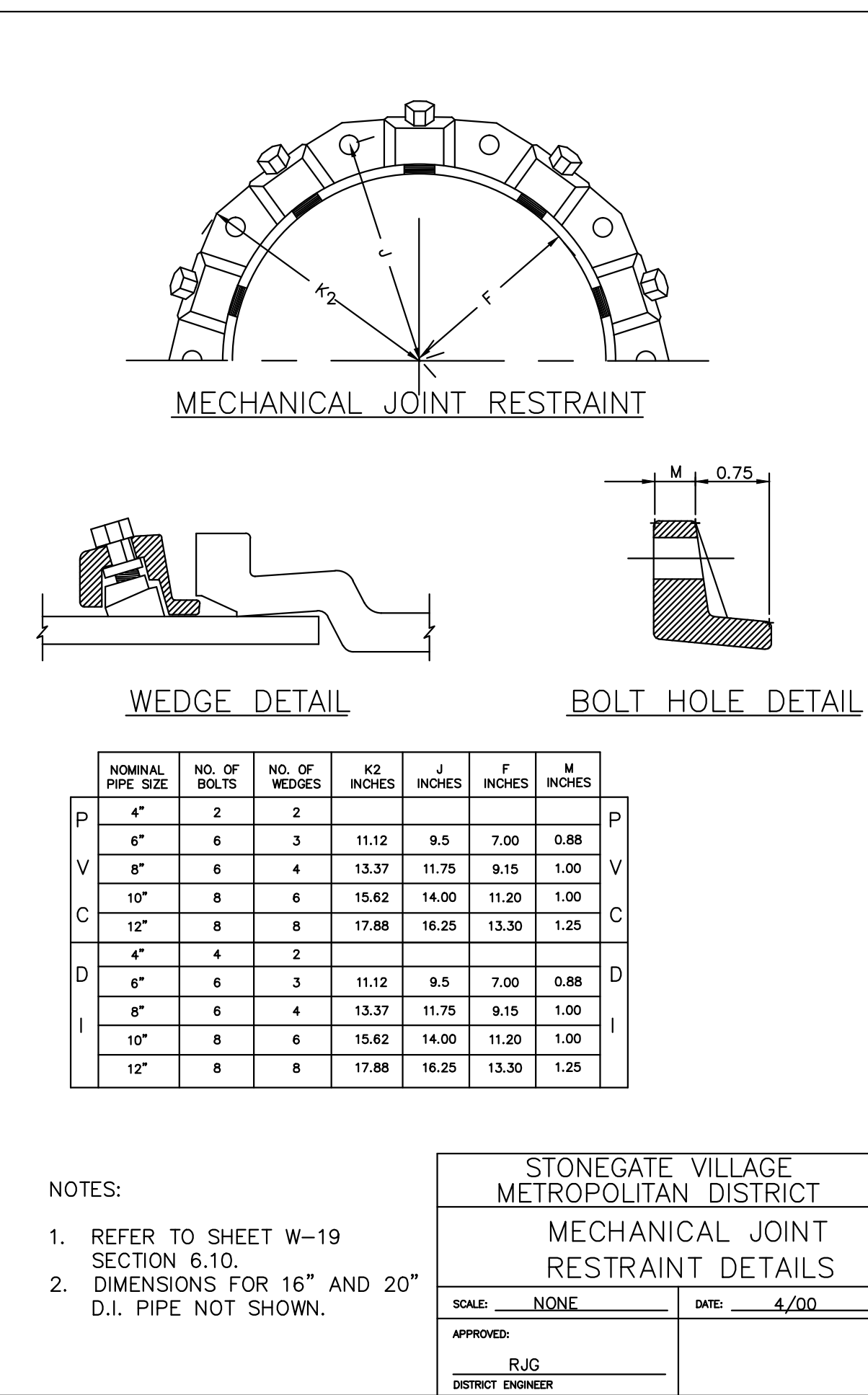
Squeegee Sand	
Sieve Size	Total Percent Passing by Weight
3/8 inch	100
No. 100	0-5

If approved by the District, fines from the trench walls and spoils pile may be used to provide uniform support for the pipe. No rock or stone larger than that allowed by the sieve analysis, or any other detrimental substance, shall be piped closer to the pipe than six inches (6"). Approved bedding materials shall be stockpiled on the jobsite to be used in the event natural materials become unsatisfactory. The District reserves the right to require the use of the specified bedding material at any time.

STONEGATE VILLAGE METROPOLITAN DISTRICT  
**PIPE BEDDING**

SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER



**MECHANICAL JOINT RESTRAINT**

**WEDGE DETAIL**

**BOLT HOLE DETAIL**

NOMINAL PIPE SIZE	NO. OF BOLTS	NO. OF WEDGES	K2 INCHES	J INCHES	F INCHES	M INCHES
P 4"	2	2				
V 6"	6	3	11.12	9.5	7.00	0.88
V 8"	6	4	13.37	11.75	9.15	1.00
C 10"	8	6	15.62	14.00	11.20	1.00
C 12"	8	8	17.88	16.25	13.30	1.25
D 4"	4	2				
D 6"	6	3	11.12	9.5	7.00	0.88
D 8"	6	4	13.37	11.75	9.15	1.00
D 10"	8	6	15.62	14.00	11.20	1.00
D 12"	8	8	17.88	16.25	13.30	1.25

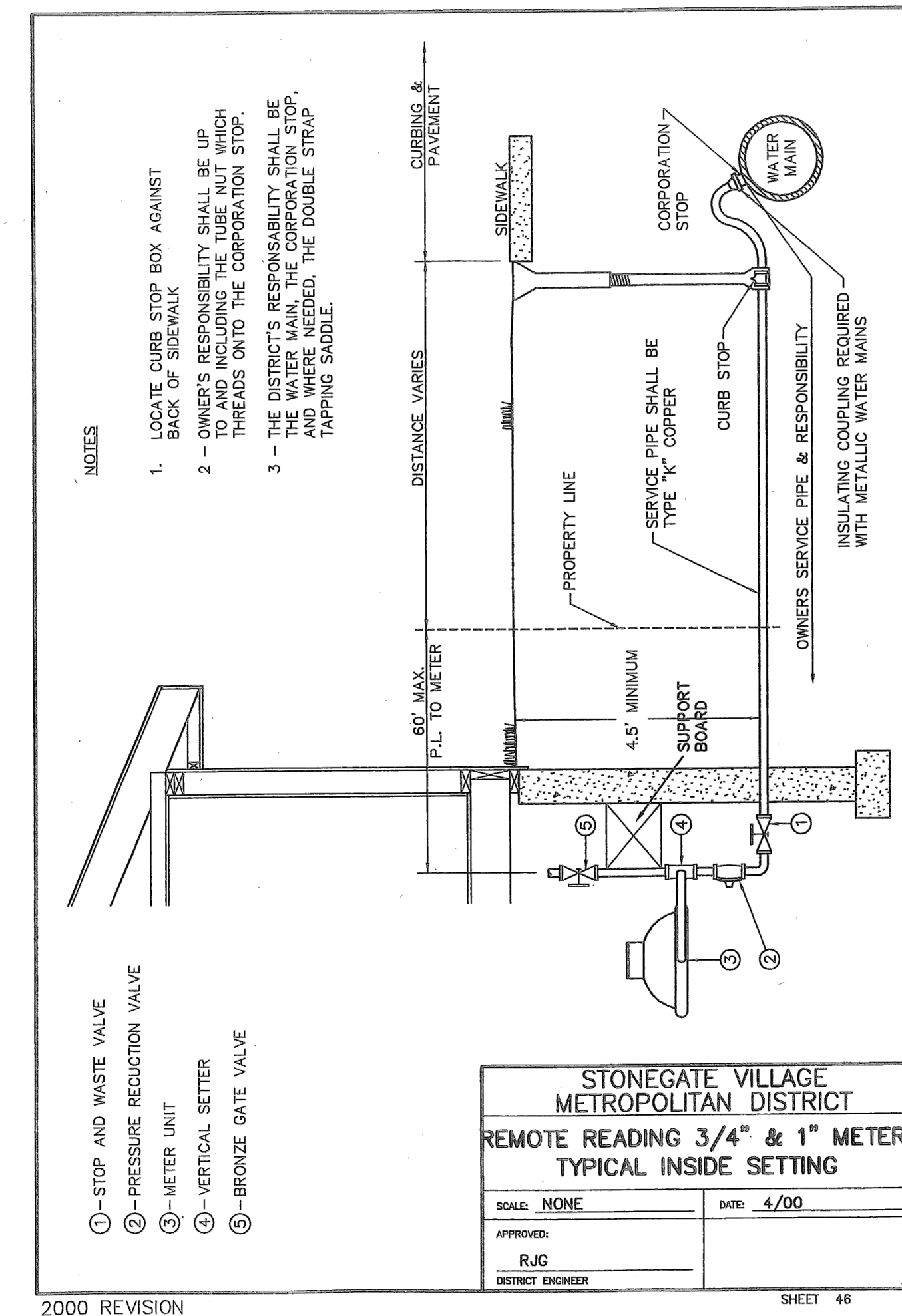
- NOTES:**
1. REFER TO SHEET W-19 SECTION 6.10.
  2. DIMENSIONS FOR 16" AND 20" D.I. PIPE NOT SHOWN.

STONEGATE VILLAGE METROPOLITAN DISTRICT  
**MECHANICAL JOINT RESTRAINT DETAILS**

SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 65



STONEGATE VILLAGE METROPOLITAN DISTRICT  
**REMOTE READING 3/4" & 1" METER TYPICAL INSIDE SETTING**

SCALE: NONE DATE: 4/00

APPROVED: R/JG DISTRICT ENGINEER

2000 REVISION SHEET 48

Path: 10/17/2016 10:35 AM Dan Brown c:\cricak\comsub05-residential\_csb\den\en\load\_drawing\Plan\_Sea\SDHICA\PHASE\_1\05A-WATER-DETAILS.dwg Located By: RJK

Manhard CONSULTING LTD

8001 E. Arapahoe Court, Suite 110, Greenwood, CO 80115 ph:303.733.0000 fax:303.733.0000 manhard.com

Construction Managers • Environmental Scientists • Landscape Architects • Planners

COMPARK VILLAGE SOUTH FILING NO. 2 - PHASE I  
TOWN OF PARKER, COLORADO  
WATER SYSTEM CONSTRUCTION DETAILS

PROJ. MGR.: RJM  
PROJ. ASSOC.: RAK  
DRAWN BY: RAK  
DATE: 10/2016

SHEET 14 OF 14  
CLCPK3