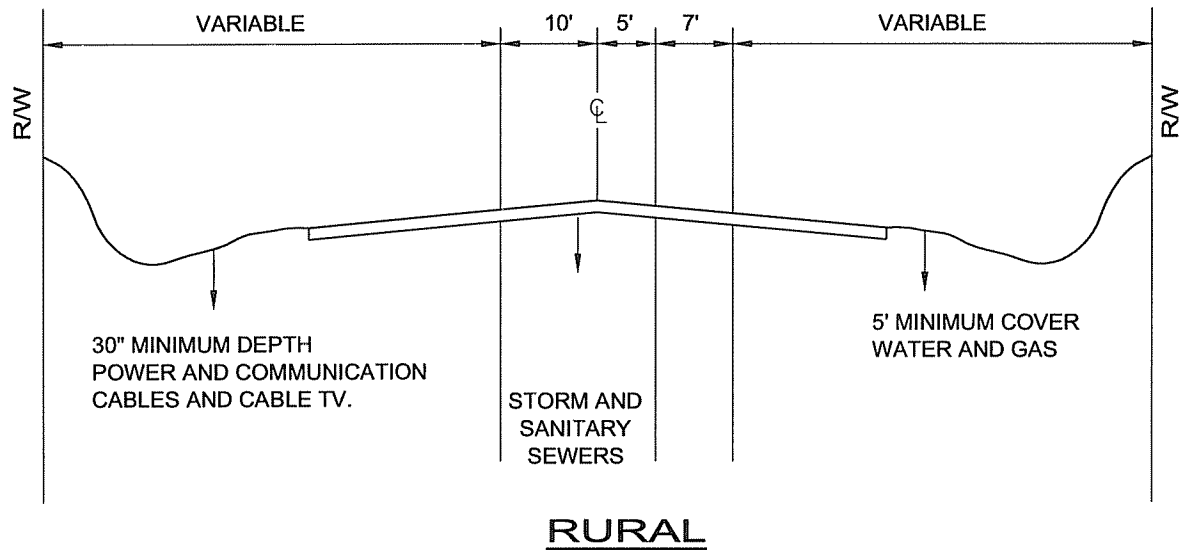
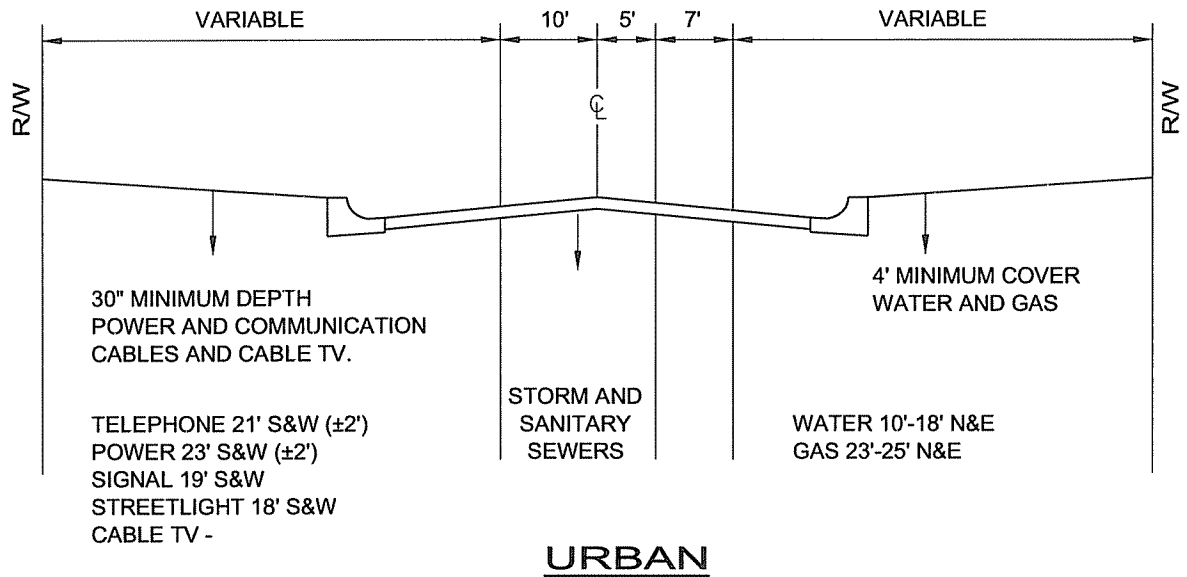


SOUTH & WEST

NORTH & EAST



NOTES:

1. THE CITY OF STAR REQUIRES WATER MAINS TO BE PLACED 4' OFF OF EDGE OF CURB UNLESS EXTENUATING CIRCUMSTANCES ARE PRESENT.
2. THIS LOCATION STANDARD SHALL BE USED IN ALL UNDERGROUND CONSTRUCTION UNLESS EXISTING CONDITIONS DO NOT PERMIT.
3. PERMISSION FROM ANY UTILITY IS REQUIRED IF THEIR CORRIDOR IS INFRINGED UPON.
4. PRESSURIZED IRRIGATION MUST BE OUTSIDE PUBLIC R/W EXCEPT FOR CROSSINGS WHICH MUST BE INSTALLED AT A MAXIMUM DEPTH OF 2'-6" IN AN AWWA C-900 PIPE SLEEVE. THE WATER DEPARTMENT MUST INSPECT ALL CROSSINGS PRIOR TO BACKFILL.

STANDARD DETAIL FOR
STAR SEWER AND WATER DISTRICT
UNDERGROUND UTILITY
LOCATION STANDARDS

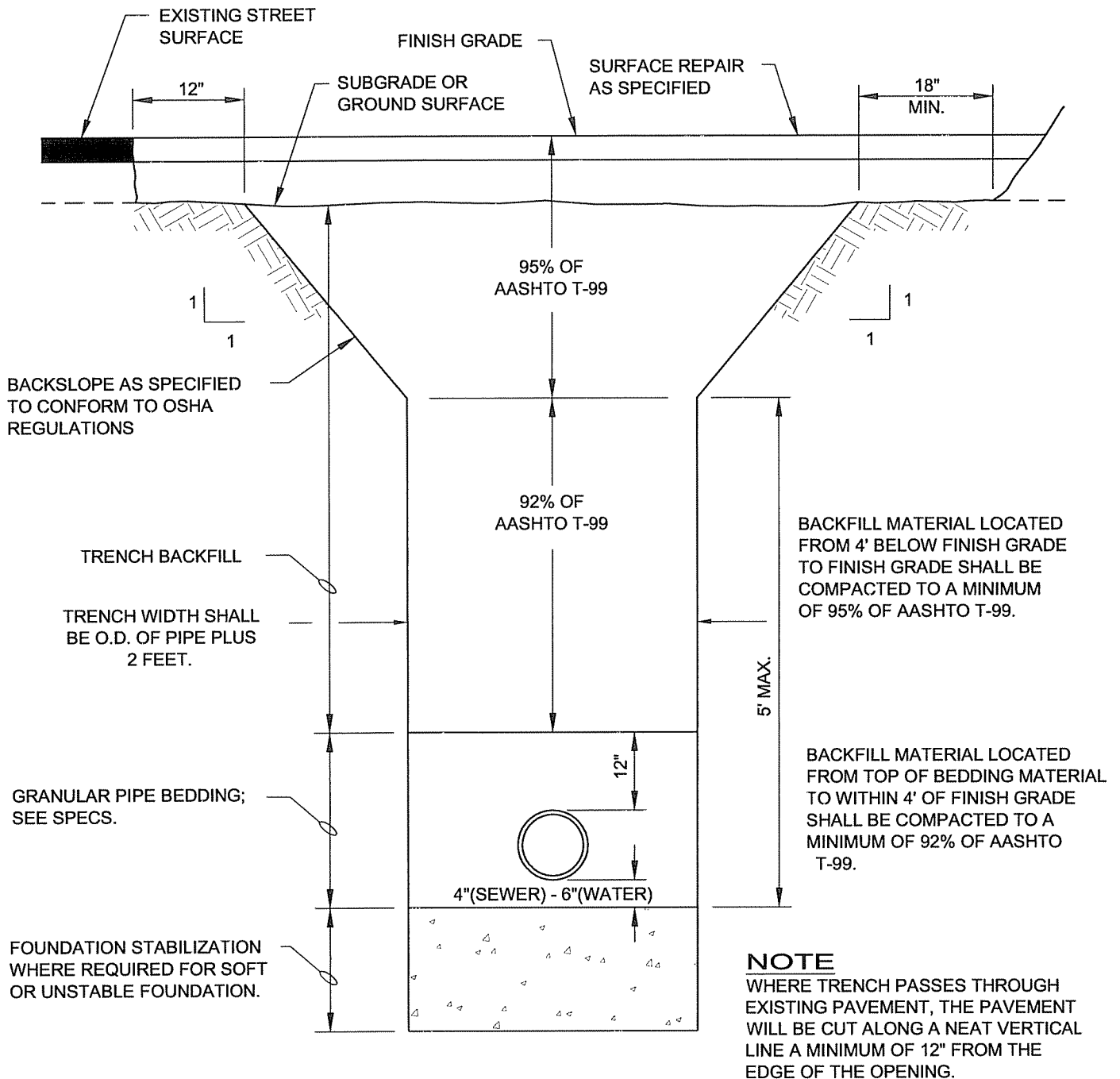
SCALE: NONE

DATE: MARCH 2004

DWG No.: 7.01(G)

OPEN GROUND SURFACE RESTORATION: THE UPPER 10" OF THE BACKFILL SHALL BE CLEAN TOP SOIL, THE SOIL SHALL BE MOUNDED 4" ABOVE THE NATURAL GROUND SURFACE.

GRAVEL SURFACE RESTORATION: BACKFILL UPPER 6" OF TRENCH WITH 3/4"(-) CRUSHED GRAVEL. REMAINDER OF TRENCH AS SHOWN BELOW.



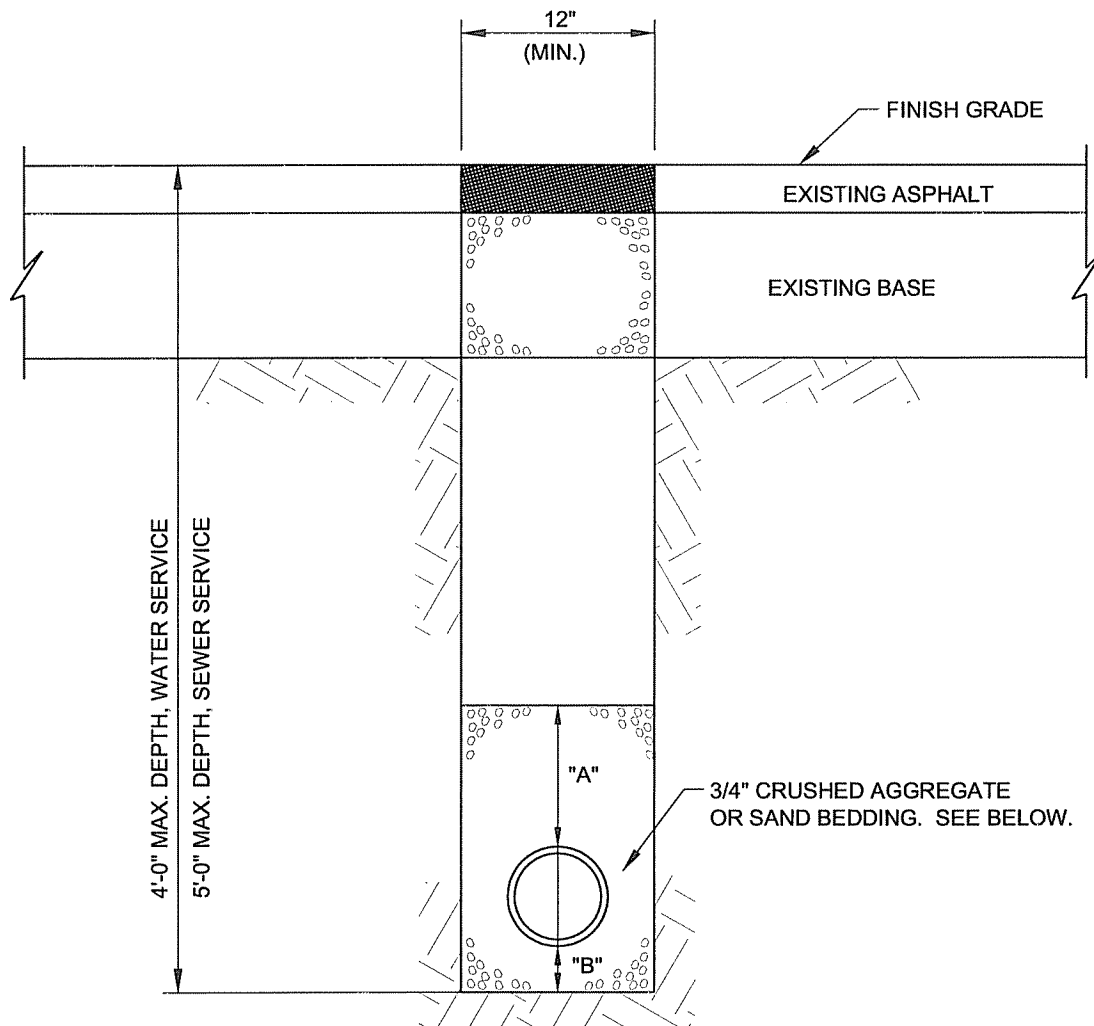
NOTE
SEE ACHD DWG. SD-307 FOR ASPHALT SURFACE REPAIR.

STANDARD DETAIL FOR
STAR SEWER AND WATER DISTRICT
TYPICAL TRENCH DETAIL

SCALE: NONE

DATE: MARCH 2004

DWG No.: 7.02(SW)



SEWER:	"A" - 12"	3/4" CRUSHED AGGREGATE
	"B" - 4"	
WATER:	"A" - 12"	SAND BEDDING
	"B" - 6"	

NOTES:

1. THIS TRENCH SHALL BE USED TO PLACE PIPE OF 6" OR LESS IN DIAMETER.
2. BACKFILL SHALL BE COMPACTED TO A MINIMUM OF 95% OF AASHTO T-99.
3. TRENCH SHALL CONFORM TO O.S.H.A. REQUIREMENTS.
4. ASPHALT TRENCH REPAIR PER ACHD DWG. SD-307, TYPE "P."
5. ALL ASPHALT CUTS SHALL BE NEAT AND IN A STRAIGHT LINE.
6. FOUNDATION STABILIZATION IS REQUIRED WHERE BOTTOM OF TRENCH IS SOFT OR UNSTABLE.

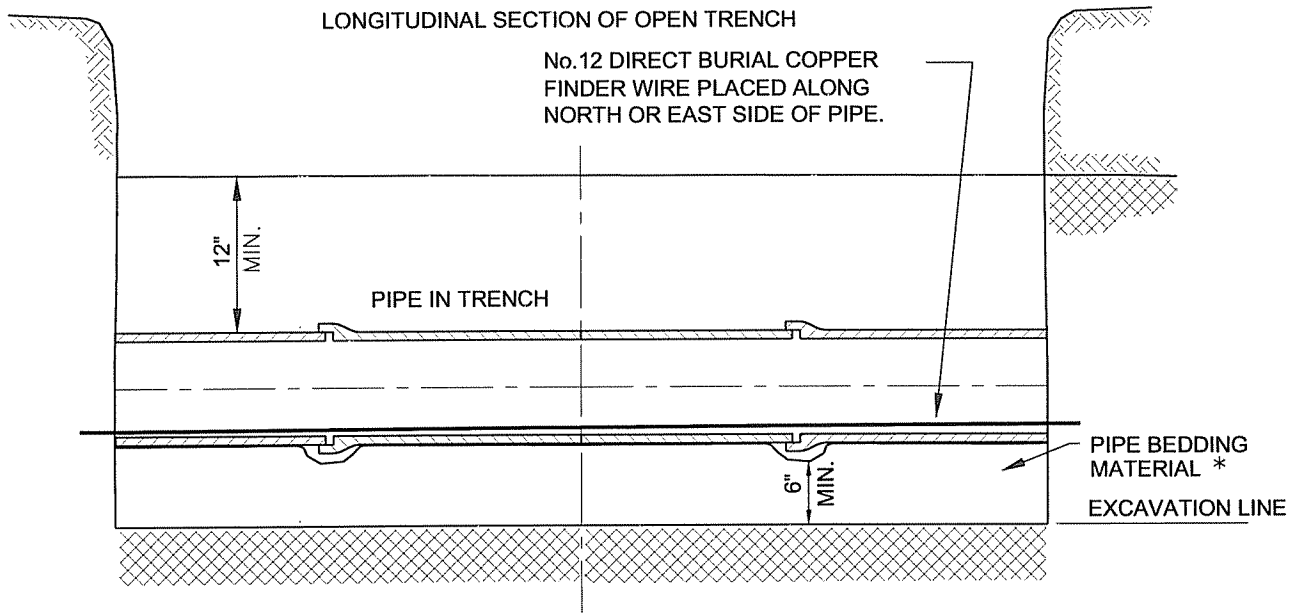
STANDARD DETAIL FOR STAR SEWER AND WATER DISTRICT

SERVICE LINE TRENCH DETAIL

SCALE: NONE

DATE: MARCH 2004

DWG No.: 7.03(SW)



NOTE:

1. TO FACILITATE PRESSURE TESTING, INSTALL THE PIPE AS LEVEL AS POSSIBLE TO PREVENT AIR POCKETS FROM FORMING. IF HIGH POINTS OCCUR, A TEMPORARY AIR RELIEF VALVE, PROVIDED BY THE CONTRACTOR, TO EXPEL TRAPPED AIR MAY BE REQUIRED.

* IF GROUNDWATER IS ENCOUNTERED, A COMBINATION OF 6" OF SAND OVER 6" OF 3/4" MINUS ROCK CHIPS SHALL BE USED.

**STANDARD DETAIL FOR
STAR SEWER AND WATER DISTRICT**

WATER PIPE INSTALLATION DETAIL

SCALE: NONE

DATE: MARCH 2004

DWG No.: 7.04(W)

NOTES:

1. NO GALVANIZED PIPE OR YELLOW BRASS FITTINGS SHALL BE USED.
2. SERVICE PIPE SHALL BE ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE PIPE CONFORMING TO ASTM D 2239, SDR 9, CLASS 200, IRON PIPE SIZE.
3. SADDLE COUPLERS SHALL BE USED FOR CONNECTION OF ALL SERVICE LINES TO PVC MAIN. ALL SERVICE SADDLES SHALL CONSIST OF A STAINLESS STEEL BAND AND MUELLER THREADS TYPE CC.
4. NO SERVICE CONNECTION SHALL BE MADE WITHIN ONE FOOT OF THE PIPE ENDS. MULTIPLE CONNECTIONS MADE ON THE SAME JOINT OF PIPE SHALL BE STAGGERED ON THE CIRCUMFERENCE AND SEPARATED BY A MINIMUM OF ONE FOOT.
5. METER TILES LOCATED IN CONC. DRIVEWAYS SHALL BE CENTERED IN A 4' X 4' SQUARE OF CONC. SEPARATED FROM THE REST OF THE DRIVEWAY CONC. BY EXPANSION JOINT MATERIAL. USE 20"Ø TILE WITH CONC. GRADE RING, STANDARD MANHOLE RING AND LID MARKED "WATER".
6. SEE DRAWING 7.07(W) FOR ELEVATION SET OF METER TILE LID.
7. SINGLE SERVICE SHALL HAVE 3/4" CURB STOP. DOUBLE SERVICES SHALL HAVE 1" CURB STOPS.
8. METER SHALL BE MODEL INVENSYS SR2 EB 3/4" 1000 GALLON METER.

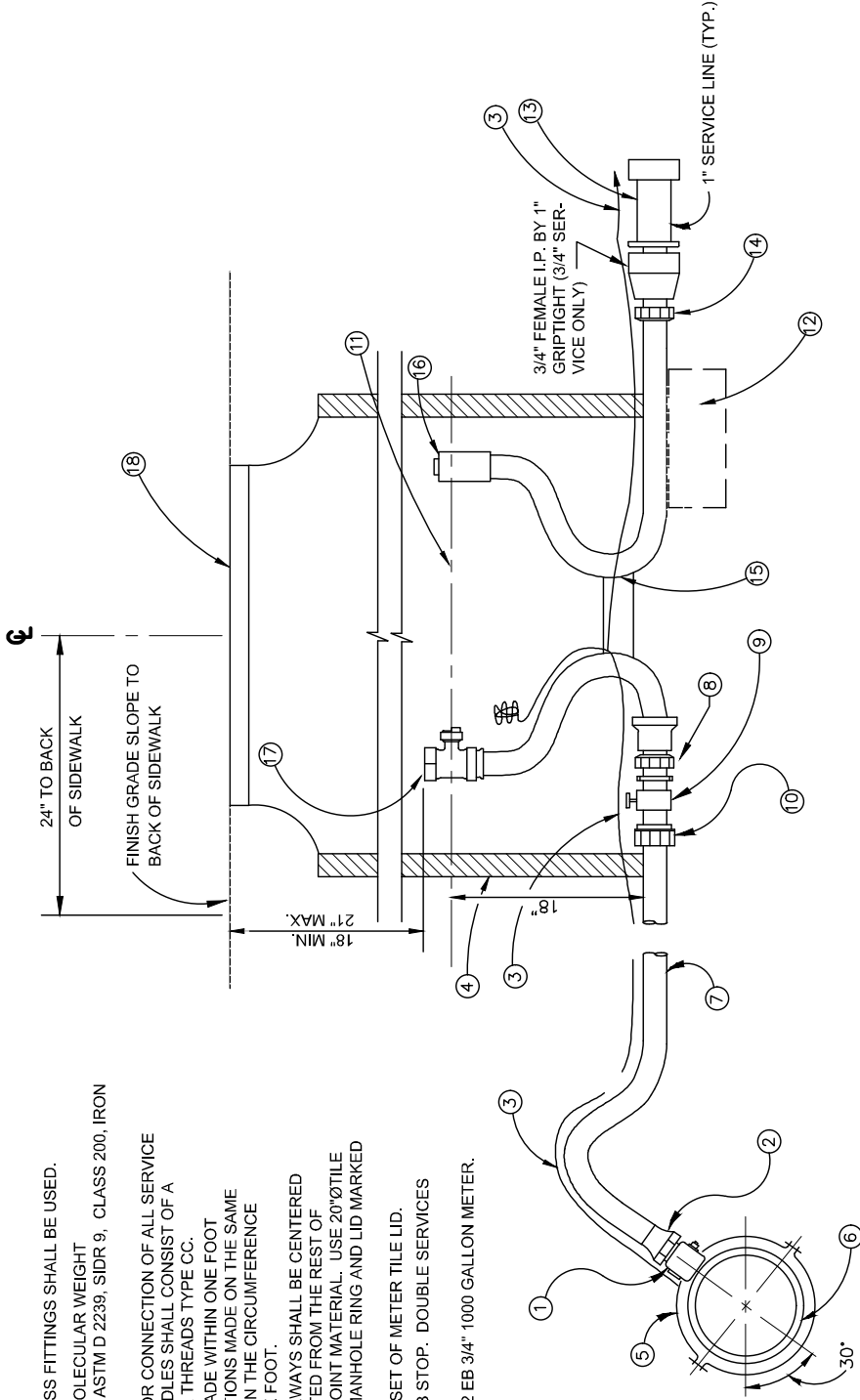
12. FIRM UNDISTURBED EARTH. (SET TILE ON 2" x 22" DIA. PRECAST CONCRETE BLOCK IF OVER-EXCAVATION OCCURS)
13. EXTEND 15' FROM METER TILE (SEE 7.08(W)) AND PROVIDE TEMPORARY PLUG (THREADED IN HIGH GROUNDWATER AREAS).
14. DOUBLE PURPOSE COUPLING.

15. 3/4" METER YOKE
APPROVED: MUELLER B24101-142
FORD YBHC93-18"
AY McDONALD #60-318JDM - 33x18

16. CHECK VALVE
APPROVED: MUELLER ANGLE DUAL CHECK - H14244
FORD CARTRIDGE DUAL CHECK (VERTICAL)
AY McDONALD ANGLE DUAL CHECK 123HE-43

17. ANGLE BALL VALVE
APPROVED: MUELLER B24265
FORD BA13-232W
AY McDONALD 4604B
18. DOUBLE HOLE TOUCH READ LID COVERS NO. X43T, 13 1/2" OPENINGS
APPROVED: NICOR 16.25", 1 1/32-INCH PENTAGONAL NUT

19. FUTURE METER INSTALLED BY STAR SEWER & WATER DEPT.



STANDARD DETAIL FOR
STAR SEWER AND WATER DISTRICT

3/4" or 1" WATER SERVICE CONNECTION

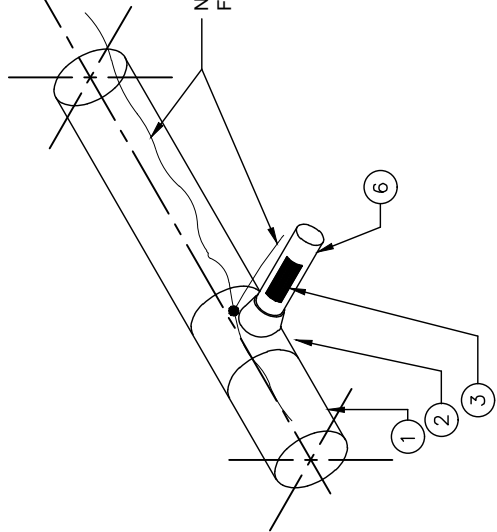
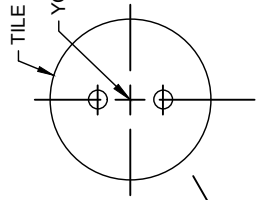
DATE: APRIL 2020

DWG No.: 7.05(W)

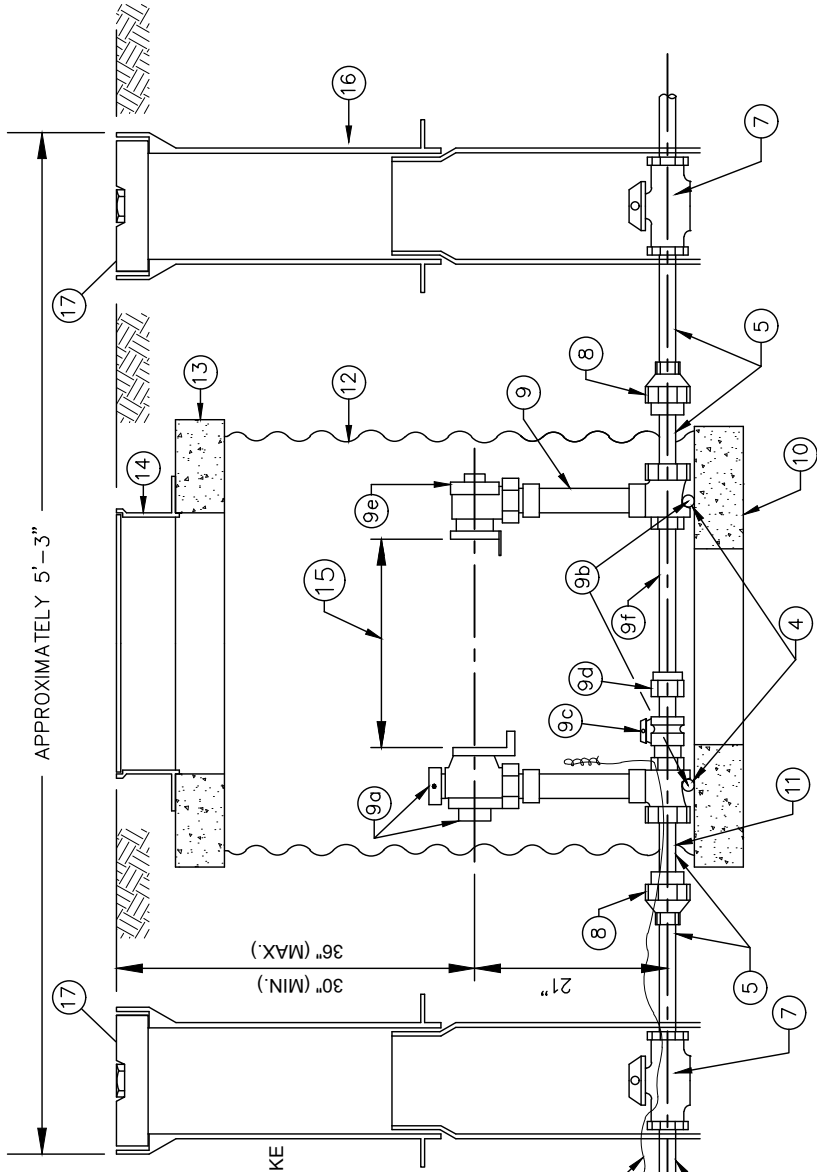
SCALE: NONE

NOTES:

1. NO GALVANIZED PIPE OR YELLOW BRASS FITTINGS SHALL BE USED.
2. NO TAP SHALL BE MADE WITHIN ONE FOOT OF THE PIPE ENDS.



ISOMETRIC VIEW OF
TAP CONNECTION



SECTION OF METER SETTER & TILE

NOTES:

1. A LISTING OF THE NUMBERED ITEMS SHOWN ON THIS SHEET APPEARS ON THE FOLLOWING PAGE.
2. THE DIAMETER (1-1/2" OR 2") OF EACH APPURTENANCE SHOWN HEREON SHALL BE THE SAME AS THE METER SIZE.
3. METER SETTERS FOR LANDSCAPE OR PRESSURIZED IRRIGATION SYSTEMS - NO BYPASS SHALL BE ALLOWED.
4. IF TWO OR MORE YOKEs ARE USED FOR SAME SERVICE - NO BYPASS SHALL BE ALLOWED.

STANDARD DETAIL FOR
STAR SEWER AND WATER DISTRICT

(1 1/2" - 2") WATER SERVICE CONNECTION

SCALE: NONE

DATE: AUGUST 2019

DWG No.: 7.06(W)

NOMENCLATURE LISTING

1 1/2" - 2" WATER SERVICE CONNECTION

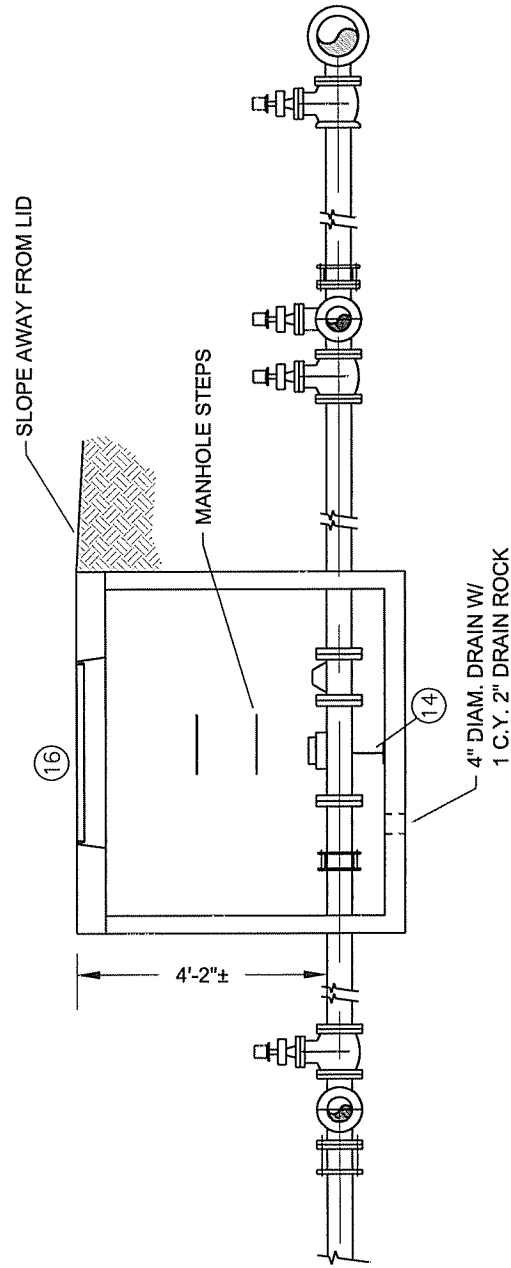
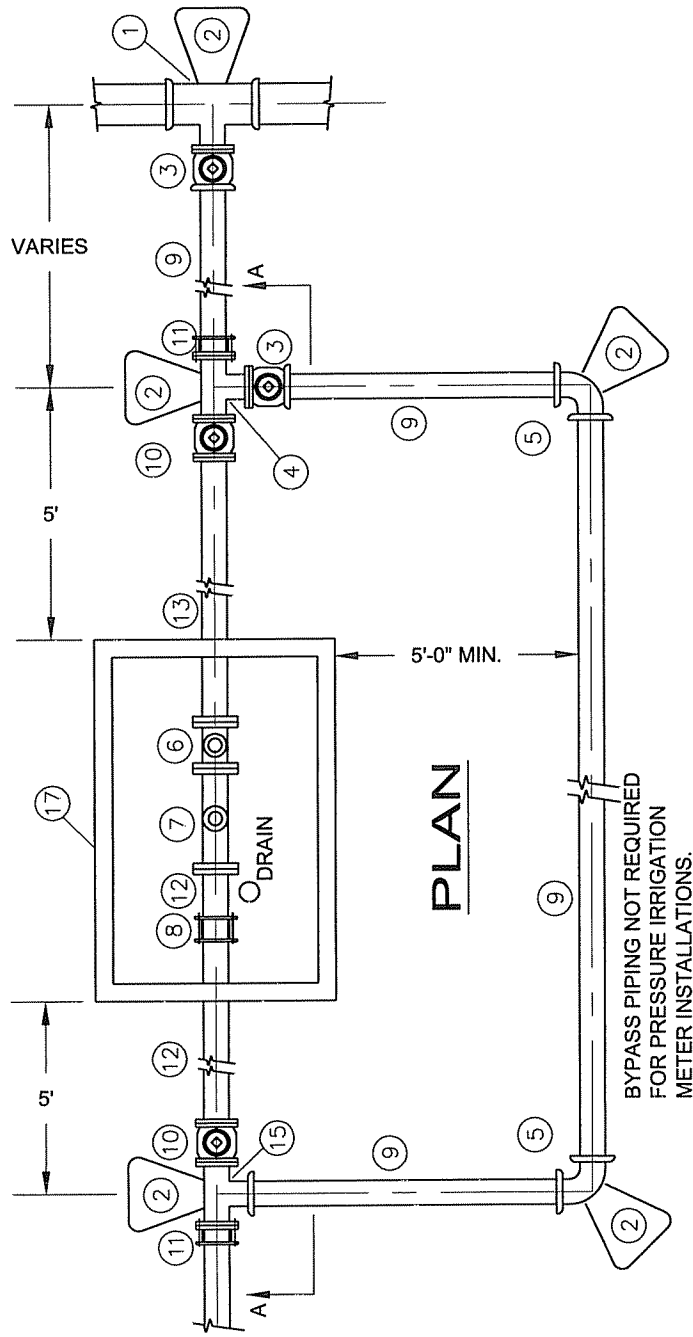
1. AWWA C-900 PVC WATER MAIN.
2. SADDLE WITH C C THREAD AND STAINLESS STEEL STRAP.
3. BALLCORP TYPE FB400 INLET AWWA TAPER-CCxPACK JOINT W/S.S. INSERT
{FORD 1 1/2"(FB1001-6), 2"(FB1001-7)}
4. 1" DIA. GALVANIZED BRACE PIPE (APPROX. 18" LONG), 2 REQUIRED.
5. 6" LONG RED BRASS NIPPLE.
6. SERVICE LINE: 1 1/2" and 2"= POLYETHYLENE PIPE WITH PACK JOINT
BRASS FITTINGS AND STAINLESS STEEL INSERTS.
7. FORD BALL VALVE CURB STOP W/VALVE RISER AND LOCKING LID.
1 1/2" = B11-666
2" = B11-777
8. RED BRASS UNION.
9. METER SETTER W/THE FOLLOWING FACTORY ASSEMBLED ITEMS:
 - A. AY McDONALD NL 2"X 21" METER SETTER W/LW ANGLE LEESCIPING FLANGE BALL
VALVE AND DUAL CHECK W/BYPASS
1 1/2" = 720-B621KDFF665
2" = 720-B621KDFF775
 - B. BRACE PIPE EYELETS STANDARD.
 - C. BALL VALVE WITH PADLOCK WING ON BY-PASS.
 - D. BY-PASS PACK JOINT.
 - E. FLANGED ANGLE CHECK VALVE.
 - F. RED BRASS BY-PASS.
10. 2"x35" O.D. CONCRETE GRADE RING (UNDER YOKE).
11. NOTCH CMP FOR OFFSET ON GRADE RING.
12. 30" DIA. x 44" MIN. LENGTH CMP.
13. 4"x35" O.D. CONCRETE GRADE RING.
14. STANDARD 24" DIA. MANHOLE RING & "WATER" COVER WITH TOUCH READ LID.
15. 1 1/2" METER = 13 1/4" WITH GASKETS, 2" METER = 17 1/4" WITH GASKETS.
16. 4" DIA. SEWER PIPE. NOTCH BOTTOM TO FIT OVER CURB STOP.
17. CAST IRON VALVE BOX WITH TYLER LID NO. 6855.

STANDARD DETAIL FOR
STAR SEWER AND WATER DISTRICT
(1 1/2" - 2") WATER SERVICE CONNECTION

SCALE: NONE

DATE: AUGUST 2019

DWG No.: 7.06B(W)



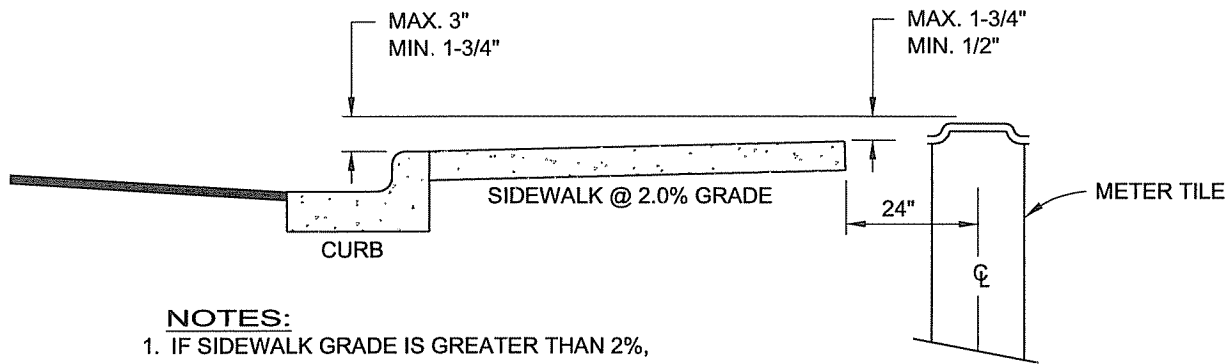
- ① MAIN SIZE MJ x 4" FLG TEE, OR STAINLESS STEEL TAPPING SADDLE
- ② CONC. THRUST BLOCK
- ③ 4" FLG x MJ GATE VALVE
- ④ 4" FLG TEE
- ⑤ 4" MJ 90° BEND
- ⑥ 4" STRAINER BASKET
- ⑦ 4" METER INSTALLED BY THE DISTRICT
- ⑧ 4" DRESSER COUPLING
- ⑨ C-900
- ⑩ 4" FLG GATE VALVE
- ⑪ 4" FLG x MJ ADAPTOR
- ⑫ 4" FLG x PE D.I.P.
- ⑬ D.I.P. FLG x FLG SPOOL
- ⑭ SUPPORT STAND W/ S.S. ANCHOR BOLTS
- ⑮ 4" FLG x FLG x MJ TEE
- ⑯ 33" x 33" (NOMINAL) SINGLE-LEAF HATCH DOOR. HATCH & FRAME TO BE HOT-DIP GALVANIZED, AASHTO HS-20 RATED, SPRING-ASSISTED OPEN AND CLOSE, RECESSED LIFT HANDLE, BOLT DOWN (3/8" PENTAHEAD) AND LOCKABLE.
- ⑰ 5'-6"L x 3'-6"W, INSIDE, PRECAST CONCRETE VAULT W/ HS-25 LOADING RATED LID

STANDARD DETAIL FOR STAR SEWER AND WATER DISTRICT

4" WATER SERVICE CONNECTION	DWG No.: 7.06C(W)
DATE: MARCH 2004	

SCALE: NONE

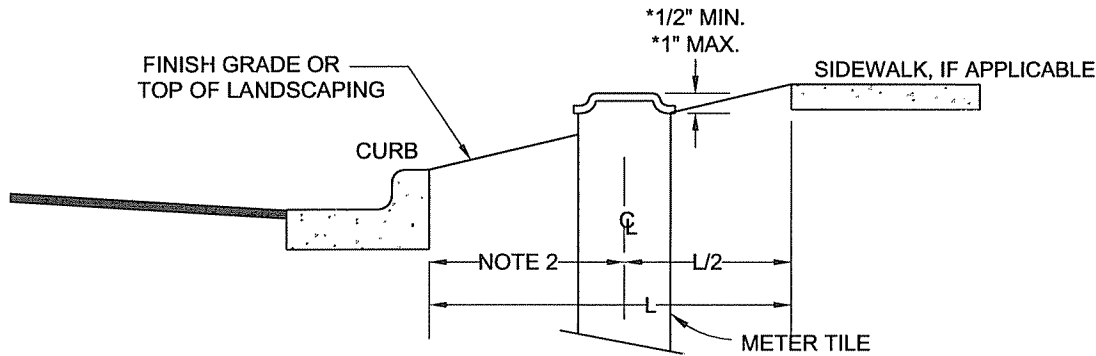
SECTION A-A



NOTES:

1. IF SIDEWALK GRADE IS GREATER THAN 2%, TOP BACK OF SIDEWALK SHALL BE HEIGHT DETERMINING FACTOR.
2. NO LARGE LANDSCAPING SHALL BE PERMITTED WITHIN A 5' RADIUS OF WATER METER.

ELEVATION SET OF METER TILE LID



*DIMENSIONS ARE FROM FINISH GRADE OR TOP OF LANDSCAPING TO TOP OF METER LID.

NOTES:

1. IN THE ABSENCE OF A SIDEWALK, THE METER LID SHALL BE A MINIMUM OF 1/2" ABOVE FINISHED GRADE OR TOP OF LANDSCAPING (MAX. = 1").
2. THE C/L OF THE METER SHALL BE 24 INCHES FROM BACK OF CURB UNLESS A SEPARATED SIDEWALK IS BEING CONSTRUCTED. IF A SIDEWALK IS CONSTRUCTED, THE C/L OF THE METER SHALL BE "L/2".
3. NO LARGE LANDSCAPING SHALL BE PERMITTED WITHIN A 5' RADIUS OF WATER METER.

ELEVATION SET OF METER TILE LID W/O CONNECTED SIDEWALK

STANDARD DETAIL FOR
STAR SEWER AND WATER DISTRICT
ELEVATION SET OF METER TILE LID

SCALE: NONE

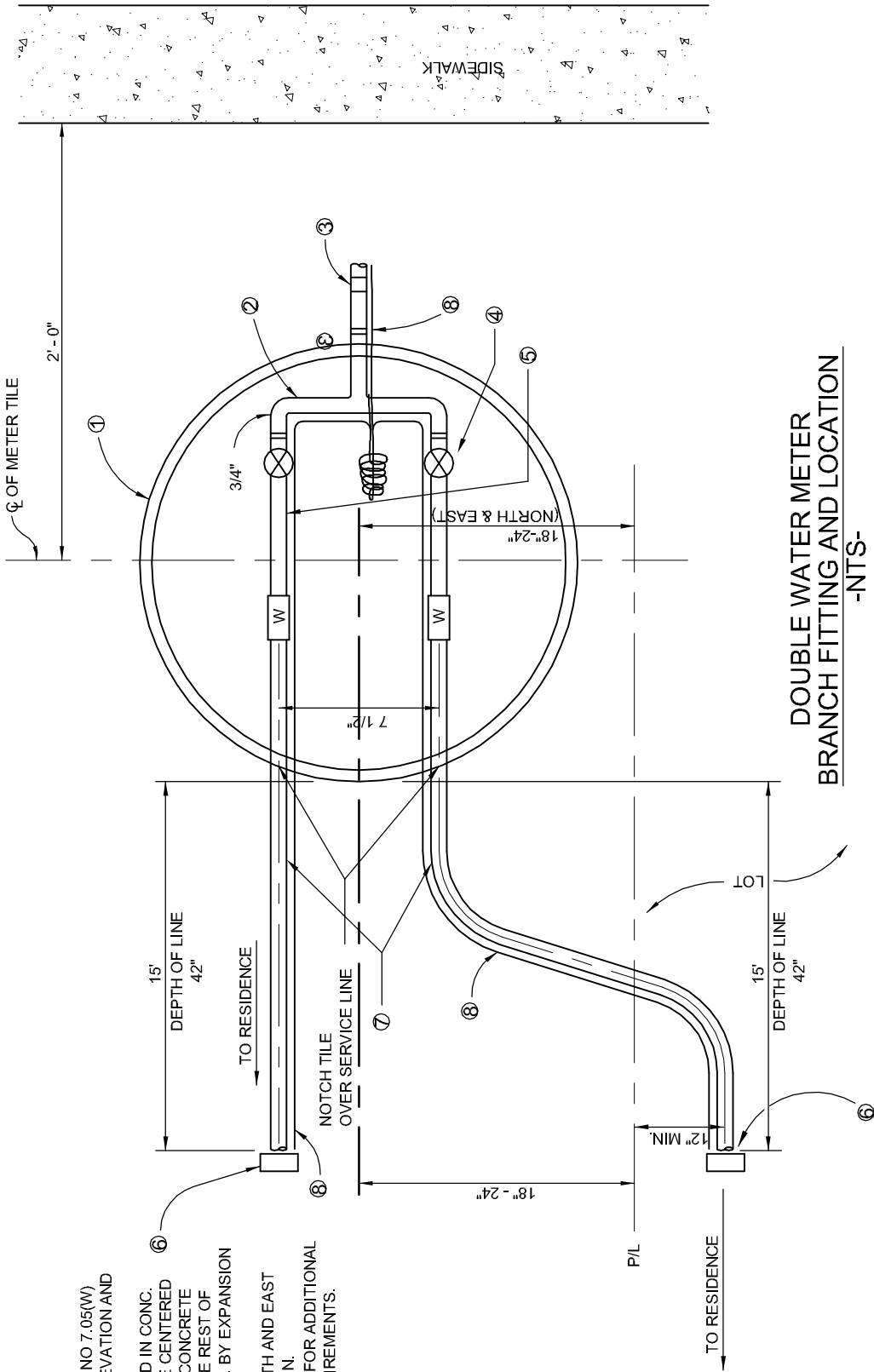
DATE: MARCH 2004

DWG No.: 7.07(W)

NOTES:

1. SEE STANDARD DWG. NO 7.05(W) FOR METER YOKE ELEVATION AND FITTINGS.
2. METER TILES LOCATED IN CONC. DRIVEWAYS SHALL BE CENTERED IN A 4'x4' SQUARE OF CONCRETE SEPARATED FROM THE REST OF THE DRIVEWAY CONC. BY EXPANSION JOINT MATERIAL.
3. LOCATE TILE ON NORTH AND EAST SIDE OF PROPERTY PIN.
4. SEE SPECIFICATIONS FOR ADDITIONAL WORKMANSHIP REQUIREMENTS.

- ① 20"Ø x 36" PVC TILE, OR APPROVED EQUAL. NOTCH FOR SERVICE LINE(S).
- ② BRANCH FITTING (FORD U68-43 OR MUELLER H15364).
- ③ 1" FEMALE x I.P. "GRIP JOINT" FEMALE ADAPTOR (MUELLER H-1545)
- ④ 3/4" BALL VALVE.
- ⑤ METER YOKE (FORD #93-18).
- ⑥ 2" x 4" x 8", TOP 2' PAINTED BLUE. PROVIDE TEMPORARY PLUG (THREADED IN HIGH GROUNDWATER AREAS).
- ⑦ 1"Ø POLYETHYLENE PIPE.
- ⑧ BLUE NO. 12 COPPER FINDER WIRE.



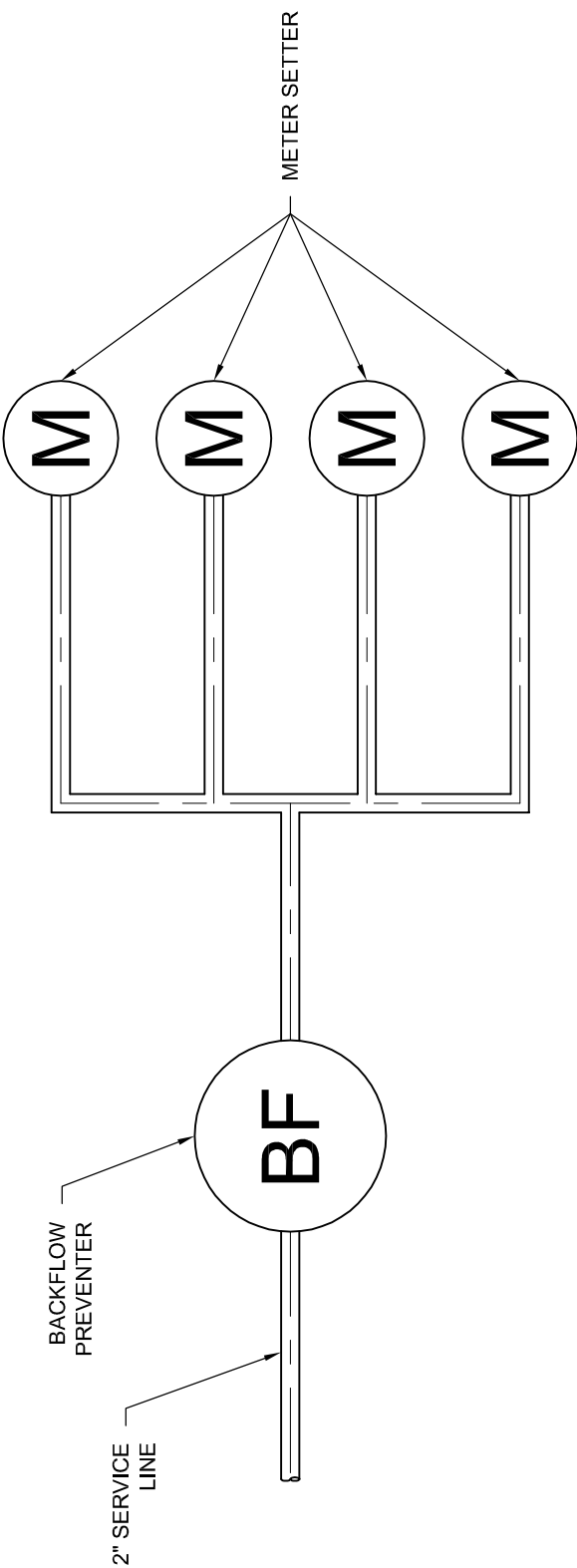
STANDARD DETAIL FOR
STAR SEWER AND WATER DISTRICT

TYPICAL DETAIL FOR DOUBLE WATER SERVICE

DATE: MARCH 2004

DWG No.: 7.08(W)

SCALE: NONE



COMMERCIAL WATER METER
-NTS-

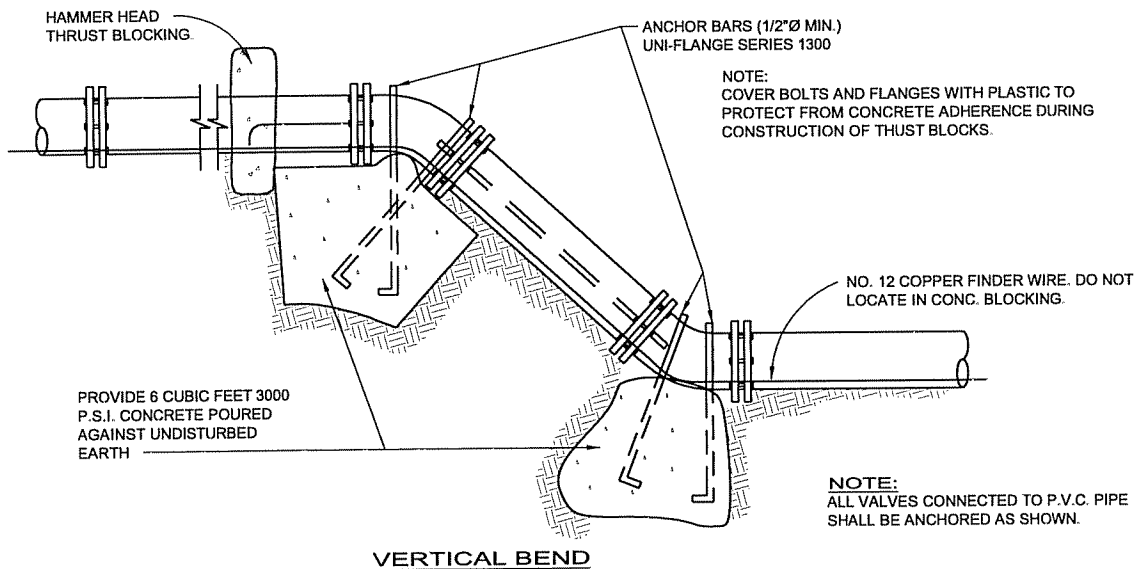
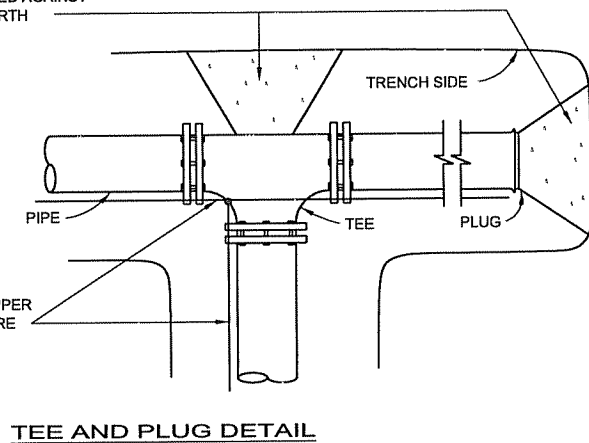
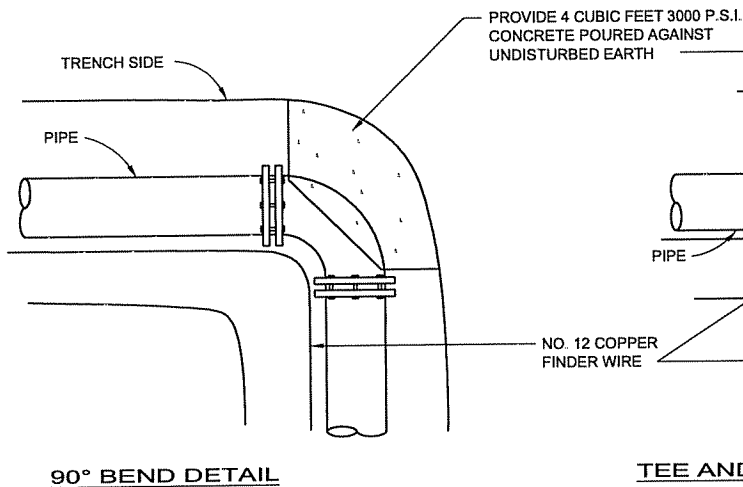
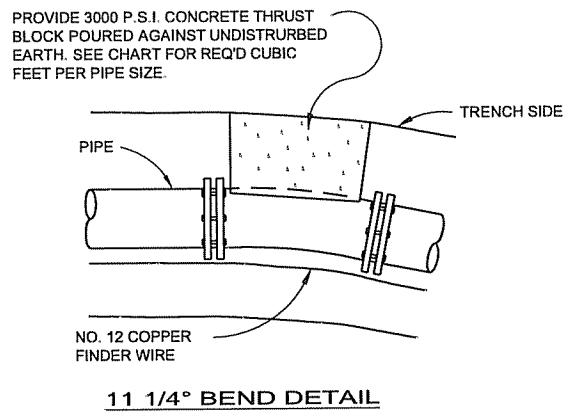
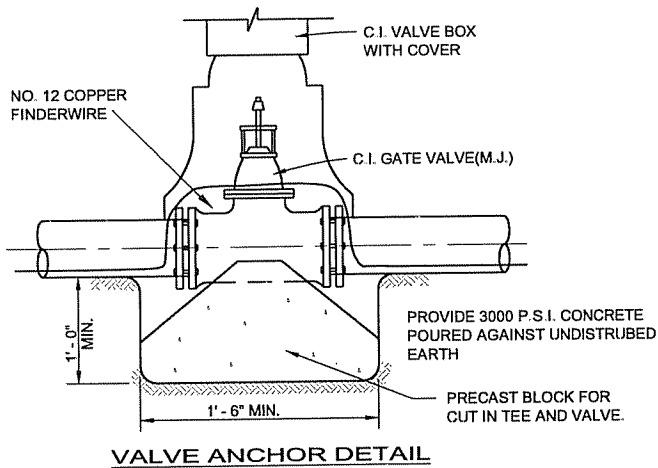
NOTES:

- 1. SEE STANDARD DWG. NO 7.05(W) FOR METER YOKE ELEVATION AND FITTINGS.
- 2. METER TILES LOCATED IN CONC. DRIVEWAYS SHALL BE CENTERED IN A 4'x4' SQUARE OF CONCRETE SEPARATED FROM THE REST OF THE DRIVEWAY CONC. BY EXPANSION JOINT MATERIAL.
- 3. LOCATE TILE ON NORTH AND EAST SIDE OF PROPERTY PIN.
- 4. SEE SPECIFICATIONS FOR ADDITIONAL WORKMANSHIP REQUIREMENTS.

STANDARD DETAIL FOR
STAR SEWER AND WATER DISTRICT

TYPICAL DETAIL FOR COMMERCIAL WATER SERVICE	DATE: MAY 2008	DWG No.: 7.08B(W)
---	----------------	-------------------

SCALE: NONE



MINIMUM THRUST BLOCK BEARING AREAS (SQ. FT.)

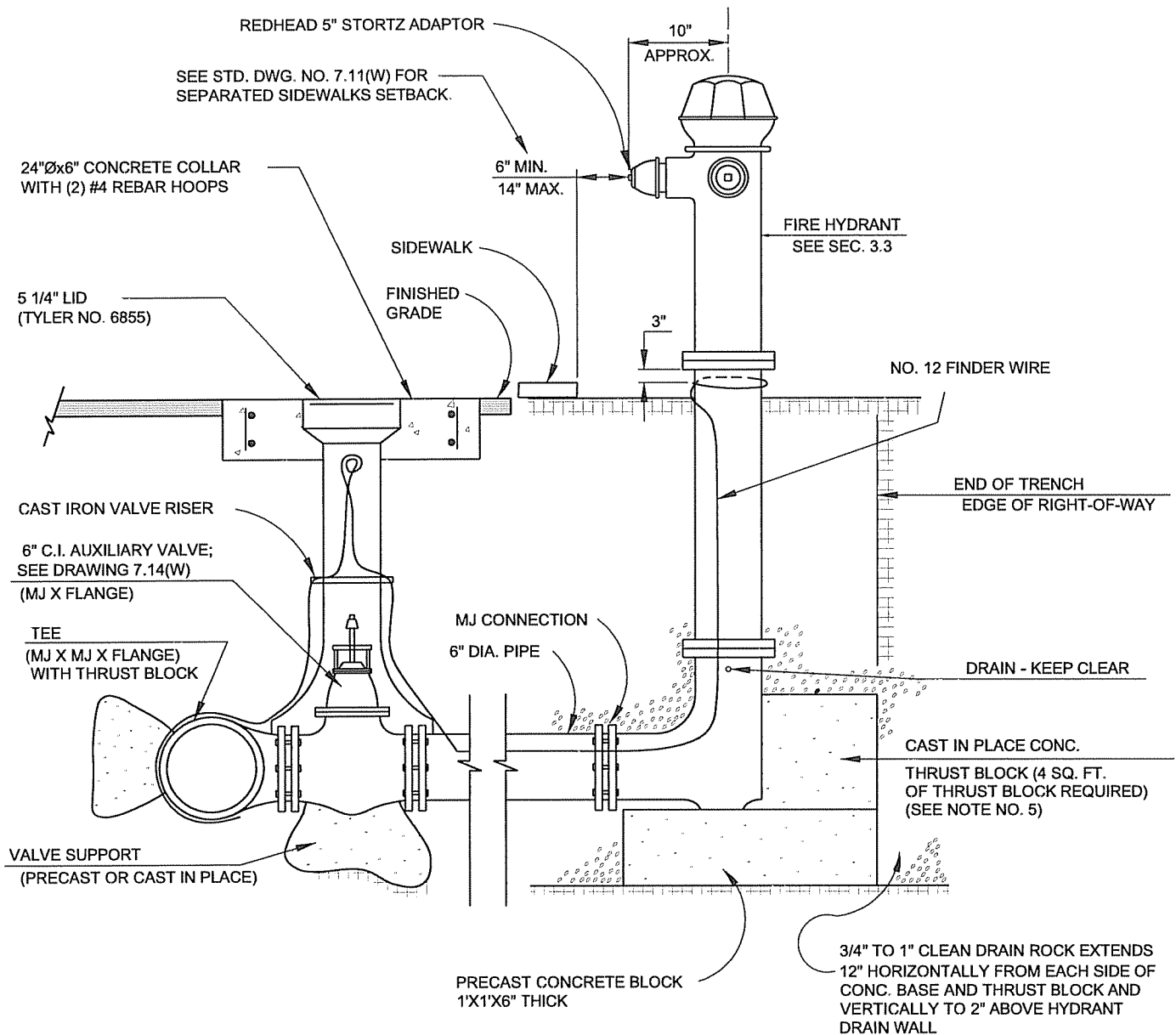
PIPE SIZE	TEE OR END	BENDS			
		90°	45°	22 1/2°	11 1/4°
4"	1.4	2.0	1.1	0.6	0.6
6"	3.2	4.5	2.4	1.2	1.2
8"	5.7	8.0	4.3	2.2	2.2
10"	8.8	12.5	6.8	3.4	3.4
12"	12.7	18.0	9.7	5.0	5.0

**STANDARD DETAIL FOR
STAR SEWER AND WATER DISTRICT
THRUST BLOCK AND ANCHOR DETAILS**

SCALE: NONE

DATE: MARCH 2004

DWG No.: 7.09(W)



NOTES:

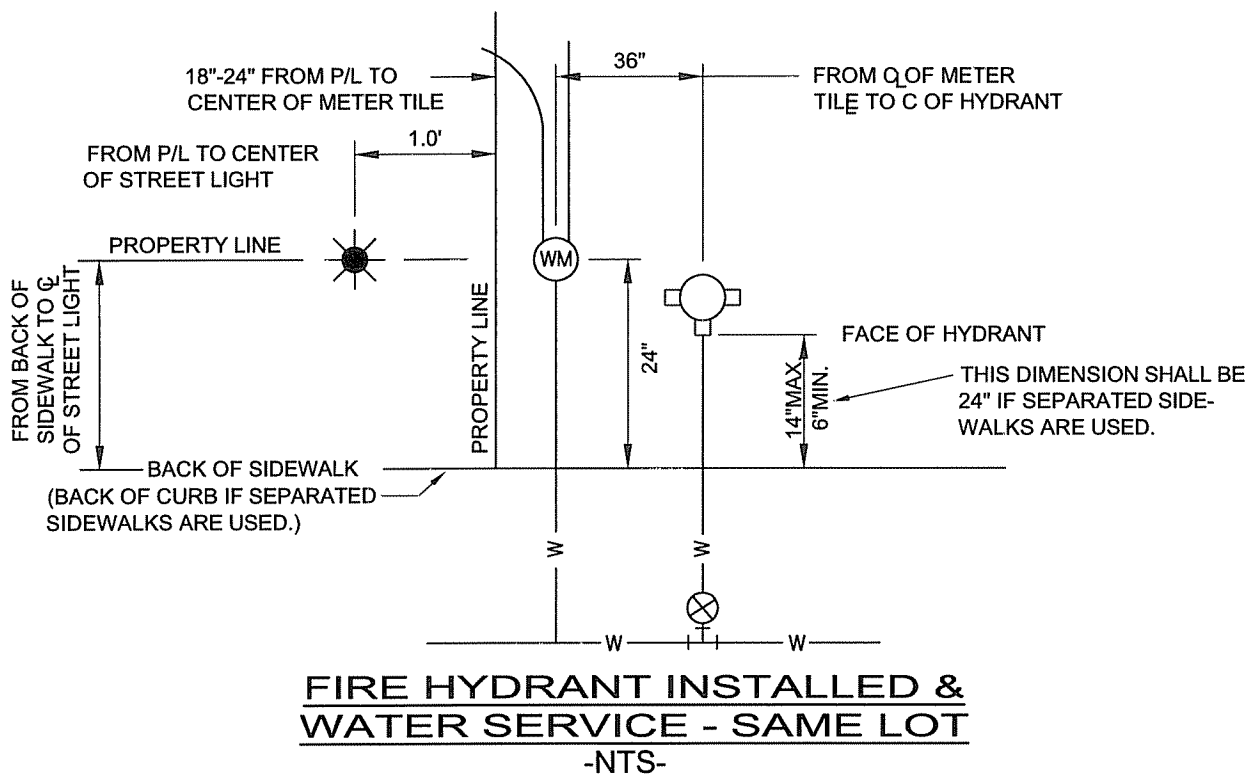
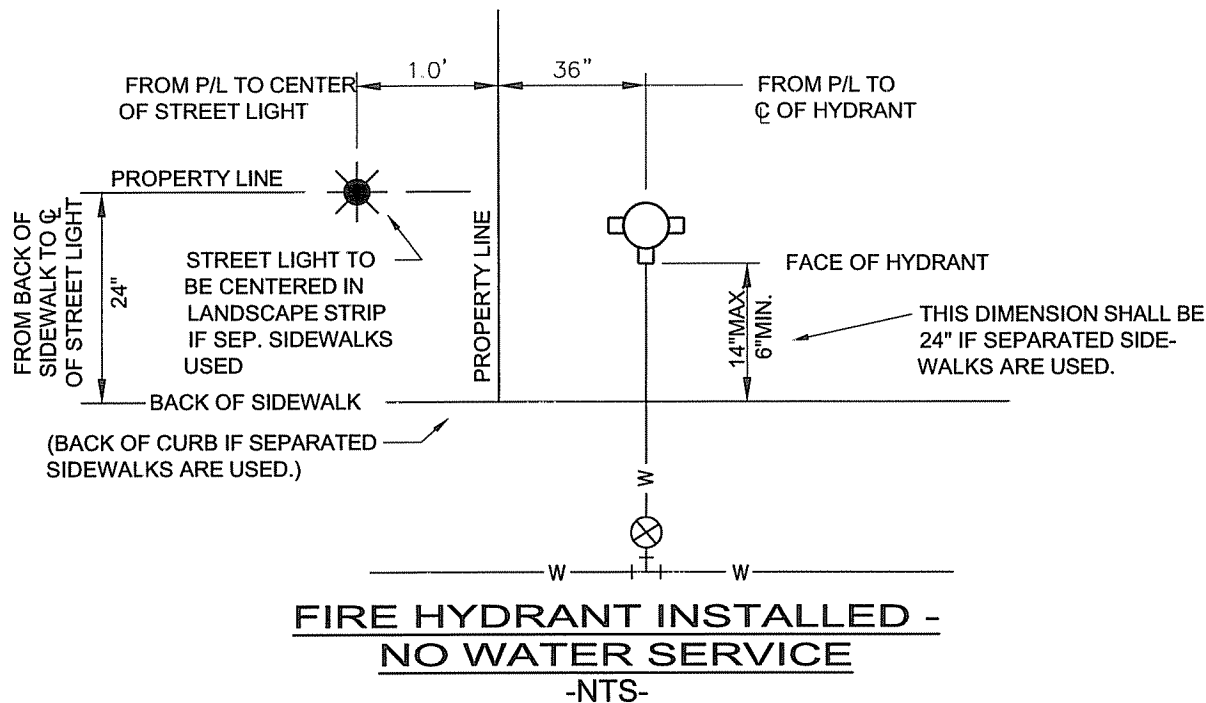
1. HYDRANTS THAT ARE TO BE RELOCATED AS CALLED FOR ON THE VIEW SHALL BE REINSTALLED IN ACCORDANCE WITH THIS DETAIL.
2. ALL AUXILIARY VALVES SHALL BE LOCATED AT THE TEE ON THE WATER MAIN AS SHOWN ON THIS DETAIL UNLESS OTHERWISE SPECIFIED.
3. WHERE EXISTING FITTINGS ARE NOT COMPATIBLE WITH NEW MAIN CONSTRUCTION, SUITABLE ADAPTORS OR NEW FITTINGS SHALL BE USED UPON APPROVAL BY THE STAR SEWER AND WATER DISTRICT.
4. ALL ANCHORS AND BLOCKING TO BEAR AGAINST UNDISTURBED SOIL.
5. IF WATER SERVICE TO HYDRANT IS TO COMMENCE PRIOR TO SETTING OF CONCRETE THRUST BLOCKING, A COMBINATION OF CONCRETE AND UNI-FLANGE SERIES 1300 JOINT RESTRAINT SHALL BE USED.
6. PLACE LOCATOR WIRE ALONG THE NORTH & EAST SIDE OF PIPE. SECURE FINDER WIRE UNDER (MJ) BOLT.
7. ALL 4 1/2" OUTLETS TO BE POINTED TOWARDS PRIMARY STREET OR ACCESS ROAD.
8. PROVIDE A MINIMUM FIRE-FLOW OF 1500 GPM FOR MANUAL FIREFIGHTING OPERATIONS PLUS THE GALLONAGE REQUIRED FOR THE AUTOMATIC SPRINKLER SYSTEM.
9. ALL REQUIRED FIRE HYDRANTS SHALL HAVE A MINIMUM OF 6' CLEAR CIRCUMFERENCE FROM MATURE LANDSCAPING OR OTHER FIXED VERTICAL OBJECTS. UFC 1001.7.2
10. ALL REQUIRED FIRE HYDRANTS SHALL BE PLACED 18" ABOVE FINISH GRADE TO THE CENTER OF THE 4 1/2" OUTLET. 1995 NFPA 4-3.3
11. PAINT FH WITH FIRE HYDRANT PAINT; RED WITH WHITE CAPS
12. PROVIDE STAR FIRE DEPARTMENT WITH BLUE REFLECTORS TO BE LOCATED IN STREET BY THE FIRE DEPARTMENT.

**STANDARD DETAIL FOR
STAR SEWER AND WATER DISTRICT
FIRE HYDRANT DETAIL**

SCALE: NONE

DATE: MARCH 2004

DWG No.: 7.10(W)



NOTE:

1. FIRE HYDRANTS ARE TO BE LOCATED ON THE NORTH OR EAST SIDE OF PROPERTY LINE.
2. STREET LIGHTS ARE TO BE LOCATED ON THE SOUTH OR WEST SIDE OF PROPERTY LINE.
3. SIDEWALK TO BE STAMPED WITH LETTER "W" AT SERVICE LINE LOCATION.

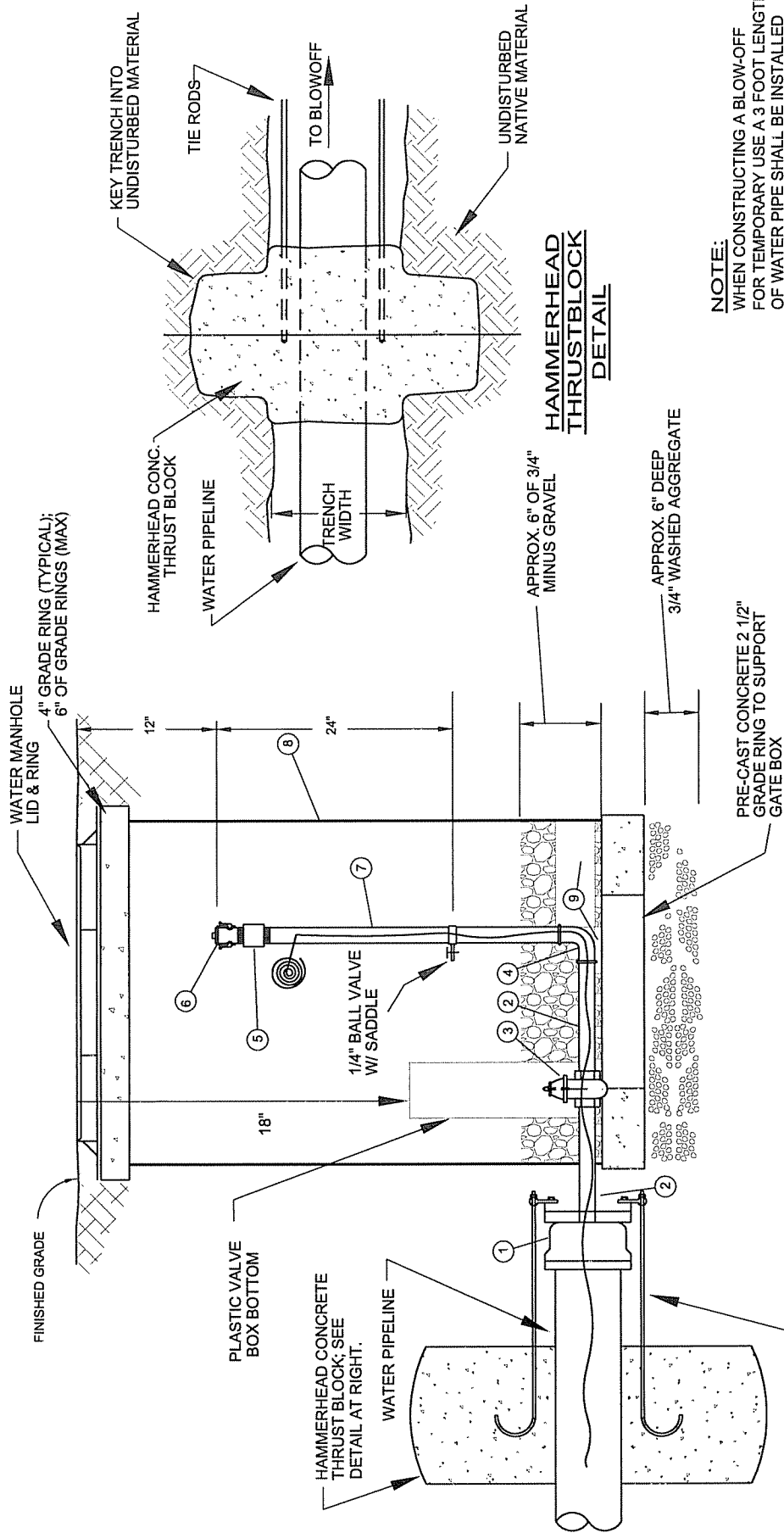
**STANDARD DETAIL FOR
STAR SEWER AND WATER DISTRICT**

FIRE HYDRANT LOCATION DETAIL

SCALE: NONE

DATE: MARCH 2004

DWG No.: 7.11(W)



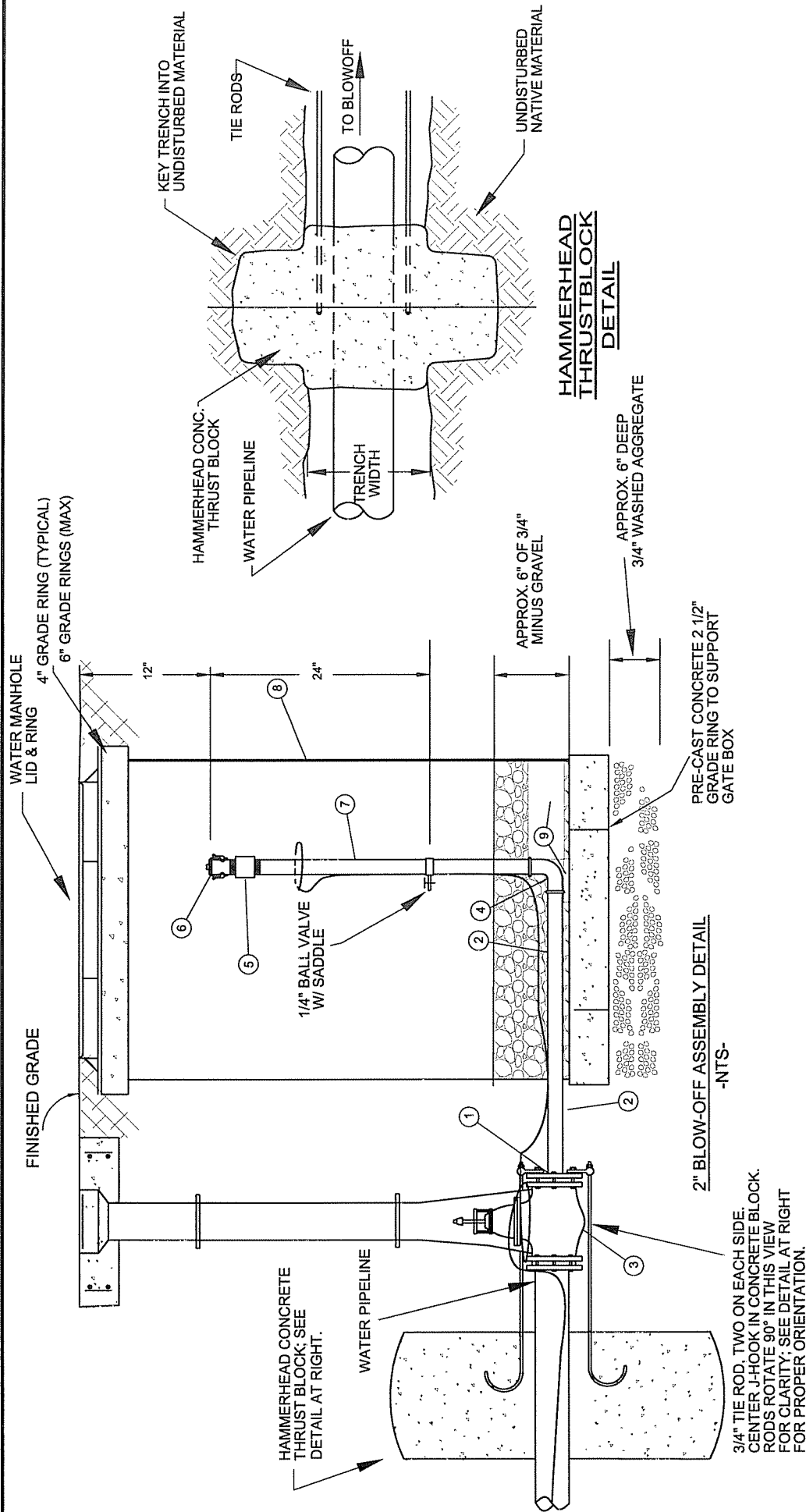
3/4" TIE ROD, TWO ON EACH SIDE.
CENTER J-HOOK IN CONCRETE BLOCK.
RODS ROTATE 90° IN THIS VIEW
FOR CLARITY; SEE DETAIL AT RIGHT
FOR PROPER ORIENTATION.

- ① MAIN SIZE MJ CAP W/ 2" I.P. PIPE THREAD OUTLET
- ② 2" x 6" RED BRASS THREADED NIPPLE
- ③ 2" RESILIENT WEDGE SCREWED GATE VALVE, OR APPROVED EQUAL
- ④ 2" RED BRASS - 90° THREADED ELBOW
- ⑤ 2" SCH. 80 THREADED MALE ADAPTOR
- ⑥ 2" THREADED FIP x ALUM. KAM-LOC QUICK COUPLING MALE ADAPTOR W/ CAP
- ⑦ 2" GALV. PIPE
- ⑧ 30" DIAM. CMP
- ⑨ THRUST/SUPPORT BLOCKING

NOTE:
WHEN CONSTRUCTING A BLOW-OFF
FOR TEMPORARY USE A 3 FOOT LENGTH
OF WATER PIPE SHALL BE INSTALLED
INTO THE BELL END OF THE LAST
LENGTH OF MAIN.

STANDARD DETAIL FOR STAR SEWER AND WATER DISTRICT	
2" BLOWOFF ASSEMBLY DETAIL	
DATE: MARCH 2004	DWG No.: 7.12(W)

SCALE: NONE



- 1 MAIN SIZE MJ CAP W/ 2" I.P. PIPE THREAD OUTLET
- 2 2" RED BRASS THREADED NIPPLE
- 3 MAIN SIZE MJ GATE VALVE
- 4 2" RED BRASS - 90° THREADED ELBOW
- 5 2" SCH. 80 THREADED MALE ADAPTOR
- 6 2" THREADED FIP x ALUM. KAM-LOC QUICK COUPLING MALE ADAPTOR W/ CAP
- 7 2" GALV. PIPE
- 8 30" DIAM. CMP
- 9 THRUST/SUPPORT BLOCKING

STANDARD DETAIL FOR STAR SEWER AND WATER DISTRICT

2" BLOWOFF ASSEMBLY DETAIL (Future Watermain Ext.)

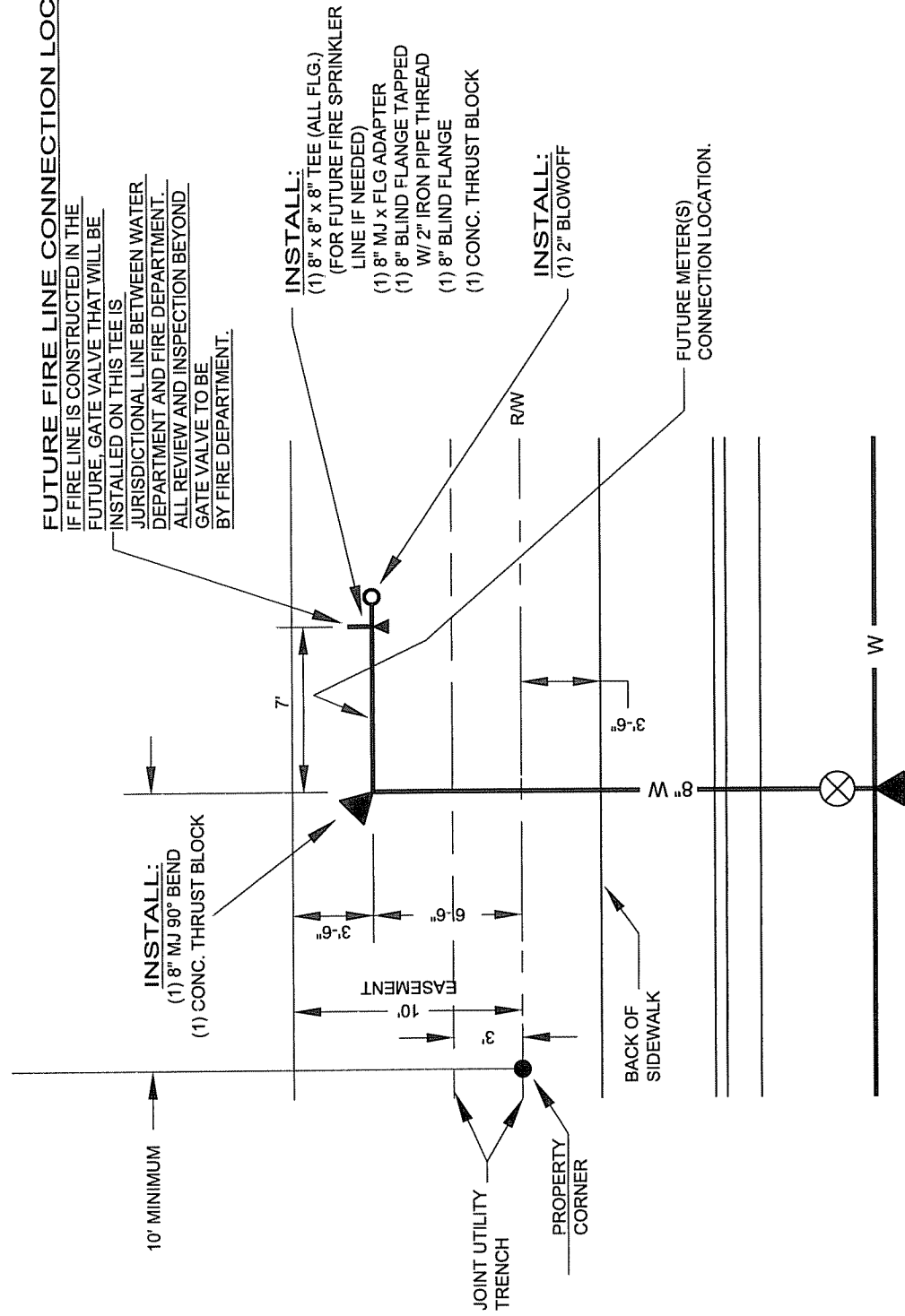
DATE: MARCH 2004

SCALE: NONE

DWG No.: 7.12B(W)

FUTURE FIRE LINE CONNECTION LOCATION

IF FIRE LINE IS CONSTRUCTED IN THE FUTURE, GATE VALVE THAT WILL BE INSTALLED ON THIS TEE IS JURISDICTIONAL LINE BETWEEN WATER DEPARTMENT AND FIRE DEPARTMENT. ALL REVIEW AND INSPECTION BEYOND GATE VALVE TO BE BY FIRE DEPARTMENT.

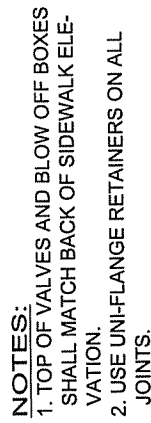


NOTES:

1. TOP OF VALVES AND BLOW OFF BOXES SHALL MATCH BACK OF SIDEWALK ELEVATION.
2. USE UNI-FLANGE RETAINERS ON ALL JOINTS.
3. WATER METERS TO BE INSTALLED WITH EACH INDIVIDUAL SITE PLAN.

STANDARD DETAIL FOR STAR SEWER AND WATER DISTRICT		
COMMERCIAL SINGLE WATER SERVICE	DATE: MARCH 2004	DWG No.: 7.13(W)

SCALE: NONE

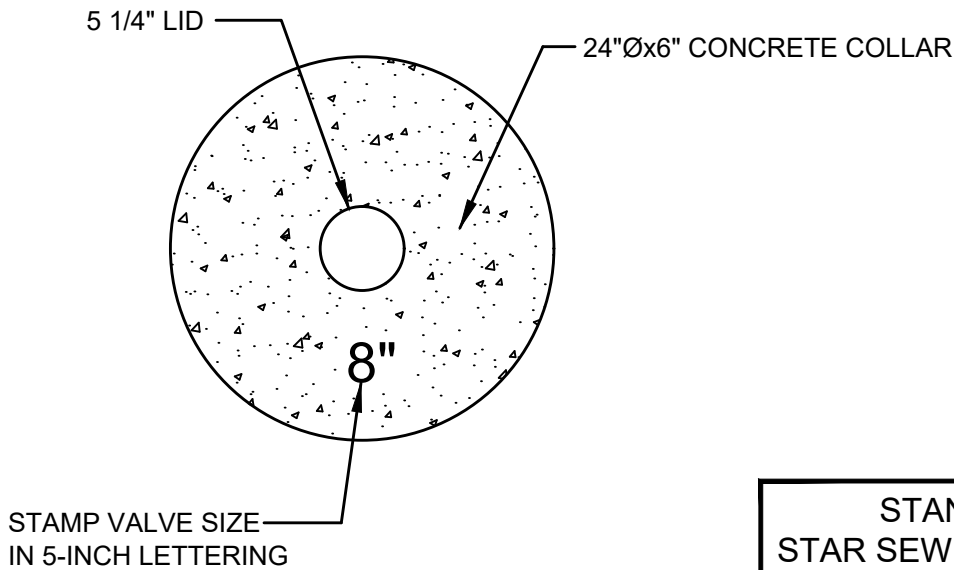
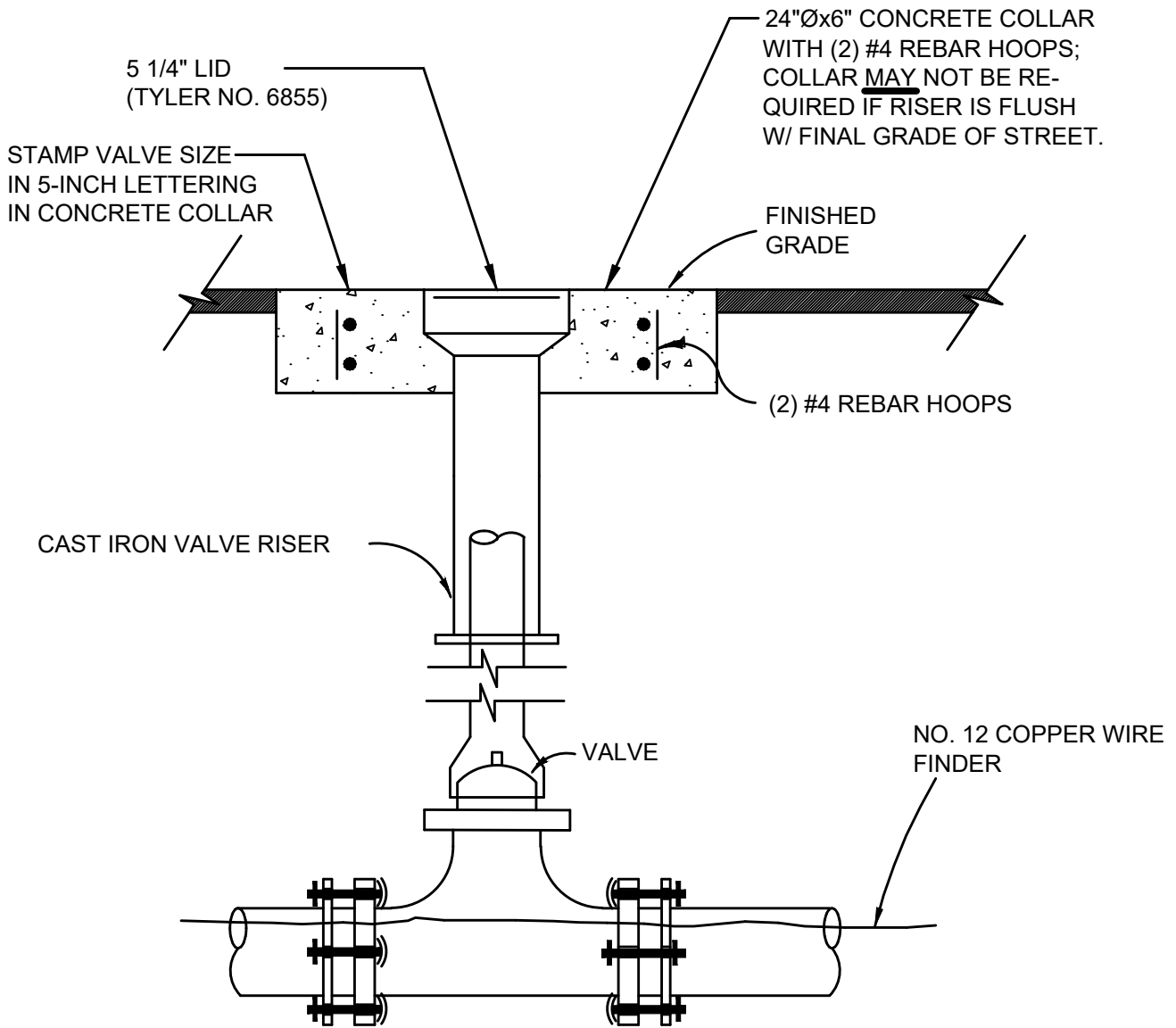


STANDARD DETAIL FOR STAR SEWER AND WATER DISTRICT	
CONNECTION TO EXISTING COMMERCIAL WATER SERVICE	
DATE: MARCH 2004	DWG No.: 7.13B(W)



COMMERCIAL WATER SERVICE ABANDONMENT	
DATE: MARCH 2004	DWG No.: 7.13C(W)

K:_RESOURCES\Agency Standards\ldaho\SSWD\Standard Specifications and Drawings\Archive\Star Standard Drawings March 2004\714w(S).dwg



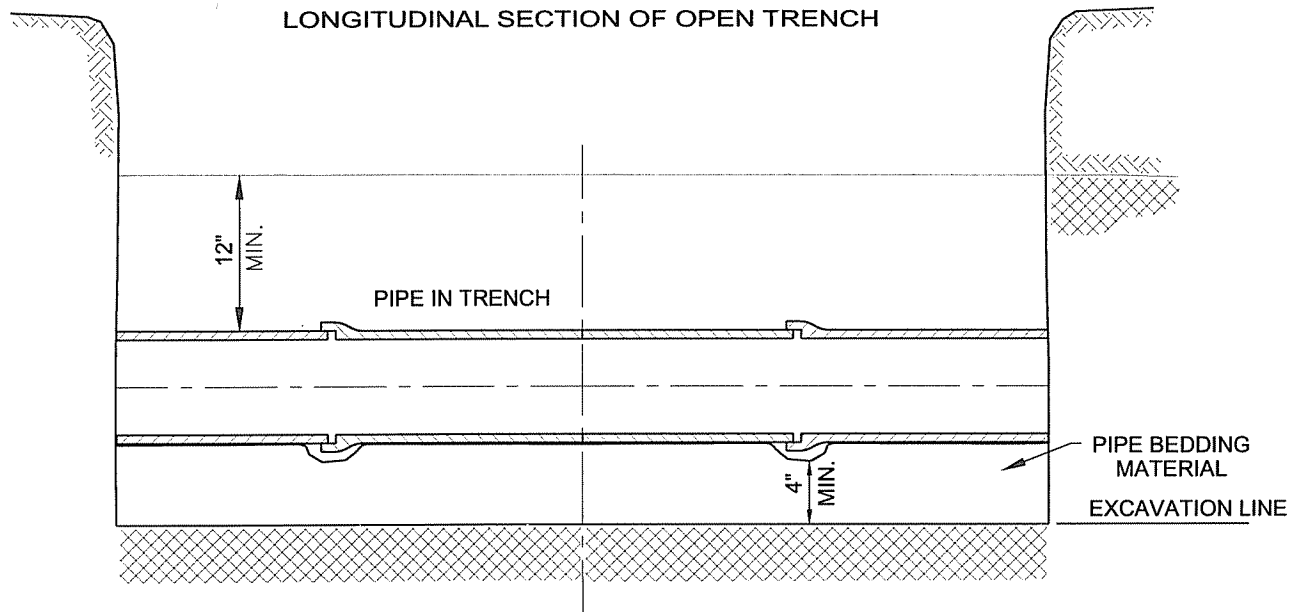
STANDARD DETAIL FOR
STAR SEWER AND WATER DISTRICT
VALVE BOX & LID DETAIL

SCALE: NONE

DATE: AUGUST 2019

DWG No.: 7.14(W)

N:\Standard\Star Standards\DEQ Approved July 2004 Star Standard Drwgs\715s(S).dwg



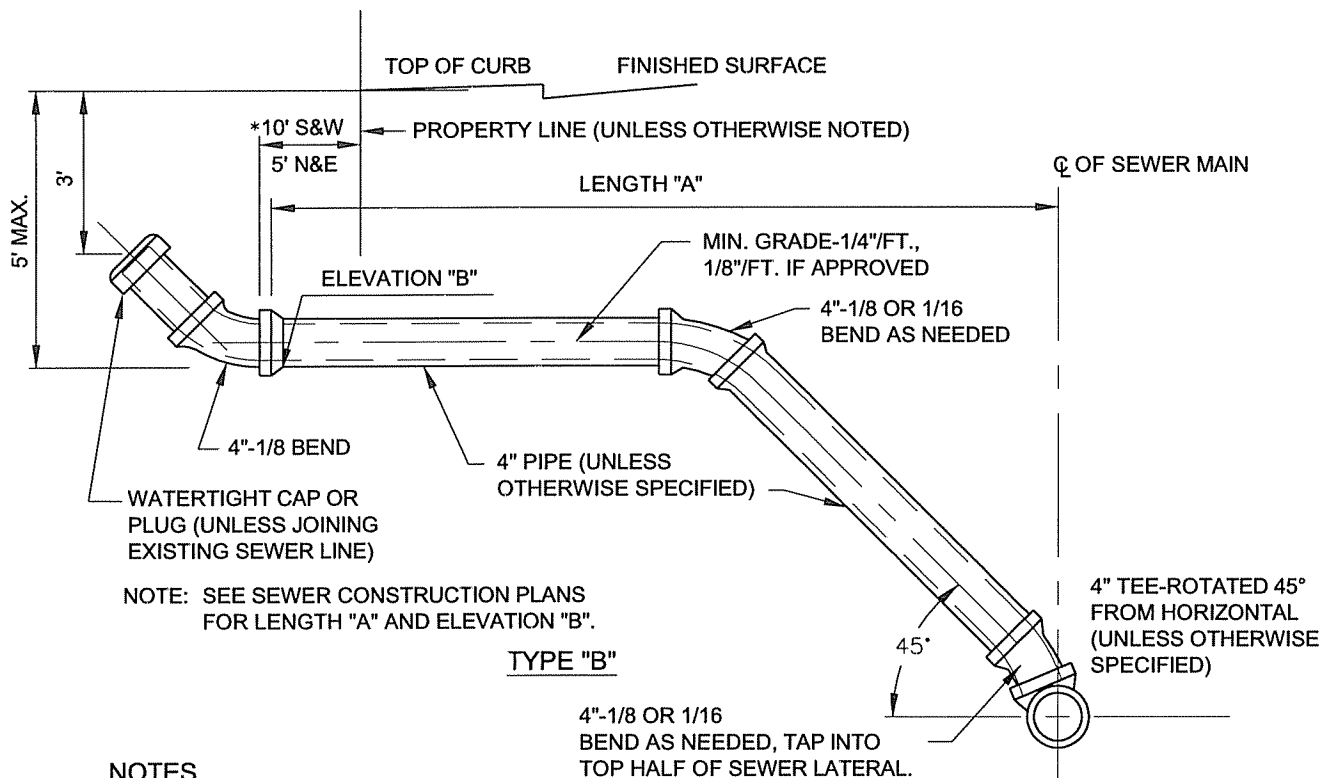
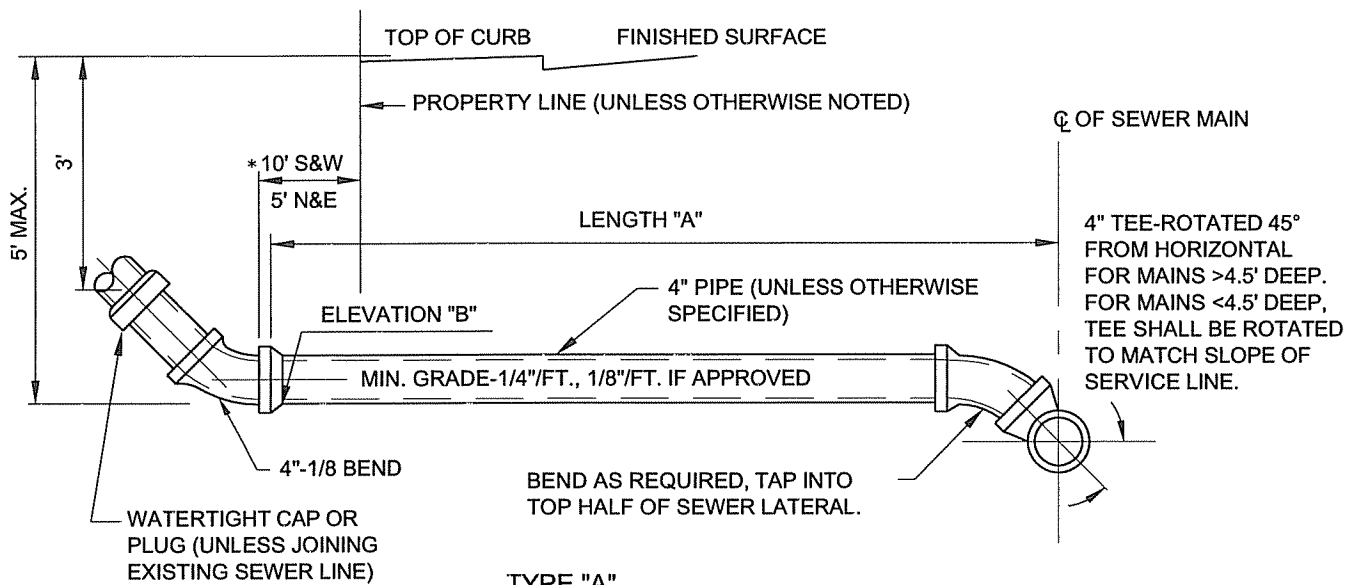
**STANDARD DETAIL FOR
STAR SEWER AND WATER DISTRICT
SEWER PIPE INSTALLATION DETAIL**

SCALE: NONE

DATE: MARCH 2004

DWG No.: 7.15(S)

N:\Standard\Star Standards\DEQ Approved July 2004 Star Standard Drawings\716s(S).dwg



NOTES

1. CONTRACTOR TO VERIFY LOCATION OF JOINT UTILITY TRENCH AND EXTEND SERVICE LINES 10' PAST P/L ON THAT SIDE OF STREET.
2. SEWER TAP AND SERVICE LINE WITHIN RIGHT OF WAY INSPECTED BY PUBLIC WORKS - SERVICE LINE FROM RIGHT OF WAY TO BUILDING INSPECTED BY PLUMBING INSPECTOR
3. WHEN COVER OVER SERVICE LINE IS LESS THAN THREE (3) FEET FROM TOP OF PIPE TO SUBGRADE OR TOP OF PIPE TO NATURAL GROUND, USE "CLASS 200 WATER PRESSURE PIPE", ASTM D224 1, SDR 21.

STANDARD SEWER SERVICE CONNECTION -NTS-

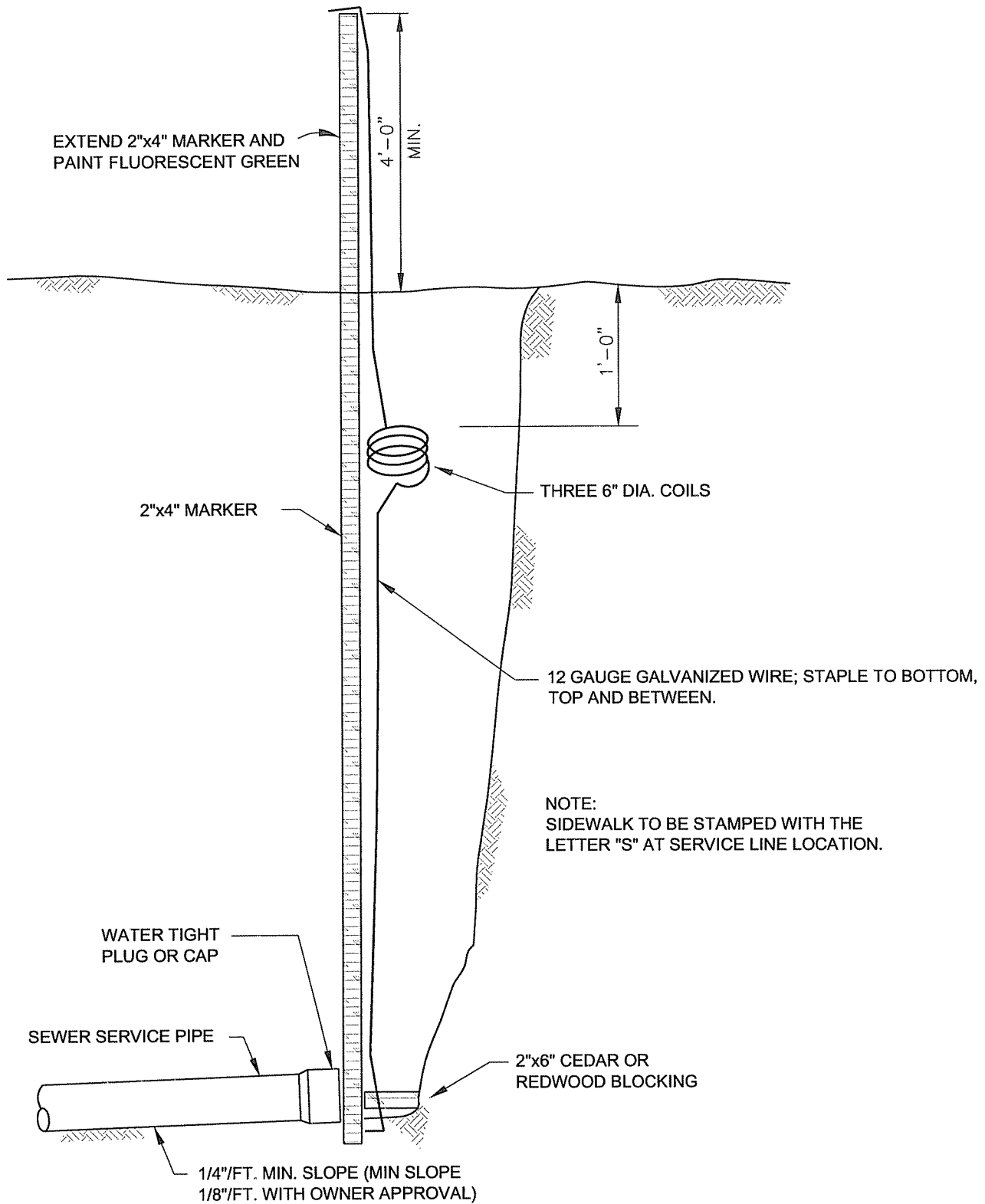
4. FOR HOMES/ESTABLISHMENTS WITH BASEMENTS, SERVICE LINES SHALL BE EQUIPPED WITH CHECK VALVE.

STANDARD DETAIL FOR STAR SEWER AND WATER DISTRICT STANDARD SEWER SERVICE CONNECTION

SCALE: NONE

DATE: MARCH 2004

DWG No.: 7.16(S)



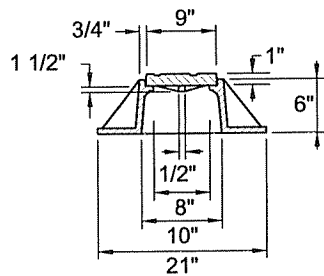
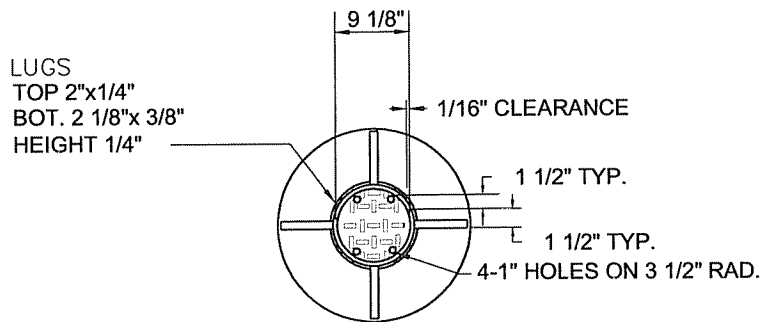
STANDARD DETAIL FOR STAR SEWER AND WATER DISTRICT

SEWER SERVICE MARKER

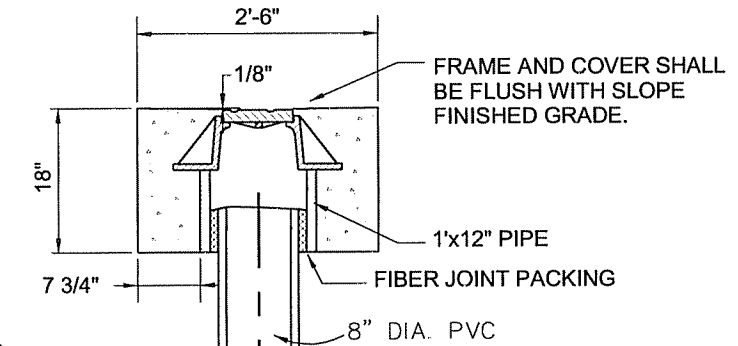
SCALE: NONE

DATE: MARCH 2004

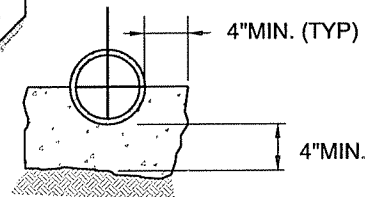
DWG No.: 7.17(S)



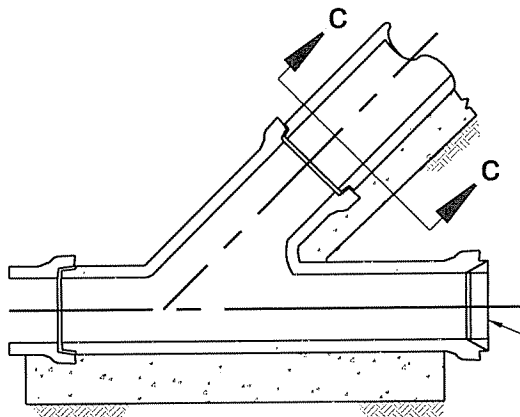
CAST IRON RING & COVER



1/8 BEND



SECTION C-C



PLUG TO BE SEALED IN SAME MANNER AS MAIN SEWER JOINTS.

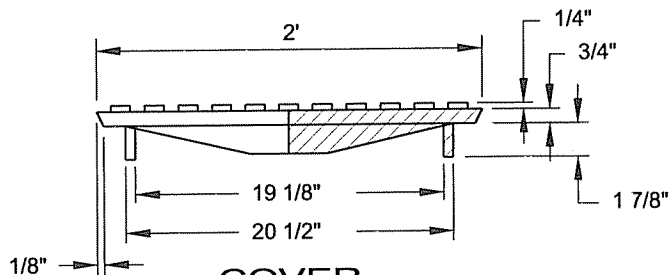
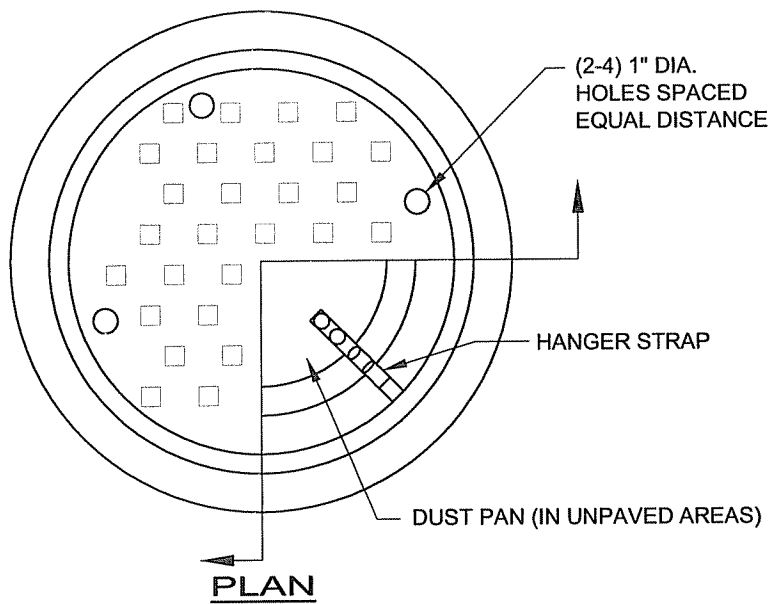
STANDARD DETAIL FOR
STAR SEWER AND WATER DISTRICT

STANDARD SERVICE
CLEAN-OUT DETAIL

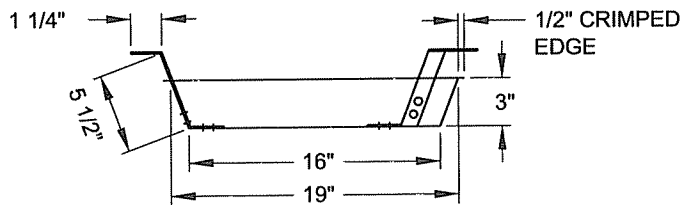
SCALE: NONE

DATE: MARCH 2004

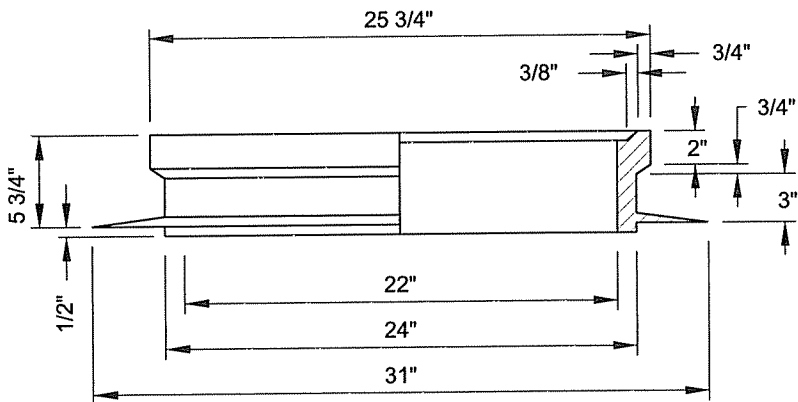
DWG No.: 7.18(S)



COVER
MIN. WT. 93 LBS.



DUST PAN



FRAME
MIN. WT. 147 LBS.

NOTES:

1. MANHOLE COVER AND FRAME SHALL BE MACHINE FIT.
2. COVER SHALL HAVE BAXTER FOUNDRY, BOISE IDAHO, PATTERN, OR EQUAL.
3. DUST PANS ARE TO BE MADE OF 22 GA. GALV. SHEET METAL.
HANGERS: 3-1"x1/8" (MIN.) METAL STRAPS SPACED EQUALLY.
4. DUST PANS SHALL BE REQUIRED FOR ALL MANHOLE INSTALLATIONS IN DIRT AREAS AND GRAVEL ROADWAY AREAS.
5. COVER AND FRAME SHALL BE ASTM A 48 CLASS 20 KSI CAST IRON.
6. COVER MARKING SHALL BE "SANITARY SEWER"; MINIMUM 1-INCH LETTER HEIGHT.
7. SEAL ALL MANHOLE COVERS WHICH ARE LOWER THAN 6 INCHES ABOVE THE BASE FLOOD ELEVATION.

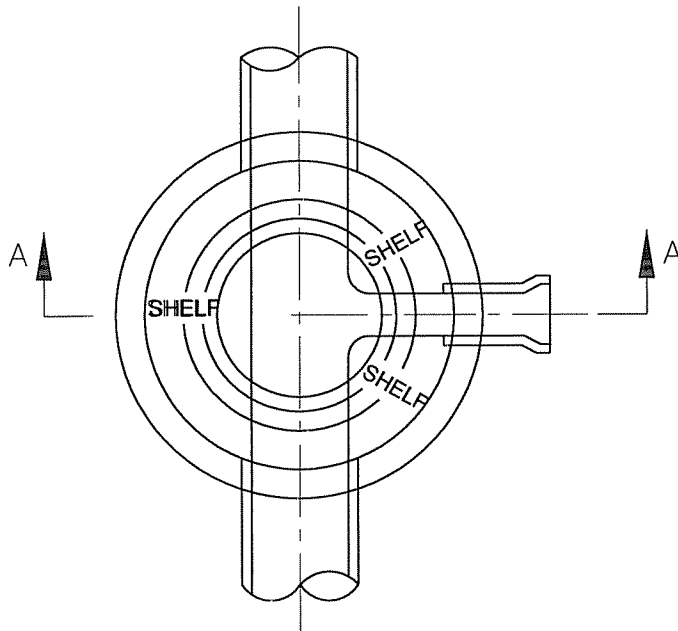
**STANDARD DETAIL FOR
STAR SEWER AND WATER DISTRICT**

MANHOLE COVER AND FRAME

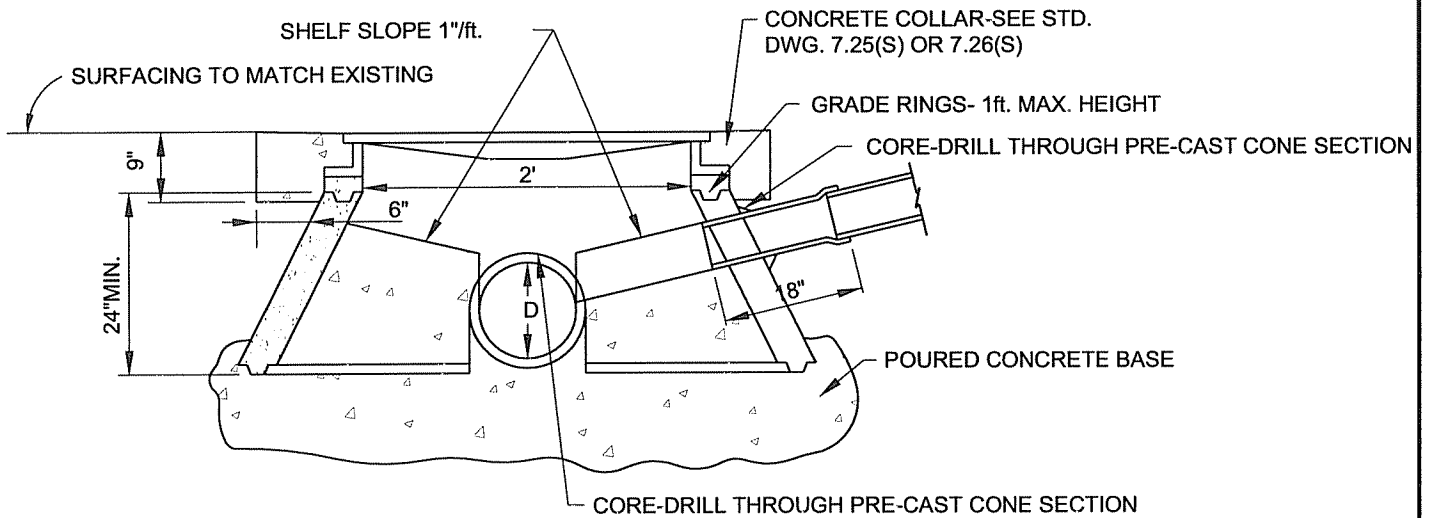
SCALE: NONE

DATE: MARCH 2004

DWG No.: 7.19(S)



PLAN



SECTION A-A

NOTES:

1. FOR MANHOLES GREATER THAN 30" DEEP AND LESS THAN 48" DEEP.
2. A CONCENTRIC CONE SECTION SHALL BE USED FOR SHALLOW MANHOLES.
3. MANHOLE FRAME AND COVER:
 - A. SEE DWG. No. 7.19(S).
 - B. FRAME AND COVER SHALL BE FLUSH WITH SLOPE OF PAVEMENT.
4. GRADE RINGS SHALL NOT EXCEED 1ft. IN HEIGHT.
5. FOR 8" THRU 24" PIPE.
6. WHERE PVC IS UTILIZED, A RUBBER RING IS TO BE INSTALLED WHERE THE PIPE IS IN CONTACT WITH MANHOLE BASE AND/OR MANHOLE CHANNEL, IN ORDER TO ENSURE A WATERTIGHT SEAL.

GREATER THAN 30"
DEEP AND LESS
THAN 48" DEEP.

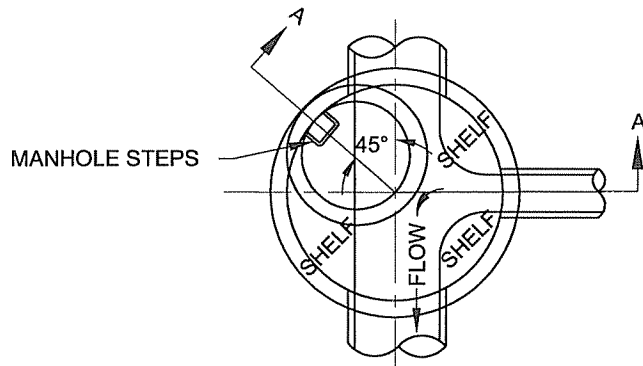
STANDARD DETAIL FOR
STAR SEWER AND WATER DISTRICT
SHALLOW MANHOLE DETAIL

SCALE: NONE

DATE: MARCH 2004

DWG No.: 7.21(S)

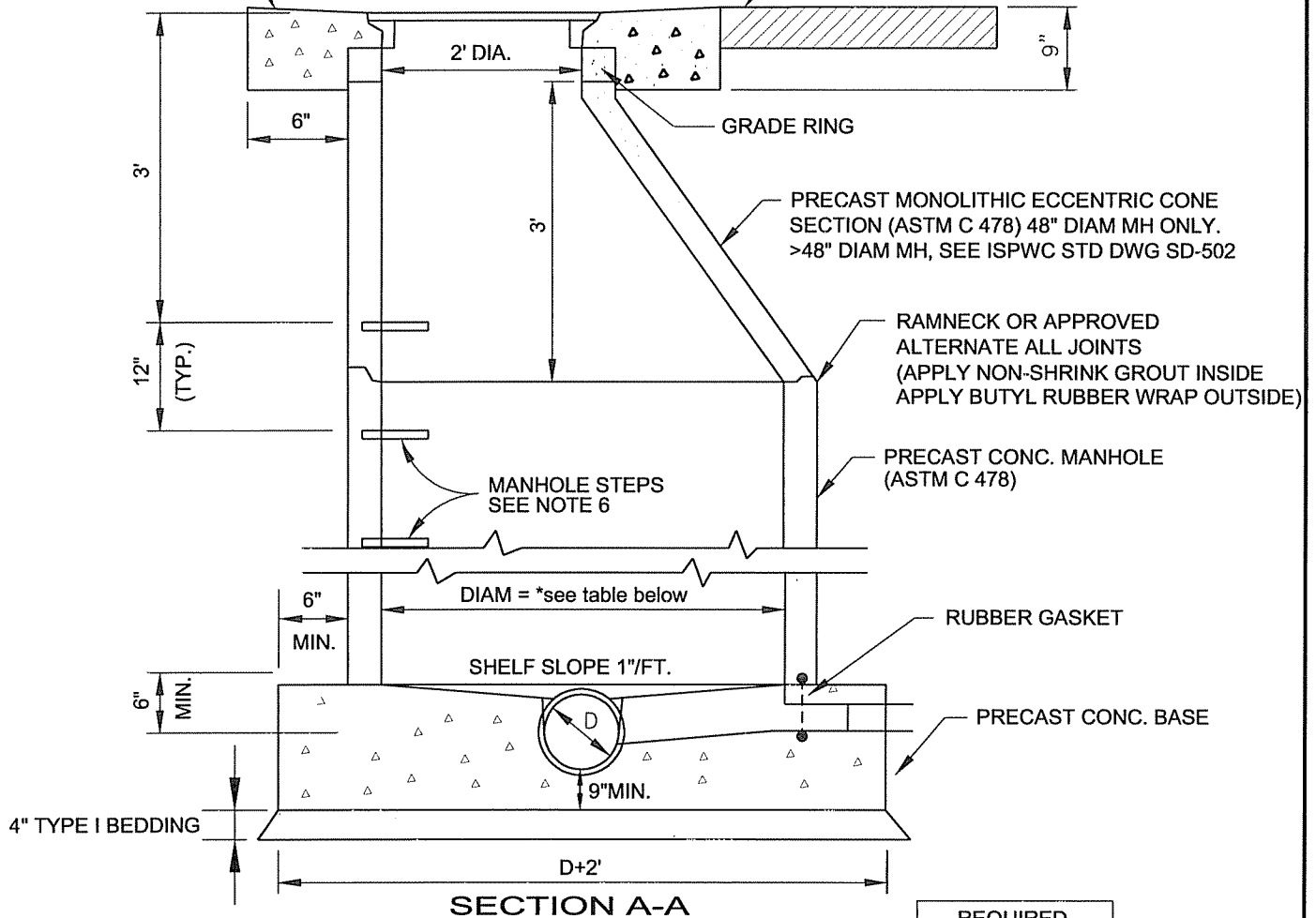
N:\Standard\Star Standards\DEQ Approved July 2004 Star Standard Drawings\722s(S)a.dwg



PLAN

CONCRETE COLLAR
SEE STD. DWG. NO.
7.25(S) OR 7.26(S)

SURFACING TO MATCH EXISTING



NOTES:

1. VERTICAL WALL SHALL BE PLACED ON UPSTREAM SIDE OF MANHOLE, ROTATED 45°.
2. MANHOLE FRAME AND COVER:
A. SEE DWG. NO. 7.19(S)
B. FRAME AND COVER SHALL BE FLUSH WITH SLOPE AND PAVEMENT.
3. GRADE RINGS SHALL NOT EXCEED 1'-0" IN HEIGHT.
4. WHERE PVC IS UTILIZED, A RUBBER RING IS TO BE INSTALLED WHERE THE PIPE IS IN CONTACT WITH MANHOLE BASE AND/OR MANHOLE CHANNEL, IN ORDER TO ENSURE A WATERTIGHT SEAL.
5. A CONCENTRIC CONE SHALL BE USED ON MANHOLES 4'-0" DEEP AND LESS.
6. MANHOLES MORE THAN 4'-0" DEEP SHALL BE EQUIPPED WITH STEPS CONFORMING TO SECTION 4.3.A.9. OF THE SSWD SPECIFICATIONS.
7. USE NON-METALIC LADDER RUNGS

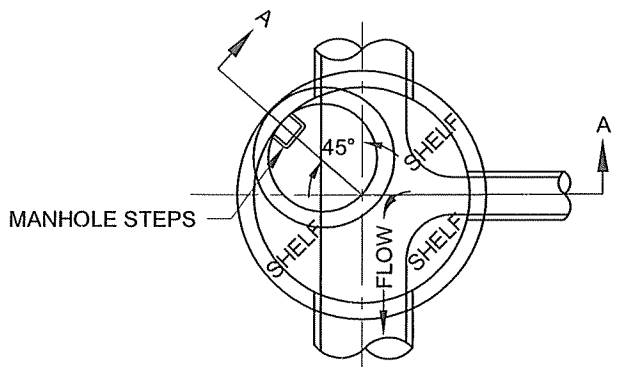
PIPE DIAM	REQUIRED MANHOLE DIAM
8" -24"	48"
> 24"	60"

STANDARD DETAIL FOR STAR WATER AND SEWER DISTRICT STANDARD MANHOLE

SCALE: NONE

DATE: MARCH 2004

DWG No.: 7.22(S)a



PLAN

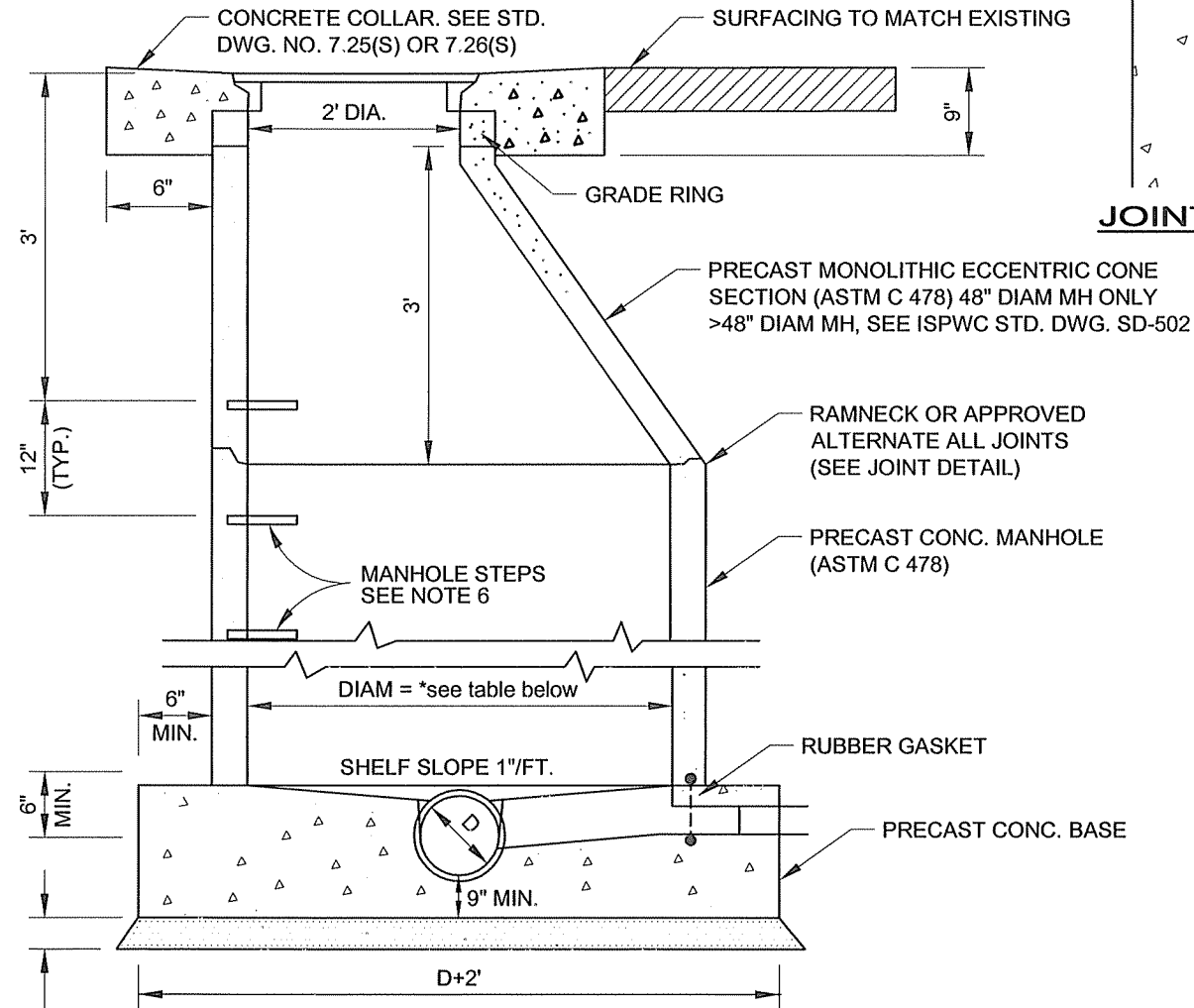
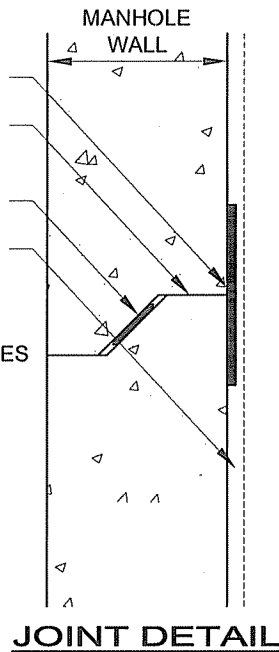
6" WIDE STRIP OF REINFORCING TAPE

POLYURETHANE SEALANT TO FILL CRACK AT JOINT

MASTIC SEALER IN MANHOLE

OUTSIDE OF MANHOLE

NOTE: APPLIES TO ALL MANHOLES



SECTION A-A

NOTES:

1. VERTICAL WALL SHALL BE PLACED ON UPSTREAM SIDE OF MANHOLE, ROTATED 45°.
2. MANHOLE FRAME AND COVER:
 - A. SEE DWG. NO. 7.19(S)
 - B. FRAME AND COVER SHALL BE FLUSH WITH SLOPE AND PAVEMENT.
3. GRADE RINGS SHALL NOT EXCEED 1'-0" IN HEIGHT.
4. WHERE PVC IS UTILIZED, A RUBBER RING IS TO BE INSTALLED WHERE THE PIPE IS IN CONTACT WITH MANHOLE BASE AND/OR MANHOLE CHANNEL, IN ORDER TO ENSURE A WATERTIGHT SEAL.
5. A CONCENTRIC CONE SHALL BE USED ON MANHOLES 4'-0" DEEP AND LESS.
6. MANHOLES MORE THAN 4'-0" DEEP SHALL BE EQUIPPED WITH STEPS CONFORMING TO SECTION 4.3.A.9. OF THE SSWD SPECIFICATIONS.
7. USE NON-METALIC LADDER RUNGS.

PIPE DIAM	REQUIRED MANHOLE DIAM
8" -24"	48"
> 24"	60"

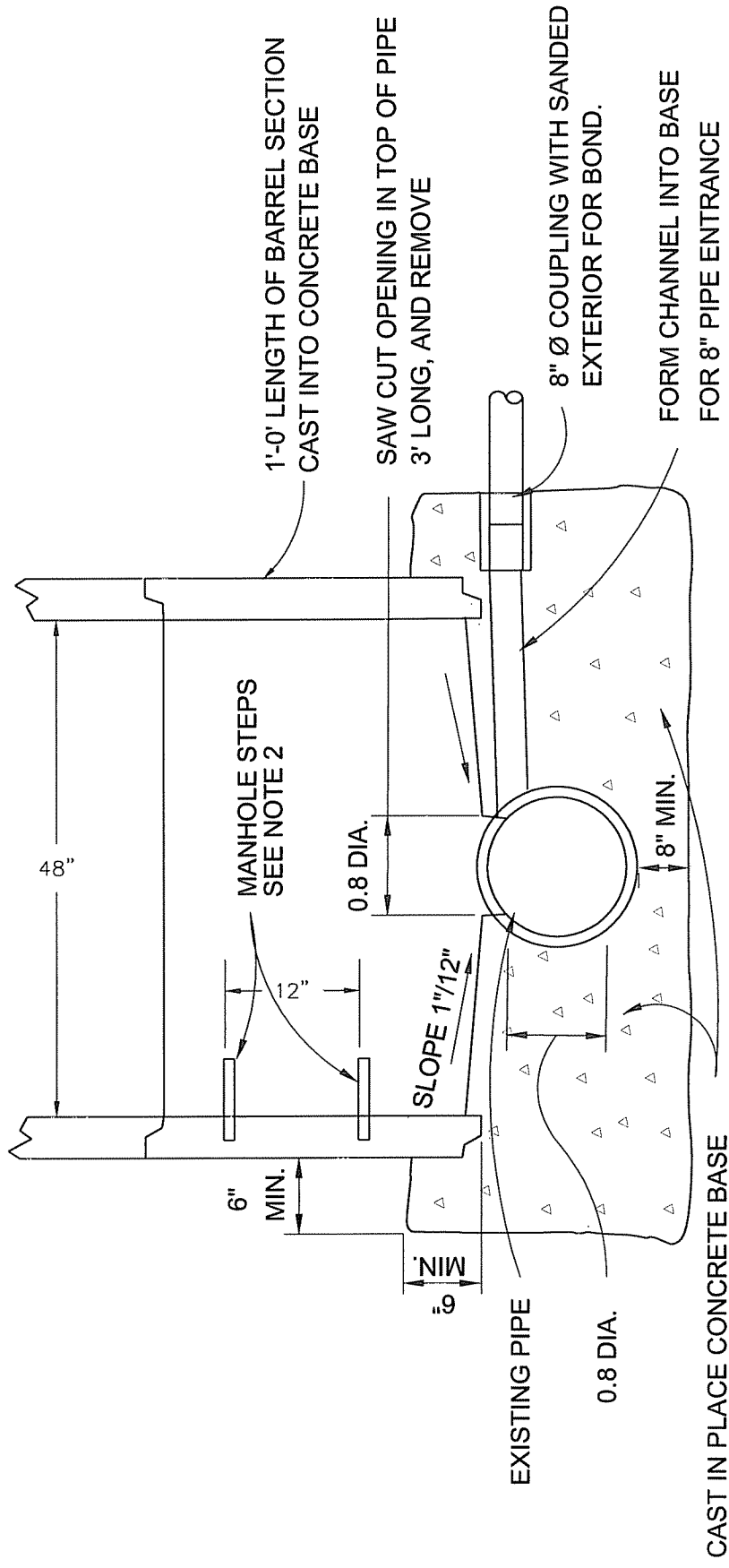
STANDARD DETAIL FOR STAR WATER AND SEWER DISTRICT

STANDARD MANHOLE

SCALE: NONE

DATE: MARCH 2004

DWG No.: 7.22(S)b

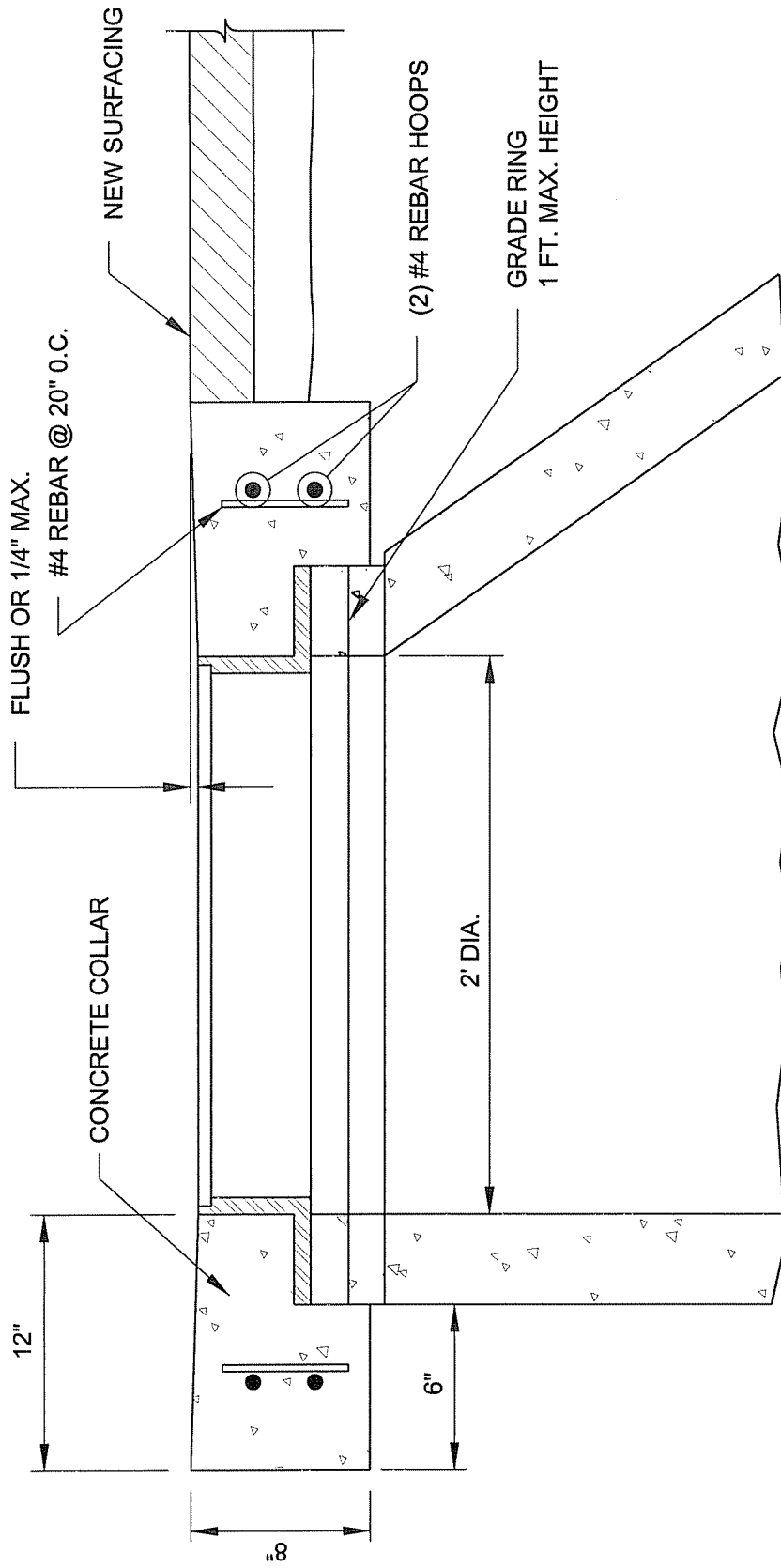


NOTE:

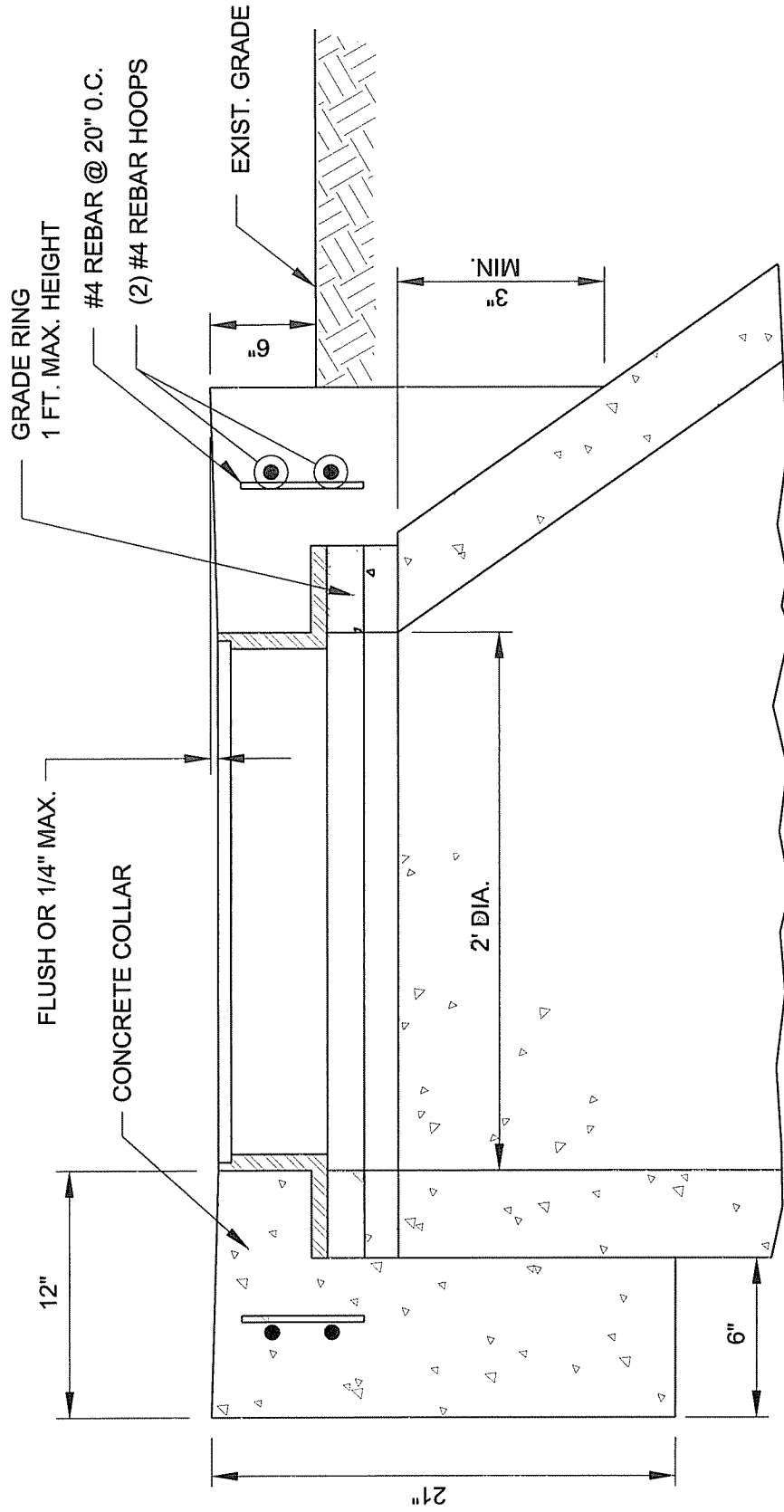
1. LOCATE MANHOLE LADDER 45° OFF OF MAIN SEWER FLOWLINE AND ON THE UPSTREAM SIDE OF MANHOLE CENTER. [SEE SSWD STD. DWG. 7.22(S)]
2. SEE SSWD STD. DWG. 7.22(S) FOR STEP MINIMUM STEP REQUIREMENTS.

STANDARD DETAIL FOR	
STAR SEWER AND WATER DISTRICT	
MANHOLE BASE OVER EXISTING SEWER LINE DETAIL	
DATE: MARCH 2004	DWG No.: 7.24(S)

SCALE: NONE

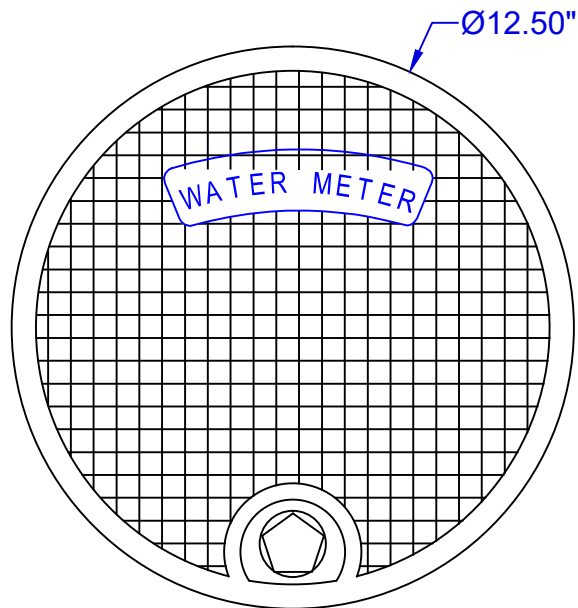


STANDARD DETAIL FOR		
STAR SEWER AND WATER DISTRICT		
MANHOLE COLLAR DETAIL-PAVED AREAS		
SCALE: NONE	DATE: MARCH 2004	DWG No.: 7.25(S)

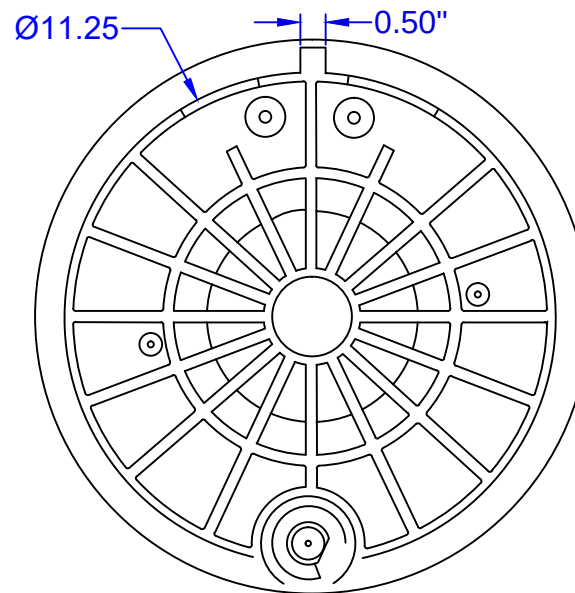


STANDARD DETAIL FOR		
STAR SEWER AND WATER DISTRICT		
MANHOLE COLLAR DETAIL-UNPAVED AREAS		
SCALE: NONE	DATE: MARCH 2004	DWG No.: 7.26(S)

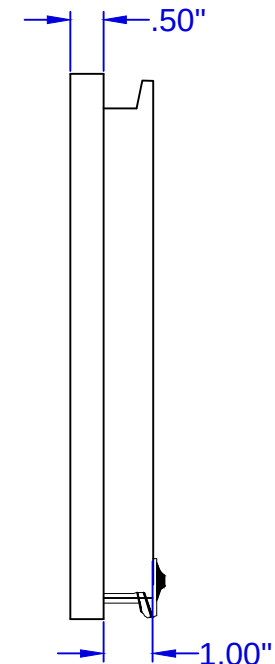
TOP VIEW



BOTTOM VIEW



SIDE VIEW



PROPRIETARY

General Notes

Lid Weight: 2.11 lbs

Revision	Drawn By	Date
4	DLM	11/21/19
3	DLM	3/27/18
2	DLM	1/3/18
1	DLM	3/22/17

WOMAN OWNED
&
MADE IN THE USA

MATERIAL: MAIN LID POLYMER
FINISH PROCESS
SURFACE FINISH 125

FINISH OR TREATMENT

(UNLESS OTHERWISE SPECIFIED)

BEFORE FINISH PROCESS:
DIMENSIONS IN INCHES
(DIMENSIONS) IN MILLIMETERS
TOLERANCES UNLESS SPECIFIED: XXX+- .0010 (.0254)
XXX+- .005 (.127)
XX+- .010 (.254)
ANGLES +- .010 1/2"
REMOVE BURRS AND BREAK CORNERS
.005 (.127) MAX. UNLESS SPECIFIED
INSIDE CORNERS .010 R. MAX.
CONCENTRICITY .005 F.I.M.

NICOR, INC.

PROPRIETARY NOTICE

This document, whether patentable or non-patentable subject matter, embodies proprietary and confidential information and is the exclusive property of NICOR, INC. It may not be reproduced, used or disclosed to others for any purpose except that for which it is loaned, and it shall be returned on demand. All rights reserved.



Nicor Lid Name

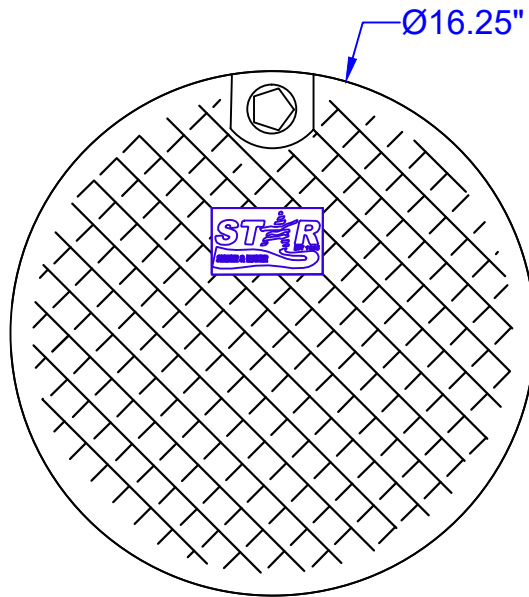
12.50" Type LC

Drawing Number
CUSTOMER DRAWING

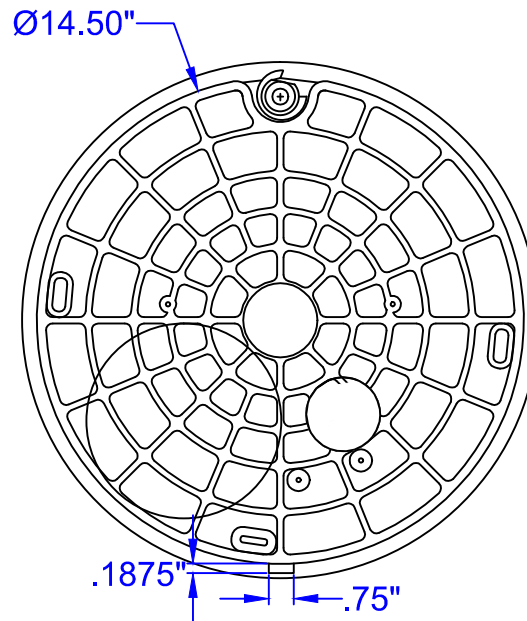
LID DIMENSION
12.50" Type LC

Sheet
01

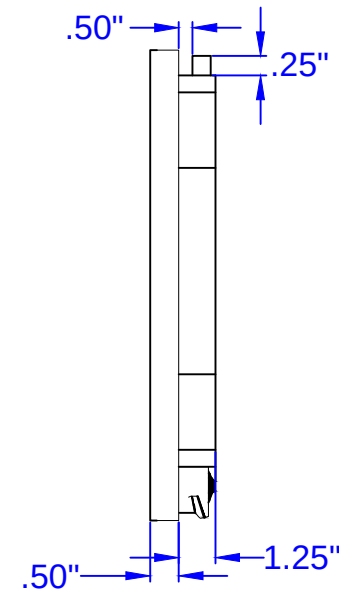
TOP VIEW



BOTTOM VIEW



SIDE VIEW



PROPRIETARY

General Notes

Lid Weight: 5.38 lbs

2	DLM	12/3/19
1	DLM	11/15/17
Revision	Drawn By	Date

WOMAN OWNED
&
MADE IN THE USA

MATERIAL: MAIN LID POLYMER
FINISH PROCESS
SURFACE FINISH 125

FINISH OR TREATMENT

(UNLESS OTHERWISE SPECIFIED)
BEFORE FINISH PROCESS:
DIMENSIONS IN INCHES
(DIMENSIONS) IN MILLIMETERS
TOLERANCES UNLESS SPECIFIED: XXX+.0010 (.0254)
XXX+.005 (.127)
XX+.010 (.254)
ANGLES +.010 1/2"
REMOVE BURRS AND BREAK CORNERS
.005 (.127) MAX. UNLESS SPECIFIED
INSIDE CORNERS .010 R. MAX.
CONCENTRICITY .005 F.I.M.

NICOR, INC.
PROPRIETARY NOTICE

This document, whether patentable or non-patentable subject matter, embodies proprietary and confidential information and is the exclusive property of NICOR, INC. It may not be reproduced, used or disclosed to others for any purpose except that for which it is loaned, and it shall be returned on demand. All rights reserved.



Nicor Lid Name

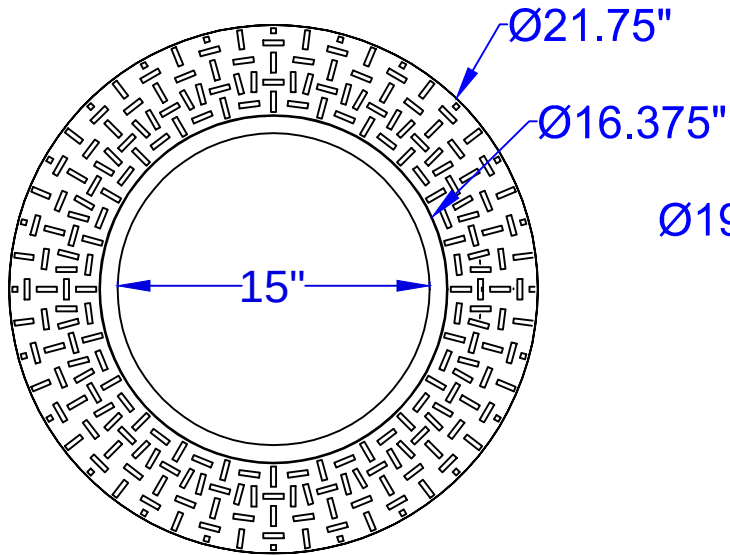
16.25" Square Tab with
Star Sewer & Water Logo

Drawing Number
CUSTOMER DRAWING

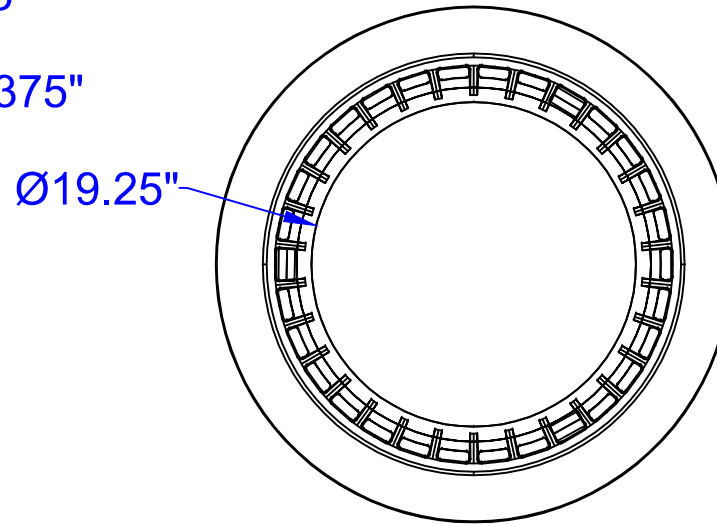
LID DIMENSION
16.25"Sq Tab for
21"&23" Ring

Sheet
01

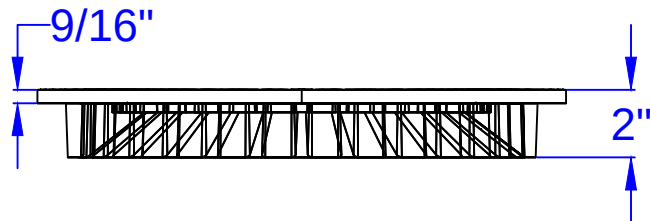
TOP VIEW



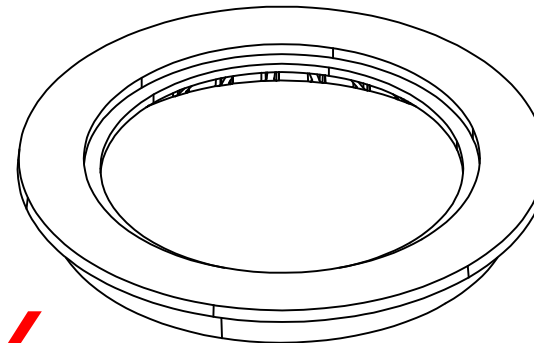
BOTTOM VIEW



SIDE VIEW



ISOMETRIC VIEW



PROPRIETARY

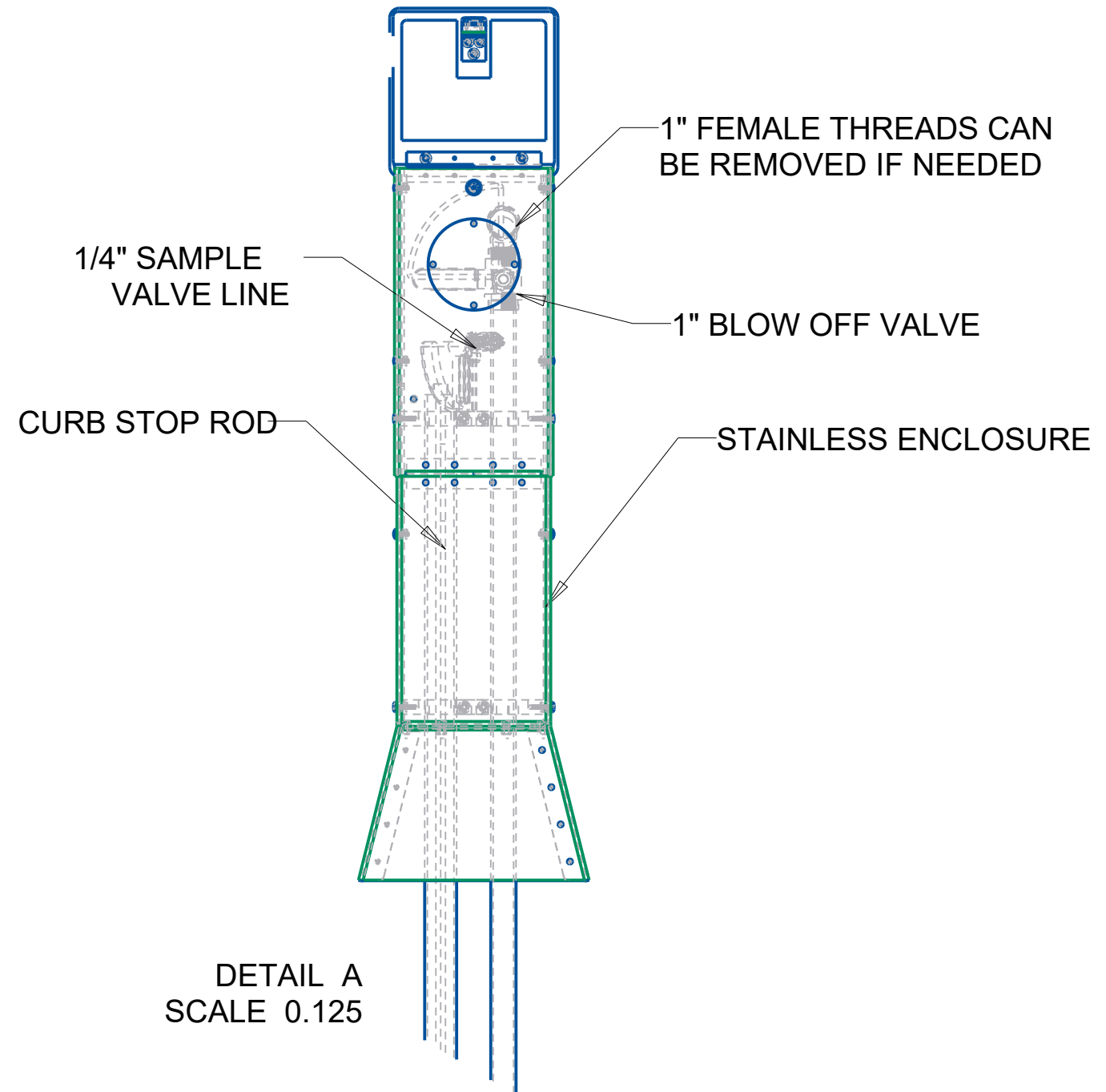
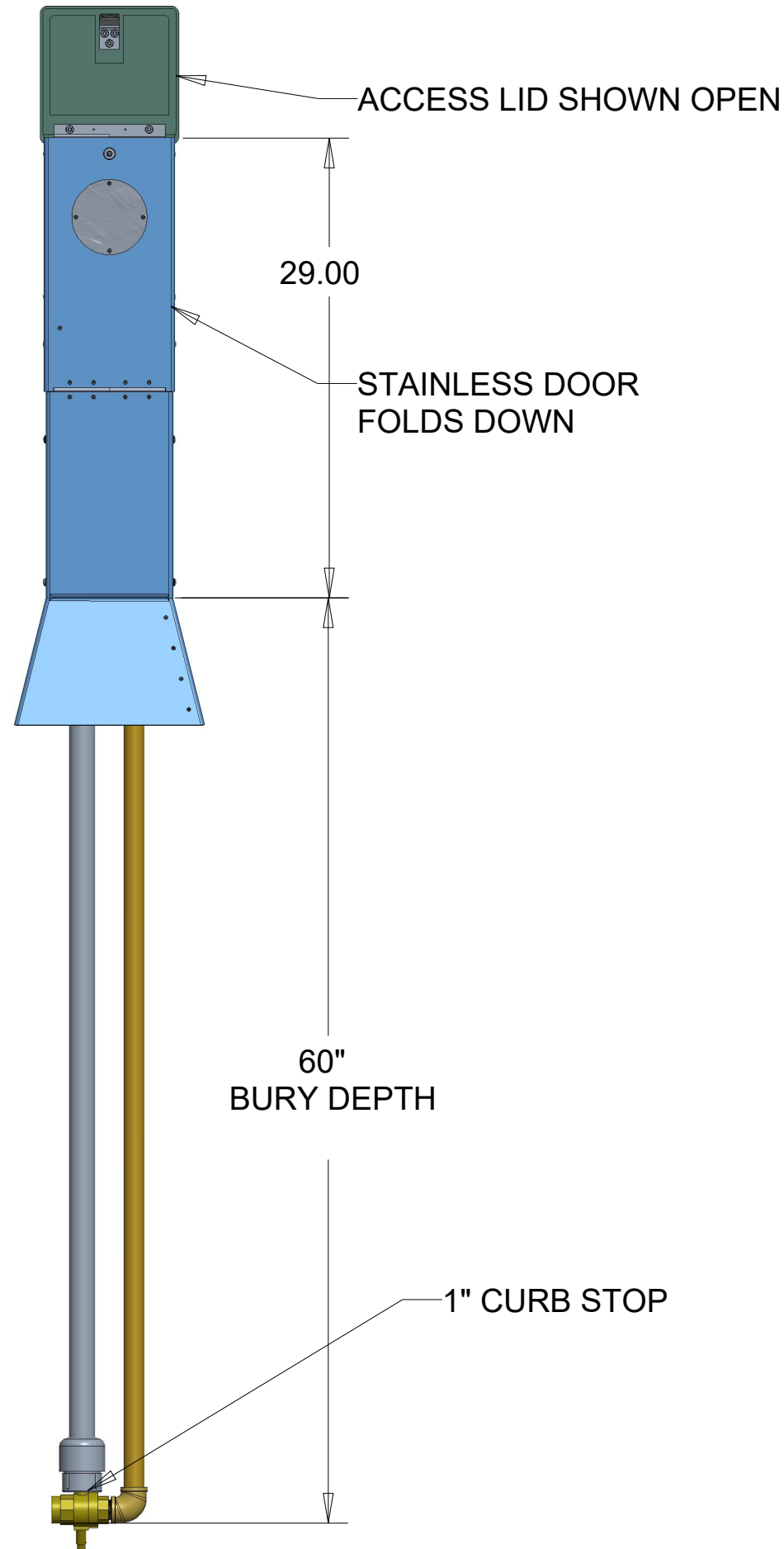
General Notes

1	DLM	3/7/18
Revision	Drawn By	Date
WOMAN OWNED & MADE IN THE USA		
MATERIAL: MAIN LID POLYMER FINISH PROCESS SURFACE FINISH 125		
FINISH OR TREATMENT (UNLESS OTHERWISE SPECIFIED) BEFORE FINISH PROCESS: DIMENSIONS IN INCHES (DIMENSIONS) IN MILLIMETERS TOLERANCES UNLESS SPECIFIED: XXX+- .0010 (.0254) XXX+- .005 (.127) XX+- .010 (.254) ANGLES +/- .010 1/2° REMOVE BURRS AND BREAK CORNERS .005 (.127) MAX. UNLESS SPECIFIED INSIDE CORNERS .010 R. MAX. CONCENTRICITY .005 F.I.M.		
NICOR, INC. PROPRIETARY NOTICE This document, whether patentable or non-patentable subject matter, embodies proprietary and confidential information and is the exclusive property of NICOR, INC. It may not be reproduced, used or disclosed to others for any purpose except that for which it is loaned, and it shall be returned on demand. All rights reserved.		

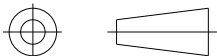
JEFF COOK
NICOR
100 COMMONS RD#7-355
DRIPPING SPRINGS, TX
78620

21.75"X16.375"RING
21" Ring
use with 16.25" sq tab Lid

Drawing Number CUSTOMER DRAWING	Sheet 01
LID DIMENSION 21.75"X15" 20" Ring	



BSS0160MUWB1CSDNL00

UL APPROVED NSF/ANSI 372						
DR. BY	C.BOWMAN	6/25/19	UNLESS OTHERWISE NOTED		THIRD ANGLE PROJECTION	C.B. NO.
CHKR			BREAK CAST CORNER(S)---			
ENGR			BREAK MACH CORNER(S)---		PURCH.	PATT. NO.
MGR			TOLERANCES		FINISH	
MFG			UNLESS OTHERWISE NOTED		REF. NO.	SCALE
TOOL			LINEAR	ANGULAR	NONE	
FDRY			± .005	±	STK. NO.	
DESCR.						
			MODEL:	NUMBER		
			BSS01	BSS0160MUWB1CSDNL00		

TYPICAL LIFT STATION CONTROL PANEL

8-11-16



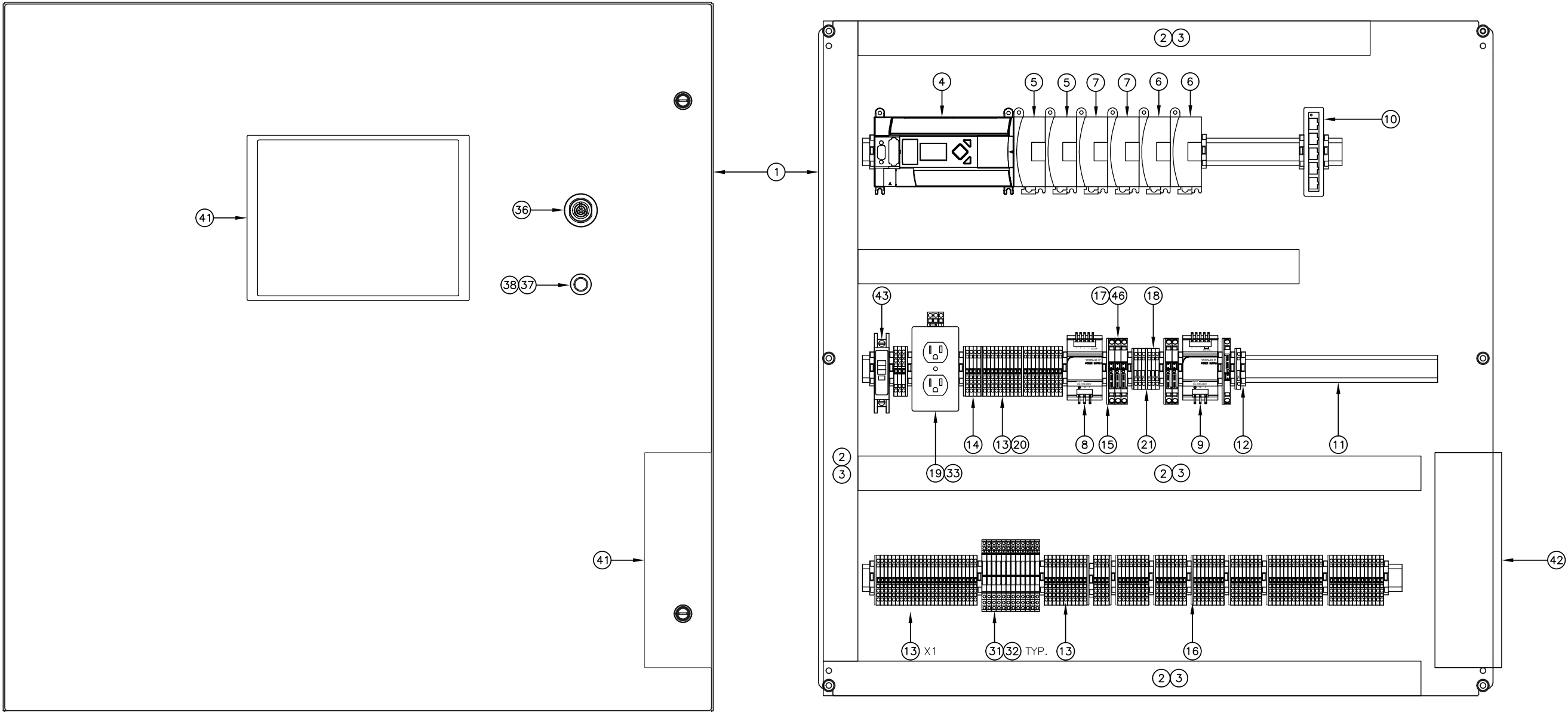
ADVANCED CONTROL SYSTEMS
10400 OVERLAND RD
BOISE, ID 83709
208-362-5858

STAR SEWER & WATER
100 S. STAR RD.
STAR, ID 83669
STAR, ID

DRAWING INDEX

E-01	COVER SHEET & DRAWING INDEX	E-06	PLC BASE OUTPUTS RACK-00, SLOT-00
E-02	PANEL LAYOUT & BILL OF MATERIALS	E-07	PLC RACK-00, SLOT-01 & 02
E-03	PANEL WIRING	E-08	PLC RACK-00, SLOT-03 & 04
E-04	POWER DISTRIBUTION	E-09	PLC RACK-00, SLOT-05 & 06
E-05	PLC BASE INPUTS RACK-00, SLOT-00		

REVISIONS	NO.	BY	DATE	DESCRIPTION	INITIALS		 ADVANCED CONTROL SYSTEMS 10400 OVERLAND ROAD #396 BOISE, ID 83709 PHONE: 208.362.5858	REFERENCE FOR ENGINEERING	 STAR SEWER & WATER 100 S. STAR RD. STAR, ID 83669 208-286-7388	STAR SEWER DISTRICT		PROJECT NO.	REVISION
	1				DRAWN BY:	DATE:							A
	2				CHECKED BY:	DATE:						SCALE: NTS	
	3	JGH	08/11/2016	ISSUED FOR REVIEW	APPROVED BY:	DATE:						DRAWING NO.	E-01
	THIS DOCUMENT OR ANY PART THEREOF IN DETAIL OR DESIGN CONCEPT IS THE PROPERTY OF ADVANCED CONTROL SYSTEMS, LLC. AND SHALL NOT BE COPIED IN ANY FORM WITHOUT WRITTEN AUTHORIZATION FROM ADVANCED CONTROL SYSTEMS, LLC.											COVER SHEET	



NOTES

- 1. SOME ITEMS LISTED ON BILL OF MATERIALS ARE NOT SHOWN ON DRAWING.
- 2. ALL DIMENSIONS ARE APPROXIMATE. FIELD VERIFY ALL DIMENSIONS AND LOCATIONS WITH ACTUAL FIELD CONDITIONS.
- 3. ALL PANELS AND CONTROL BOXES (RTUs) SHALL BE MANUFACTURED BY A UL 508A PANEL SHOP AND A UL 508A LABEL APPLIED TO THE FINAL PANEL SHOWING THE LISTED PANEL NUMBER. ALL PRODUCTS MUST BEAR THE UL MARK.
- 4. ALL INTERNAL PANEL WIRING SHALL BE #18 AWG CU UNLESS NOTED OTHERWISE.
- 5. PANEL POWER IS TO BE USED FOR SIGNAL DEVICES ONLY, EXTERNAL DEVICES SHALL BE POWERED BY EXTERNAL SOURCE.

KEY #	DESCRIPTION	MANUFACTURER	PART	QTY
1	36"x36"x12" ENCLOSURE & BACKPLANE	RITTAL	WM363612NC	1
2	1.5"x3" NARROW SLOTTED WIRING DUCT	PANDUIT	F1.5X3LG6-A	160"
3	1.5" TYPE G WIRING DUCT COVER	PANDUIT	C1.5LG6	160"
4	MICROLOGIX 1400 PLC	ALLEN BRADLEY	1766-L32AWAA	1
5	120VAC INPUT MODULE	ALLEN BRADLEY	1762-IA8	2
6	ANALOG INPUT MODULE	ALLEN BRADLEY	1762-IF4	2
7	DIGITAL OUTPUT MODULE	ALLEN BRADLEY	1762-OW8	2
8	24VDC POWER SUPPLY	ALLEN BRADLEY	1606-XLP50E	1
9	12-15VDC POWER SUPPLY	ALLEN BRADLEY	1606-XLP50B	1
10	DIN MOUNT 5-PORT ETHERNET SWITCH	ALLEN BRADLEY	1783-US05T	1
11	35mm DIN RAIL	WAGO	210-112	90"
12	SCREWLESS END STOP	WAGO	249-116	30
13	3-CONDUCTOR TERMINAL BLOCK	WAGO	280-681	104
14	3-CONDUCTOR GROUND TERMINAL BLOCK	WAGO	280-687	5
15	ORANGE END-PLATE FOR FUSED TB	WAGO	282-333	3
16	ORANGE SEPARATOR	WAGO	280-326	15

KEY #	DESCRIPTION	MANUFACTURER	PART	QTY
17	2-CONDUCTOR FUSED TERMINAL BLOCK	WAGO	282-698/281-434	6
18	2-CONDUCTOR TERMINAL BLOCK	WAGO	280-901	9
19	DUPLEX RECEPTACLE DIN MOUNT	WAGO	51017543	1
20	INSULATED GREY JUMPER	WAGO	280-402	36
21	ORANGE SEPARATOR	WAGO	280-309	3
22	DOUBLE DECK TERMINAL BLOCK	WAGO	280-523	26
23	ORANGE SEPARATOR	WAGO	280-341	6
24	LABELS 1-50	WAGO	209-566	1
25	LABELS +/-	WAGO	209-652	1
26	LABELS GROUND	WAGO	209-580	1
27	LABELS NEUTRAL	WAGO	209-577	1
28	LABELS L1	WAGO	209-574	1
29	LABELS BLANK - TO BE USED FOR RELAYS	WAGO	209-501	1
30				
31	110VAC SLIM RELAY TERMINALS	OMRON	G2RV-SL700-AC110	37
32	OMRON 20 POS JUMPER	OMRON	P2RVM200B	2

KEY #	DESCRIPTION	MANUFACTURER	PART	QTY
33	POWER SUPPLY CORD	VOLEX	17514	1
34	CAT-5 ETHERNET CABLE	GENERIC	-	2
35				
36	24VDC INTERMEDIATE 30mm SONALERT	MALLORY	SC628ANPR	1
37	MOUNTING COLLAR AND CONTACT MOUNT	SDQ	ZB4BZ105	1
38	MOMENTARY PUSHBUTTON	SDQ	ZB4BW343	1
39	LED LIGHT	SDQ	ZBVG4	1
40				
41	10.4" GRAPHIC TOUCHSCREEN	MAPLE SYSTEMS	HMI5100L	1
42	110VAC UPS SYSTEM	APC	BE-500R	1
43	THERMAL MAGNETIC BREAKER	SQD	QU0110	1
44				
45				
46	3A AUTOMOTIVE-TYPE FUSES	-	-	10

REVISIONS	NO.	BY	DATE	DESCRIPTION	INITIALS	
	△				DRAWN BY:	DATE:
	△				JGH	08/11/16
	△				CHECKED BY:	DATE:
	△	JGH	08/11/2016	ISSUED FOR REVIEW	STT	08/11/16
THIS DOCUMENT OR ANY PART THEREOF IN DETAIL OR DESIGN CONCEPT IS THE PROPERTY OF ADVANCED CONTROL SYSTEMS, LLC. AND SHALL NOT BE COPIED IN ANY FORM WITHOUT WRITTEN AUTHORIZATION FROM ADVANCED CONTROL SYSTEMS, LLC.						
					APPROVED BY:	DATE:
					STT	08/11/16
					FULL SIZE SHEET 22 x 34	
					HALF SIZE SHEET 11 x 17	

ACS

ADVANCED CONTROL SYSTEMS

10400 OVERLAND ROAD #396

BOISE, ID 83709

PHONE: 208.362.5858

REFERENCE FOR
ENGINEERING

STAR

SEWER & WATER

EST 1966

STAR SEWER & WATER
100 S. STAR RD.
STAR, ID 83669
208-286-7388

STAR SEWER DISTRICT TYPICAL LIFT STATION PANEL LAYOUT & BILL OF MATERIALS	PROJECT NO.	REVISION
		A
	SCALE: NTS	
DRAWING NO.		E-02
SHEET: 1 OF 1		

REVISIONS	NO.	BY	DATE	DESCRIPTION
	△			
	△	JGH	08/11/2016	ISSUED FOR REVIEW

THIS DOCUMENT OR ANY PART THEREOF IN DETAIL OR DESIGN CONCEPT IS THE PROPERTY OF ADVANCED CONTROL SYSTEMS, LLC. AND SHALL NOT BE COPIED IN ANY FORM WITHOUT WRITTEN AUTHORIZATION FROM ADVANCED CONTROL SYSTEMS, LLC.

INITIALS	
DRAWN BY: JGH	DATE: 08/11/16
CHECKED BY: STT	DATE: 08/11/16
APPROVED BY: STT	DATE: 08/11/16
FULL SIZE SHEET 22 x 34 HALF SIZE SHEET 11 x 17	

ACS

ADVANCED CONTROL SYSTEMS

10400 OVERLAND ROAD #396
BOISE, ID 83709
PHONE: 208.362.5858

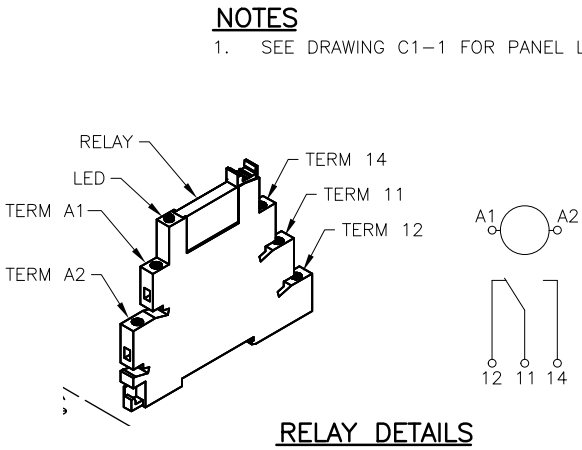
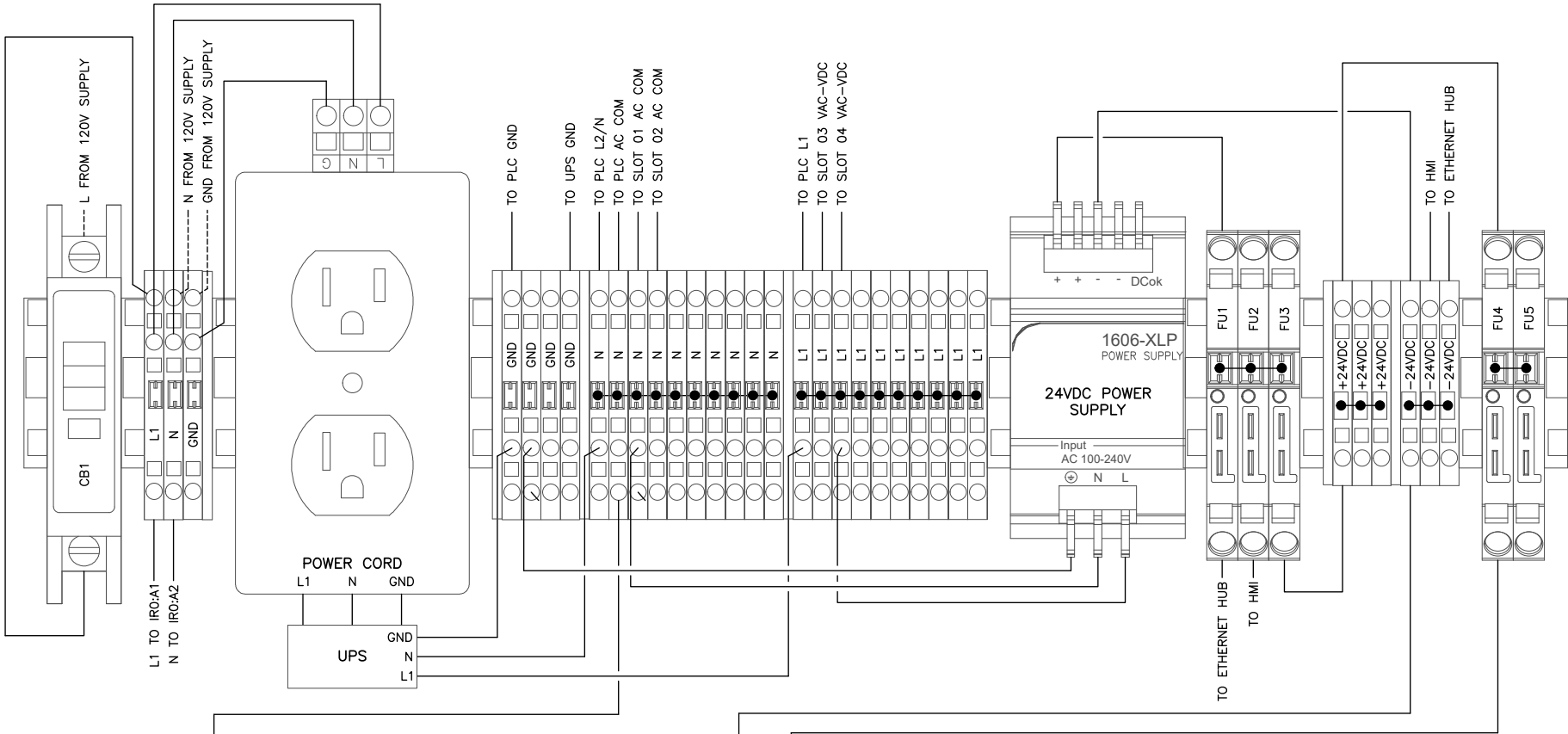
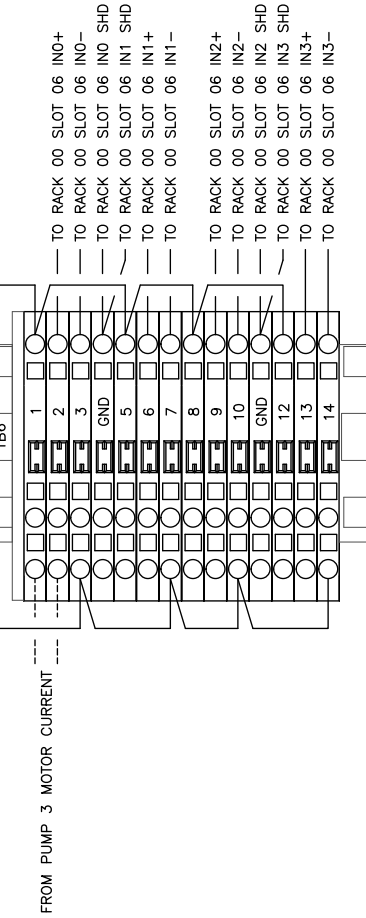
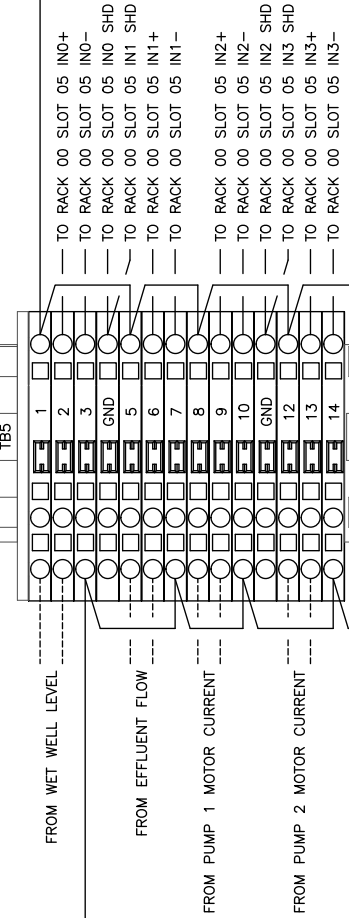
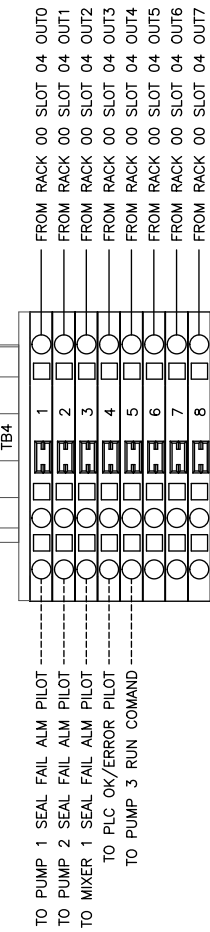
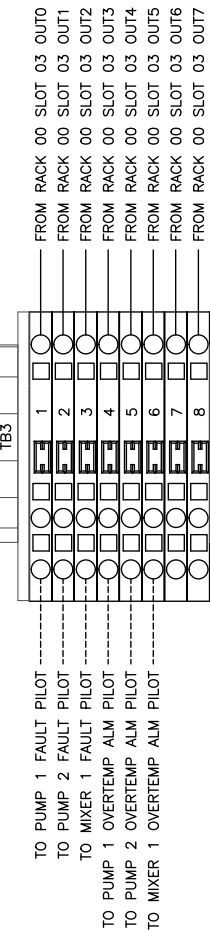
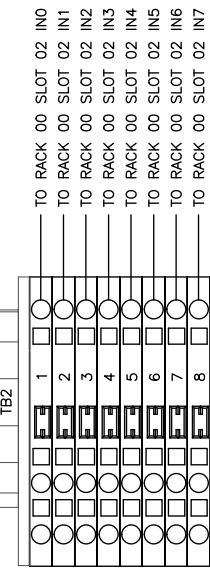
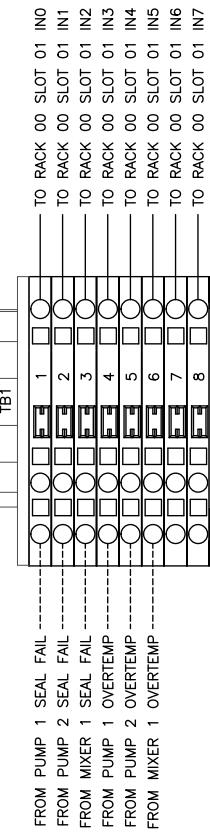
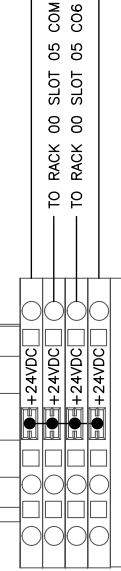
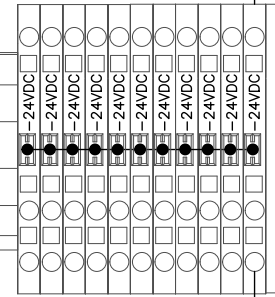
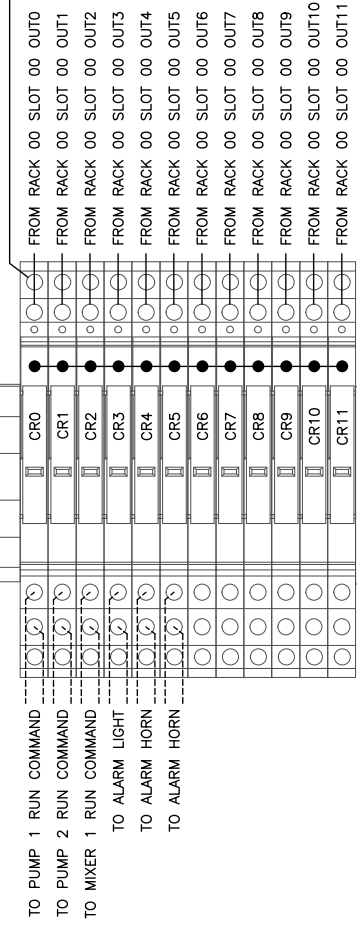
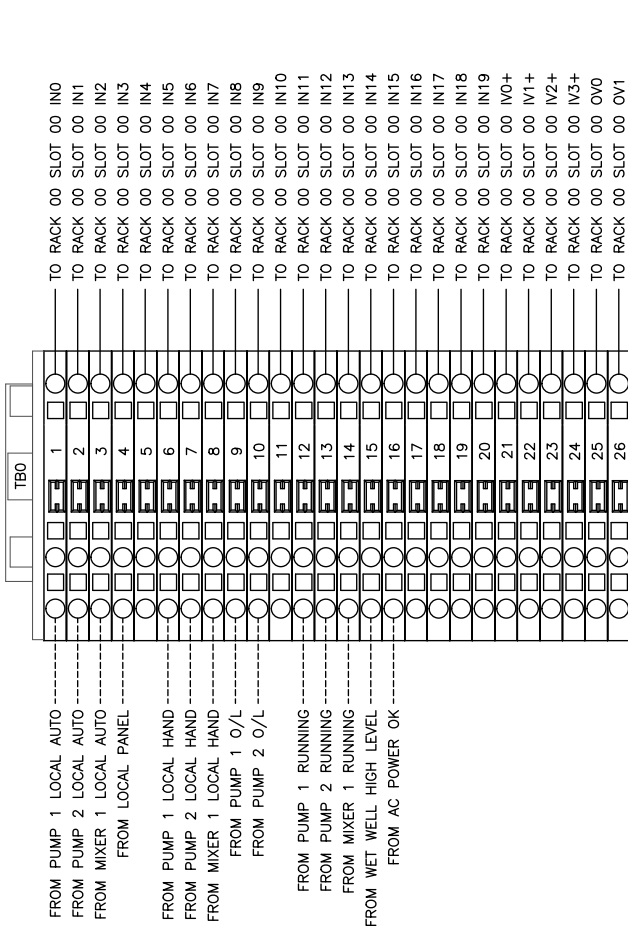
REFERENCE FOR
ENGINEERING

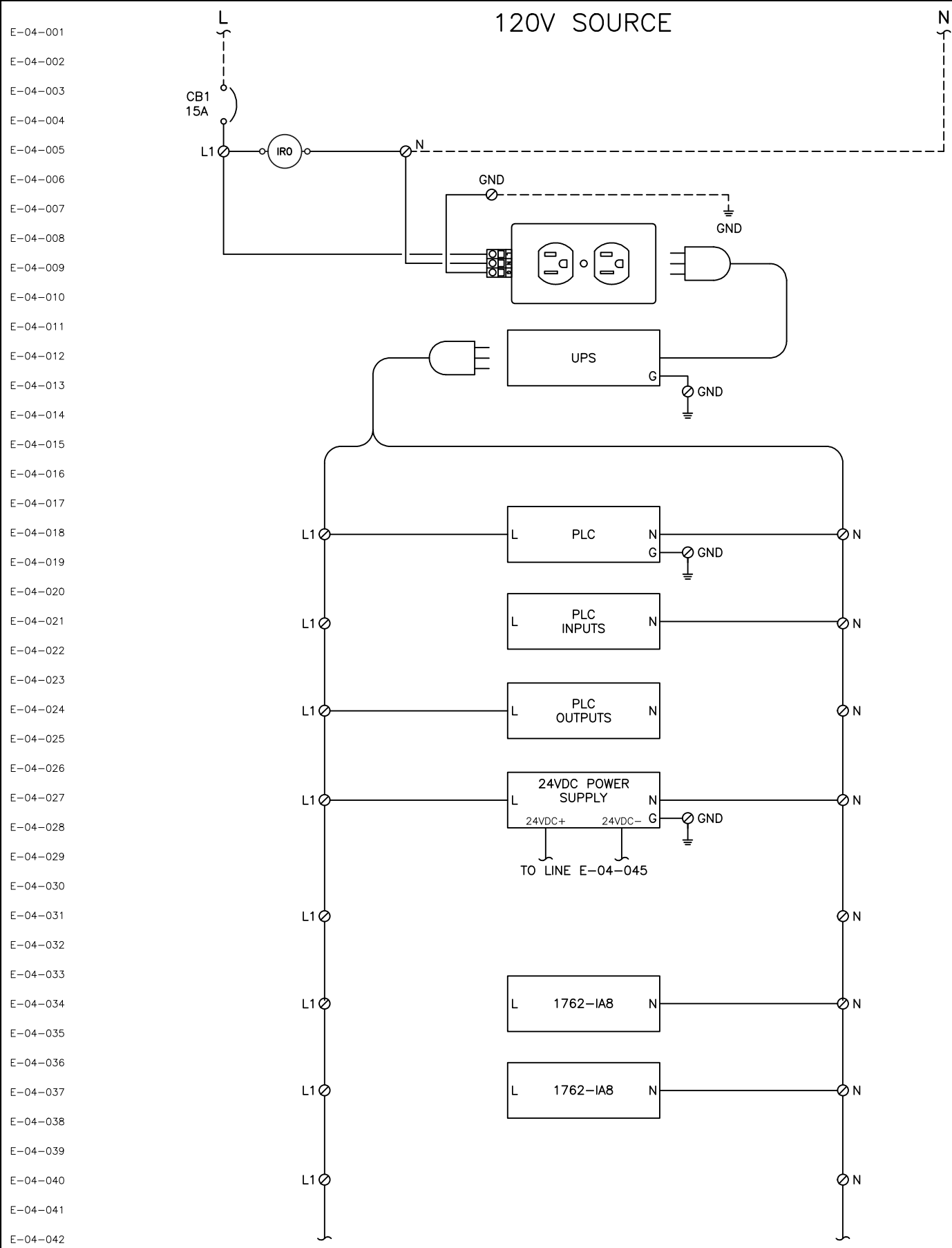
STAR

SEWER & WATER

STAR SEWER & WATER
100 S. STAR RD.
STAR, ID 83669
208-286-7388

STAR SEWER DISTRICT		PROJECT NO.	REVISION
TYPICAL LIFT STATION			A
PANEL WIRING DIAGRAM		SCALE: NONE	
		DRAWING NO.	E-03
		SHEET: 1	OF 1





E-04-043

E-04-044

E-04-045

E-04-046

E-04-047

E-04-048

E-04-049

E-04-050

E-04-051

E-04-052

E-04-053

E-04-054

E-04-055

E-04-056

E-04-057

E-04-058

E-04-059

E-04-060

E-04-061

E-04-062

E-04-063

E-04-064

E-04-065

E-04-066

E-04-067

E-04-068

E-04-069

E-04-070

E-04-071

E-04-072

E-04-073

E-04-074

E-04-075

E-04-076

E-04-077

E-04-078

E-04-079

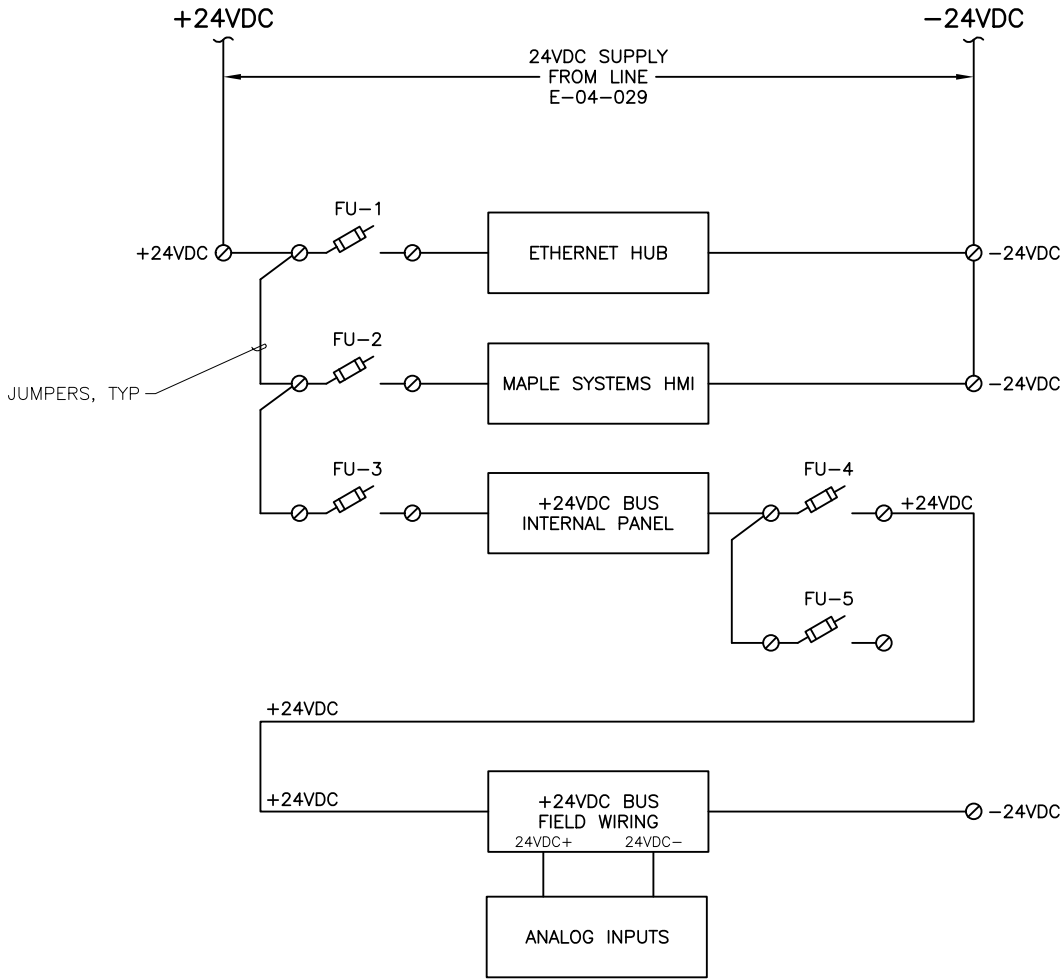
E-04-080

E-04-081

E-04-082

E-04-083

E-04-084



⊙ TERMINAL LOCATED INSIDE CONTROL PANEL

— INTERNAL PANEL WIRING

--- FIELD WIRING

REVISIONS	NO.	BY	DATE	DESCRIPTION
	△			
	△			
	△	JGH	08/11/2016	ISSUED FOR REVIEW
THIS DOCUMENT OR ANY PART THEREOF IN DETAIL OR DESIGN CONCEPT IS THE PROPERTY OF ADVANCED CONTROL SYSTEMS, LLC. AND SHALL NOT BE COPIED IN ANY FORM WITHOUT WRITTEN AUTHORIZATION FROM ADVANCED CONTROL SYSTEMS, LLC.				

INITIALS	
DRAWN BY: JGH	DATE: 08/11/16
CHECKED BY: STT	DATE: 08/11/16
APPROVED BY: STT	DATE: 08/11/16
FULL SIZE SHEET 22 x 34 HALF SIZE SHEET 11 x 17	

ACS

ADVANCED CONTROL SYSTEMS

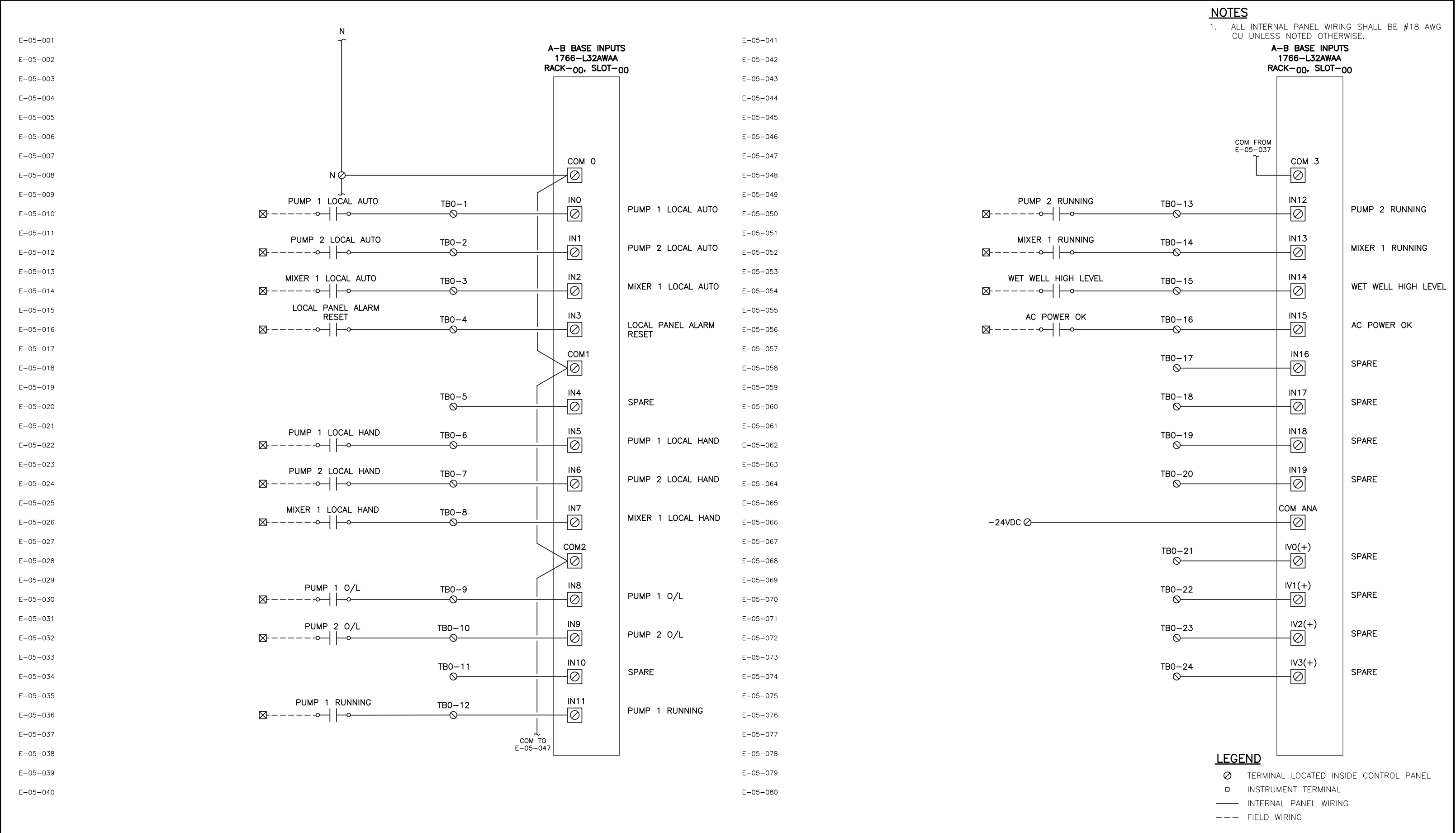
10400 OVERLAND ROAD #396
BOISE, ID 83709
PHONE: 208.362.5858

REFERENCE FOR
ENGINEERING



STAR SEWER & WATER
100 S. STAR RD.
STAR, ID 83669
208-286-7388

STAR SEWER DISTRICT		PROJECT NO.	REVISION
TYPICAL LIFT STATION			A
RTU POWER WIRING DIAGRAM		SCALE: NONE	
		DRAWING NO.	E-04
		SHEET: 1	OF 1



NOTES

1. ALL INTERNAL PANEL WIRING SHALL BE #18 AWG CU UNLESS NOTED OTHERWISE.

LEGEND

- ⊙ TERMINAL LOCATED INSIDE CONTROL PANEL
□ INSTRUMENT TERMINAL
— INTERNAL PANEL WIRING
--- FIELD WIRING

STAR SEWER DISTRICT

TYPICAL LIFT STATION

PLC BASE OUTPUTS
RACK-00, SLOT-00

PROJECT NO.

REVISION

A

SCALE: NONE

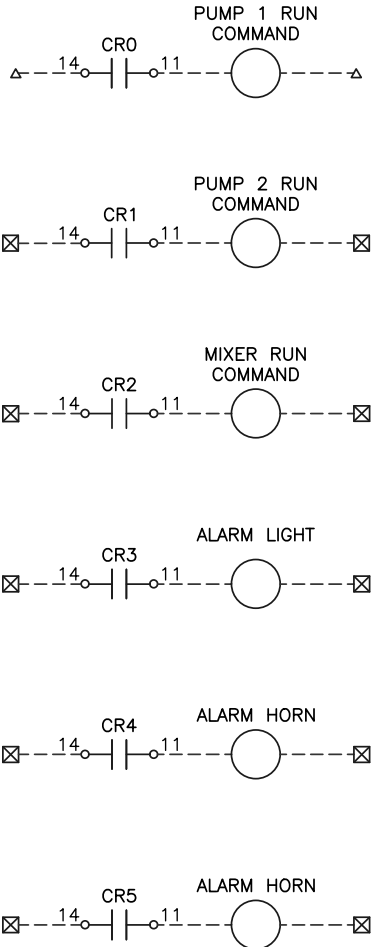
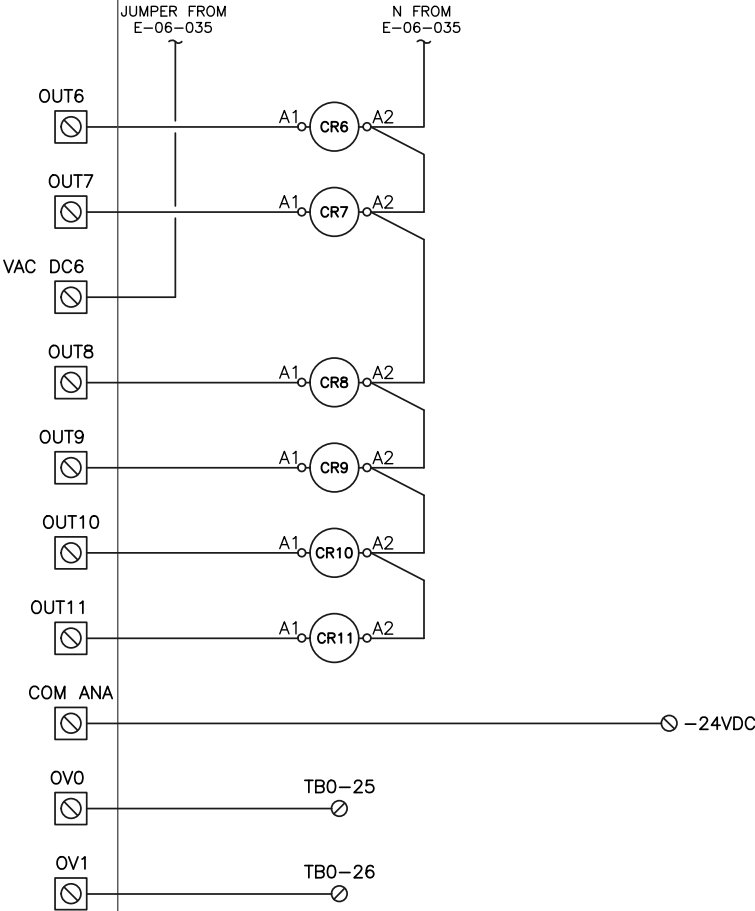
DRAWING NO.

E-06

SHEET: 1 OF 1

A-B BASE OUTPUTS
1766-L32AWAA
RACK-00, SLOT-00

E-06-041
E-06-042
E-06-043
E-06-044
E-06-045
E-06-046
E-06-047
E-06-048
E-06-049
E-06-050
E-06-051
E-06-052
E-06-053
E-06-054
E-06-055
E-06-056
E-06-057
E-06-058
E-06-059
E-06-060
E-06-061
E-06-062
E-06-063
E-06-064
E-06-065
E-06-066
E-06-067
E-06-068
E-06-069
E-06-070
E-06-071
E-06-072
E-06-073
E-06-074
E-06-075
E-06-076
E-06-077
E-06-078
E-06-079
E-06-080



A-B BASE OUTPUTS
1766-L32AWAA
RACK-00, SLOT-00

E-06-001
E-06-002
E-06-003
E-06-004
E-06-005
E-06-006
E-06-007
E-06-008
E-06-009
E-06-010
E-06-011
E-06-012
E-06-013
E-06-014
E-06-015
E-06-016
E-06-017
E-06-018
E-06-019
E-06-020
E-06-021
E-06-022
E-06-023
E-06-024
E-06-025
E-06-026
E-06-027
E-06-028
E-06-029
E-06-030
E-06-031
E-06-032
E-06-033
E-06-034
E-06-035
E-06-036
E-06-037
E-06-038
E-06-039
E-06-040

PUMP 1 RUN
COMMAND

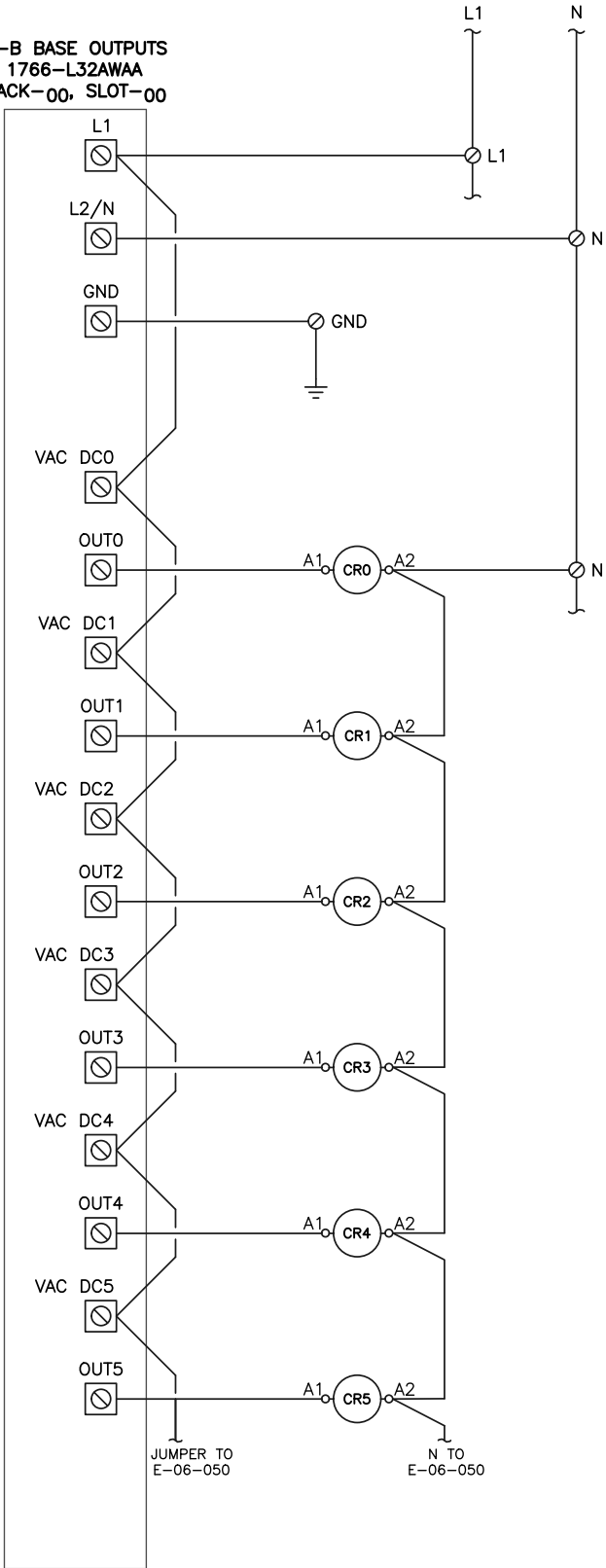
PUMP 2 RUN
COMMAND

MIXER RUN
COMMAND

ALARM LIGHT

ALARM HORN

ALARM HORN



ACS
ADVANCED CONTROL SYSTEMS
10400 OVERLAND ROAD #396
BOISE, ID 83709
PHONE: 208.362.5858

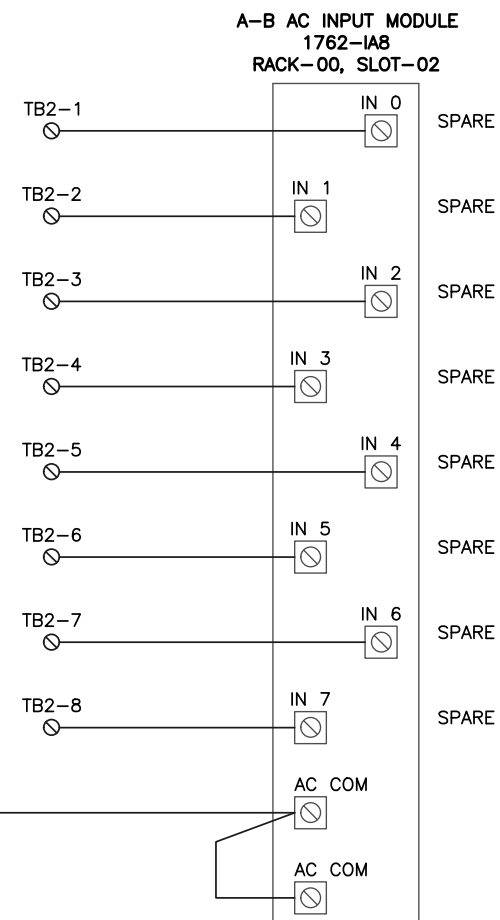
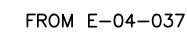
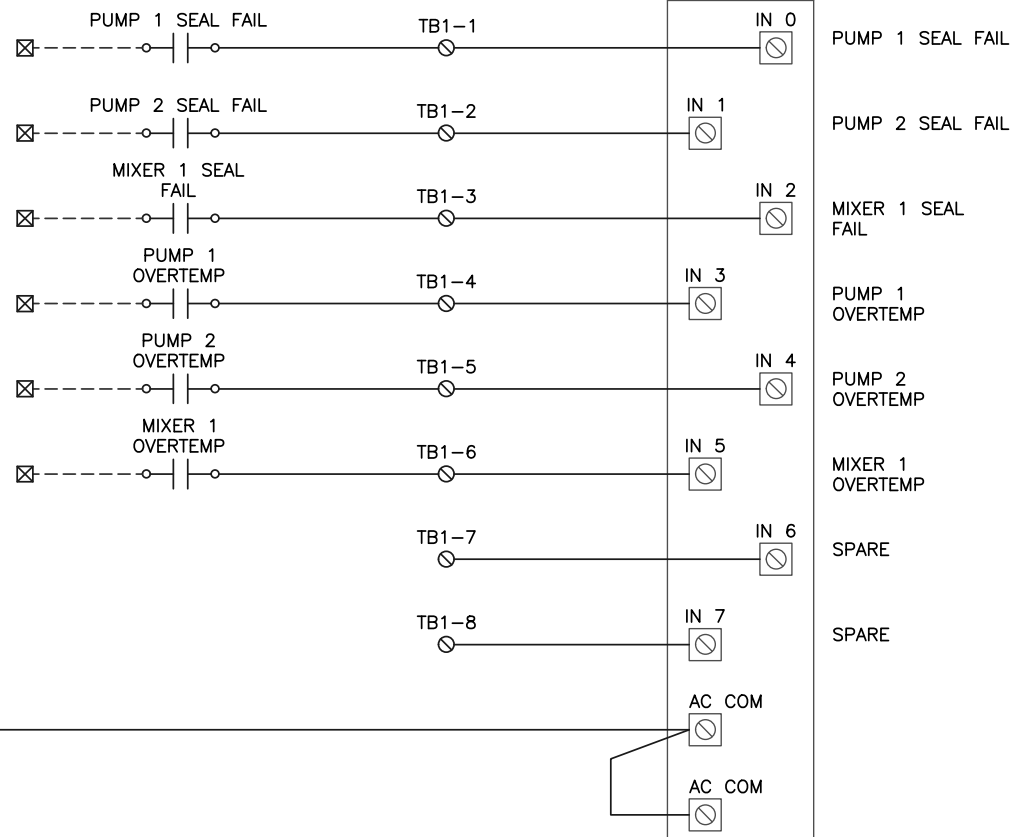
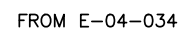
REFERENCE FOR
ENGINEERING



STAR SEWER & WATER
100 S. STAR RD.
STAR, ID 83669
208-286-7388

REVISIONS	NO.	BY	DATE	DESCRIPTION
△	1	JGH	08/11/2016	ISSUED FOR REVIEW
THIS DOCUMENT OR ANY PART THEREOF IN DETAIL OR DESIGN CONCEPT IS THE PROPERTY OF ADVANCED CONTROL SYSTEMS, LLC. AND SHALL NOT BE COPIED IN ANY FORM WITHOUT WRITTEN AUTHORIZATION FROM ADVANCED CONTROL SYSTEMS, LLC.				

INITIALS	
DRAWN BY: JGH	DATE: 08/11/16
CHECKED BY: STT	DATE: 08/11/16
APPROVED BY: STT	DATE: 08/11/16
FULL SIZE SHEET 22 x 34 HALF SIZE SHEET 11 x 17	



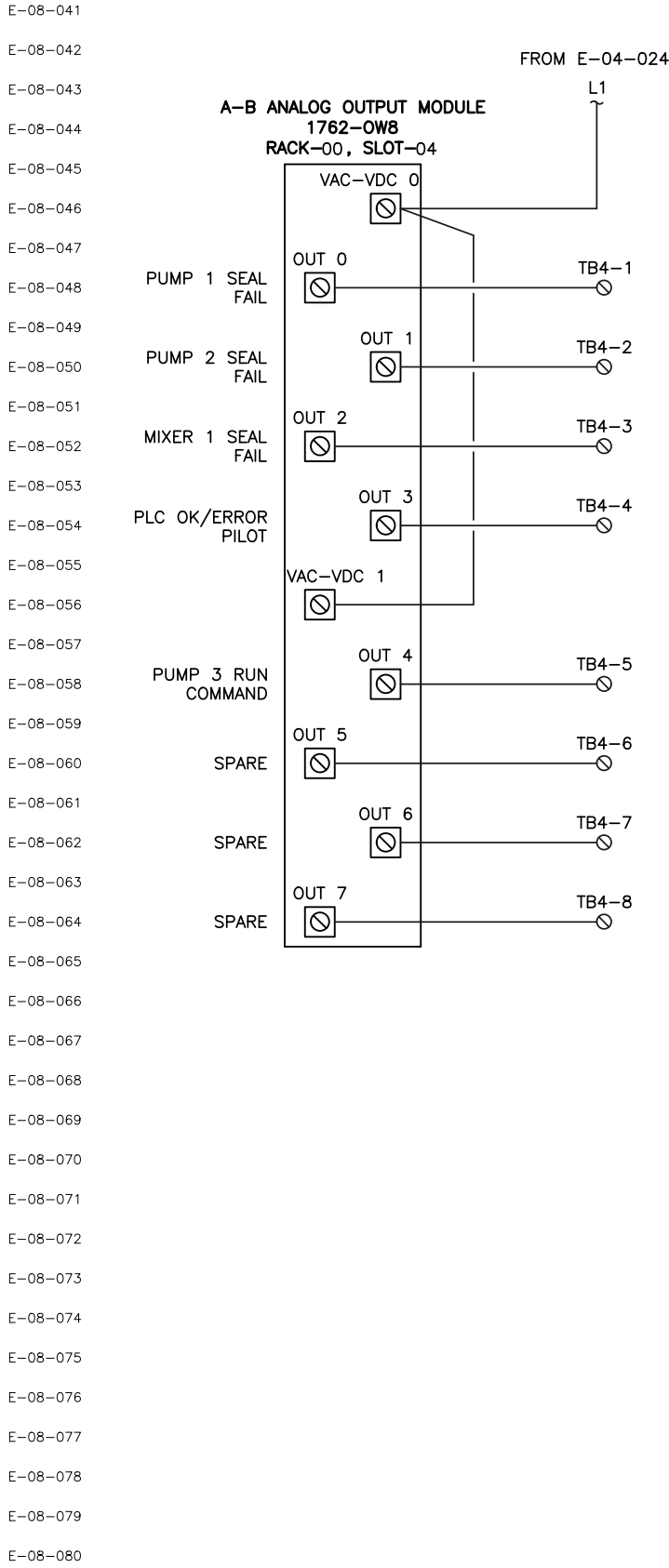
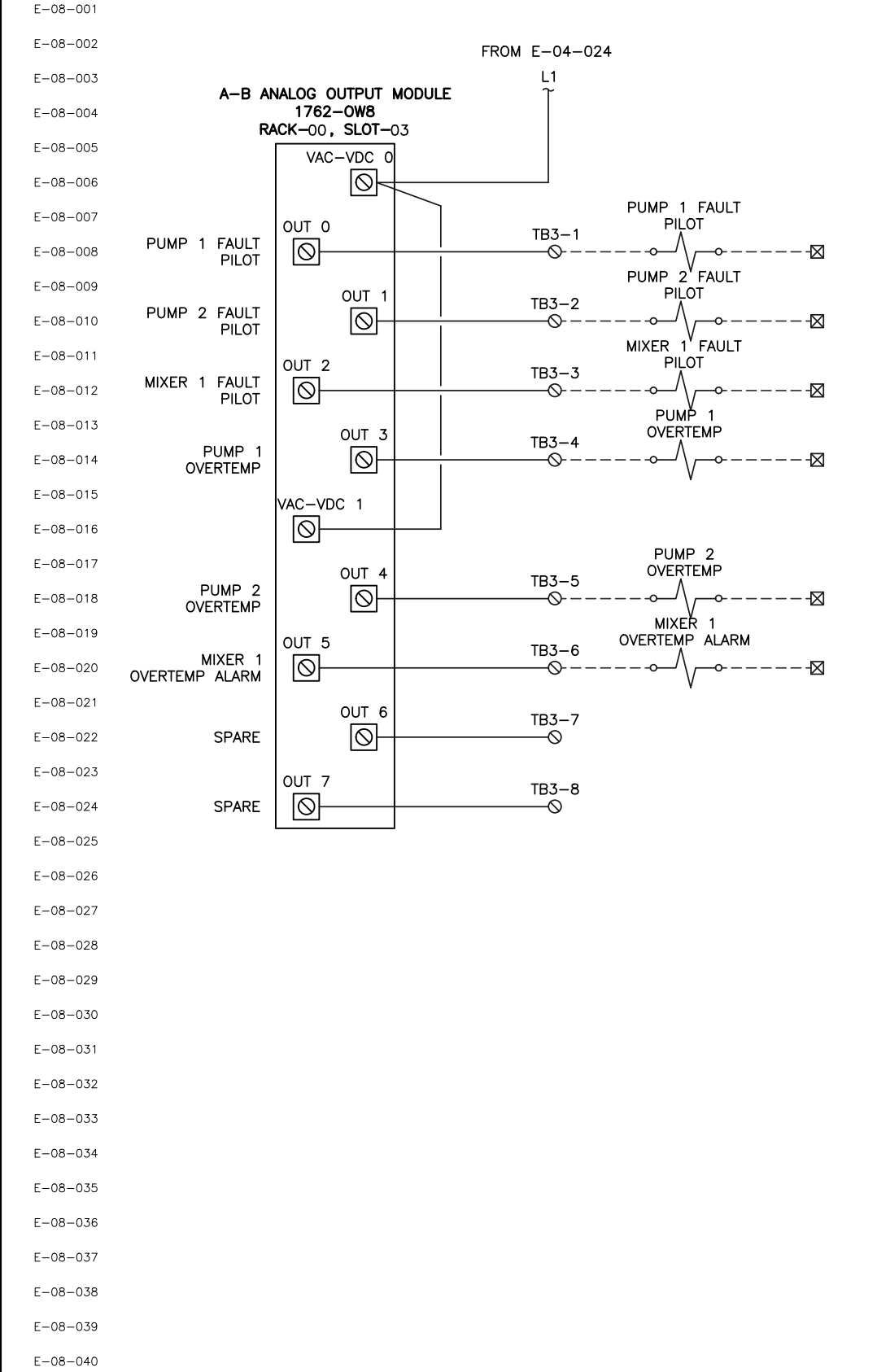
NOTES

1. ALL INTERNAL PANEL WIRING SHALL BE #18 AWG
CU UNLESS NOTED OTHERWISE.

LEGEND

-  TERMINAL LOCATED INSIDE CONTROL PANEL
 INSTRUMENT TERMINAL
 INTERNAL PANEL WIRING
 FIELD WIRING

REVISIONS	NO.	BY	DATE	DESCRIPTION	INITIALS		 ACS ADVANCED CONTROL SYSTEMS		 STAR SEWER & WATER 100 S. STAR RD. STAR, ID 83669 208-286-7388	STAR SEWER DISTRICT		PROJECT NO.	REVISION	
					DRAWN BY: JGH	DATE: 08/11/16				TYPICAL LIFT STATION		SCALE: NONE		A
					CHECKED BY: STT	DATE: 08/11/16				PLC RACK-00		DRAWING NO.		E-07
		JGH	08/11/2016	ISSUED FOR REVIEW	APPROVED BY: STT	DATE: 08/11/16				SLOTS 01 & 02		SHEET: 1 OF 1		
				THIS DOCUMENT OR ANY PART THEREOF IN DETAIL OR DESIGN CONCEPT IS THE PROPERTY OF ADVANCED CONTROL SYSTEMS, LLC. AND SHALL NOT BE COPIED IN ANY FORM WITHOUT WRITTEN AUTHORIZATION FROM ADVANCED CONTROL SYSTEMS, LLC.				10400 OVERLAND ROAD #396 BOISE, ID 83709 PHONE: 208.362.5858						



NOTES

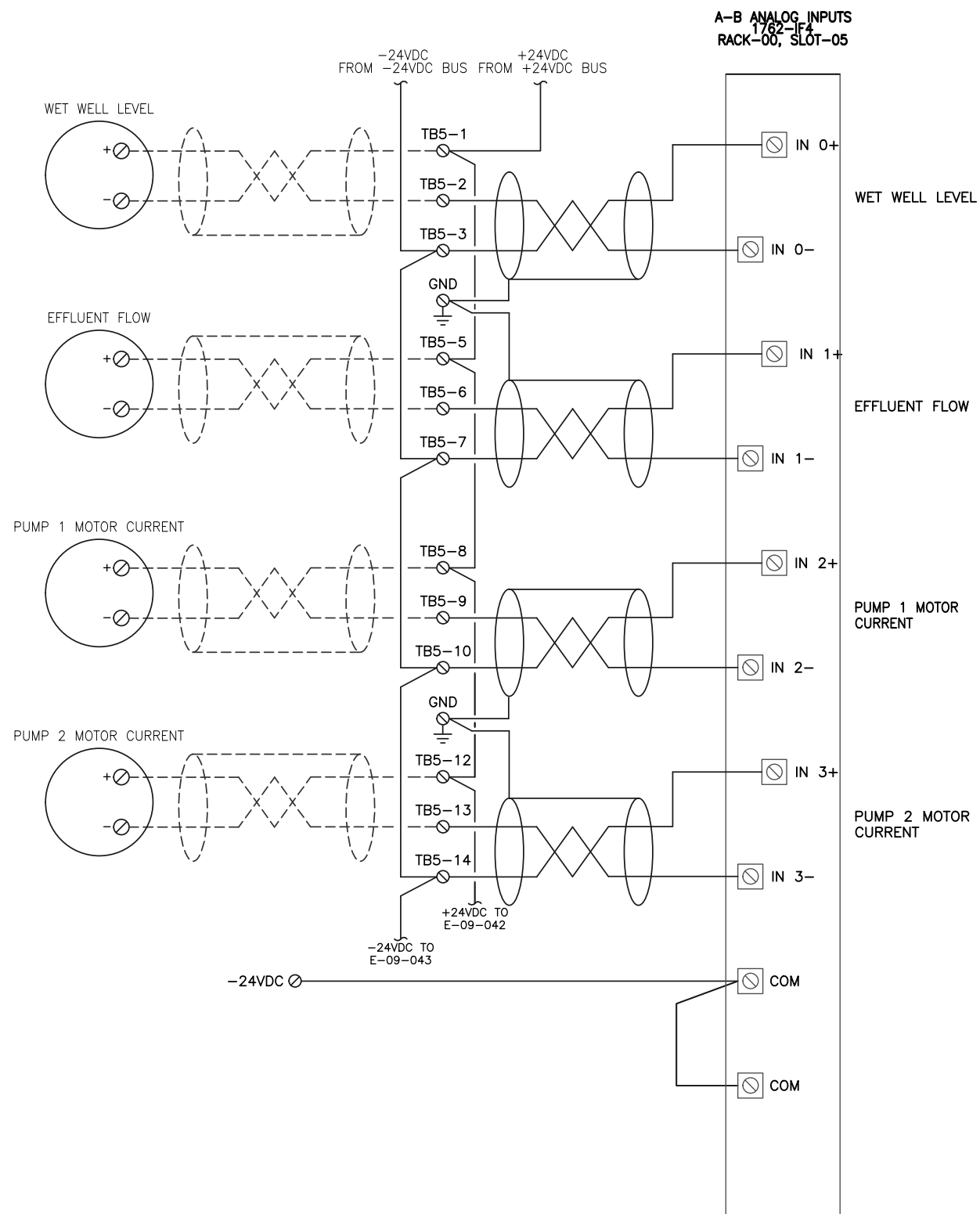
1. ALL INTERNAL PANEL WIRING SHALL BE #18 AWG CU UNLESS NOTED OTHERWISE.

LEGEND

- ⊙ TERMINAL LOCATED INSIDE CONTROL PANEL
□ INSTRUMENT TERMINAL
— INTERNAL PANEL WIRING
--- FIELD WIRING

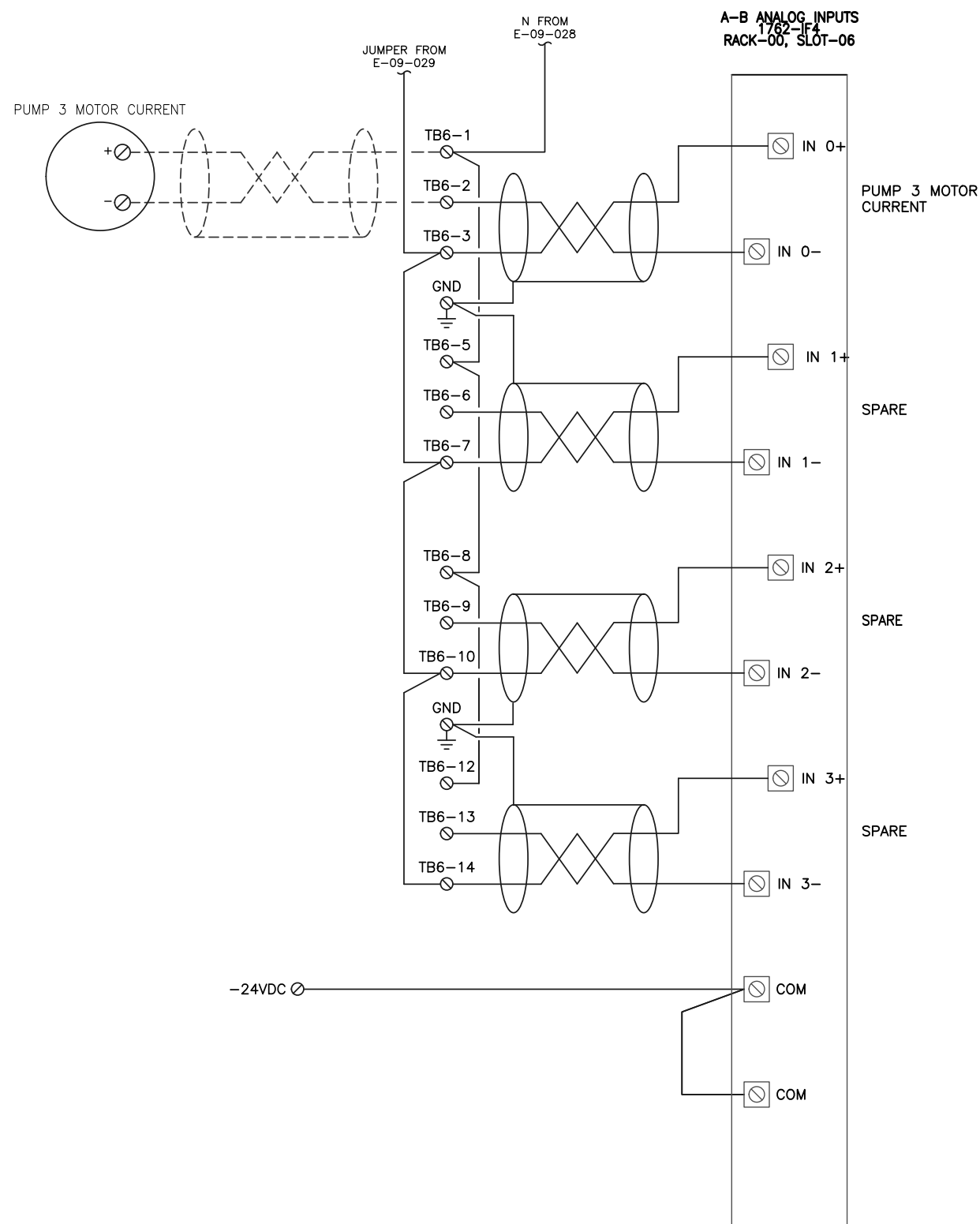
REVISIONS	NO.	BY	DATE	DESCRIPTION	INITIALS		 ADVANCED CONTROL SYSTEMS 10400 OVERLAND ROAD #396 BOISE, ID 83709 PHONE: 208.362.5858	REFERENCE FOR ENGINEERING	 STAR SEWER & WATER 100 S. STAR RD. STAR, ID 83669 208-286-7388	STAR SEWER DISTRICT		PROJECT NO.	REVISION
	△				DRAWN BY: JGH	DATE: 08/11/16				TYPICAL LIFT STATION		A	
	△				CHECKED BY: STT	DATE: 08/11/16				SCALE: NONE			
	△	JGH	08/11/2016	ISSUED FOR REVIEW	APPROVED BY: STT	DATE: 08/11/16				PLC RACK-00 SLOTS 03 & 04		DRAWING NO. E-08	
THIS DOCUMENT OR ANY PART THEREOF IN DETAIL OR DESIGN CONCEPT IS THE PROPERTY OF ADVANCED CONTROL SYSTEMS, LLC. AND SHALL NOT BE COPIED IN ANY FORM WITHOUT WRITTEN AUTHORIZATION FROM ADVANCED CONTROL SYSTEMS, LLC.					FULL SIZE SHEET 22 x 34 HALF SIZE SHEET 11 x 17				SHEET: 1 OF 1				

E-09-001
E-09-002
E-09-003
E-09-004
E-09-005
E-09-006
E-09-007
E-09-008
E-09-009
E-09-010
E-09-011
E-09-012
E-09-013
E-09-014
E-09-015
E-09-016
E-09-017
E-09-018
E-09-019
E-09-020
E-09-021
E-09-022
E-09-023
E-09-024
E-09-025
E-09-026
E-09-027
E-09-028
E-09-029
E-09-030
E-09-031
E-09-032
E-09-033
E-09-034
E-09-035
E-09-036
E-09-037
E-09-038
E-09-039
E-09-040



A-B ANALOG INPUTS
1762-IF4
RACK-00, SLOT-05

E-09-041
E-09-042
E-09-043
E-09-044
E-09-045
E-09-046
E-09-047
E-09-048
E-09-049
E-09-050
E-09-051
E-09-052
E-09-053
E-09-054
E-09-055
E-09-056
E-09-057
E-09-058
E-09-059
E-09-060
E-09-061
E-09-062
E-09-063
E-09-064
E-09-065
E-09-066
E-09-067
E-09-068
E-09-069
E-09-070
E-09-071
E-09-072
E-09-073
E-09-074
E-09-075
E-09-076
E-09-077
E-09-078
E-09-079
E-09-080



NOTES

1. ALL INTERNAL PANEL WIRING SHALL BE #18 AWG CU UNLESS NOTED OTHERWISE.

A-B ANALOG INPUTS
1762-IF4
RACK-00, SLOT-06

LEGEND

- TERMINAL LOCATED INSIDE CONTROL PANEL
 □ INSTRUMENT TERMINAL
 — INTERNAL PANEL WIRING
 - - - FIELD WIRING

REVISIONS	NO.	BY	DATE	DESCRIPTION	INITIALS		 ACS ADVANCED CONTROL SYSTEMS 10400 OVERLAND ROAD #396 BOISE, ID 83709 PHONE: 208.362.5858	REFERENCE FOR ENGINEERING	 STAR SEWER & WATER 100 S. STAR RD. STAR, ID 83669 208-286-7388	STAR SEWER DISTRICT		PROJECT NO.	REVISION
	△				DRAWN BY:	DATE:						SCALE: NONE	DRAWING NO.
	△				CHECKED BY:	DATE:							
	△	JGH	08/11/2016	ISSUED FOR REVIEW	APPROVED BY:	DATE:						PLC RACK-00 SLOTS 05 & 06	