

# PARKLAND SANITARY DISTRICT NO. 1 WASTEWATER COLLECTION SYSTEM

## PARKLAND TOWNSHIP DOUGLAS COUNTY, WISCONSIN

### PLAN SET VOLUME NO 1

(SEE VOLUME NO 2 FOR GRINDER AND SERVICE PIPE LOCATIONS)

#### SHEET INDEX

##### G - GENERAL SHEETS

- G-1 TITLE SHEET
- G-2 SHEET INDEX MAP
- G-3 SANITARY DETAILS
- G-4 SANITARY DETAILS
- G-5 MISC DETAILS
- G-6 GRIDER DETAIL
- G-7 EROSION DETAILS
- G-8 TRAFFIC PLAN
- G-9 TRAFFIC PLAN

##### ST - SITE PLANS

- ST-1 LIFT STATION NO 2 SITE PLAN
- ST-2 LIFT STATION NO 3 SITE PLAN
- ST-3 LIFT STATION NO 4 SITE PLAN
- ST-4 SITE PLAN-HOLDING BASIN
- ST-5 SITE GRADING PLAN-HOLDING BASIN
- ST-6 EROSION CONTROL PLAN-HOLDING BASIN
- ST-7 SITE PIPING PLAN-HOLDING BASIN
- ST-8 CROSS SECTIONS-HOLDING BASIN

##### P - SANITARY SEWER, FORCEMAIN, PRESSURE SEWER PLAN-PROFILES

- P-1 53RD AVENUE EAST PLAN-PROFILE
- P-2 - P-5 EAST 3RD STREET PLAN PROFILE
- P-6 - P-20 COUNTY ROAD E, E 3RD STREET TO COUNTY ROAD Z PLAN-PROFILE
- P-21 - P-31 COUNTY ROAD E, COUNTY ROAD Z TO COUNTY ROAD K PLAN-PROFILE
- P-32 - P-50 COUNTY ROAD E, COUNTY ROAD K TO LS NO 4 PLAN-PROFILE
- P-51 - P-58 COUNTY ROAD E, LS 4 TO COUNTY ROAD C PLAN-PROFILE
- P-60 - P-61 EAST CITY LIMITS ROAD PLAN-PROFILE
- P-62 NORTH TRAILER PARK PLAN-PROFILE
- P-63 PLEASANT AVENUE PLAN-PROFILE
- P-64 SOUTH TRAILER PARK PLAN-PROFILE
- P-65 - P-66 16TH STREET PLAN-PROFILE
- P-70 - P-79 COUNTY ROAD Z, HOLDING BASIN TO EAST OF 16TH ST PLAN-PROFILE
- P-80 - P-96 COUNTY ROAD K, COUNTY ROAD E TO LS 3 PLAN PROFILE
- P-97 - P-98 COUNTY ROAD K, LS 3 TO COUNTY ROAD C PLAN-PROFILE
- P-100 - P-102 SOUTH SHORE DRIVE PLAN-PROFILE
- P-103 - P104 SOUTH STONE ROAD PLAN-PROFILE
- P-105 - P-108 E CULVER AVENUE & 16TH ST SOUTH OF E CULVER AVENUE
- P-110 - P-134 COUNTY ROAD C, COUNTY ROAD E EAST TO EAST PROJ LIMIT PLAN-PROFILE
- P-140 - P141 WICKSTROM STREET
- P-142 - P143 SERVICE TO HOME SOUTH OF COUNTY ROAD E EAST
- P-144 - P146 GRAND AVENUE
- P-150 - P-154 EAST WEBB ROAD
- P-160 - P-163 EAU CLAIRE STREET, SOUTH WELAND AVENUE
- P-164 - P170 EAST CUTTER ROAD
- P-171 - P-173 WEBB ROAD
- P-180 - P186 EAST ORCHARD DRIVE
- P-190 - P194 ST. LAWRENCE ROAD
- P-200 - P-205 CLOVERDALE DRIVE

##### A - ARCHITECTURAL

- A-1 FOUNDATION PLAN
- A-2 FLOOR PLAN
- A-3 ELEVATIONS
- A-4 BUILDING CROSS-SECTION
- A-5 DETAILS

##### PM - PROCESS MECHANICAL

- PM-1 PLAN & SECTION-LIFT STATION #1
- PM-2 PLAN & SECTION-LIFT STATION #2
- PM-3 PLAN & SECTION-LIFT STATION #3
- PM-4 PLAN & SECTION-LIFT STATION #4
- PM-5 SECTIONS AND DETAILS-BLOWER ROOM
- PM-6 PLAN AND SECTION-PIPING & AERATION
- PM-7 PLAN AND SECTION-HOLDING BASIN MANHOLES
- PM-8 DETAILS-HOLDING BASIN LINER
- PM-9 DETAILS-HOLDING BASIN SITE
- PM-10 MISCELLANEOUS DETAILS

##### H - HVAC

- H-1 HVAC FLOOR PLAN
- H-2 HVAC SCHEDULES

##### P - PLUMBING

- PL-1 PLUMBING FLOOR PLAN - SANITARY
- PL-2 PLUMBING FLOOR PLAN - WATER

##### E - ELECTRICAL

- E-1 ELECTRICAL SYMBOLS & ABBREVIATIONS
- E-2 LIFTSTATION NO 1 SITE PLAN-ELECTRICAL
- E-3 LIFT STATION NO 1 & GARAGE PLAN-LIGHTING
- E-4 LIFT STATION NO 1 & GARAGE PLAN-POWER
- E-5 LIFT STATION NO 2 SITE PLAN-ELECTRICAL
- E-6 LIFT STATION NO 3 SITE PLAN-ELECTRICAL
- E-7 LIFT STATION NO 4 SITE PLAN-ELECTRICAL
- E-8 LIFT STATION NO 7 SITE PLAN - ELECTRICAL
- E-9 LIFT STATION NO 1 & GARAGE - ONE LINE DIAGRAM
- E-10 LIFT STATION NO 2, 3, 4 - ONE LINE DIAGRAM
- E-11 LIFT STATION NO 7 ONE LINE DIAGRAM
- E-12 P & ID NO 1
- E-13 P & ID NO 2
- E-14 P & ID NO 3
- E-15 SCADA OVERVIEW
- E-16 IO SCHEDULE - ELECTRICAL
- E-17 WIRING SCHEDULE - ELECTRICAL
- E-18 TYPICAL DETAILS - ELECTRICAL
- E-19 TYPICAL DETAILS-ELECTRICAL
- E-20 TYPICAL DETAILS-ELECTRICAL
- E-21 TYPICAL DETAILS-ELECTRICAL

#### LEGEND

	EXISTING WATER MAIN
	EXISTING GATE VALVE & HYDRANT
	WATER SERVICE & CURB STOP
	PROPOSED WATERMAIN, VALVE, & HYDRANT
	PROPOSED WATER SERVICE & CURB STOP
	EXISTING SANITARY SEWER & MANHOLE
	EXISTING FORCEMAIN
	EXISTING STORM SEWER & INLET
	PROPOSED STORM SEWER & INLET
	PROPOSED MANHOLE & SEWER MAIN
	BURIED ELECTRIC
	BURIED GAS & VALVE
	BURIED CABLE TELEVISION
	BURIED TELEPHONE
	BURIED FIBER OPTICS
	RAILROAD TRACKS
	EXISTING CURB & GUTTER
	PROPOSED CURB & GUTTER
	EXISTING SIDEWALK
	PROPOSED SIDEWALK
	EXISTING CULVERT PIPE
	PROPOSED CULVERT PIPE
	FENCE LINE
	DRAINAGE ARROW
	SILT FENCE
	RIGHT-OF-WAY
	BASELINE
	PROPERTY LINE
	TREE LINE
	IRON PIPE
	IRON ROD
	CONTROL POINT
	POWER POLE & GUY
	SOIL BORING
	LIGHT POLE
	PEDESTAL
	STREET SIGN
	MAILBOX
	FLAGPOLE
	EROSION BALES
	TREE - DECIDUOUS
	TREE - CONIFEROUS
	TREE TO BE REMOVED
	DELINEATED WETLAND

#### UTILITIES

**GAS:**  
SUPERIOR WATER & LIGHT  
2915 HILL AVE.  
SUPERIOR, WI 54880  
715-394-2300 (911)

**ELECTRIC:**  
DAHLBERG LIGHT & POWER CO.  
9221 E MAIN ST.  
SOLON SPRINGS, WI 54873  
800-736-5167 (911)

**TELEPHONE:**  
CENTURY TEL  
3716 E 1st ST.  
SUPERIOR, WI 54880  
800-824-2877

**WATER:**  
SUPERIOR WATER & LIGHT  
2915 HILL AVE.  
SUPERIOR, WI 54880  
715-394-2300 (911)

**SEWER:**  
CITY OF SUPERIOR PUBLIC WORKS  
1409 HAMMOND AVE.  
SUPERIOR, WI 54880  
715-394-0333 (911)

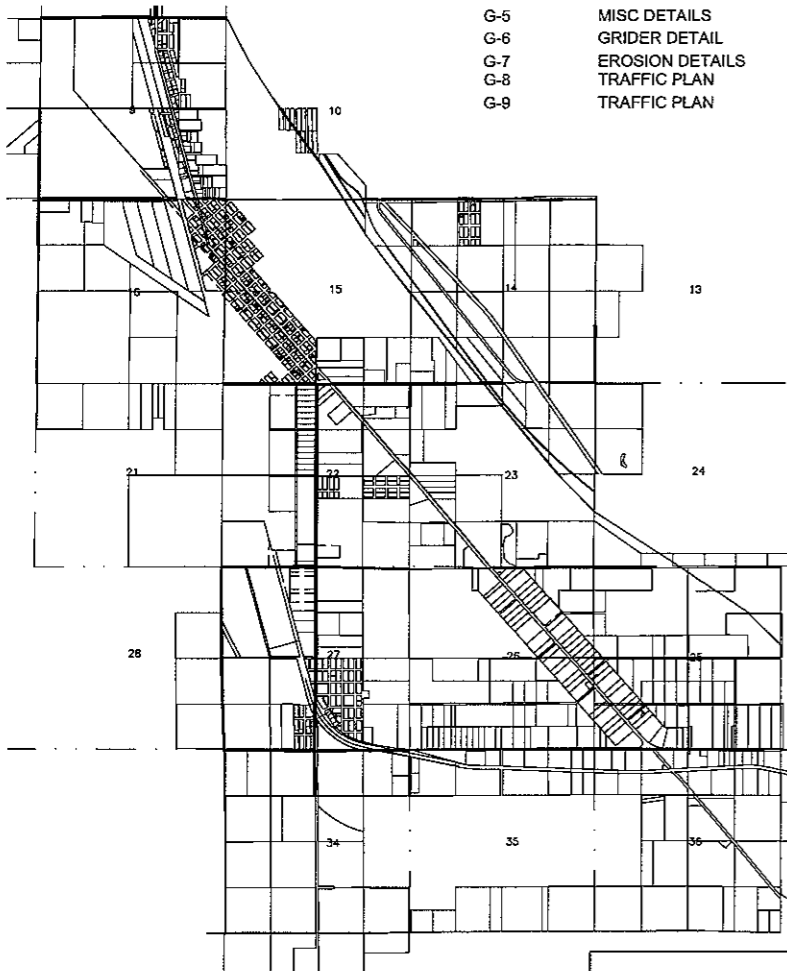
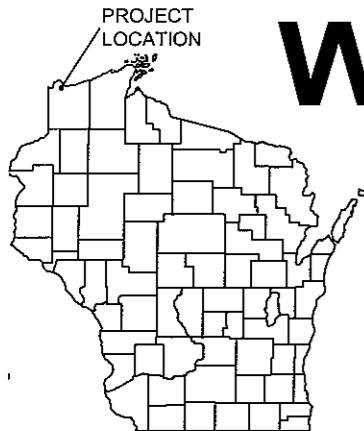


Toll Free (800) 242-8511  
Milwaukee Area (414) 236-1181  
Hearing Impaired TDD (800) 542-2288  
www.DiggersHotline.com

**NOTE:**  
UTILITY LOCATIONS SHOWN ON PLANS ARE APPROXIMATE AND CONTRACTOR SHALL HAVE APPROPRIATE UTILITY MARK EXACT LOCATIONS PRIOR TO CONSTRUCTION.

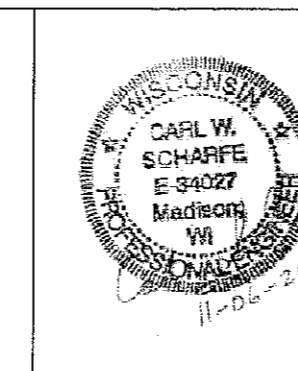
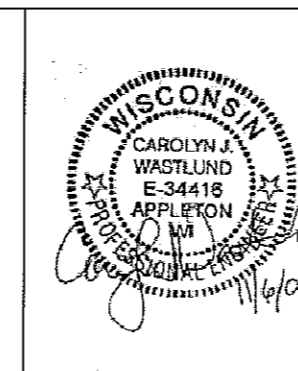
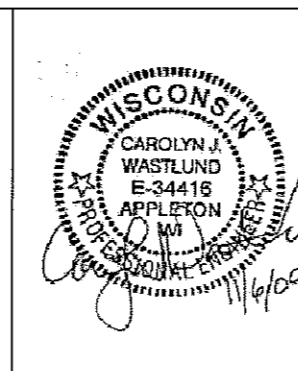
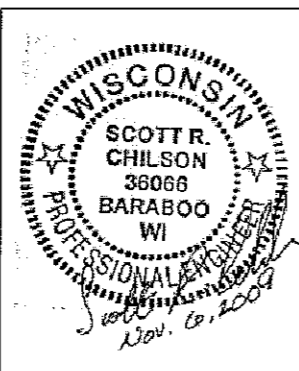
#### ABBREVIATION LIST

AFF	ABOVE FINISH FLOOR	MAX	MAXIMUM
BLDG	BUILDING	MCC	MASTER CONTROL CENTER
CJ	CONTROL JOINT	MFG	MANUFACTURER
CLR	CLEARANCE	MH	MANHOLE
CO	CLEANOUT	MIN	MINIMUM
CONC	CONCRETE	MJ	MECHANICAL JOINT
CONST	CONSTRUCTION	MTG	MEETING
CONT	CONTINUOUS	MATL	MATERIAL
CT	CERAMIC TILE	NIC	NOT IN CONTACT
CTH	COUNTY TRUNK HIGHWAY	NO	NUMBER
DD	DRAINAGE DIVIDE	NPT	NATIONAL PIPE THREAD
DIA	DIAMETER	OC	ON CENTER
EL	ELEVATION	OF	OVERFLOW
ELEV	ELEVATION	PE	PLAIN END
EMBED	EMBEDDED	PT	PRESSURE TREATED
ETC	ETCETERA	R	RADIUS
EX	EXISTING	RD	ROAD
FDN	FOUNDATION	REINF	REINFORCE
FE	FLANGED END	REQ'D	REQUIRED
FG	FINISHED GRADE	SCHED	SCHEDULE
FLG	FLANGE	SIM	SIMILAR
FTG	FOOTING	SHT	SHEET
GC	GENERAL CONTRACTOR	SPEC	SPECIFICATIONS
GYP BD	GYP SUM BOARD	STL	STEEL
HM	HOLLOW METAL	STRUCT	STRUCTURE
HORIZ	HORIZONTAL	THD	THREADED
HT	HEIGHT	T/S	TOP OF SLAB
H/V	HORIZONTAL/VERTICAL	TYP	TYPICAL
HVAC	HEATING, VENTILATION AND COOLING	VAN	VANITY
ID	INSIDE DIAMETER	VERT	VERTICAL
IE	INVERT ELEVATION	W	WITH
INSUL	INSULATION	WWM	WIRE WELDED MESH
LS	LIFT STATION		



#### LOCATION MAP NOT TO SCALE

The subsurface utility information in this plan is utility quality level D. This quality level was determined according to the guidelines of CI/ASCE 38-.2, entitled "Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data."



ELECTRICAL

GENERAL PROCESS MECHANICAL

PLUMBING/HVAC

ARCHITECTURAL

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West Elm Street, Duluth, MN 55802  
218-722-3915 1-800-777-7130 Fax: 218-722-4518  
© USA PROFESSIONAL SERVICES

**MSA**  
PROFESSIONAL ENGINEERS

PROJECT: 626000  
DATE: NOVEMBER, 2009  
SCALE AS SHOWN

TITLE SHEET  
PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

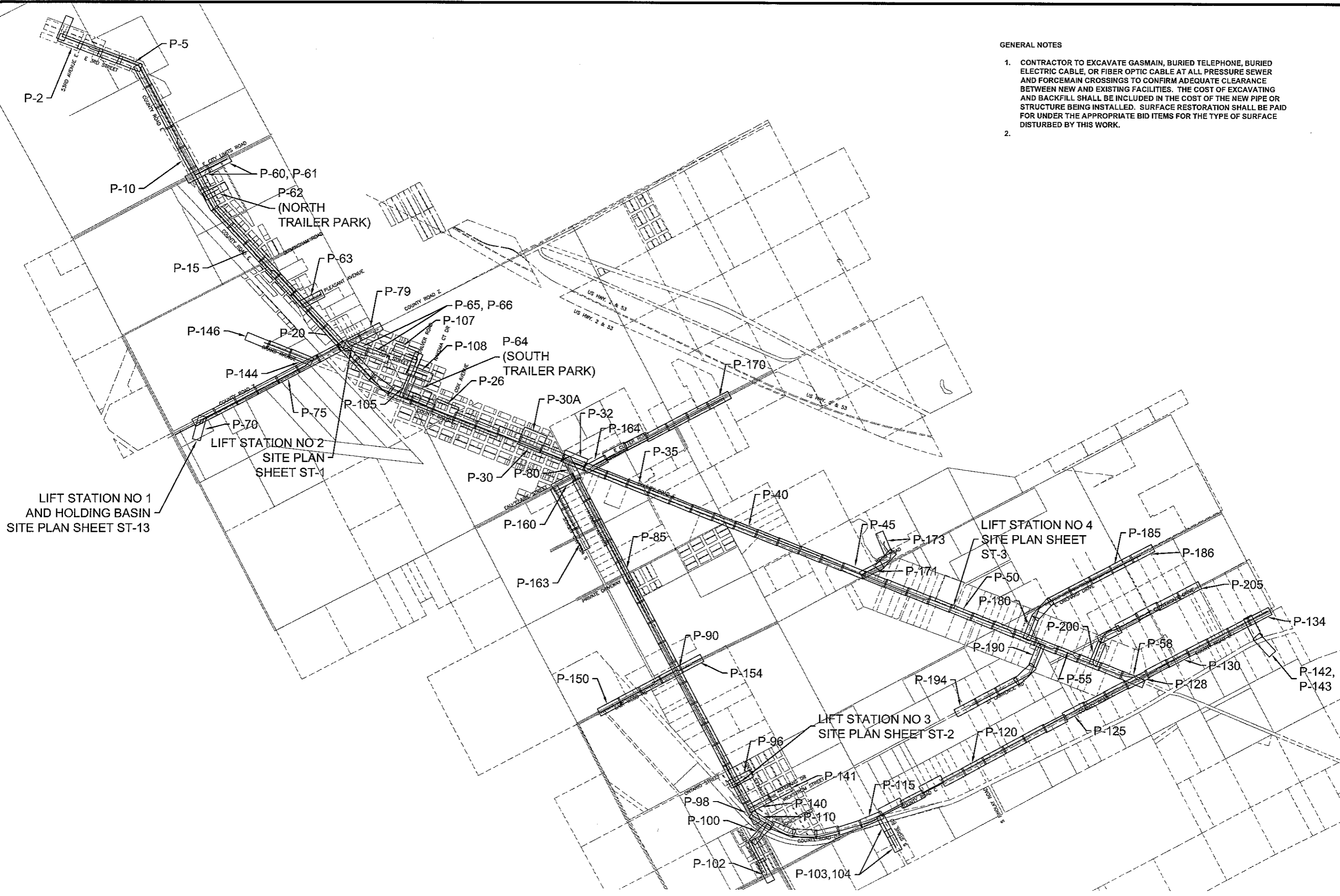
FILE NO.  
626-001

SHEET  
G-1

PLOT DATE: 06 Nov 2009 09:24:47pm  
 PLOTNAME: K:\plans\msa\G\_01\_TITLE\_SHEET\_626000.dwg  
 LAYOUT NAME: G-1 TITLE SHEET (VOL. 1)

LAYOUT NAME C-2 SHEET INDEX

PLT DATE 05 Nov 2009 10:21:14am  
FILENAME K:\pionshts\G-02\_SHEET\_INDEX\_626000.dwg



GENERAL NOTES

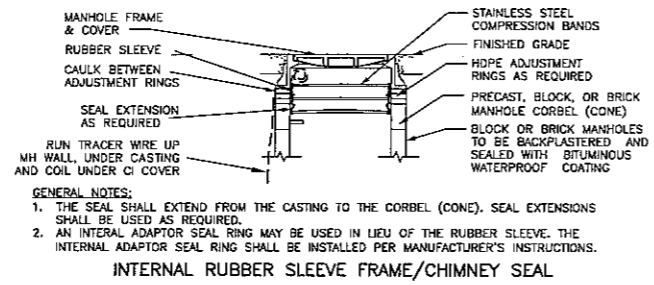
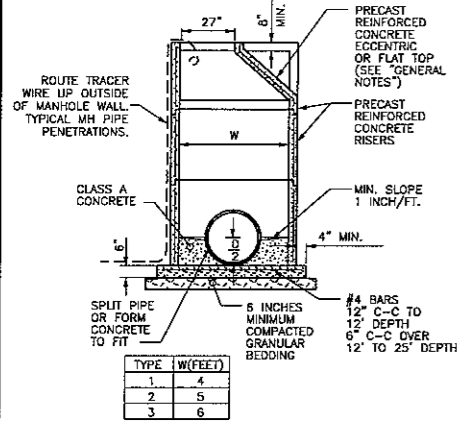
1. CONTRACTOR TO EXCAVATE GASMAIN, BURIED TELEPHONE, BURIED ELECTRIC CABLE, OR FIBER OPTIC CABLE AT ALL PRESSURE SEWER AND FORCEMAIN CROSSINGS TO CONFIRM ADEQUATE CLEARANCE BETWEEN NEW AND EXISTING FACILITIES. THE COST OF EXCAVATING AND BACKFILL SHALL BE INCLUDED IN THE COST OF THE NEW PIPE OR STRUCTURE BEING INSTALLED. SURFACE RESTORATION SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEMS FOR THE TYPE OF SURFACE DISTURBED BY THIS WORK.
- 2.

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-7388 Fax: 218-722-4548  
 © MSA PROFESSIONAL SERVICES



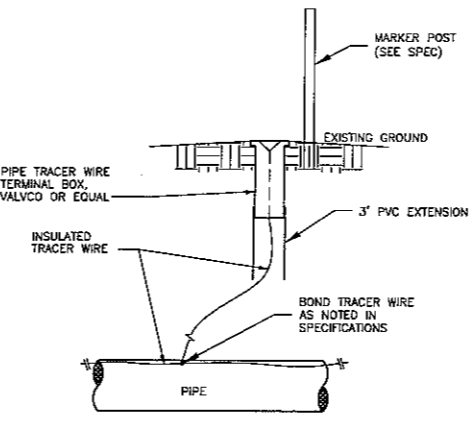
PROJECT NO:	626000
DATE:	NOVEMBER, 2009
SCALE:	AS SHOWN
PROJECT NAME:	PARKLAND SANITARY DISTRICT NO. 1 WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN
DESIGNED BY:	RWM
CHECKED BY:	CWS
FILE NO.:	626-001
SHEET:	G-2

LAYOUT NAME: C\_3 SANITARY DETAILS



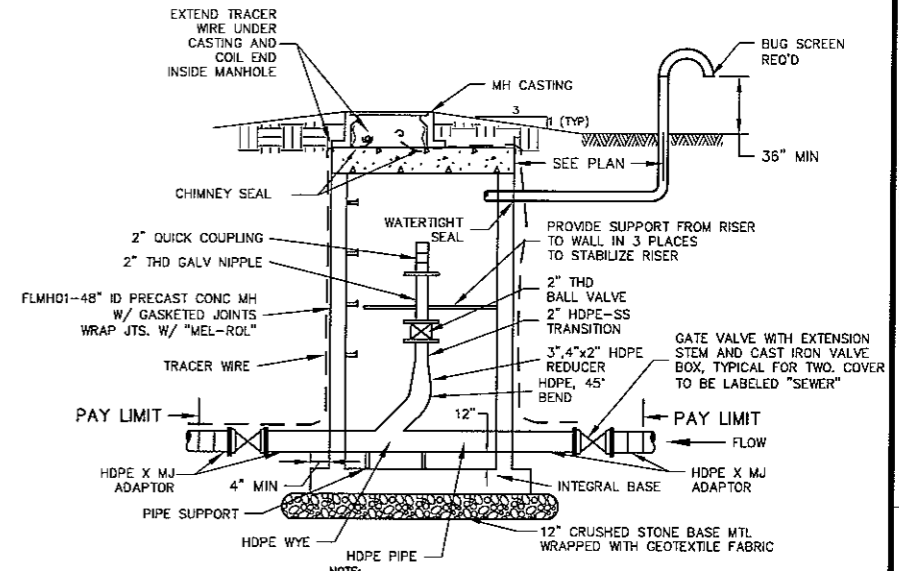
**MANHOLE WATERPROOFING DETAIL**  
SCALE: NONE

GENERAL NOTES:  
1. THE SEAL SHALL EXTEND FROM THE CASTING TO THE CORBEL (CONE). SEAL EXTENSIONS SHALL BE USED AS REQUIRED.  
2. AN INTERNAL ADAPTOR SEAL RING MAY BE USED IN LIEU OF THE RUBBER SLEEVE. THE INTERNAL ADAPTOR SEAL RING SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.



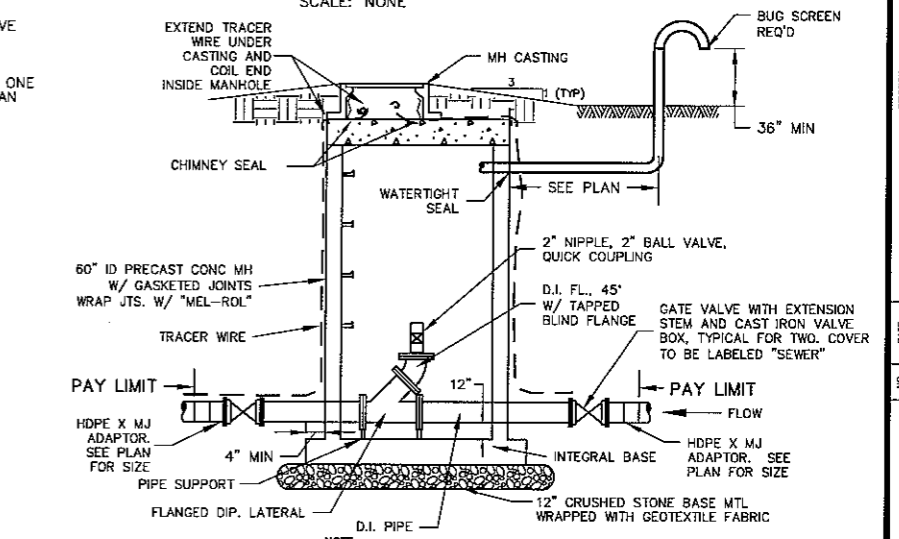
**TRACER WIRE ACCESS BOX DETAIL**  
SCALE: NONE

GENERAL NOTES:  
1. BOX IS NOT TRAFFIC RATED  
2. PLACE AS SHOWN ON PLAN OR DIRECTED BY ENGINEER



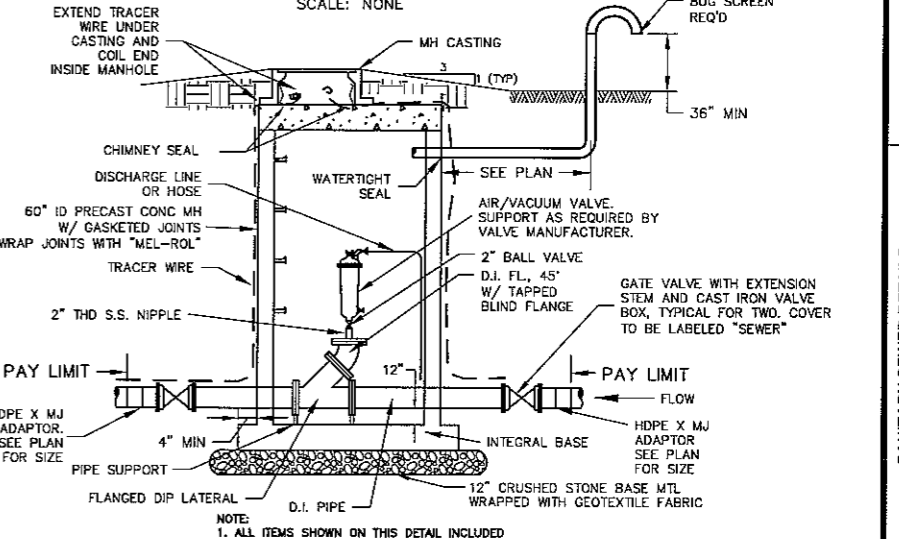
**FLUSHING STATION DETAIL**  
SCALE: NONE

NOTE:  
1. ALL ITEMS SHOWN ON THIS DETAIL INCLUDED IN FLUSHING STATION  
2. SEE PLAN-PROFILE FOR PIPE INVERT AND



**PIGGING STATION DETAIL**  
SCALE: NONE

NOTE:  
1. ALL ITEMS SHOWN ON THIS DETAIL INCLUDED IN PIGGING STATION  
2. SEE PLAN-PROFILE FOR PIPE INVERT AND

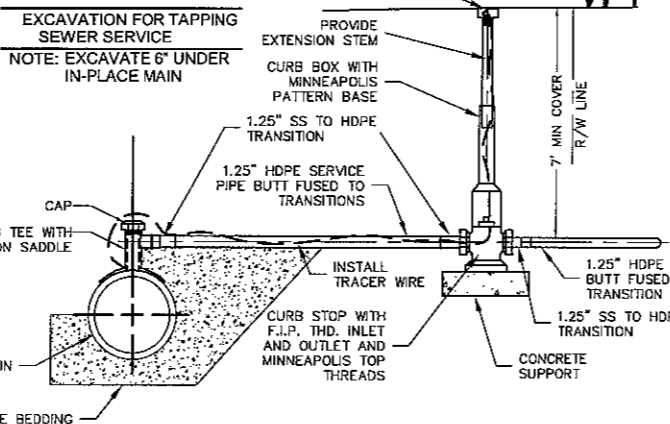
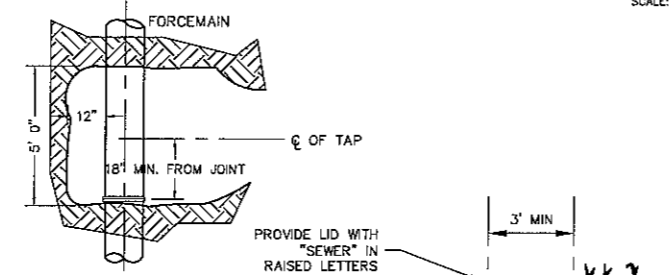


**AIR RELEASE/VACUUM STATION DETAIL**  
SCALE: NONE

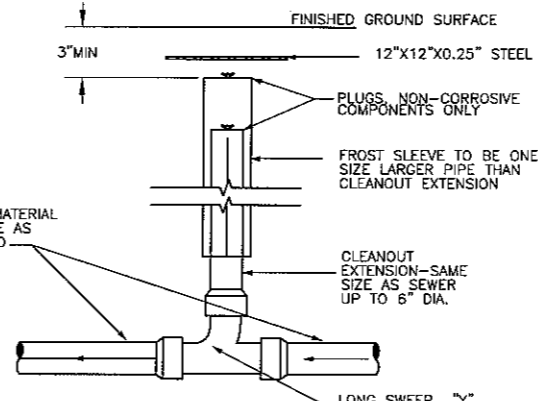
NOTE:  
1. ALL ITEMS SHOWN ON THIS DETAIL INCLUDED IN AIR RELEASE/VACUUM STATION  
2. SEE PLAN-PROFILE FOR PIPE INVERT AND RIM ELEVATION

- GENERAL NOTES:  
1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL CONDITIONS.  
2. DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.  
3. PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH WHICH MEETS THE REQUIREMENTS FOR GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.  
4. ECCENTRIC CONE TOPS SHALL BE USED ON ALL STRUCTURES 5 FEET OR GREATER IN DEPTH, AND FLAT TOPS SHALL BE USED ONLY ON STRUCTURES LESS THAN 5 FEET IN DEPTH, UNLESS DIRECTED BY THE ENGINEER.  
5. PRECAST REINFORCED CONCRETE RISERS MAY BE PLACED WITH TONGUE UP OR DOWN.  
6. ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASHTO DESIGNATION M 199.  
7. DROP CONNECTIONS SHALL BE USED WHEN THE PIPE INVERT IS MORE THAN 2 FEET ABOVE THE MANHOLE INVERT.  
8. PRECAST STRUCTURE MANWAY CLEAR OPENING SHALL MATCH CASTING - REFER TO STANDARD SPECIFICATION DIVISION 33 AND THE APPLICABLE SPECIAL CONDITIONS.  
- OPENING SHALL BE 27" FOR R-1642 CASTINGS

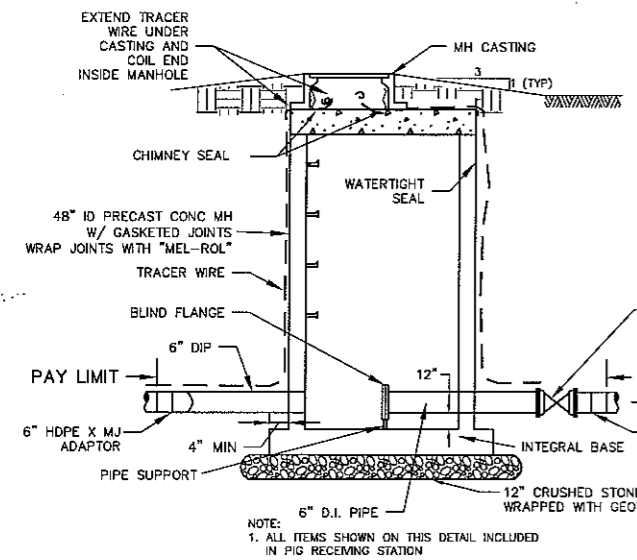
**PRECAST REINFORCED CONCRETE MANHOLE DETAIL**  
SCALE: NONE



**TYPICAL PRESSURE SEWER SERVICE**  
SCALE: NONE

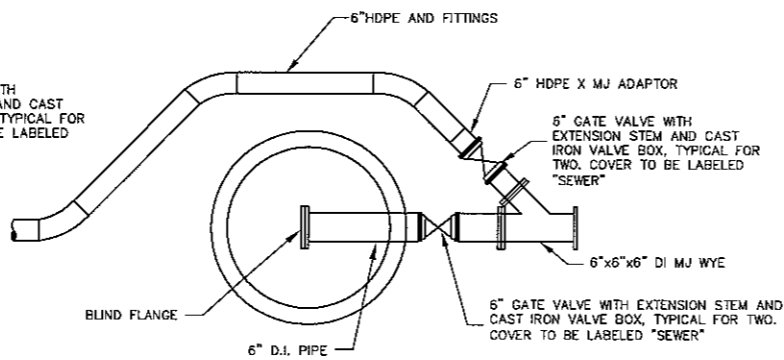


**EXTERIOR CLEANOUT DETAIL**  
SCALE: NONE



NOTE:  
1. ALL ITEMS SHOWN ON THIS DETAIL INCLUDED IN PIG RECEIVING STATION  
2. SEE PLAN-PROFILE FOR PIPE INVERT AND RIM ELEVATION

**ELEVATION**



**PLAN**

**PIG RECEIVING STATION DETAIL**  
SCALE: NONE

Plot Date: 04 Nov 2009 Plot Time: 2:56 PM  
User: K:\planshbs\g\_03\_04\_SAN\_DETAILS\_00626000.dwg

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-0915 FAX: 218-722-0458  
© MSA PROFESSIONAL SERVICES

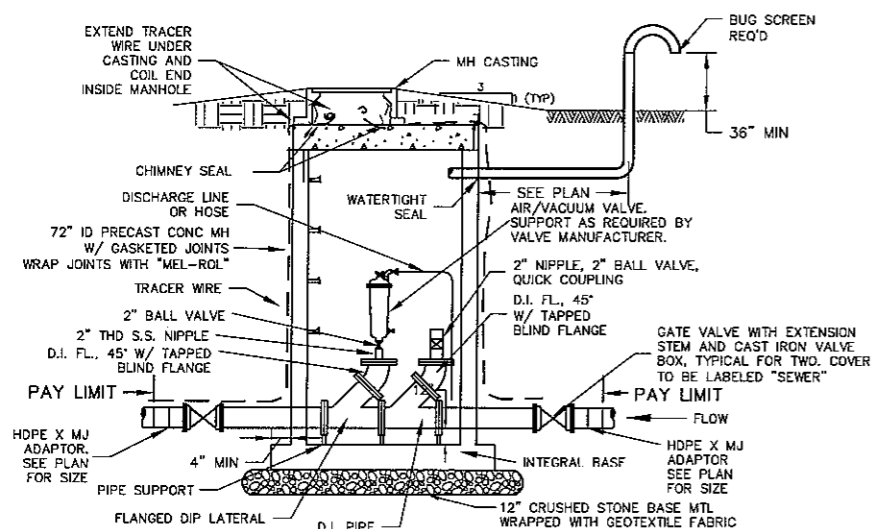
**MSA**  
PROFESSIONAL SERVICES

BY	DATE
REVISION	DATE
NO.	DATE
FILE	DATE
DRAWN BY: RWM	CHECKED BY: CWS

PROJECT NO: 626000  
PLOT DATE: 04 Nov 2009  
SCALE: AS SHOWN

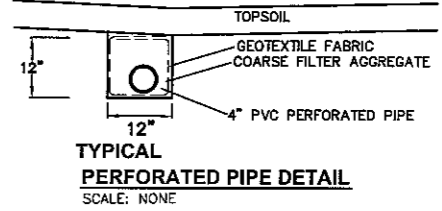
**SANITARY SEWER DETAILS**  
**PARKLAND SANITARY DISTRICT NO. 1**  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO:  
626-001  
SHEET  
G-3

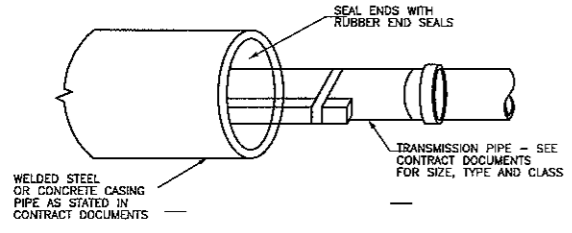
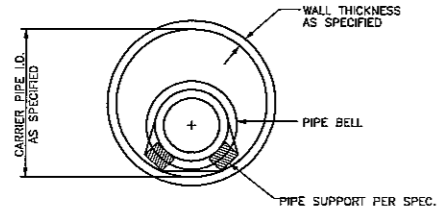


NOTE:  
 1. ALL ITEMS SHOWN ON THIS DETAIL INCLUDED IN AIR RELEASE/VACUUM/PIGGING STATION  
 2. SEE PLAN-PROFILE FOR PIPE INVERT AND RIM ELEVATION

**COMBINATION AIR RELEASE/VACUUM/PIGGING STATION DETAIL**  
 SCALE: NONE

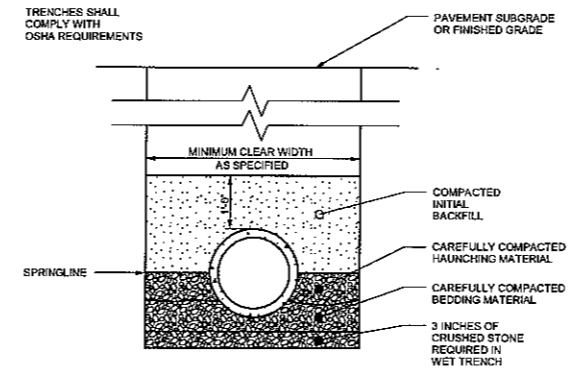


**TYPICAL PERFORATED PIPE DETAIL**  
 SCALE: NONE

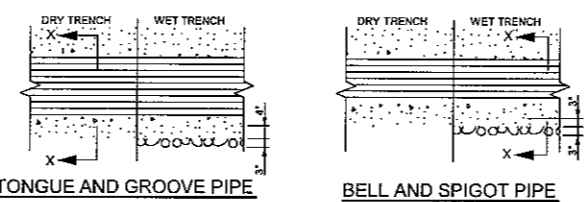


GENERAL NOTES:  
 1. VOID BETWEEN CARRIER PIPE AND CASING SHALL BE FILLED WITH SAND OR PEA GRAVEL.

**CASING AND TRANSMISSION PIPE DETAIL**  
 SCALE: NONE

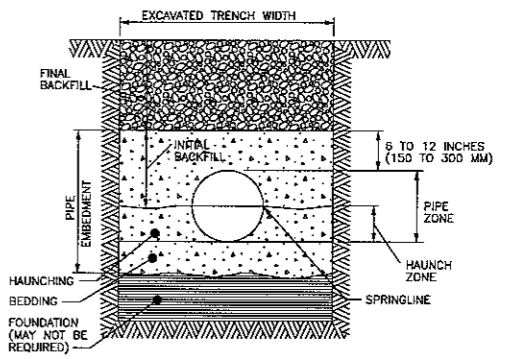


**SECTION X-X**



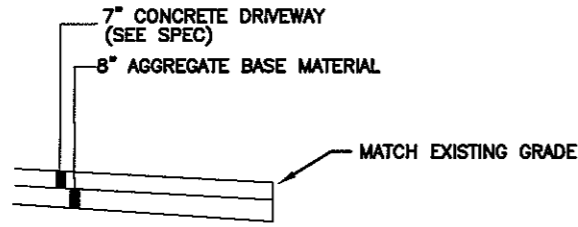
GENERAL NOTES:  
 1. BEDDING AND HAUNCHING MATERIAL SHALL BE WELL-GRADED 3/4 TO 1/4 INCH CRUSHED STONE OR OTHER NONE COHESIVE MATERIAL NOT SUBJECT TO MIGRATION AND FREE OF DEBRIS, ORGANIC MATERIAL, AND LARGE STONES.  
 2. BEDDING MATERIAL TO BE PLACED BEFORE SETTING PIPE, 4 INCH MINIMUM UNDER BARREL WITH 3 INCH MINIMUM UNDER BELL.  
 3. INITIAL BACKFILL SHALL BE DENSELY COMPACTED, NON-COHESIVE FINELY DIVIDED MATERIAL FREE OF DEBRIS, ORGANIC MATERIAL, AND LARGE STONES.  
 4. IN ROCK OR OTHER INCOMPRESSIBLE MATERIALS, THE TRENCH SHALL BE OVEREXCAVATED A MINIMUM OF 6-INCHES AND REFILLED WITH GRANULAR MATERIAL.

**CLASS "B" EMBEDMENT FOR RIGID PIPE DETAIL**  
 SCALE: NONE

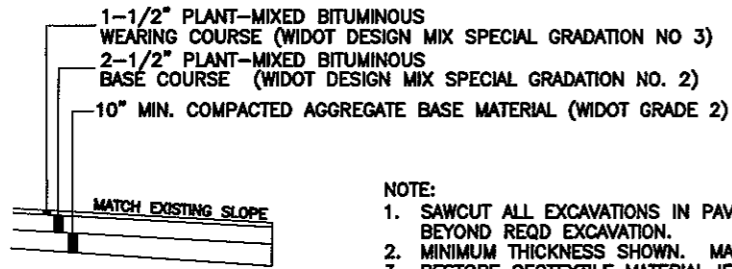


GENERAL NOTES:  
 1. DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO ASTM D2321.  
 2. CLASS II EMBEDMENT MATERIAL SHALL BE CLEAN, COARSE-GRAINED SOILS WITH LITTLE TO NO FINES. NO PARTICLES LARGER THAN 1 1/2 -INCHES SHALL BE USED IN THE PIPE EMBEDMENT.  
 3. WHERE HYDRAULIC GRADIENT EXISTS USE A WELL-GRADED MIXTURE TO MINIMIZE MIGRATION OF FINES FROM ADJACENT SOIL.  
 4. CLASS II MATERIAL IS SUITABLE AS A FOUNDATION AND FOR REPLACING OVER-EXCAVATED AND UNSTABLE TRENCH BOTTOM. INSTALL AND COMPACT IN 6-INCH MAXIMUM LAYERS.  
 5. INSTALL AND COMPACT BEDDING IN 6-INCH MAXIMUM LAYERS, LEVEL FINAL GRADE BY HAND. MINIMUM DEPTH 4 INCH (6 INCH IN ROCK CUTS.)  
 6. INSTALL AND COMPACT HAUNCHING IN 6-INCH MAXIMUM LAYERS. WORK IN AROUND PIPE BY HAND TO PROVIDE UNIFORM SUPPORT.  
 7. INSTALL AND COMPACT INITIAL BACKFILL TO A MINIMUM OF 6 INCH ABOVE PIPE CROWN.  
 8. EMBEDMENT COMPACTION: MINIMUM DENSITY 85% STANDARD PROCTOR. USE HAND TAMPERS OR VIBRATORY COMPACTORS.

**CLASS II - FLEXIBLE PIPE EMBEDMENT DETAIL**  
 SCALE: NONE

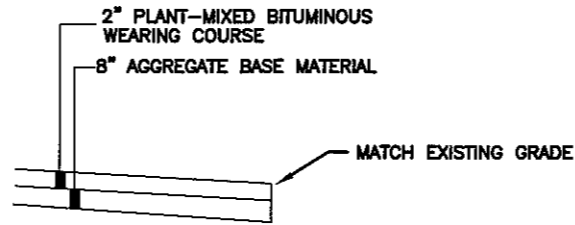


**CONCRETE DRIVEWAY RESTORATION DETAIL**  
SCALE: NONE

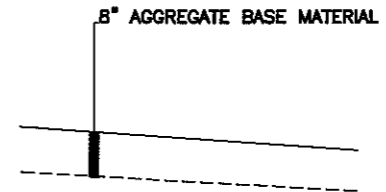


- NOTE:
1. SAWCUT ALL EXCAVATIONS IN PAVEMENT MIN 12" BEYOND REQD EXCAVATION.
  2. MINIMUM THICKNESS SHOWN. MATCH EXISTING.
  3. RESTORE GEOTEXTILE MATERIAL IF EXISTING.

**PAVEMENT RESTORATION DETAIL**  
SCALE: NONE



**DRIVEWAY RESTORATION DETAIL**  
SCALE: NONE

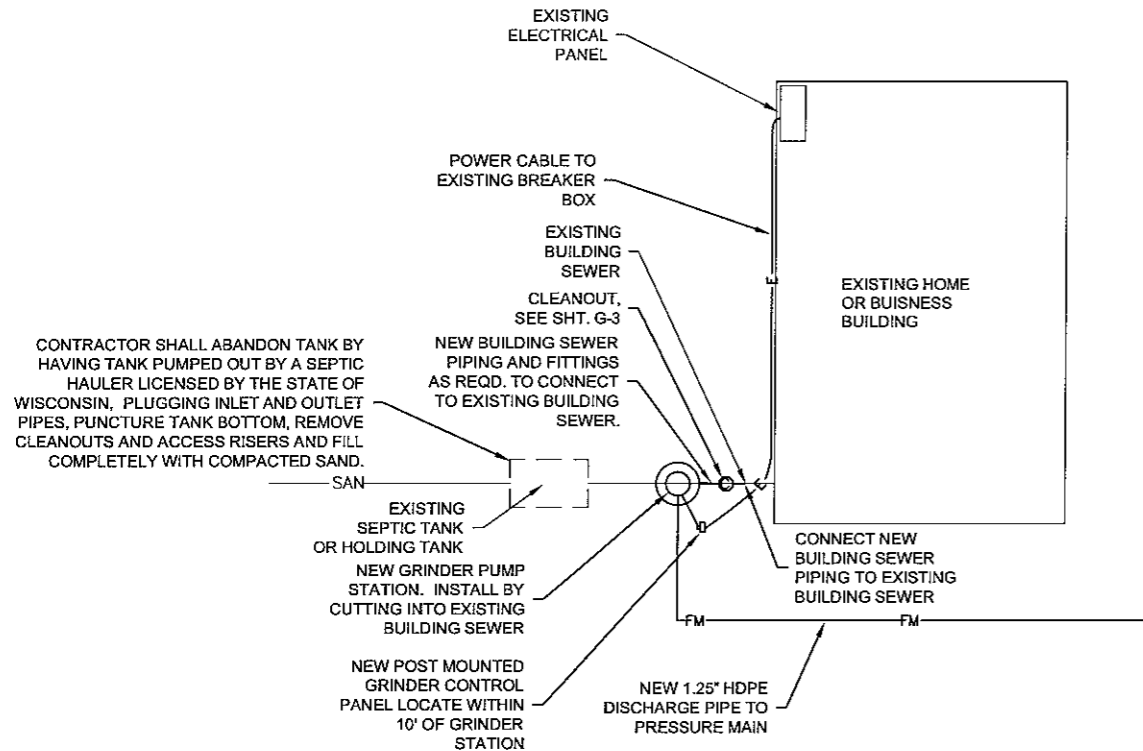


**GRAVEL ROAD/DRIVEWAY RESTORATION DETAIL**  
SCALE: NONE

NO.	DATE	REVISION	BY

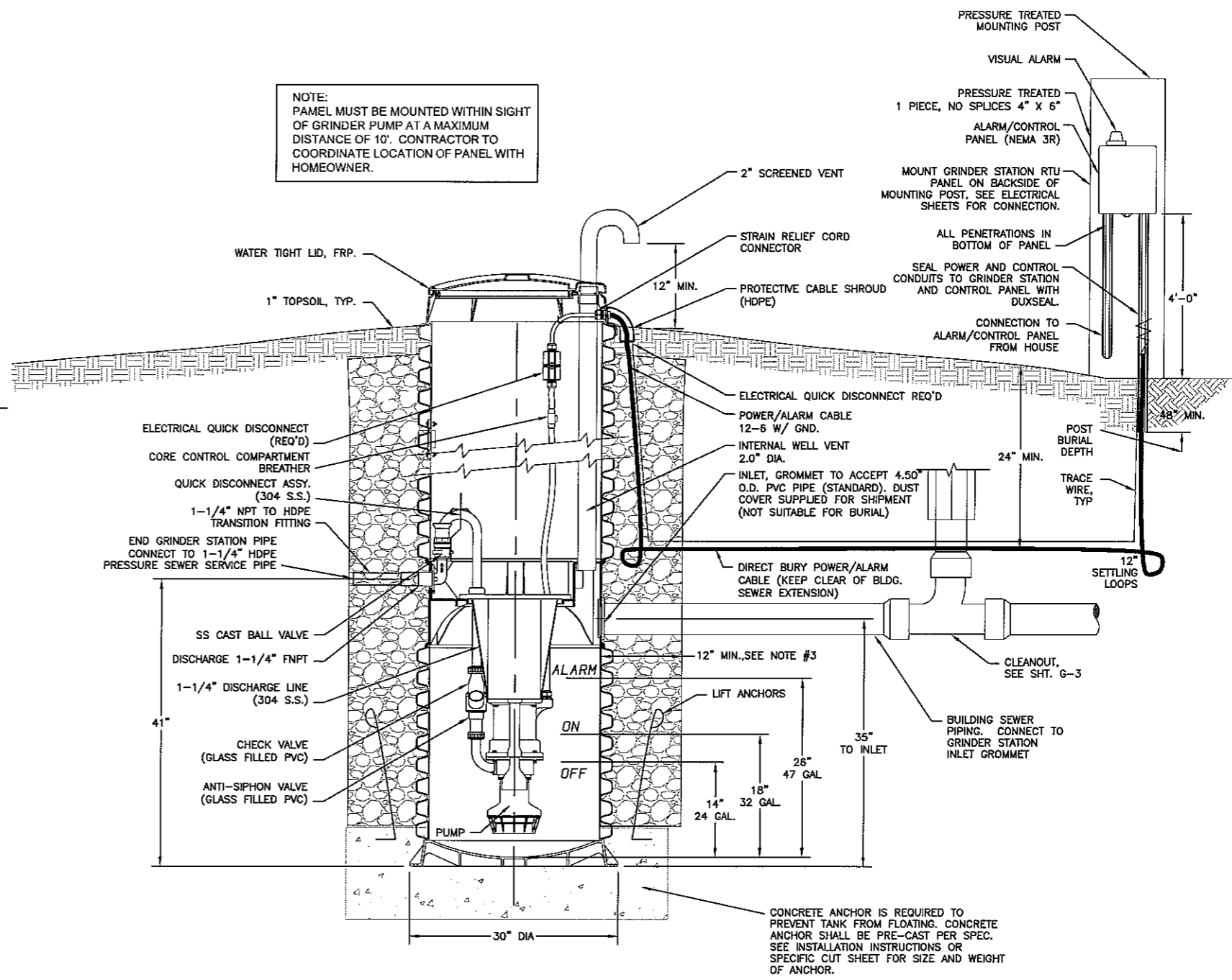
PROJECT NO.: 626000  
PLOT DATE: 04 Nov 2009  
SCALE: AS SHOWN

F.S.I.:  
DRAWN BY: RWM  
CHECKED BY: CWS



- NOTE:
1. CONTRACTOR SHALL COORDINATE EXACT LOCATION OF GRINDER STATION WITH THE OWNER.
  2. IF THE HOMEOWNER WANTS THE GRINDER STATION LOCATED MORE THAN 5' FROM THE EXISTING BUILDING SEWER, CONTRACTOR SHALL INSTALL THE GRINDER STATION AS DIRECTED BY THE OWNER.

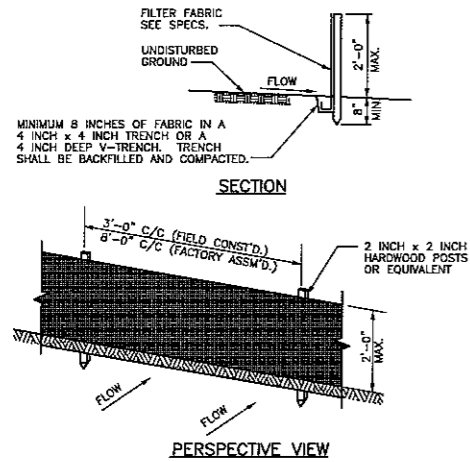
**TYPICAL GRINDER STATION INSTALLATION PLAN**  
NOT TO SCALE



NOTE:  
PANEL MUST BE MOUNTED WITHIN SIGHT OF GRINDER PUMP AT A MAXIMUM DISTANCE OF 10'. CONTRACTOR TO COORDINATE LOCATION OF PANEL WITH HOMEOWNER.

- NOTES:
1. DISCHARGE PIPE SHALL MEET DEPTH REQUIREMENTS OF THE SPECIFICATIONS.
  2. BEDDING AND BACKFILL: MINIMUM 12" SURROUNDING STRUCTURE, PER GRINDER PUMP STATION SPECIFICATIONS. SILTS, CLAYS AND NATIVE SOILS ARE NOT ACCEPTABLE FOR BACKFILL ADJACENT TO THE PUMP CHAMBER. THIS ZONE SHALL BE MECHANICALLY COMPACTED IN ONE FOOT LIFTS.
  3. ALL BASIN PENETRATIONS FACTORY MOLDED. NO FIELD PENETRATIONS

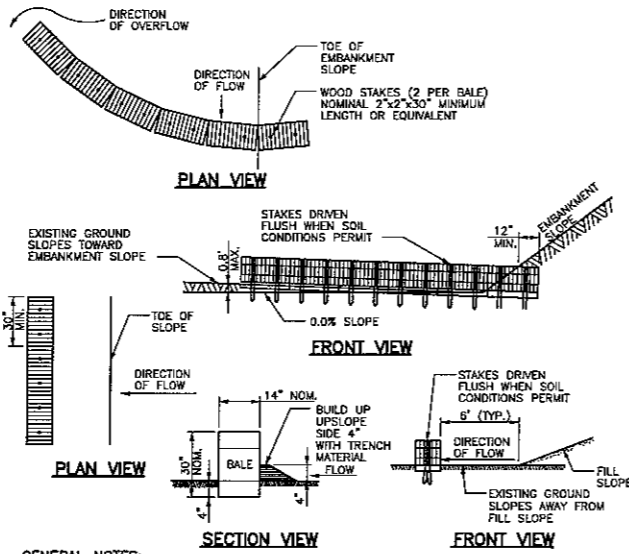
**GRINDER STA. WITH CONTROL PANEL**  
NOT TO SCALE



**GENERAL NOTES:**

1. ENDS OF FENCE SHALL BE TURNED UPSLOPE 1 TO 2 FEET IN ELEVATION TO PREVENT FLANKING.
2. STAPLE FABRIC WITH 1/2 INCH (MINIMUM) STAPLES TO THE UPSLOPE SIDE OF THE POSTS.
3. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.

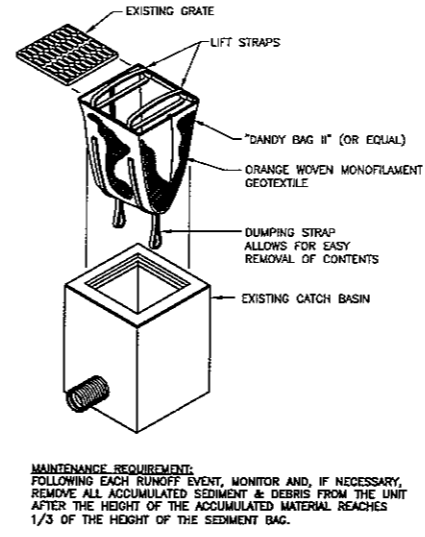
**TYPICAL SILT FENCE INSTALLATION AT SITE PERIMETER DETAIL**  
 SCALE: NONE



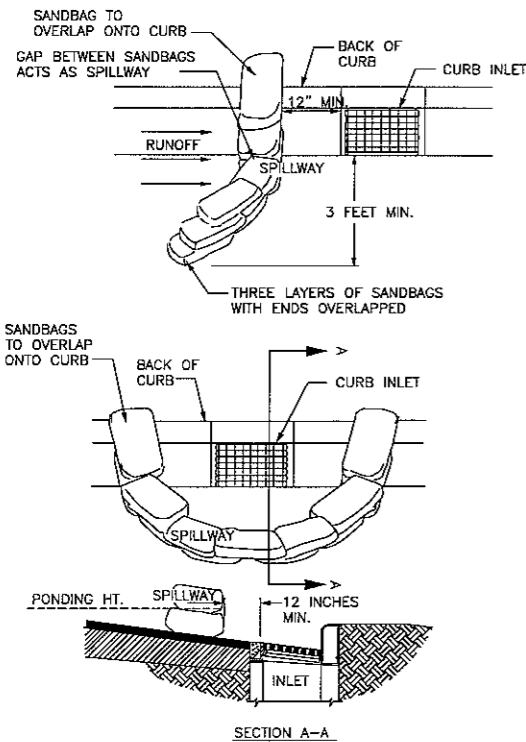
**GENERAL NOTES:**

1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE SPECIFICATIONS.
2. BALES SHALL BE PLACED END TO END OR OVERLAPPING AT RIGHT ANGLES TO THE DIRECTION OF FLOW. BALES SHALL EXTEND FAR ENOUGH UP THE SLOPES TO PREVENT ERODING AROUND ENDS.
3. BALES SHALL BE PLACED WITH TWINE OR TIE WIRES PARALLEL TO THE GROUND.
4. STAKES TO BE BATTERED IN OPPOSITE DIRECTIONS.

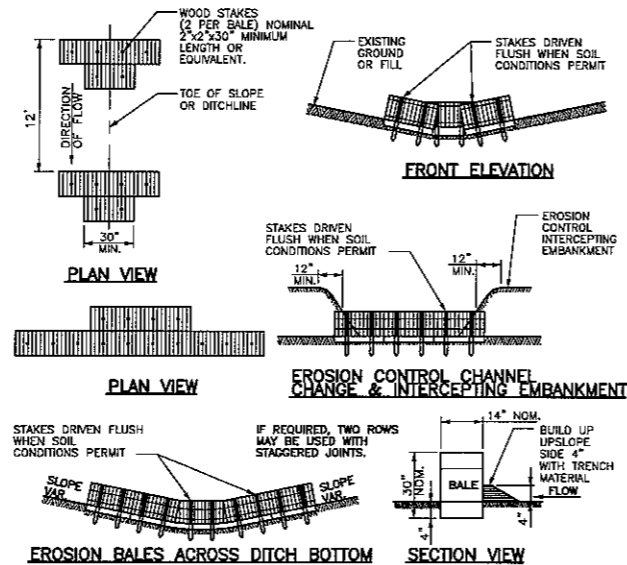
**EROSION BALES AT TOE OF SLOPE DETAIL**  
 SCALE: NONE



**TYPE A INLET PROTECTION CATCH BASIN SEDIMENT BAG INSERT TYPE DETAIL**  
 NO SCALE



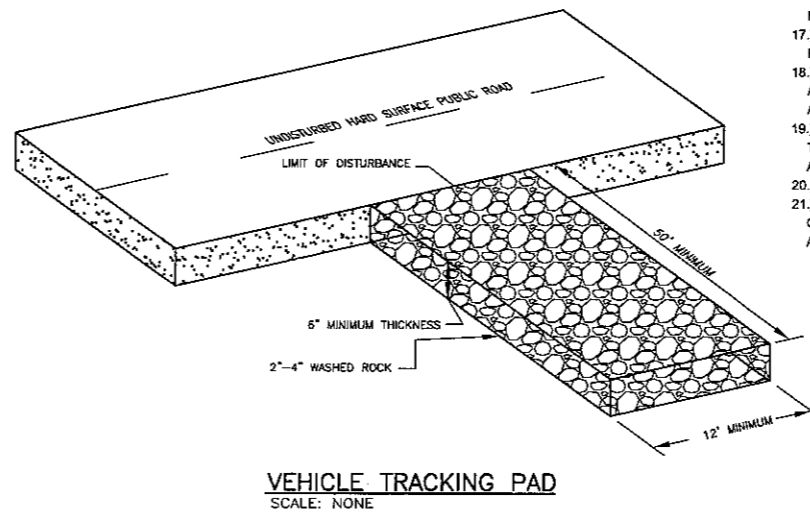
**CURB INLET SEDIMENT BARRIER (SANDBAG TYPE) DETAIL**  
 SCALE: NONE



**GENERAL NOTES:**

1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE SPECIFICATIONS.
2. BALES SHALL BE PLACED END TO END OR OVERLAPPING AT RIGHT ANGLES TO THE DIRECTION OF FLOW. BALES SHALL EXTEND FAR ENOUGH UP THE SLOPES TO PREVENT ERODING AROUND ENDS.
3. BALES SHALL BE PLACED WITH TWINE OR TIE WIRES PARALLEL TO THE GROUND.
4. STAKES TO BE BATTERED IN OPPOSITE DIRECTIONS.
5. BALES SHALL BE EMBEDDED 4 INCHES MINIMUM.

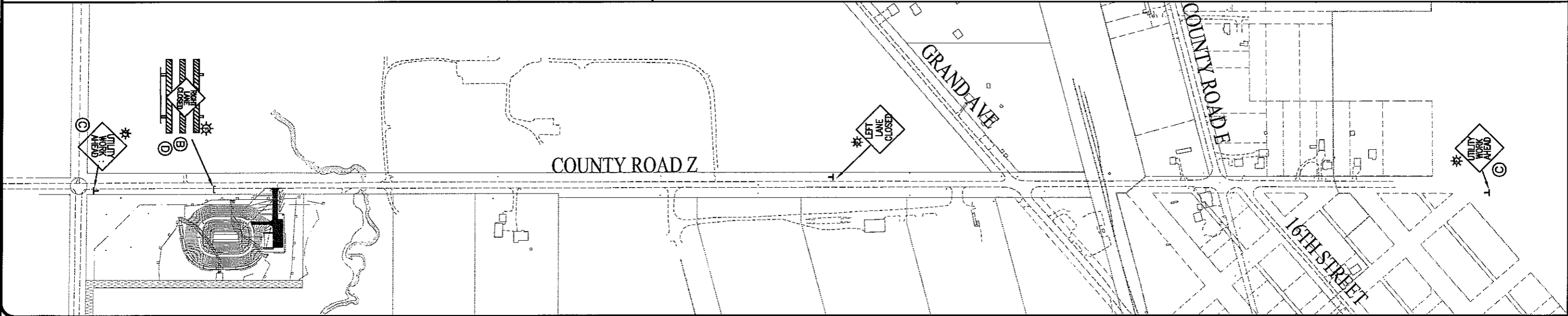
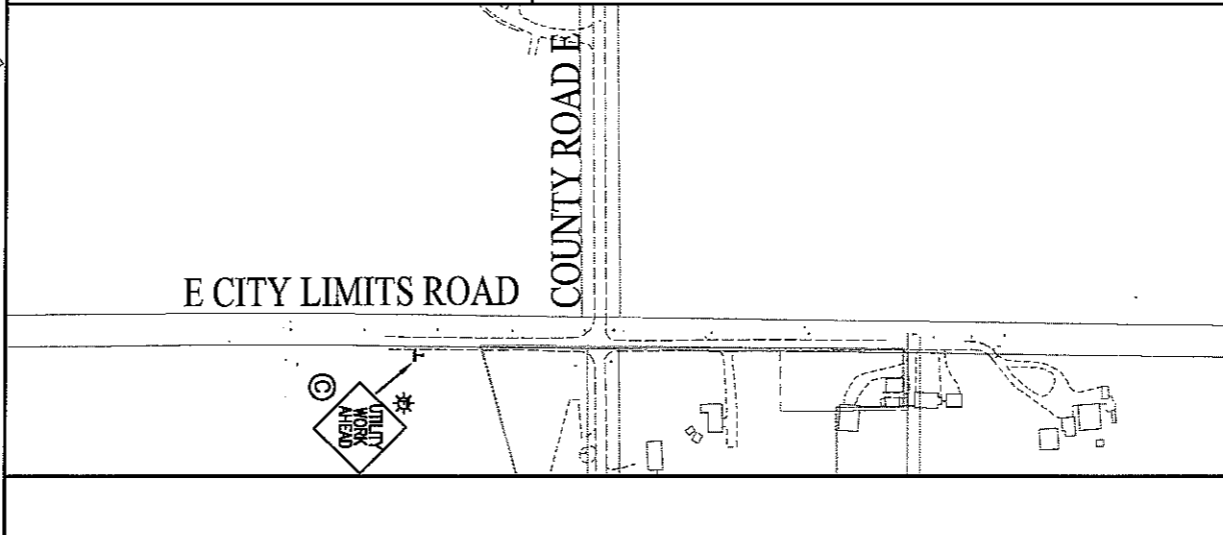
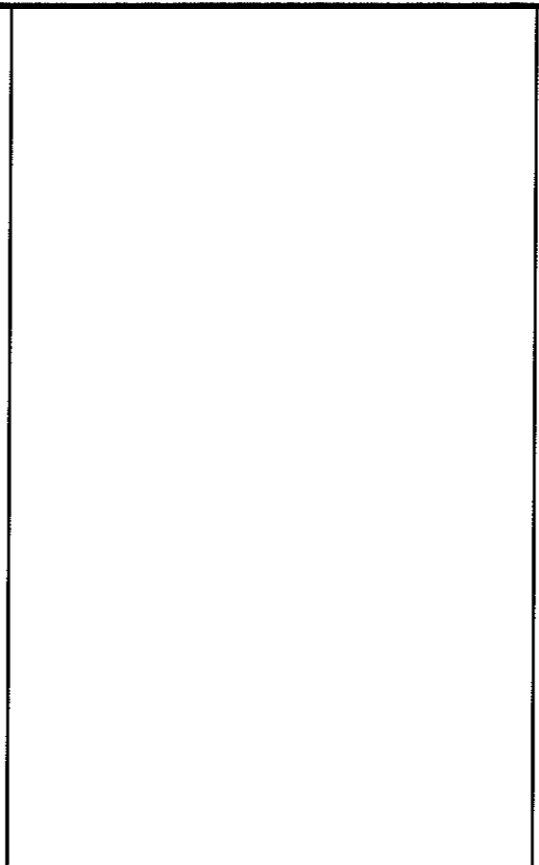
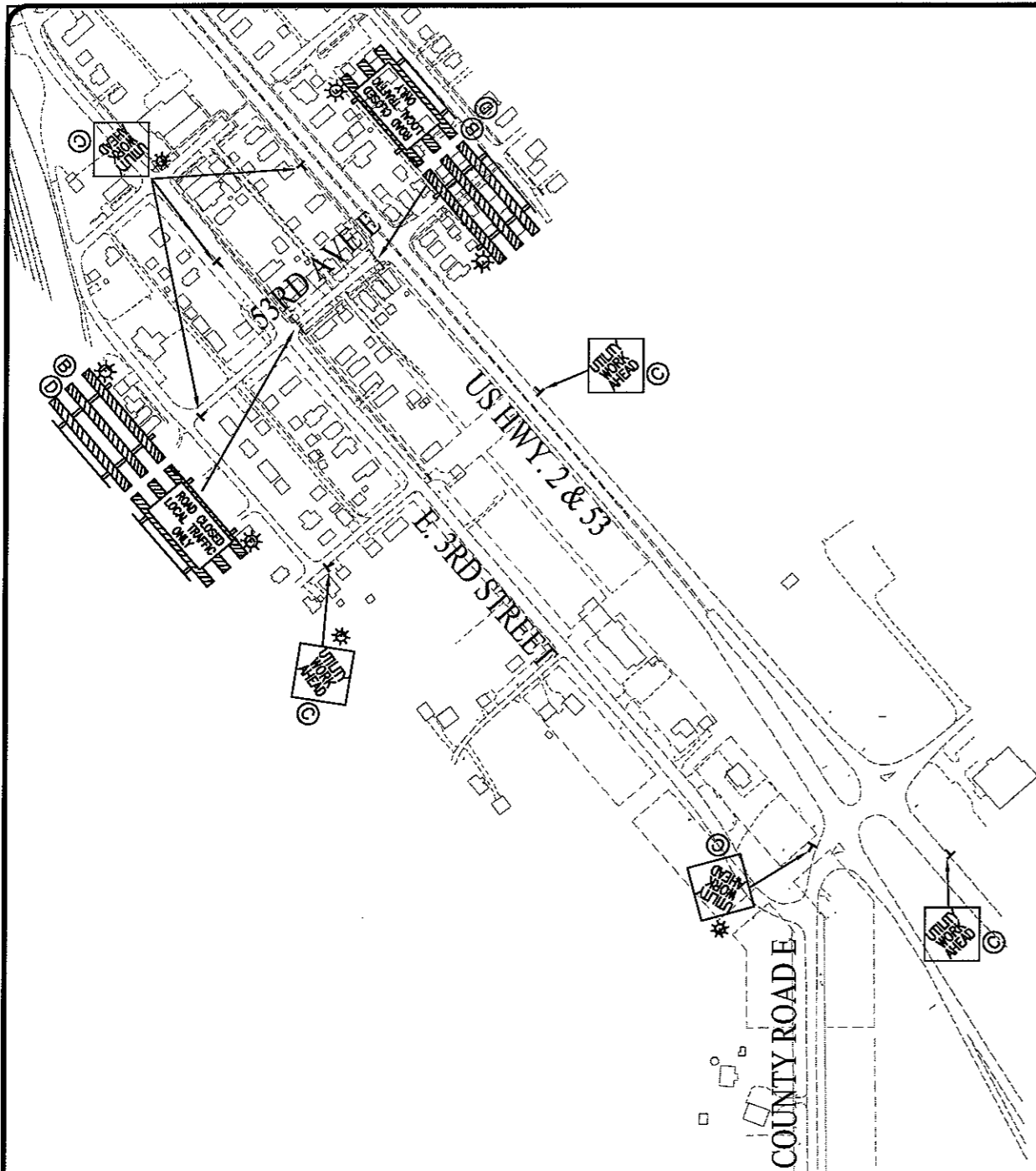
**EROSION BALES IN DRAINAGE WAY DETAIL**  
 SCALE: NONE



**VEHICLE TRACKING PAD**  
 SCALE: NONE

**CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS**

- 1.) SECTION NR216.46 OF WISCONSIN STATE ADMINISTRATIVE CODE IDENTIFIES REQUIREMENTS FOR CONSTRUCTION SITE AND POST-CONSTRUCTION EROSION CONTROL. IT IS THE INTENT OF THESE PLANS TO SATISFY THESE REQUIREMENTS. THE METHODS AND STRUCTURES USED TO CONTROL EROSION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL IMPLEMENT AN APPROPRIATE MEANS OF CONTROLLING EROSION DURING SITE OPERATION AND UNTIL THE VEGETATION IS RE-ESTABLISHED. ADJUSTMENTS TO THE CONTROL SYSTEM SHALL BE MADE AS REQUIRED.
- 2.) ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE WISCONSIN DNR'S CONSERVATION PRACTICE STANDARDS. THESE STANDARDS ARE PERIODICALLY UPDATED AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN AND REFERENCE THE MOST RECENTLY RELEASED STANDARD.
- 3.) THIS INFORMATION IS ONLY ONE PART OF THE OVERALL EROSION CONTROL REQUIREMENTS. ADDITIONAL REQUIREMENTS MAY ALSO BE SHOWN ON THE CONTRACT DRAWINGS AND IN THE ACCOMPANYING SPECIFICATIONS.
- 4.) ADDITIONAL EROSION CONTROL MEASURES, AS REQUESTED IN WRITING BY THE STATE OR LOCAL INSPECTORS, OR THE OWNER'S ENGINEER, SHALL BE INSTALLED WITHIN 24 HOURS.
- 5.) THE AREA OF EROSION EXPOSED TO THE ELEMENTS BY GRUBBING, EXCAVATION, TRENCHING, BORROW AND FILL OPERATIONS AT ANY ONE TIME SHALL BE MINIMIZED TO THE MAXIMUM EXTENT PRACTICABLE. FOR ANY DISTURBED AREA THAT REMAINS INACTIVE FOR GREATER THAN 7 WORKING DAYS, OR WHERE GRADING WORK EXTENDS BEYOND THE PERMANENT SEEDING DEADLINES, THE SITE MUST BE TREATED WITH TEMPORARY STABILIZATION MEASURES SUCH AS SOIL TREATMENT, TEMPORARY SEEDING AND/OR MULCHING. ALL DISTURBED AREAS SHALL BE TREATED WITH PERMANENT STABILIZATION MEASURES WITHIN 3 WORKING DAYS OF FINAL GRADING.
- 6.) ALL EROSION CONTROL MEASURES AND STRUCTURES SERVING THE SITE MUST BE INSPECTED AT LEAST WEEKLY OR WITHIN 24 HOURS OF THE TIME 0.5 INCHES OF RAIN HAS OCCURRED. ALL NECESSARY REPAIR AND MAINTENANCE WILL BE DONE AT THIS INSPECTION TIME.
- 7.) ALL EROSION CONTROL DEVICES AND/OR STRUCTURES SHALL BE PROPERLY INSTALLED PRIOR TO CLEARING AND GRUBBING OPERATIONS WITHIN THEIR RESPECTIVE DRAINAGE AREAS. THESE SHALL BE PROPERLY MAINTAINED FOR MAXIMUM EFFECTIVENESS UNTIL VEGETATION IS RE-ESTABLISHED.
- 8.) ALL EROSION CONTROL DEVICES SHALL BE PROPERLY INSTALLED PRIOR TO ANY SOIL DISTURBANCE.
- 9.) ANY SLOPES STEEPER THAN 3H:1V SHALL BE STAKED WITH EROSION CONTROL FABRIC UNLESS INDICATED ON THE PLAN.
- 10.) ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, WASTEWATER, TOXIC MATERIALS, OR HAZARDOUS MATERIALS) SHALL BE PROPERLY DISPOSED OF AND NOT ALLOWED TO BE CARRIED OFF-SITE BY RUNOFF OR WIND.
- 11.) WIND EROSION SHALL BE KEPT TO A MINIMUM DURING CONSTRUCTION. WATERING, MULCH, OR A TACKING AGENT MAY BE REQUIRED TO PROTECT NEARBY RESIDENCES AND WATER RESOURCES.
- 12.) CHANNELIZED RUNOFF ENTERING THE PROJECT SITE FROM ADJOINING LANDS SHALL BE DIVERTED THROUGH NATURALLY OR ARTIFICIALLY EROSION-RESISTANT CONVEYANCES. IF CHANNELIZED RUNOFF CANNOT BE DIVERTED, SITE BEST MANAGEMENT PRACTICES MUST ACCOUNT FOR THE ADDITIONAL FLOW RATES AND EROSION POTENTIAL THAT SUCH RUNOFF PRESENTS.
- 13.) THE CONTRACTOR SHALL TAKE ALL POSSIBLE PRECAUTIONS TO PREVENT SOILS FROM BEING TRACKED ONTO PUBLIC OR PRIVATE ROADWAYS. PAVED SURFACES ADJACENT TO CONSTRUCTION SITE VEHICLE ACCESS SHALL BE SWEEPED AND/OR SCRAPPED (NOT FLUSHED) PERIODICALLY TO REMOVE SOIL, DIRT, AND/OR DUST.
- 14.) EROSION CONTROLS SHALL BE INSTALLED ON THE DOWNSTREAM SIDE OF TEMPORARY STOCKPILES. ANY SOIL STOCKPILE THAT REMAINS FOR MORE THAN 30 DAYS SHALL BE COVERED OR TREATED WITH STABILIZATION PRACTICES SUCH AS TEMPORARY OR PERMANENT SEEDING AND MULCHING. ALL STOCK PILES SHALL BE PLACED AT LEAST 75 FEET FROM STREAMS OR WETLANDS.
- 15.) ADDITIONAL EROSION CONTROL FOR UTILITY CONSTRUCTION (STORM SEWER, SANITARY SEWER, WATER MAIN, ETC.) SHALL INCLUDE THE FOLLOWING:
  - a. PLACE EXCAVATED TRENCH MATERIAL ON THE HIGH SIDE OF THE TRENCH.
  - b. BACKFILL, COMPACT, AND STABILIZE THE TRENCH IMMEDIATELY AFTER PIPE CONSTRUCTION.
  - c. DISCHARGE OF TRENCH WATER OR DEWATERING EFFLUENT MUST BE PROPERLY TREATED TO REMOVE SEDIMENT IN ACCORDANCE WITH THE WDNR CONSERVATION PRACTICE STANDARD 1061 - DEWATERING OR A SUBSEQUENT WDNR DEWATERING STANDARD PRIOR TO DISCHARGE INTO A STORM SEWER, DITCH, DRAINAGEWAY, OR WETLAND OR LAKE.
- 16.) ALL DRAINAGE CULVERTS, STORM DRAIN INLETS, MANHOLES, OR ANY OTHER EXISTING STRUCTURES THAT COULD BE DAMAGED BY SEDIMENTATION SHALL BE PROTECTED ACCORDING TO THE VARIOUS METHODS PROVIDED IN THE PRINTED CONSERVATION PRACTICE STANDARDS.
- 17.) ANY SOIL EROSION THAT OCCURS AFTER FINAL GRADING AND/OR STABILIZATION MUST BE REPAIRED AND THE STABILIZATION WORK REDONE.
- 18.) DURING THE FIRST SIX WEEKS AFTER INITIAL STABILIZATION OF A DISTURBED WATERING OF ALL NEWLY SEEDED AND MULCHED AREAS SHALL BE PROVIDED WHENEVER 7 DAYS ELAPSE WITHOUT A RAIN EVENT.
- 19.) WHEN THE DISTURBED AREA HAS BEEN STABILIZED BY PERMANENT VEGETATION OR OTHER MEANS, TEMPORARY BMP'S SUCH AS SILT FENCES, STRAW BALES, AND SEDIMENT TRAPS SHALL BE REMOVED AND THESE AREAS STABILIZED.
- 20.) ALL TEMPORARY BEST MANAGEMENT PRACTICES SHALL BE MAINTAINED UNTIL THE SITE IS STABILIZED.
- 21.) ALL DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED WITH SEED AND MULCH UNLESS OTHERWISE SPECIFIED. A MINIMUM OF FOUR INCHES OF TOPSOIL SHALL BE APPLIED TO ALL AREAS TO BE SEEDED OR SODDED.



## TRAFFIC BILL OF MATERIALS

THE FOLLOWING ITEMS ARE THE MINIMUM INCLUDED AND PAID FOR UNDER THE LUMP SUM TRAFFIC CONTROL

SIGN No.	MESSAGE	SIZE	No. REQ'D.	INSTALLATION CODE
R20-7A	FLAGGER SYMBOL	48" X 48"	-	A
W20-1	"ROAD WORK AHEAD"	48" X 48"	-	B
W21-7	"UTILITY WORK AHEAD"	48" X 48"	16	C
W21-X5	"(RIGHT)(LEFT) LANE CLOSED"	48" X 48"	2	D
	TYPE III BARRICADE	6' OR 8'	6	D
	REFLECTORIZED REBOUNDABLE DRUMS		-	E
	FLASH AMBER WARNING LIGHTS		18	F
	STEADY BURN AMBER WARNING LIGHTS		-	G

**NOTES:**

1. ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MUTCD.
2. TRAFFIC CONTROL MEASURES SHOWN ON THIS SHEET ARE THE MINIMUM REQUIRED. THE CONTRACTOR SHALL MEET THE REQUIREMENTS OF THE MMUC AND AS DIRECTED BY THE ENGINEER. ALL REQUIRED TRAFFIC CONTROL SHALL BE INCIDENTAL TO THE BID ITEM "TRAFFIC CONTROL"
3. BARRICADES SHALL BE MOVED AS CONSTRUCTION PROGRESSES.
4. RESIDENTS MUST BE ALLOWED CLEAR ACCESS TO RESIDENTIAL AREAS.
5. REMOVE AND RE-INSTALL SIGNS DIRECTING RESIDENTS AS CONSTRUCTION SITES MOVE.











**NOTES:**

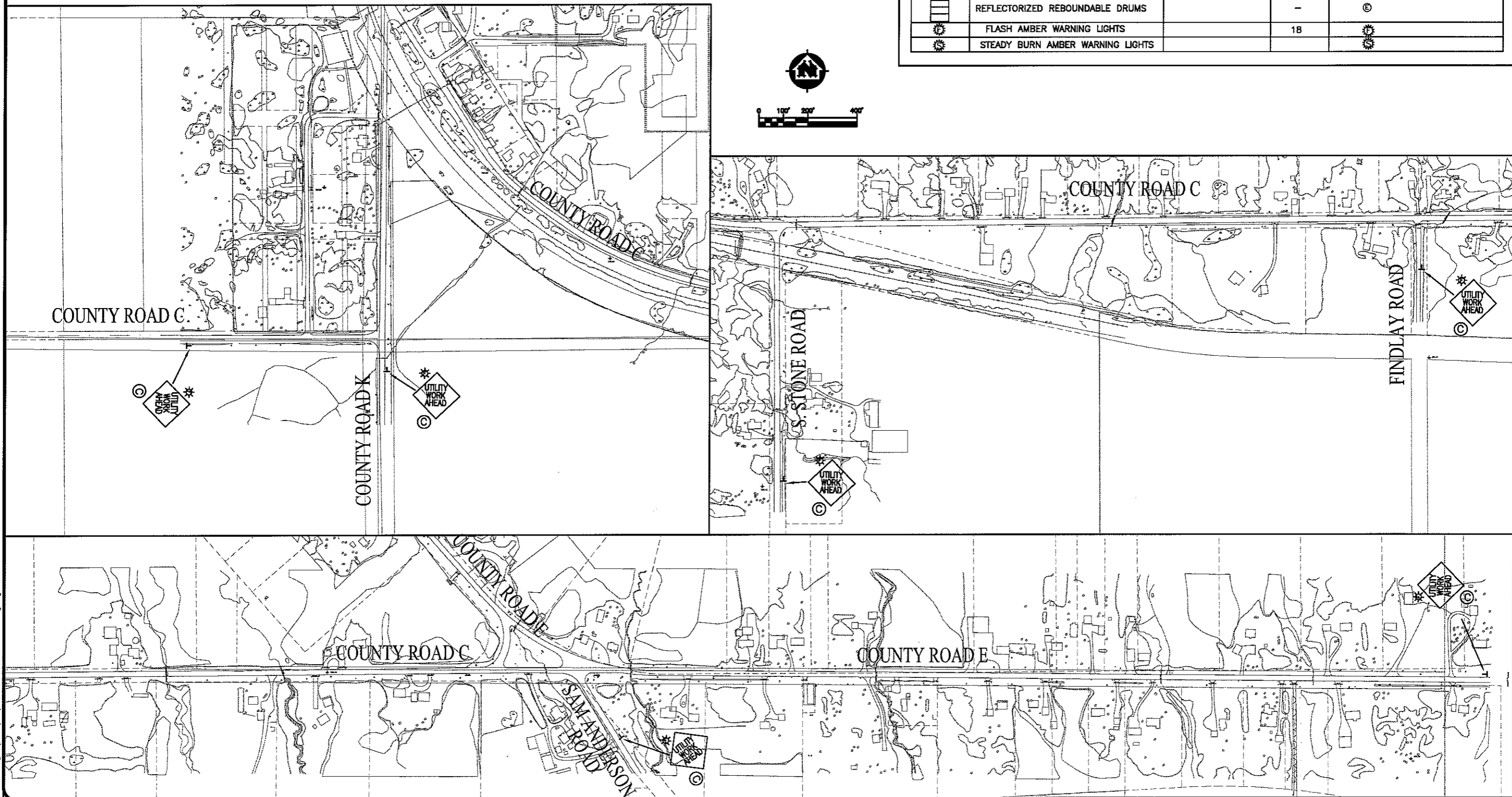
1. ALL TRAFFIC CONTROL DEVICES AND SIGNING SHALL CONFORM TO THE MUTCD.
2. TRAFFIC CONTROL MEASURES SHOWN ON THIS SHEET ARE THE MINIMUM REQUIRED. THE CONTRACTOR SHALL MEET THE REQUIREMENTS OF THE MMUTC AND AS DIRECTED BY THE ENGINEER. ALL REQUIRED TRAFFIC CONTROL SHALL BE INCIDENTAL TO THE BID ITEM "TRAFFIC CONTROL" BARRICADES SHALL BE MOVED AS CONSTRUCTION PROGRESSES.
3. BARRICADES SHALL BE MOVED AS CONSTRUCTION PROGRESSES.
4. RESIDENTS MUST BE ALLOWED CLEAR ACCESS TO RESIDENTIAL AREAS.
5. REMOVE AND RE-INSTALL SIGNS DIRECTING RESIDENTS AS CONSTRUCTION SITES MOVE.

**TRAFFIC BILL OF MATERIALS**

THE FOLLOWING ITEMS ARE THE MINIMUM INCLUDED AND PAID FOR UNDER THE LUMP SUM TRAFFIC CONTROL

SIGN No.	MESSAGE	SIZE	No. REQ'D.	INSTALLATION CODE
R20-7A	FLAGGER SYMBOL	48" X 48"	-	(A)
W20-1	"ROAD WORK AHEAD"	48" X 48"	-	(B)
W21-7	"UTILITY WORK AHEAD"	48" X 48"	16	(C)
W21-X5	"(RIGHT)(LEFT) LANE CLOSED"	48" X 48"	2	(K)
	TYPE III BARRICADE	6' OR 8'	6	(D)
	REFLECTORIZED REBOUNDABLE DRUMS		-	(E)
	FLASH AMBER WARNING LIGHTS		18	
	STEADY BURN AMBER WARNING LIGHTS			

LAYOUT NAME: QMS00-9



PLOT DATE: 23 Oct 2009 PLOT TIME: 10:23:07m  
 FILENAME: P:\Projects\090626\090626.dwg

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-9115 • 1-800-777-7399 Fax: 218-722-4548  
 © MSA PROFESSIONAL SERVICES

**MSA**

PROFESSIONAL SERVICES

PROJECT NO. 626000  
 PLOT DATE: 23 Oct 2009  
 SCALE: AS SHOWN

DRAWN BY: RWM  
 CHECKED BY: CWS

TRAFFIC CONTROL PLAN  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
 SHEET G-9

LAYER NAME: ST-1 (CO E & CD 2)

PLOT DATE: 04 Nov 2009 10:47am  
FILEPATH: K:\plans\st\_01\_LIFT\_ST\_02\_626000.dwg

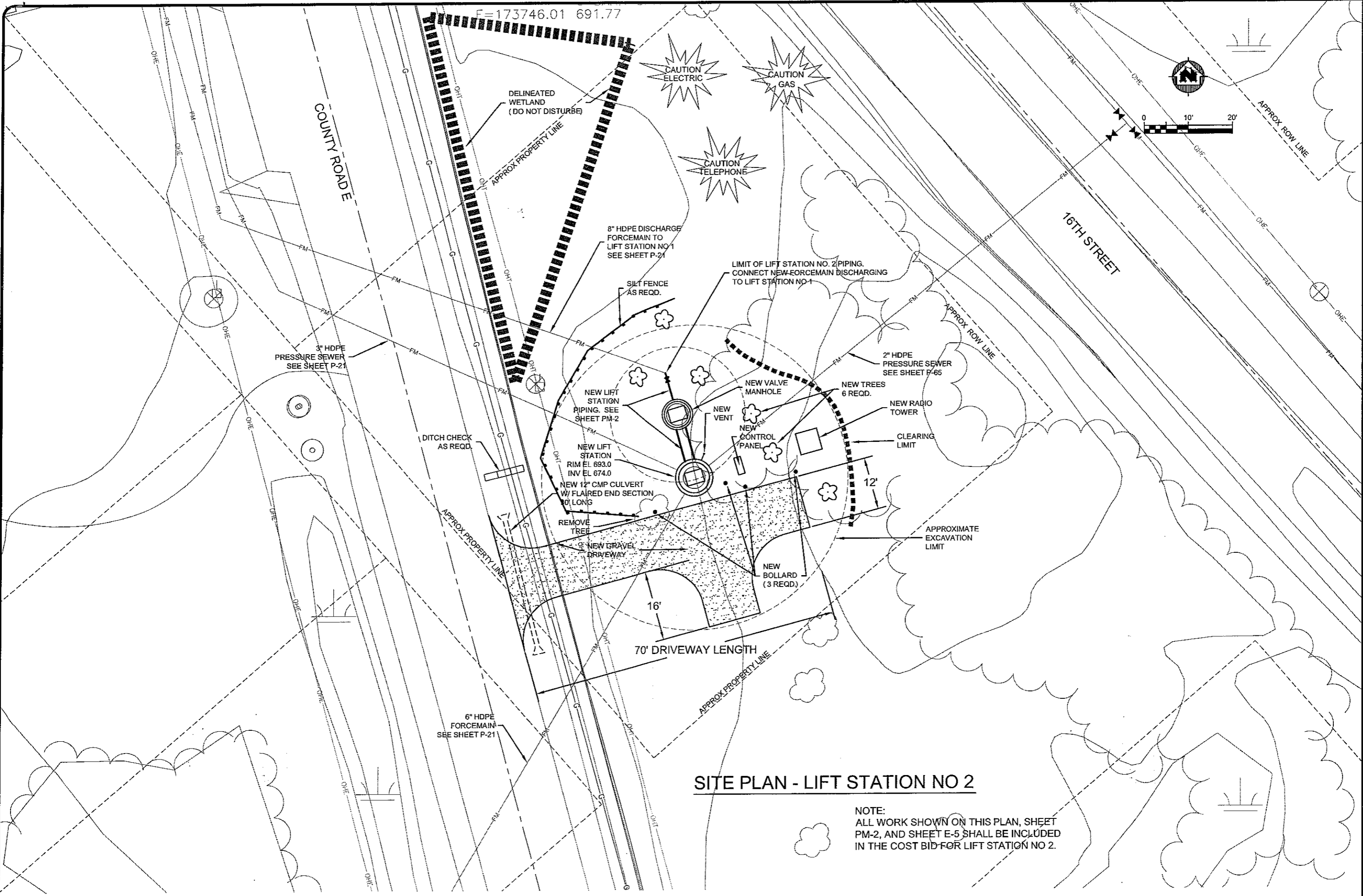
F=173746.01 691.77

COUNTY ROAD

16TH STREET

### SITE PLAN - LIFT STATION NO 2

NOTE:  
ALL WORK SHOWN ON THIS PLAN, SHEET  
PM-2, AND SHEET E-5 SHALL BE INCLUDED  
IN THE COST BID FOR LIFT STATION NO 2.



TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-9915 1-800-777-7390 Fax: 218-722-4518  
© MSA PROFESSIONAL SERVICES

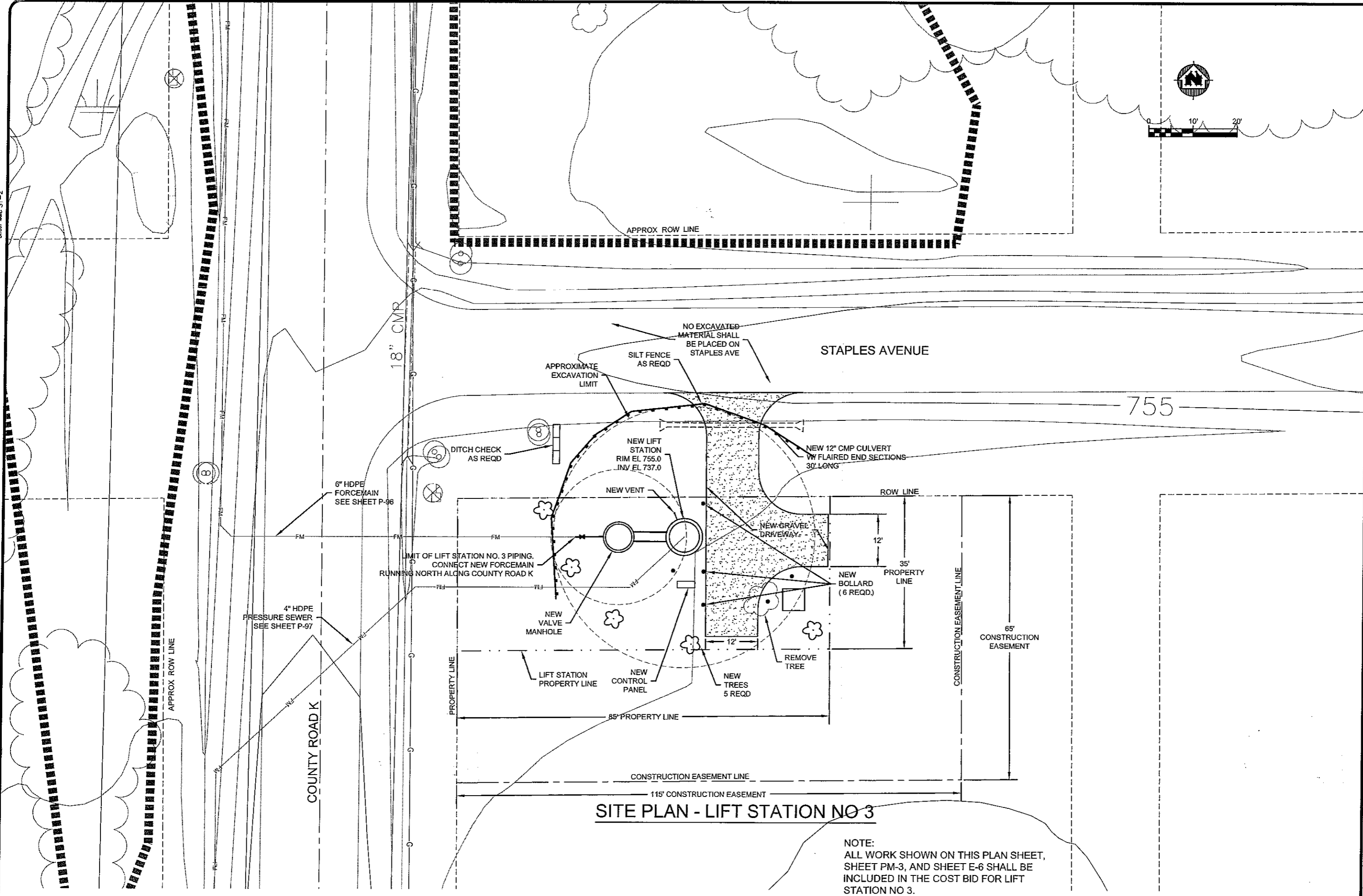


PROJECT NO:	826000
DATE:	Nov 2009
BY:	RWM
REVISION:	CWS
SCALE:	AS SHOWN
FILE NO:	626-001
SHEET:	ST-1

LIFT STATION NO 2 SITE PLAN  
PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

PLAN DATE: 04 Nov 2009 11:28:07  
 FILEPATH: K:\plans\st\_02\_lift\_st\_03\_626000.dwg

Layout Map ST-2



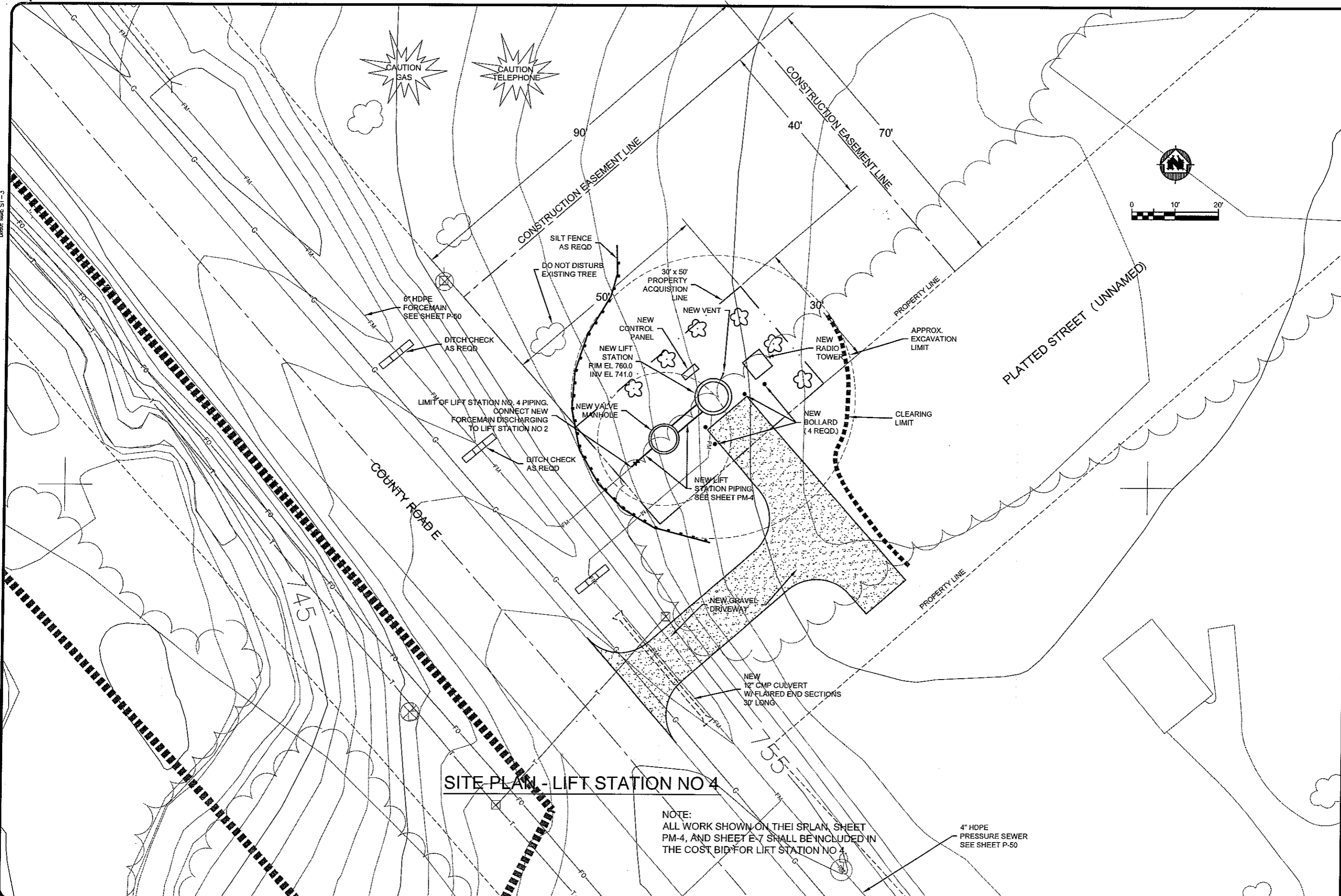
**SITE PLAN - LIFT STATION NO 3**

NOTE:  
 ALL WORK SHOWN ON THIS PLAN SHEET,  
 SHEET PM-3, AND SHEET E-6 SHALL BE  
 INCLUDED IN THE COST BID FOR LIFT  
 STATION NO 3.

PROJECT: 626000		DRAWN BY: RWM		CHECKED BY: CWS	
DATE: 04 Nov 2009		SCALE: AS SHOWN		PROJECT: LIFT STATION NO 3 SITE PLAN	
<b>PARKLAND SANITARY DISTRICT NO. 1</b> WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN					
PAGE NO: 626-001		SHEET ST-2			
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL 301 West First Street, Duluth, MN 55802 218-723-9151 • 800-777-1580 Fax: 218-723-4456 © MSA PROFESSIONAL SERVICES					




PLANT DATE: 04 Nov 2009 11:56 AM  
 FILEPATH: K:\projects\ST\_03\_LIFT\_STA\_04\_626000.dwg  
 LAYOUT NAME: ST-3



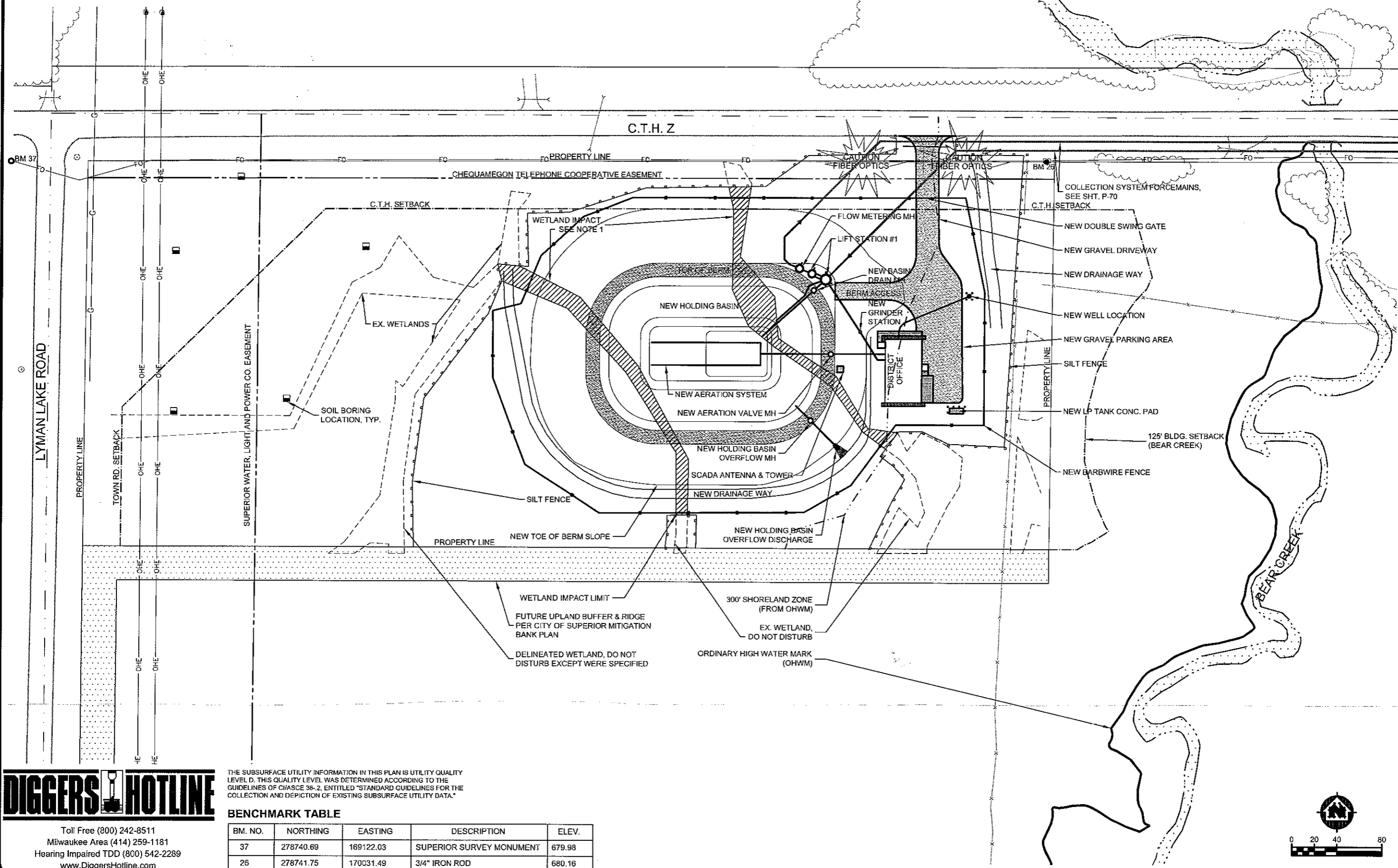
**SITE PLAN - LIFT STATION NO 4**

NOTE:  
 ALL WORK SHOWN ON THEI SRLAN, SHEET  
 PM-4, AND SHEET E-7 SHALL BE INCLUDED IN  
 THE COST BID FOR LIFT STATION NO 4

4" HOPE  
 PRESSURE SEWER  
 SEE SHEET P-50

 TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL 301 West First Street, Duluth, MN 55802 218-722-9115 • 1-800-777-7580 Fax: 218-722-4548 © MSA PROFESSIONAL SERVICES	
PROJECT NO.	626000
DATE	Nov 2009
NO.	04
BY	RHM
REVISION	CWS
FILE NO.	626-001
LIFT STATION NO 4 SITE PLAN PARKLAND SANITARY DISTRICT NO. 1 WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN	
SHEET ST-3	

**NOTES:**  
 1. APPROX. WETLAND IMPACTS = 7,300 SF  
 2. CONTRACTOR SHALL NOT TRACK OR SPILL EARTH, DEBRIS OR OTHER CONSTRUCTION MATERIAL ON STREETS & SHALL BE RESPONSIBLE FOR THE IMMEDIATE ASSOCIATED CLEANUP.



THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-2, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

**BENCHMARK TABLE**

BM. NO.	NORTHING	EASTING	DESCRIPTION	ELEV.
37	278740.69	169122.03	SUPERIOR SURVEY MONUMENT	679.98
26	278741.75	170031.49	3/4" IRON ROD	680.16



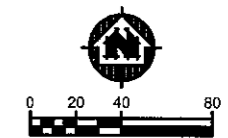
Toll Free (800) 242-8511  
 Milwaukee Area (414) 259-1181  
 Hearing Impaired TDD (800) 542-2289  
 www.DiggersHotline.com

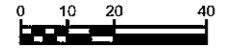
PLT: 09/05 Nov 2009 9:35am  
 PLAN: K:\plans\Site\_Plan.dwg

TRANSPORTATION & MUNICIPAL  
 DEVELOPMENT - ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-725-2913 / 480-777-3300 Fax: 218-725-4048  
 © 1997 PROFESSIONAL SERVICES



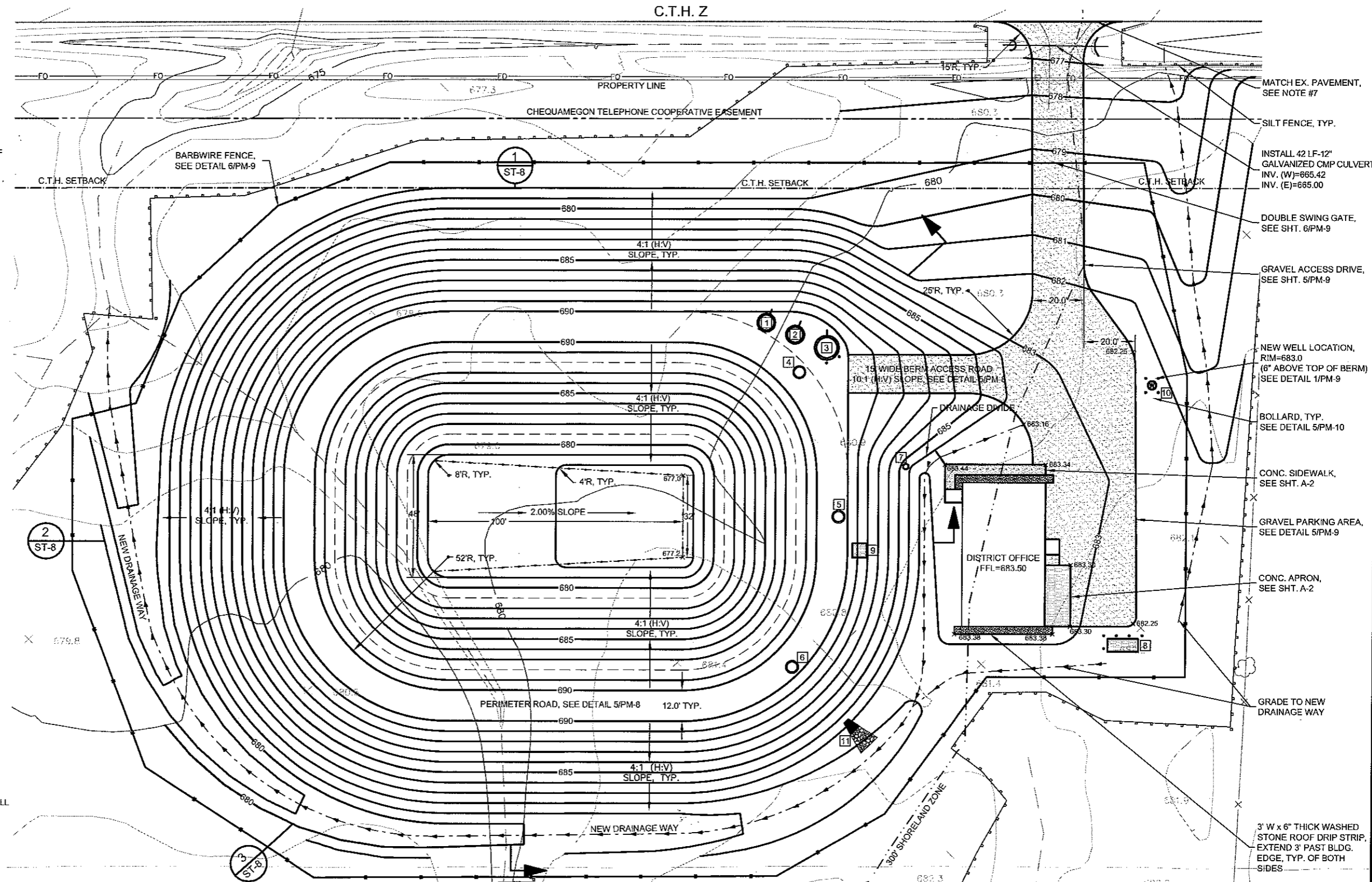
PROJECT NO. 00626000	DATE: OCTOBER 2009	SCALE: AS SHOWN
DATE: XXXX	DRAWN BY: LAJ	CHECKED BY: CWS
NO.	DATE	REVISION
SITE PLAN - HOLDING BASIN		
PARKLAND SANITARY DISTRICT NO. 1		
WASTEWATER COLLECTION SYSTEM		
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN		
FILE NO. 626-001	SHEET ST-4	





- NOTES:**
- HOLDING BASIN SIDE SLOPES SHALL BE A MAXIMUM OF 4:1 (H:V).
  - SILT FENCE SHALL BE INSTALLED TO PREVENT DISTURBANCE & DEGRADATION OF DELINEATED WETLANDS @ ALL AREAS NOT IDENTIFIED TO BE IMPACTED.
  - HOLDING BASIN BOTTOM SHALL SLOPE TOWARDS THE MAIN LIFT STATION ENTRANCE PIPE (ELEV.=677.0').
  - SEE SHT. ST-7 FOR HOLDING BASIN AERATION PIPING & HOLDING BASIN PIPING PLAN.
  - ALL MANHOLES, VALVE BOXES & OTHER BURIED FACILITIES W/ SURFACE ACCESS SHALL BE ADJUSTED TO MATCH FINAL GRADES UNLESS OTHERWISE INDICATED.
  - CONTRACTOR SHALL REMOVE & REPLACE OR REPAIR ALL ROAD SURFACES & OTHER ITEMS DAMAGED BY CONSTRUCTION ACTIVITIES TO THE SATISFACTION OF THE OWNER/ENGINEER.
  - THE DRIVEWAY SURFACE SHALL SLOPE DOWN & AWAY FROM THE HIGHWAY SHOULDER FOR 3 FEET MIN. @ 5% TO PREVENT DRIVEWAY SURFACE DRAINAGE FROM FLOWING ONTO THE HIGHWAY ROAD BED.
  - 5' O.C. MAX. BETWEEN BOLLARDS. INSTALL BOLLARDS 1' MIN. FROM STRUCTURE BEING PROTECTED. SEE DETAIL 5/PM-10.

- BOX NOTES:**
- LS #1 METERING MANHOLE (6" ABOVE TOP OF BERM) RIM=690.50
  - LS #1 VALVE VAULT (6" ABOVE TOP OF BERM) RIM=690.50
  - LS #1 WET WELL (6" ABOVE TOP OF BERM) RIM=690.50
  - HOLDING BASIN DRAIN VALVE MANHOLE RIM=690.00
  - AERATION VALVE MANHOLE RIM=690.00
  - HOLDING BASIN OVERFLOW MANHOLE RIM=690.00
  - GRINDER STATION RIM=684.50
  - LP TANK CONC. PAD (5'W x 12'L) T/S ELEV=682.75 (3" ABOVE FINAL GRADE)
    - 12" THICK CONC. PAD W/ #5 BARS @ 12" O.C. REINFORCING BAR TO BE LAID IN PERPENDICULAR IN 2 DIRECTIONS. CONC. PAD BASE SHALL CONSIST OF 12" COMPACTED GRANULAR FILL.
  - SCADA ANTENNA & TOWER CONC. PAD T/S ELEV.=690.00 (6" ABOVE FINAL GRADE)
    - PAD DESIGN PER TOWER SUPPLIER
  - POTABLE WATER WELL CONC. PAD (6" ABOVE FINAL GRADE) T/S ELEV=683.00
  - HOLDING BASIN OVERFLOW APRON ENDWALL PIPE INVERT ELEV=681.25



- MATCH EX. PAVEMENT, SEE NOTE #7
- SILT FENCE, TYP.
- INSTALL 42 LF-12" GALVANIZED CMP CULVERT INV. (W)=665.42 INV. (E)=665.00
- DOUBLE SWING GATE, SEE SHT. 6/PM-9
- GRAVEL ACCESS DRIVE, SEE SHT. 5/PM-9
- NEW WELL LOCATION, RIM=683.0 (6" ABOVE TOP OF BERM) SEE DETAIL 1/PM-9
- BOLLARD, TYP. SEE DETAIL 5/PM-10
- CONC. SIDEWALK, SEE SHT. A-2
- GRAVEL PARKING AREA, SEE DETAIL 5/PM-9
- CONC. APRON, SEE SHT. A-2
- GRADE TO NEW DRAINAGE WAY
- 3' W x 6" THICK WASHED STONE ROOF DRIP STRIP, EXTEND 3' PAST BLDG. EDGE, TYP. OF BOTH SIDES

THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-2, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

**BENCHMARK TABLE**

BM. NO.	NORTHING	EASTING	DESCRIPTION	ELEV.
37	278740.69	169122.03	SUPERIOR SURVEY MONUMENT	679.98
26	278741.75	170031.49	3/4" IRON ROD	680.16

**TABLE OF LOCATION COORDINATES**

ITEM	NORTHING	EASTING	DESCRIPTION
LS#1 METERING MH	278647.09	169813.37	CENTER OF STRUCTURE
LS #1 VALVE VAULT	278642.42	169824.61	CENTER OF STRUCTURE
LS #1 WETWELL	278637.32	169836.93	CENTER OF STRUCTURE
BASIN DRAIN VALVE MH	278627.80	169826.33	CENTER OF STRUCTURE
AERATION VALVE MH	278671.36	169841.85	CENTER OF STRUCTURE
BASIN OVERFLOW MH	278512.62	169824.17	CENTER OF STRUCTURE
WELL	278622.84	169863.89	CENTER OF STRUCTURE
GRINDER STATION	277590.96	169867.97	CENTER OF STRUCTURE
OVERFLOW APRON ENDWALL	278487.83	169848.85	CENTER OF DISCHARGE EDGE
DISTRICT OFFICE CORNER	278628.49	169922.53	SOUTH-EAST CORNER
DISTRICT OFFICE CORNER	278584.74	169922.53	NORTH-EAST CORNER

10/26/05 Nov 2009 9:40am  
 K:\Projects\Site Plans.dwg

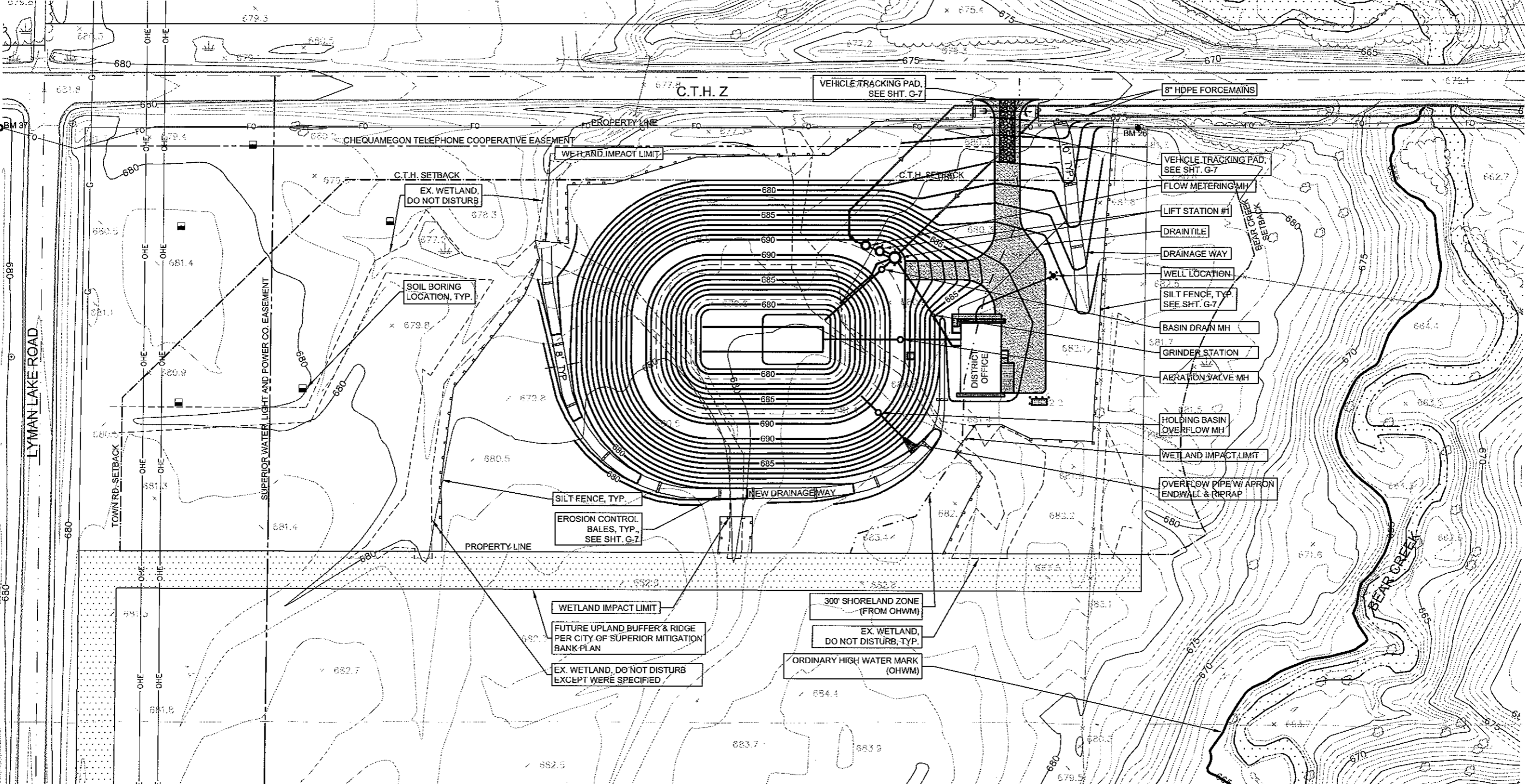


Toll Free (800) 242-8511  
 Milwaukee Area (414) 259-1181  
 Hearing Impaired TDD (800) 542-2289  
 www.DiggersHotline.com

**TRANSPORTATION - MUNICIPAL DEVELOPMENT - ENVIRONMENTAL**  
 31 West Pine Street, Duluth, MN 55802  
 218-725-3913 • 1-800-775-2389 Fax: 218-725-4948  
**MSA**  
 PROFESSIONAL SERVICES  
 PROJECT NO. 00626000  
 DATE: OCTOBER 2009  
 SCALE: AS SHOWN  
 SHEET ST-5

**STORMWATER & EROSION CONTROL NOTES:**

1. CONTRACTOR SHALL NOT TRACK OR SPILL EARTH, DEBRIS OR OTHER CONSTRUCTION MATERIAL ON STREETS & SHALL BE RESPONSIBLE FOR THE IMMEDIATE ASSOCIATED CLEANUP.
2. EROSION CONTROL BLANKET CLASS 1, TYPE B SHALL BE USED TO STABILIZE NEW DRAINAGE WAYS. EROSION BALES SHALL BE USED AS TEMPORARY EROSION CONTROL. REMOVE EROSION BALES PRIOR TO FINAL STABILIZATION.
3. VEHICLE TRACKING PAD SHALL BE INSTALLED PRIOR TO SITE DISTURBANCE. THE PAD SHALL BE REMOVED PRIOR TO GRAVEL DRIVEWAY INSTALLATION.
4. ADDITIONAL EROSION CONTROL NOTES ARE LOCATED ON SHT. G-7



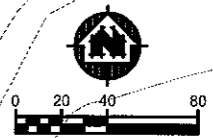
THE SUBSURFACE UTILITY INFORMATION IN THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF C/ASCE 38-2, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."

**BENCHMARK TABLE**

BM. NO.	NORTHING	EASTING	DESCRIPTION	ELEV.
37	278740.69	169122.03	SUPERIOR SURVEY MONUMENT	679.98
26	278741.75	170031.49	3/4" IRON ROD	680.16



Toll Free (800) 242-8511  
 Milwaukee Area (414) 259-1181  
 Hearing Impaired TDD (800) 542-2289  
 www.DiggersHotline.com



TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 801 West State Street, Duluth, MN 55802  
 218-723-9813 • FAX: 218-723-7468  
 © MSA PROFESSIONAL SERVICES

MSA

PROFESSIONAL SERVICES

PROJECT NO.:	DC628000	DATE:	OCTOBER 2009	SCALE:	AS SHOWN
PROJECT:	EROSION CONTROL PLAN - HOLDING BASIN	DRAWN BY:	LAJ	CHECKED BY:	CWS
FILE NO.:	626-001				
SHEET:	ST-6				

EROSION CONTROL PLAN - HOLDING BASIN  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

PLOT DATE: 03 Nov 2009 1:23pm  
 FILENAME: K:\Plans\Site Plan.dwg  
 LAYER NAME: Erosion Control

**NOTES:**

1. ALL PIPELINES SHALL BE SLOPED UNIFORMLY BETWEEN ELEVATIONS INDICATED ON THE DRAWINGS. NO CRESTS IN ELEVATION WILL BE PERMITTED. ALL HORIZONTAL & VERTICAL BENDS IN PRESSURIZED LINES SHALL BE SUITABLY RESTRAINED W/ THRUST BLOCKS OR RETAINER GLANDS (RETAINER GLANDS ALLOWED FOR DUCTILE IRON PIPE ONLY). SEE THRUST BLOCK DETAILS ON SHT. PM-10. PROVIDE ALL BENDS (HORIZONTAL & VERTICAL) AS REQUIRED TO MEET THE ELEVATIONS & ALIGNMENTS INDICATED ON THE DRAWINGS.
2. ALL FORCEMAINS TO BE LAID W/ POSITIVE SLOPE TO DISCHARGE TO ALLOW AIR TO ESCAPE. GRAVITY SEWERS TO SLOPE CONTINUOUSLY & UNIFORMLY IN THE DIRECTION OF FLOW.
3. PROVIDE CONCRETE ENCASUREMENT 2'-0" SQUARE X 8" THICKNESS W/ 16" SQUARE #4 BARS BENT REINFORCEMENT AT MID DEPTH AROUND EACH BURIED VALVE BOX.
4. MAINTAIN 7" MIN. COVER ON ALL BURIED PIPE, EXCEPT AERATION PIPING.
5. FOR PIPE EMBEDMENT SEE SHT. G-3.
6. PROVIDE NECESSARY INSERTS TO MEET SPECIFIED GRINDER STATION ELEVATIONS. INVERT ELEVATIONS ARE BASED ON THE STANDARD GRINDER STATION DIMENSIONS PROVIDED BY MANUFACTURER & RIM ELEVATION.

**AERATION PIPING NOTES:**

1. MAX. SIDE WATER DEPTH IS 10.0 FT. MIN. SIDE WATER DEPTH IS 3.0 FT.
2. ALL PIPING TO BE FLANGED STAINLESS STEEL. ALL NUTS, BOLTS, WASHERS AND OTHER ACCESSORIES SHALL BE S.S.

1-8" HDPE TO D.I.P. MJ x PE ADAPTER  
1-8" x 11.25" BEND  
(ANGLED UP) I.E.=668.90

1-8" x 45° BEND

1-6" x 11.25" BEND  
1-6" x 8" ECCENTRIC INCREASER  
1-8" x 45° BEND  
1-8" x 11.25" BEND  
(ANGLED DOWN) I.E.=679.00

INSTALL TEXTURED HDPE LINER IN THIS LOCATION ONLY. ALL OTHER LINER SHALL BE SMOOTH HDPE. SEE SPEC

TOP OF BERM=690'

HIGH WATER LEVEL=688'

NEW HOLDING BASIN

NORMAL WATER LEVEL=681'

15 LF-8" FM (D.I.P.) @ 0.00%  
(METERING MH TO 11.25" VERT. BEND)

1-8" x 22.5" BEND  
INV.=681.07

HOLDING BASIN DRAIN VALVE MH,  
SEE DETAIL 3/PM-7

1-8" x 22.5" BEND  
INV.=681.17

WETWELL OVERFLOW PIPE, IE=681.5,

HOLDING BASIN DRAIN PIPE, IE=677.0,

53 LF-8" OF (D.I.P.) @ 1.0%  
(WETWELL TO PIPE OUTLET)

58 LF-8" ON (D.I.P.) @ 1.0%  
(PIPE INLET TO BASIN DRAIN MH)

4" x 4" TEE,  
SEE DETAIL 3/PM-6

4" FLG TRANSITION FITTING  
S.S. TO D.I.P. BY EQUIPMENT  
MANUFACTURER

56 LF-4" ALP (D.I.P.) @ 0.14%

FOR PIPE PENETRATION,  
SEE DETAIL 1/PM-8

4" AERATION VALVE MH,  
SEE DETAIL 2/PM-7

8" OF (D.I.P.) PIPE, IE=688.5,  
FOR PIPE PENETRATION  
SEE DETAIL 1/PM-8

8" OF (D.I.P.) PIPE,  
SEE DETAIL 4/PM-7  
FOR PIPE SECTION

4" OVERFLOW VALVE MH,  
SEE DETAIL 1/PM-7

PIPE SUPPORTS & CONC. BALLAST BLOCK SUPPORT  
PADS. DESIGN & SPACING PER EQUIPMENT  
MANUFACTURER SPECIFICATIONS, TYP.  
SEE DETAIL 2/PM-6

SEE DETAIL 1/PM-6,  
FOR TYP. PIPE ELEV. SECTION

12" FIXED COARSE BUBBLE DIFFUSER  
ASSEMBLY. 21 DIFFUSER ASSEMBLY  
(TYP. OF 2). SEE SPECIFICATIONS

4" x 90° BEND (TYP. OF 2)

8" OF (D.I.P.) PIPE, IE=688.5,  
FOR PIPE PENETRATION  
SEE DETAIL 1/PM-8

8" OF (D.I.P.) PIPE,  
SEE DETAIL 4/PM-7  
FOR PIPE SECTION

4" OVERFLOW VALVE MH,  
SEE DETAIL 1/PM-7

C.T.H. SETBACK

PAYLIMIT

8" HDPE FORCEMAIN,  
MAINTAIN 7" COVER, MIN.  
FOR CONTINUATION,  
SEE SHT. P-70

L.S. VENT PIPES, TYP.

L.S. #1 METERING MH,  
SEE SHT. PM-1

1-8" HDPE TO D.I.P. MJ x PE ADAPTER  
1-8" x 11.25" BEND  
(ANGLED UP) I.E.=671.00

23 LF-8" FM (D.I.P.) @ 2.60%  
(11.25" VERT. BEND TO 11.25" VERT. BEND)

1-8" x 11.25" BEND  
(ANGLED DOWN) I.E.=677.00

L.S. #1 VALVE VAULT,  
SEE SHT. PM-1

29 LF-8" FM (D.I.P.) @ 0.80%  
(WETWELL TO 11.25" BEND)

L.S. #1 WETWELL,  
SEE SHT. PM-1

BOLLARDS, TYP.  
SEE DETAIL 5/PM-10

BERM ACCESS DRIVE

7 LF-8" DN (D.I.P.) @ -1.00%  
(BASIN DRAIN MH TO WETWELL)

8" CLEANOUTS (TYP. OF 2),  
SEE DETAIL 3/PM-7

GRINDER STATION  
I.E. (SE)=675.98  
I.E. (NW)=677.69  
SEE NOTE #6

48 LF-1.25" FM (HDPE) @ 4.77%

22 LF-4" DT (PVC) @ -1.50%

13 LF-4" DT (PVC) @ -1.50%

35 LF-4" SAN (PVC) @ -1.0%  
1-1.25" x 4" TEE  
FIELD ROUTE METERING  
MH & VALVE VAULT SUMP  
PUMP PIPING TO SAN. TEE

46 LF-4" ALP (D.I.P.) @ -0.17%

INSTALL 32 LF OF  
PIPE INSULATION,  
SEE DETAIL 5/PM-7

4" SAN CLEANOUT  
I.E.=676.25, SEE SHT. PL-1

FOR CONTINUATION,  
SEE SHT. PM-5

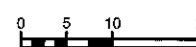
FOR CONTINUATION,  
SEE SHT. PL-2

ROOF DRIF STRIP  
(TYP. OF 2)

TOE OF BERM SLOPE.

28 LF-8" OF (D.I.P.) @ -2.00%  
(OVERFLOW MH TO APRON ENDWALL)

FOR CONTINUATION,  
SEE SHT. ST-6



**PROCESS PIPE LEGEND**

- ALP AIR LOW PRESSURE
- DIP DUCTILE IRON PIPE
- DN DRAIN
- DT PERFORATED DRAIN/LE
- FM FORCEMAIN (WASTEWATER)
- HDPE HIGH DENSITY POLYETHYLENE
- OF OVERFLOW
- PW POTABLE WATER
- PVC POLY VINYL CHLORIDE
- SAN SANITARY
- SS STAINLESS STEEL

4" PERFORATED PIPE,  
PROVIDE S.S. WIRE MESH  
GUARD (1" x 1" OPENINGS)  
SECURE MESH W/ S.S.  
BAND & HARDWARE  
I.E.=679.62

NEW POTABLE WATER  
WELL W/ BOLLARD  
PROTECTION,  
SEE DETAIL 1/PM-9

CONC. SIDEWALK

4" PVC PERFORATED PIPE  
SEE SHT. G-4  
I.E.=682.00

CONC. SIDEWALK

CONC. APRON

NEW LP TANK PAD W/  
BOLLARD PROTECTION

DISTRICT OFFICE,  
SEE SHT. A-2

LAYOUT NAME: Basin\_Piping

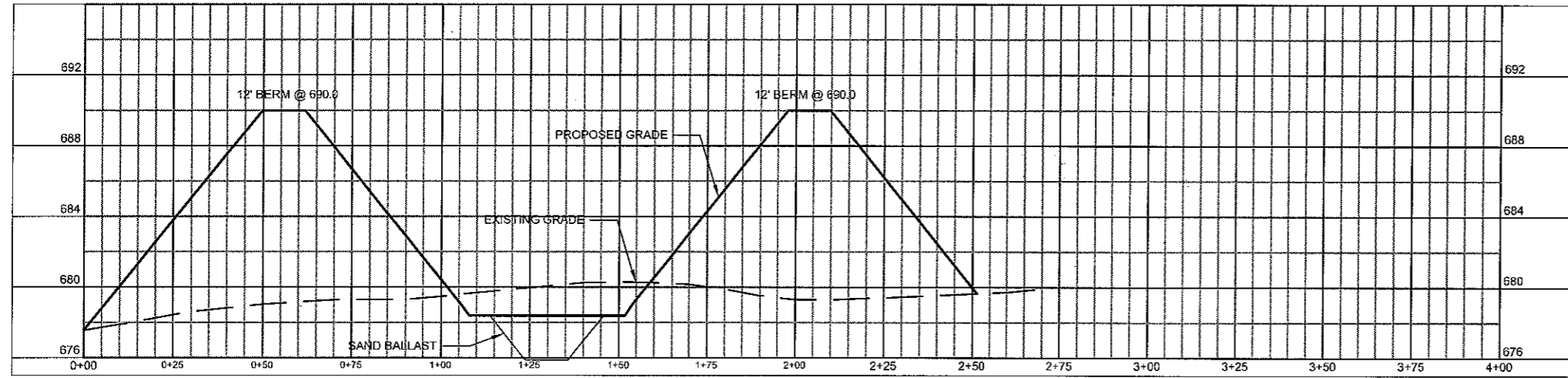
PLOT DATE: 05 Nov 2009 Plot Time: 10:02am  
RUPATH: K:\planshnts\Site\_Plan.dwg

TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West Street, Duluth, MN 55802  
763-223-9791, 480-577-5280 Fax: 763-223-4546  
www.mn.gov  
© MSA PROFESSIONAL SERVICES

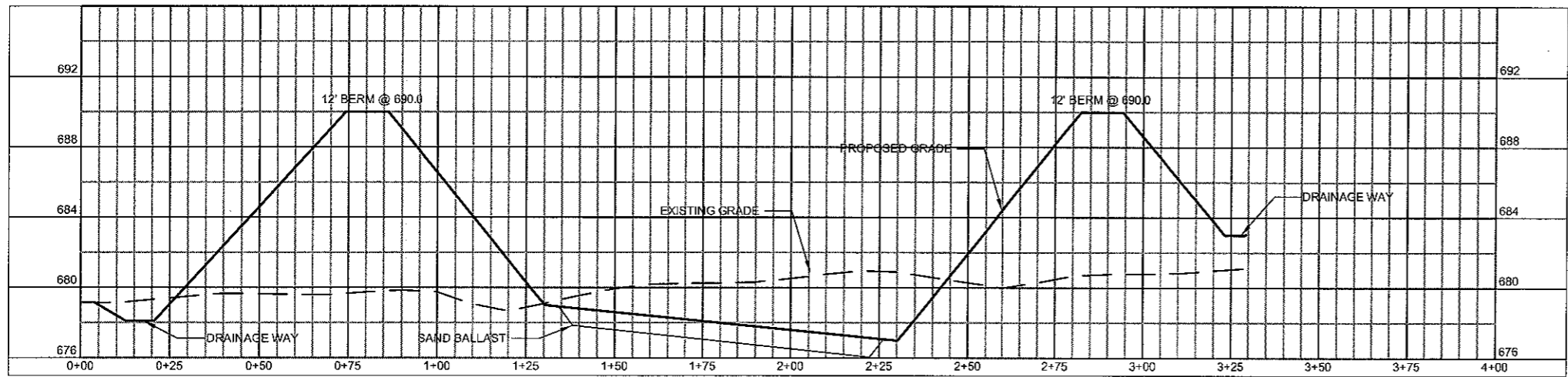
PROJECT NO.	00626000	DATE	OCTOBER 2009
SCALE	AS SHOWN	CHECKED BY	CWS
DESIGN BY	LJU	DATE	
PROJECT NAME	SITE PIPING PLAN - HOLDING BASIN		
PROJECT LOCATION	PARKLAND SANITARY DISTRICT NO. 1 WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN		
FILE NO.	626-001	SHEET	ST-7



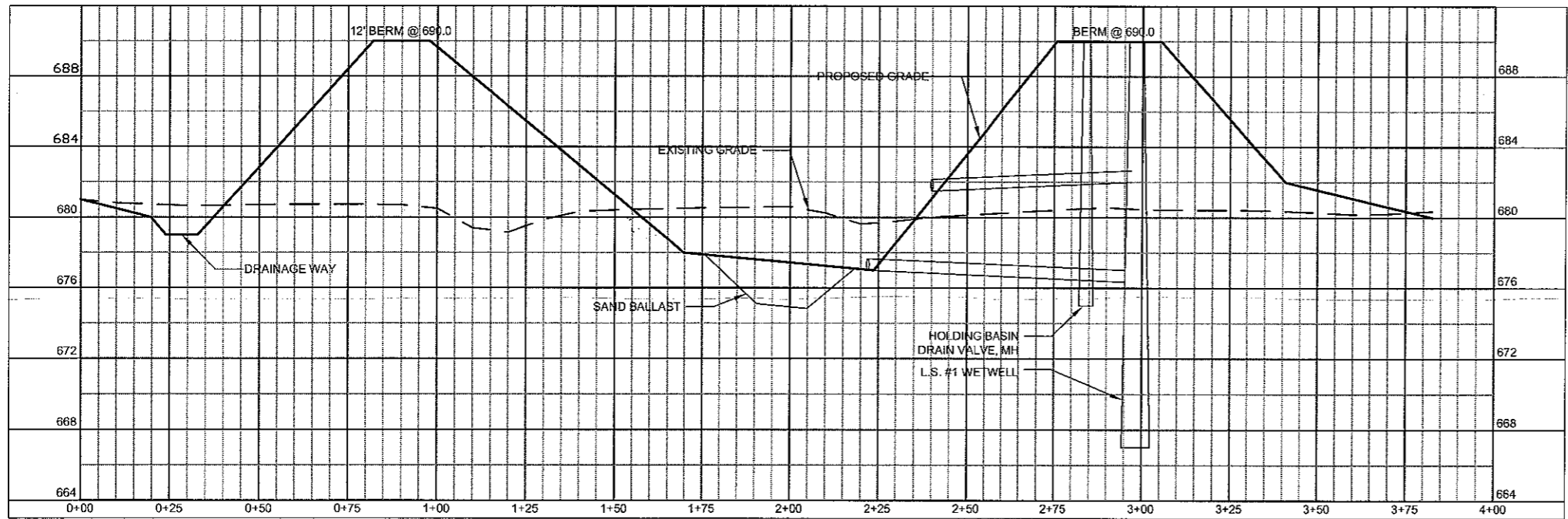
LAYOUT NAME: Cross\_Sections



**1 HOLDING BASIN - CROSS SECTION**  
 ST-8 HORIZONTAL SCALE: 1"=8'  
 VERTICAL SCALE: 1"=5'



**2 HOLDING BASIN - CROSS SECTION**  
 ST-8 HORIZONTAL SCALE: 1"=8'  
 VERTICAL SCALE: 1"=5'

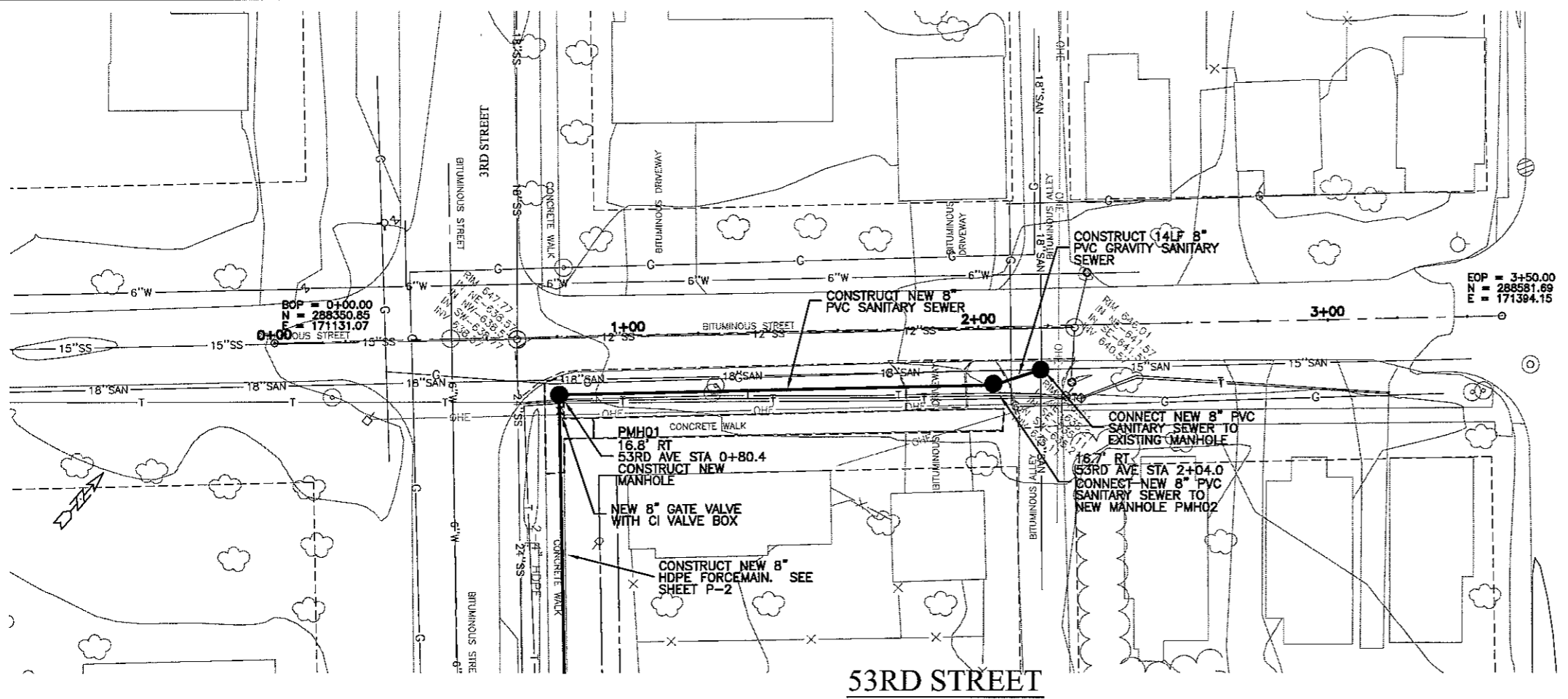


**3 HOLDING BASIN - CROSS SECTION**  
 ST-8 HORIZONTAL SCALE: 1"=8'  
 VERTICAL SCALE: 1"=5'

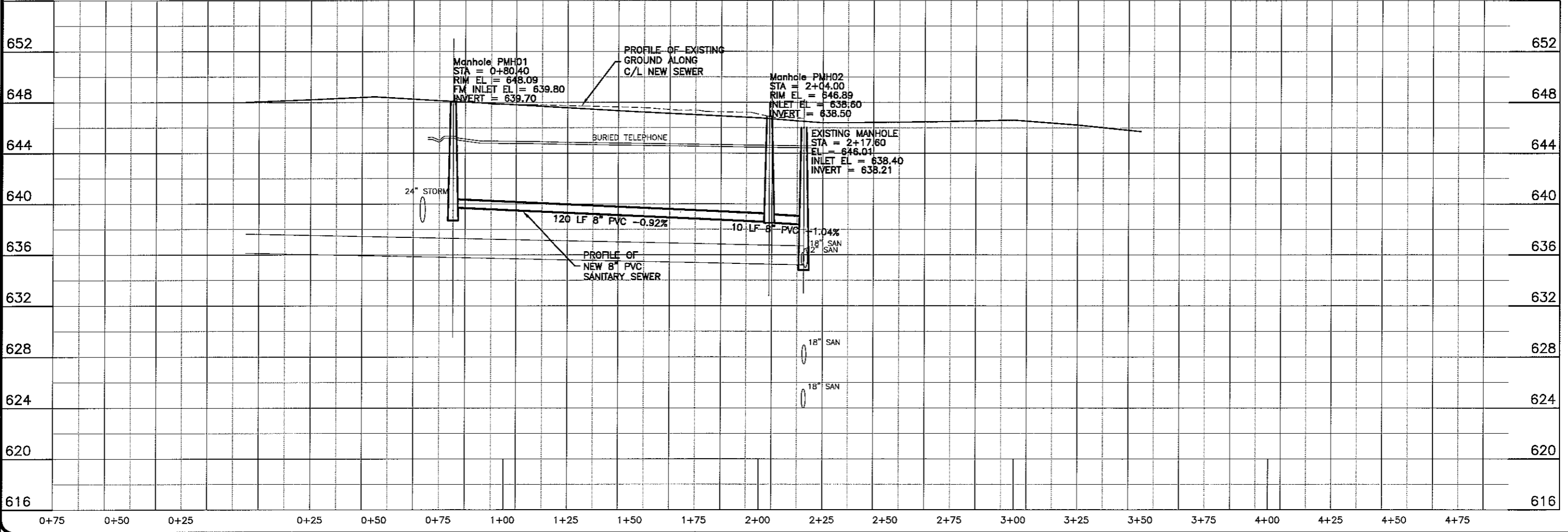
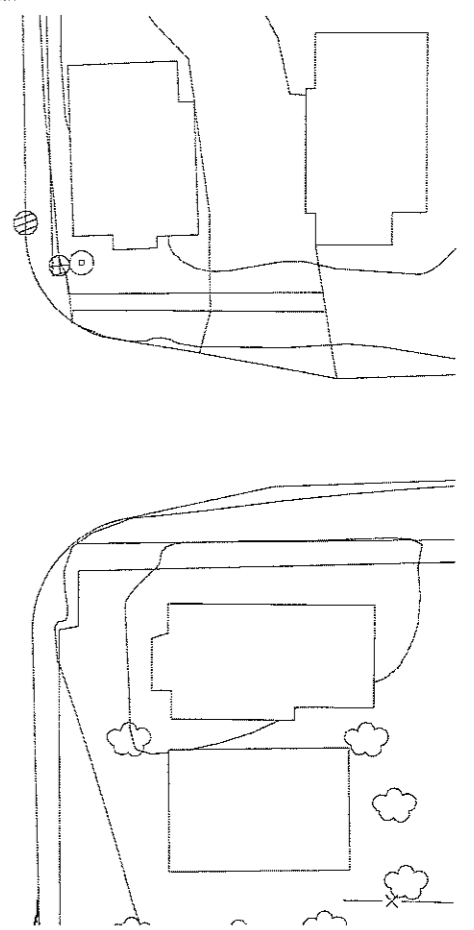
PLOT DATE: 05 Nov 2009 10:11am  
 FILENAME: K:\plans\plans\Cross\_Sections.dwg

TRANSPORTATION - MUNICIPAL DEVELOPMENT - ENVIRONMENTAL		BY	
30 West First Street, Duluth, WI 53802		REVISION	
218-725-9131 • 480-577-5300 Fax: 218-724-4648		DATE	
MSA PROFESSIONAL SERVICES		NO.	
CROSS SECTIONS - HOLDING BASIN		F.B. XXX	
PARKLAND SANITARY DISTRICT NO. 1		DRAWN BY: LAJ	
WASTEWATER COLLECTION SYSTEM		CHECKED BY: CWS	
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN		PROJECT NO: 00625000	
FILE NO: 626-001		DATE: OCTOBER 2009	
SHEET ST-8		SCALE: AS SHOWN	

LAYOUT NAME: LAYOUT1



US HWY 2 / 53



PLT DATE: 06 Nov 2009 10:47:25 AM  
 FILENAME: K:\Design\RCp01001.dwg

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 • 1-800-777-7380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

---

PROJECT NO. 626000  
 PLAN DATE: NOVEMBER, 2009  
 SCALE: AS SHOWN

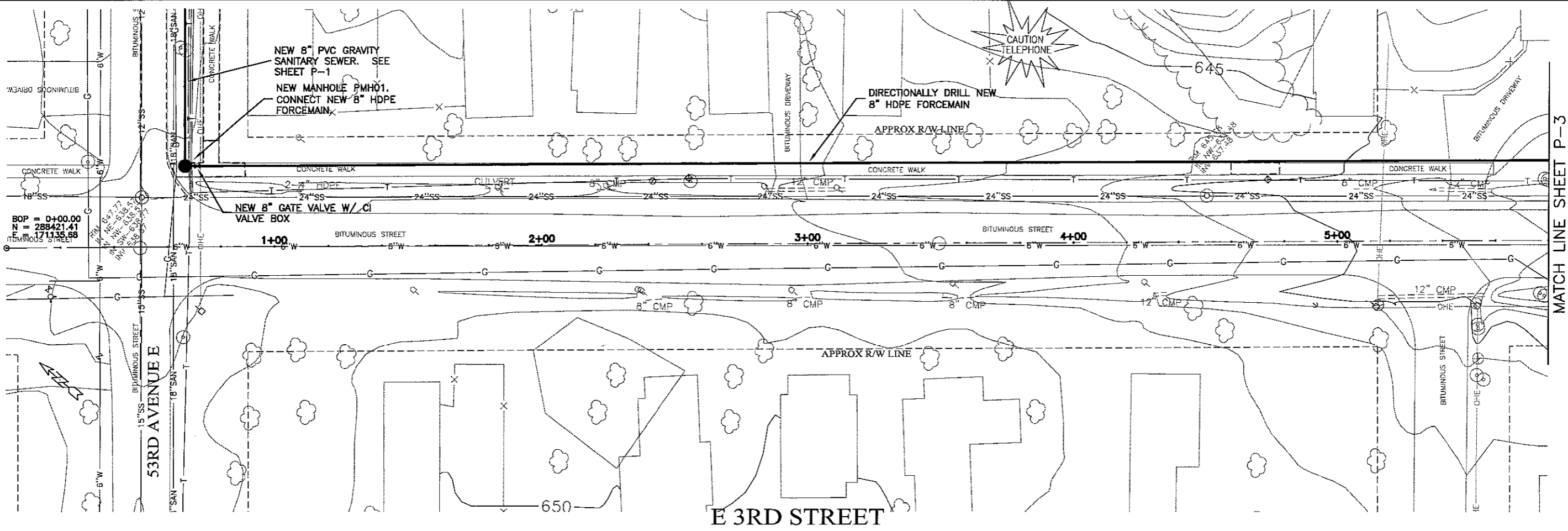
---

**SEWER PLAN-PROFILE**  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

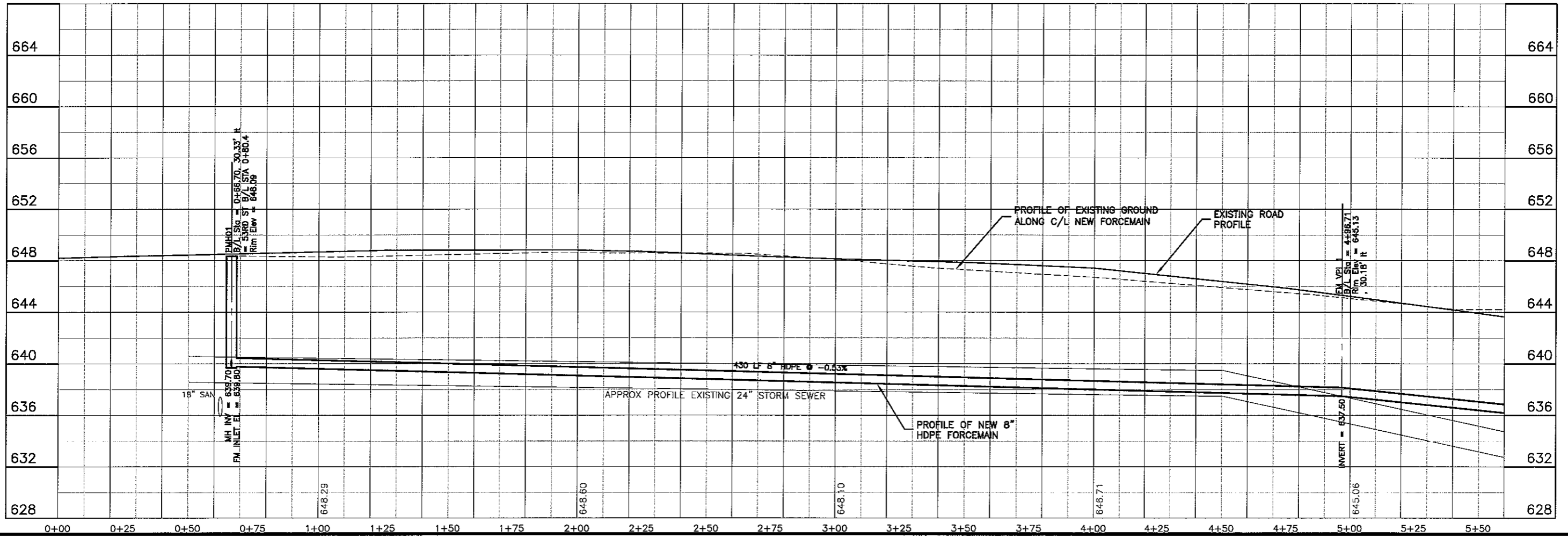
---

FILE NO. 626-001  
 SHEET P-1

LAYOUT NAME: Layout1



MATCH LINE SHEET P-3



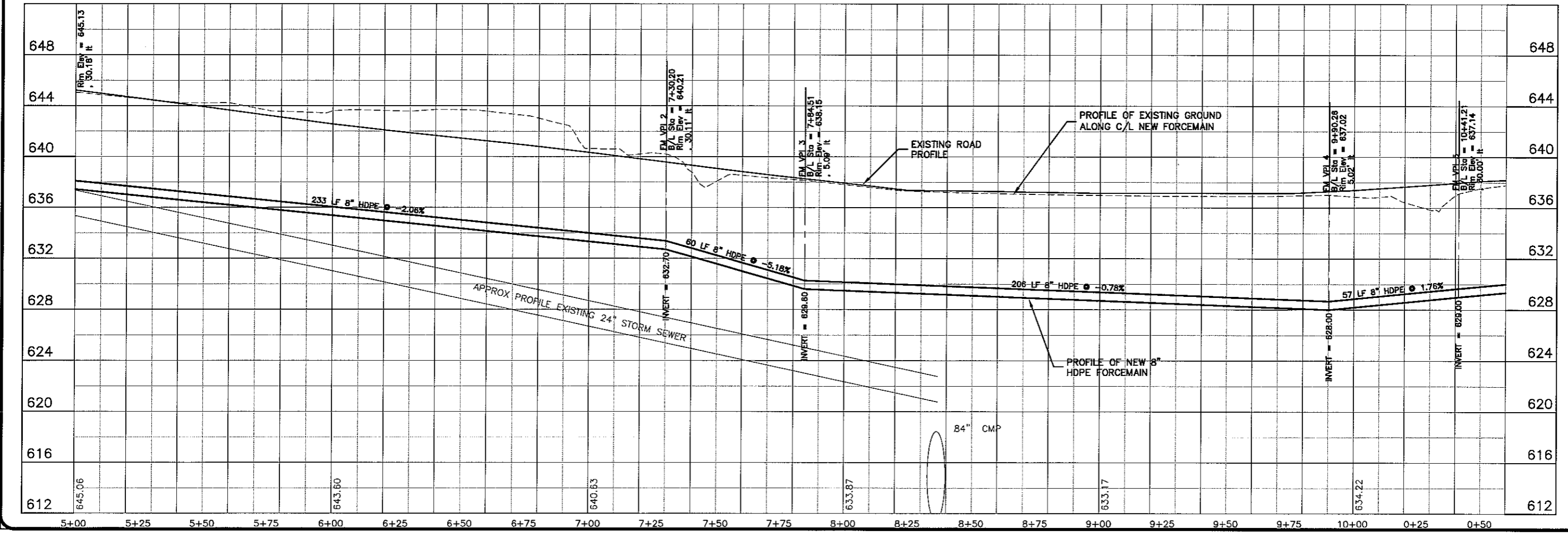
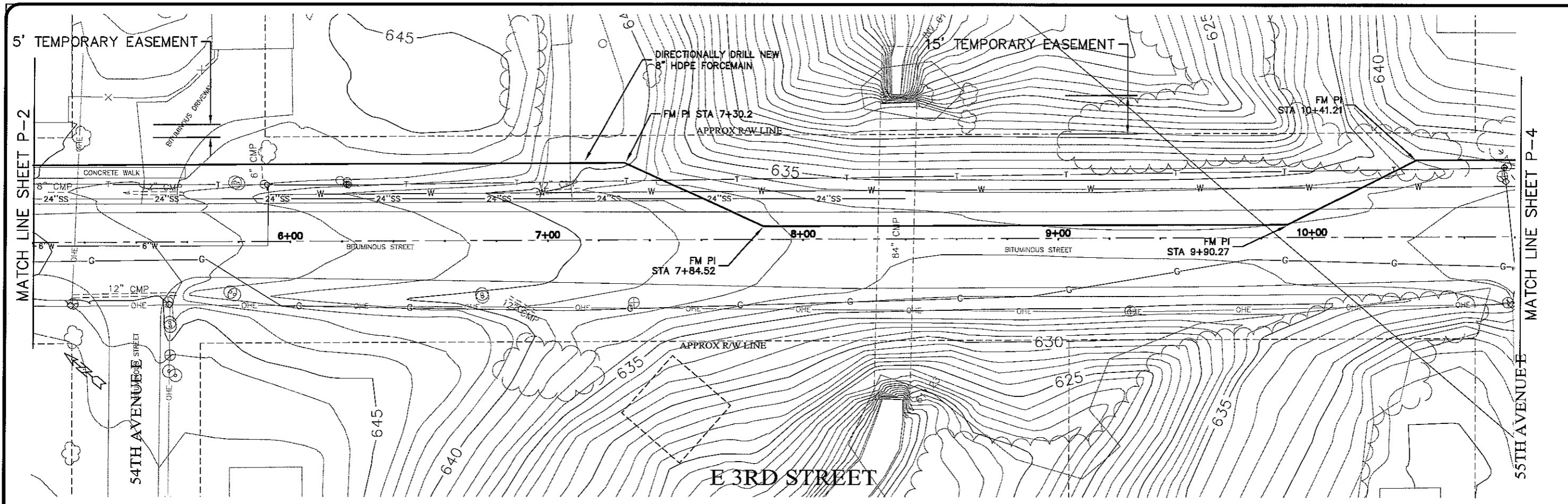
PLOT DATE: 06 Nov 2009 Plot Size: 7.01cm  
 FILENAME: K:\Design\RCp01002.dwg

**MSA**  
 PROFESSIONAL SERVICES

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55803  
 218-723-3915, 1-800-377-4330 Fax: 218-723-4638  
 © MSA PROFESSIONAL SERVICES

PROJECT NO.	626000	DATE		BY	
SEWER PLAN PROFILE		FILE		REVISION	
PARKLAND SANITARY DISTRICT NO. 1		PROJECT DATE	NOVEMBER, 2009	DRAWN BY	RWM
WASTEWATER COLLECTION SYSTEM		SCALE	AS SHOWN	CHECKED BY	CWS
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN					
FILE NO.	626-001				
SHEET	P-2				

UNSAT WMS Layout1

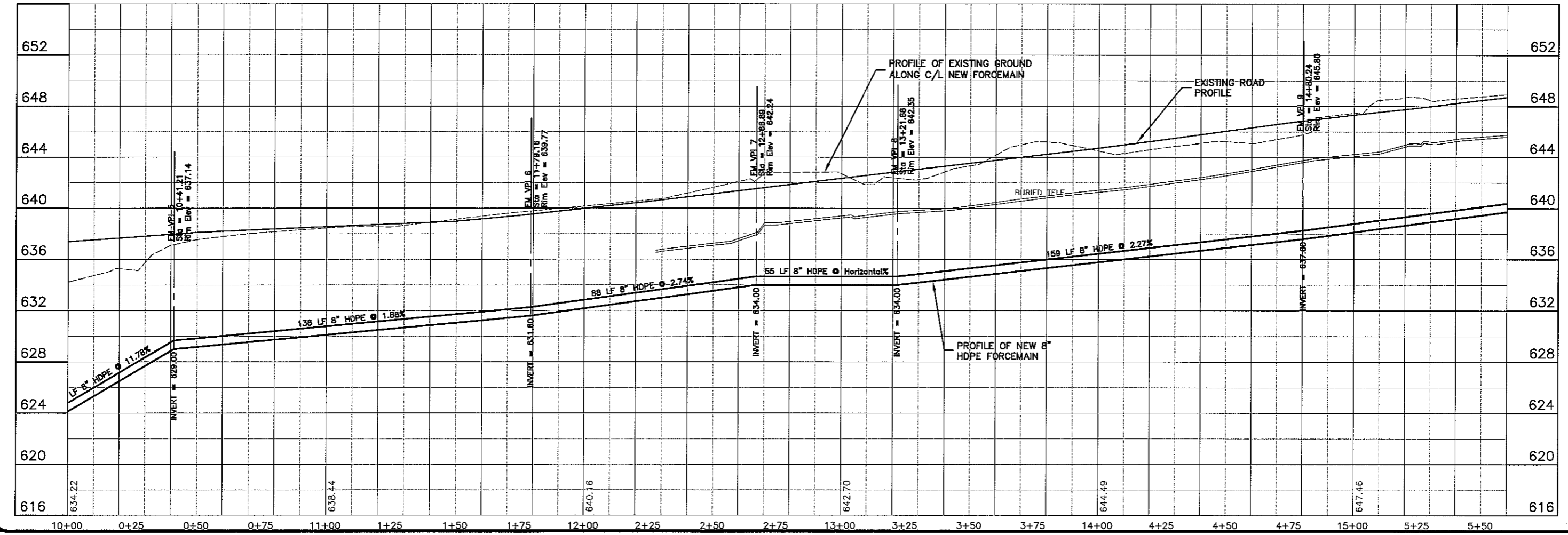
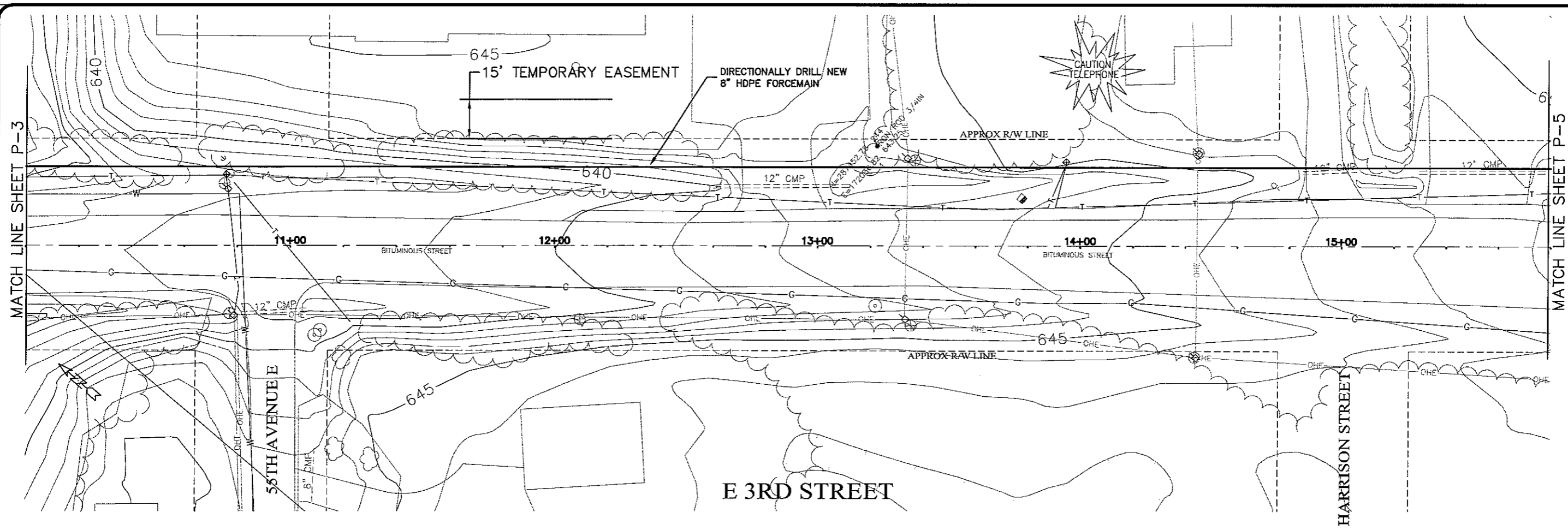


PLOT DATE: 10 Oct 2009 11:17:00  
 FILENAME: K:\Design\RCp02002.dwg

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 901 West First Street, DeWitt, MI 49822  
 218-225-3313 • 800-777-3380 Fax: 218-272-5458  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO.	626000
DATE	10 Oct 2009
BY	DESIGNED BY: CNS
NO.	SEWER PLAN PROFILE
REVISION	SCALE AS SHOWN
	PROJECT: PARKLAND SANITARY DISTRICT NO. 1
	WASTEWATER COLLECTION SYSTEM
	PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN
FILE NO.	626-001
SHEET	P-3

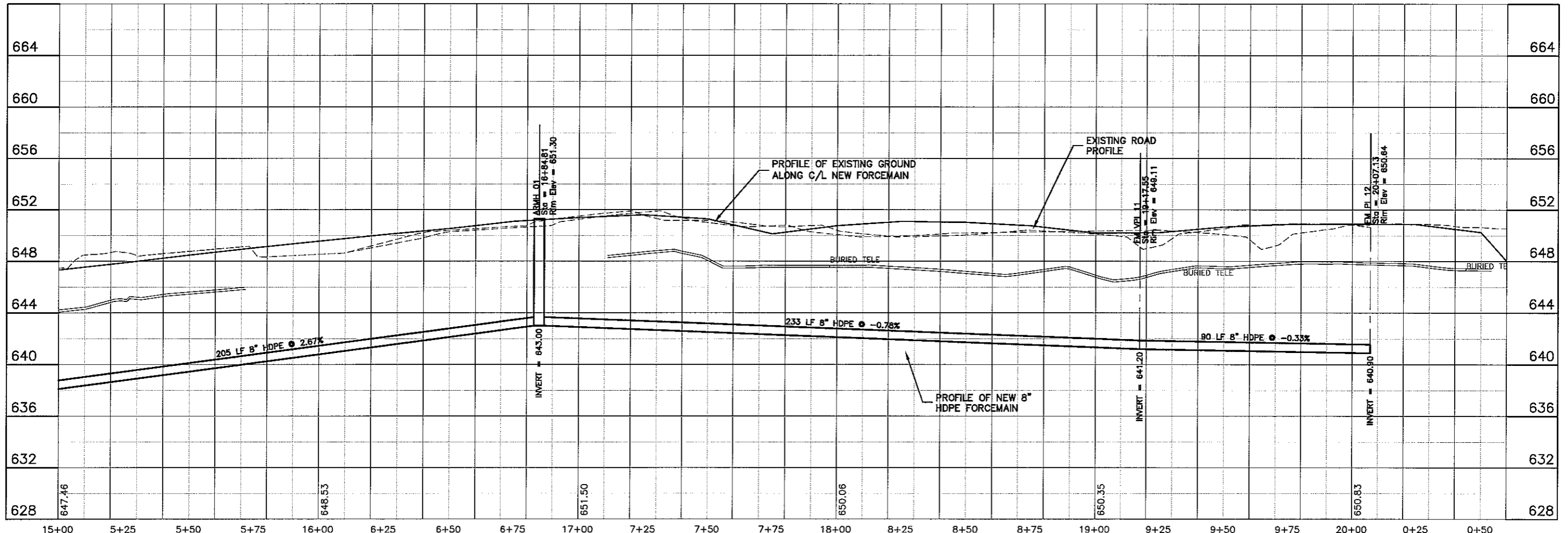
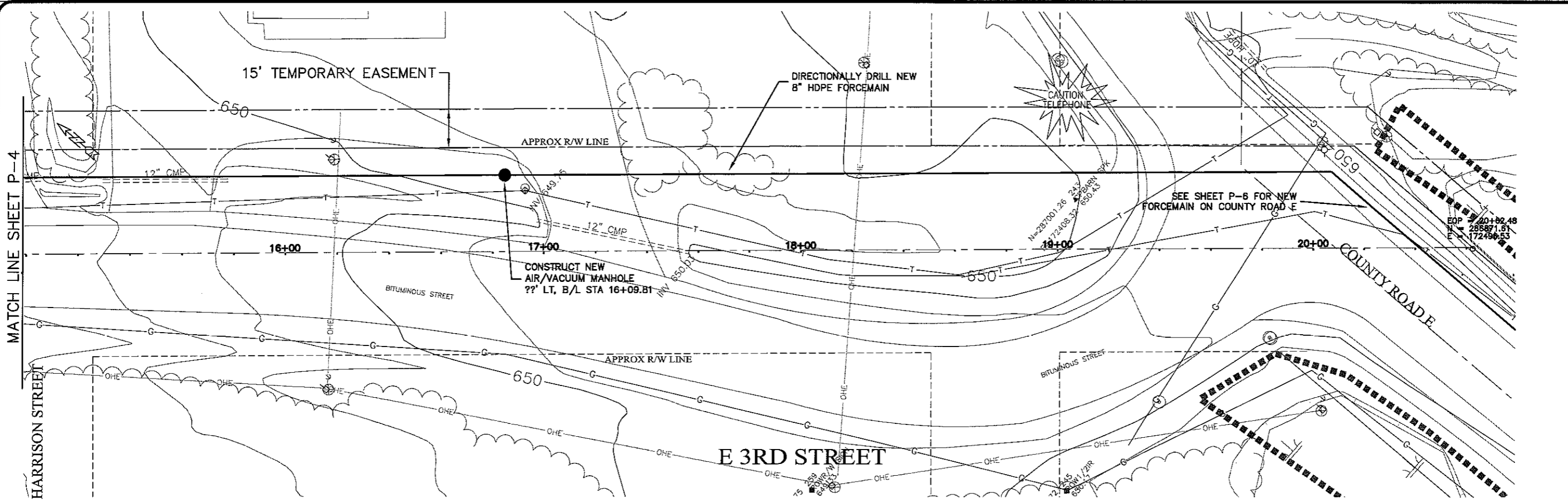
layout name: Layout1



Plot Date: Oct 2009 12:56pm  
 File Path: K:\design\RCp03002.dwg

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 • 1-800-777-7130 • Fax: 218-722-6548  
**MSA**  
 PROFESSIONAL ENGINEERS

PROJECT NO.: 028000  
 SHEET NO.: P-4  
 SHEET TITLE: SEWER PLAN PROFILE  
 PROJECT: PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN  
 DATE: Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS



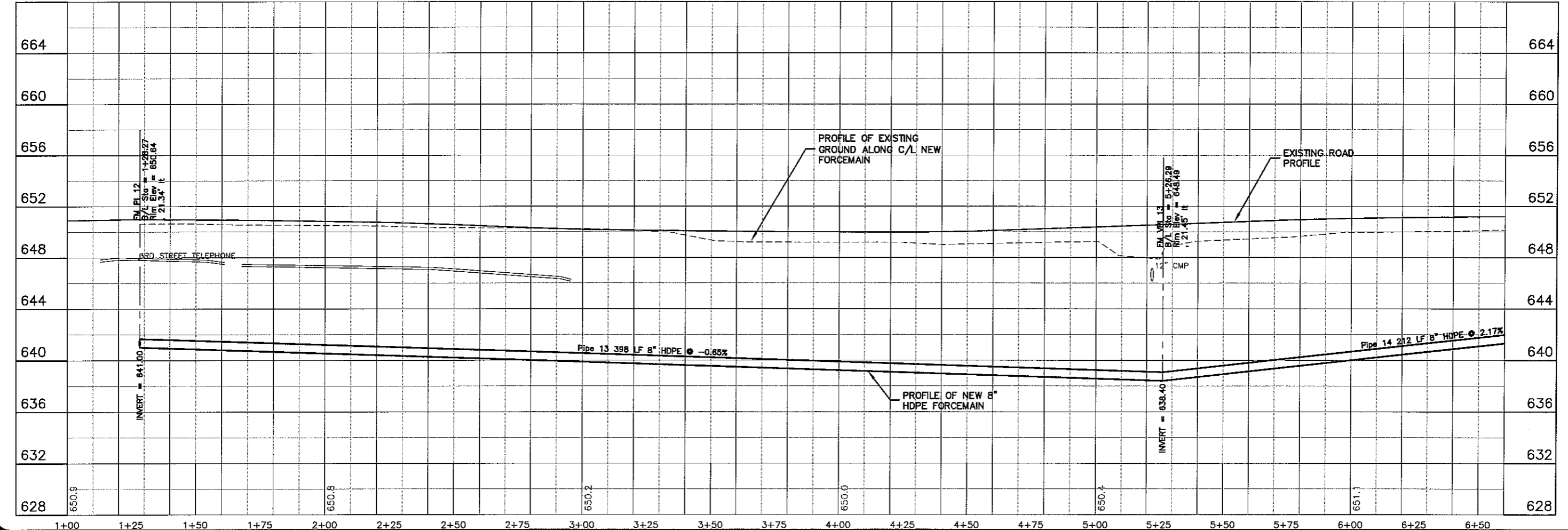
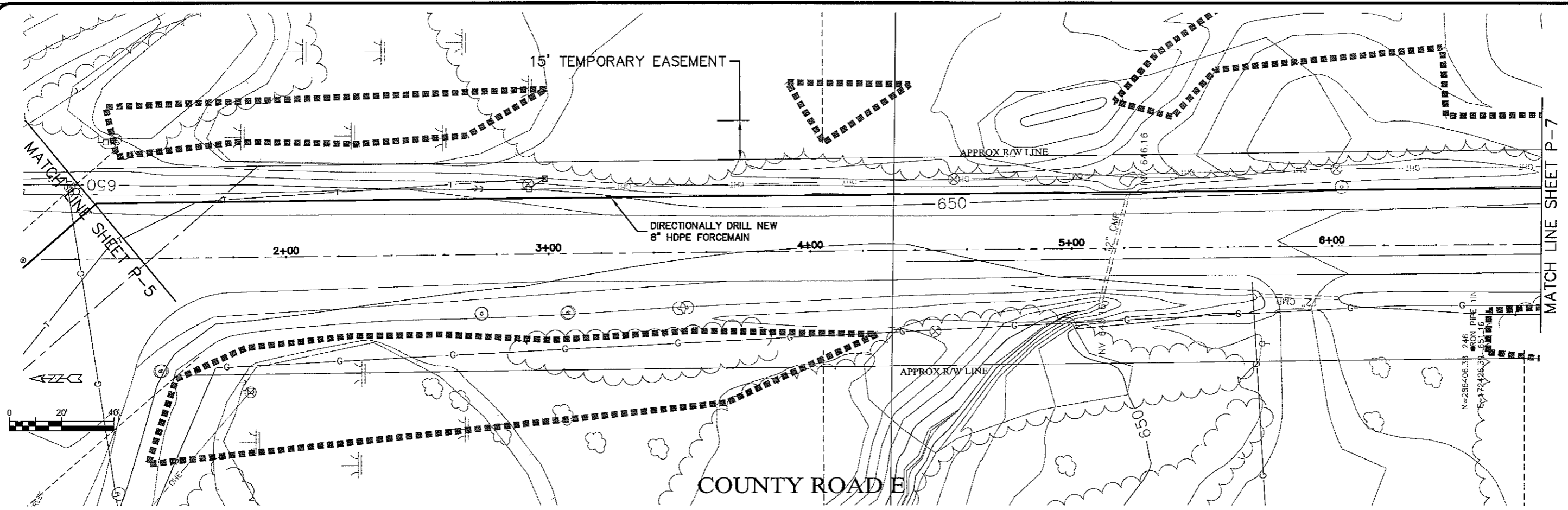
LAYOUT NAME: Layout1

PLOT DATE: 08 Oct 2009 Plot Name: 107.rvt  
FILE PATH: K:\design\RCp04002.dwg

TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-3315 • 1-800-777-7580 Fax: 218-722-5456  
**MSA**  
PROFESSIONAL SERVICE

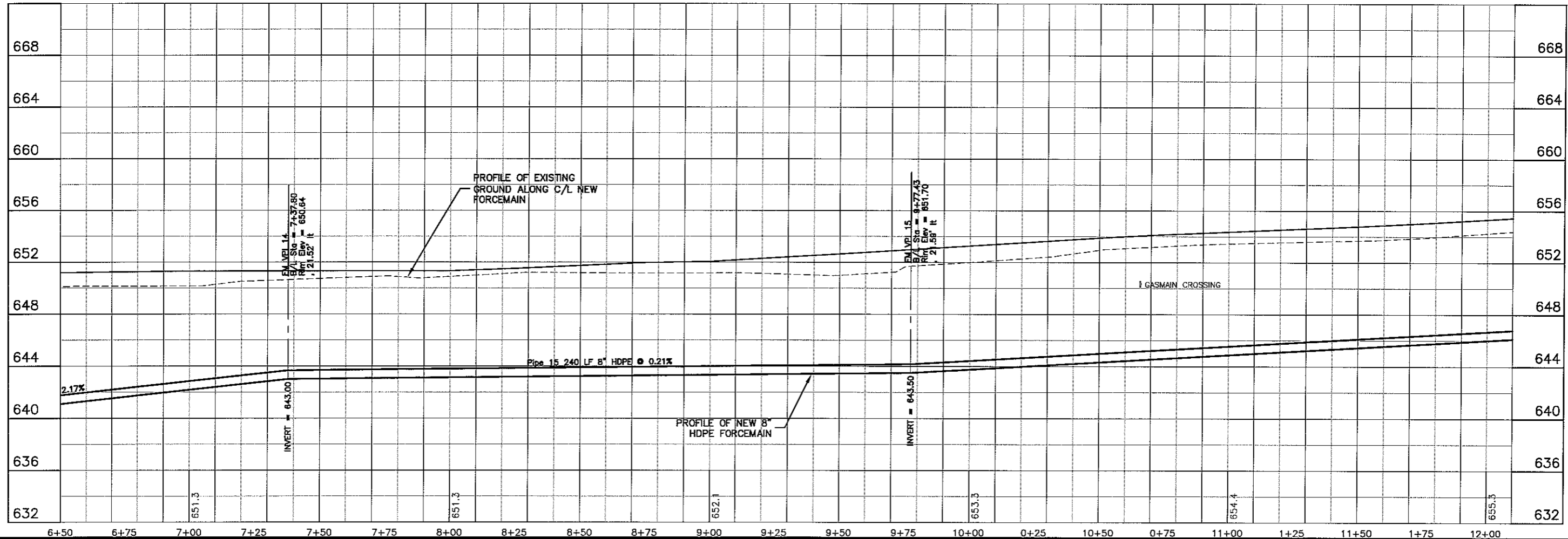
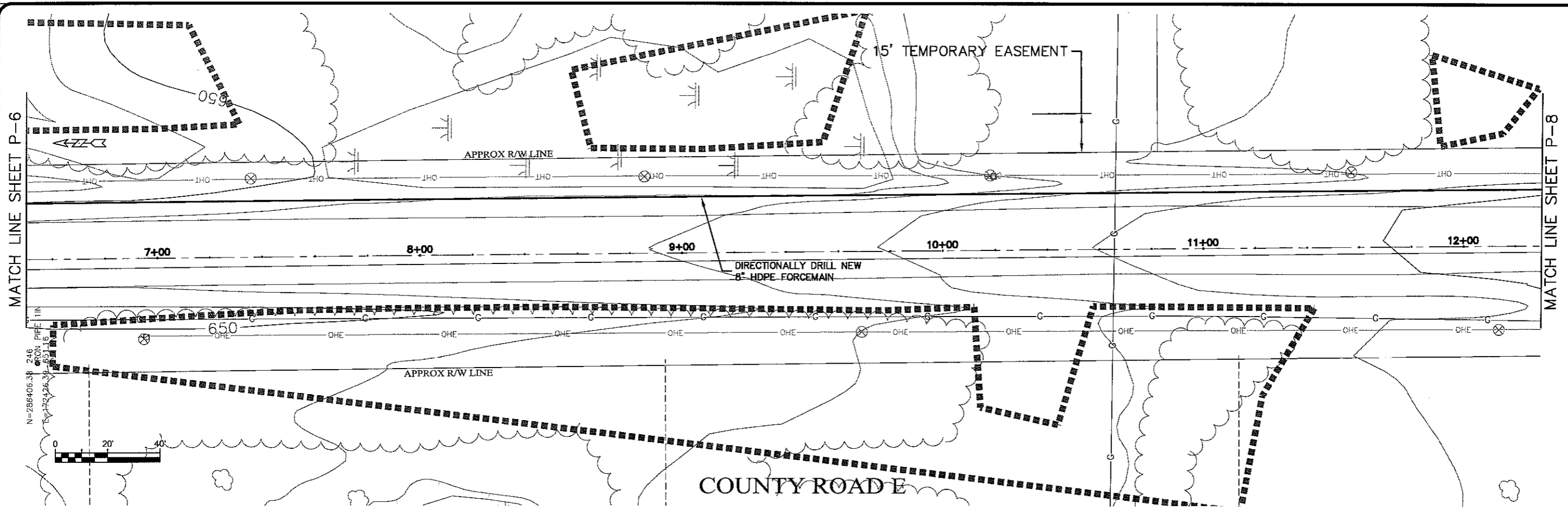
PROJECT NO.	626000
DATE	Oct 2009
FILE NO.	626-001
DRAWN BY:	RWM
CHECKED BY:	CWS
PROJECT NAME:	SEWER PLAN-PROFILE
DISTRICT:	PARKLAND SANITARY DISTRICT NO. 1
COUNTY:	WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN
SHEET NO.	P-5

LAYOUT NAME: Layout11



PLT DATE: 11 Oct 2009 12:00pm  
 USER: K:\design\RCp32003.dwg

PROJECT NO.	626000
DATE	11 Oct 2009
SCALE	AS SHOWN
DESIGNED BY	RWM
CHECKED BY	CWS
PROJECT TITLE	SEWER PLAN-PROFILE PARKLAND SANITARY DISTRICT NO. 1 WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN
FILE NO.	626-001
SHEET	P-6

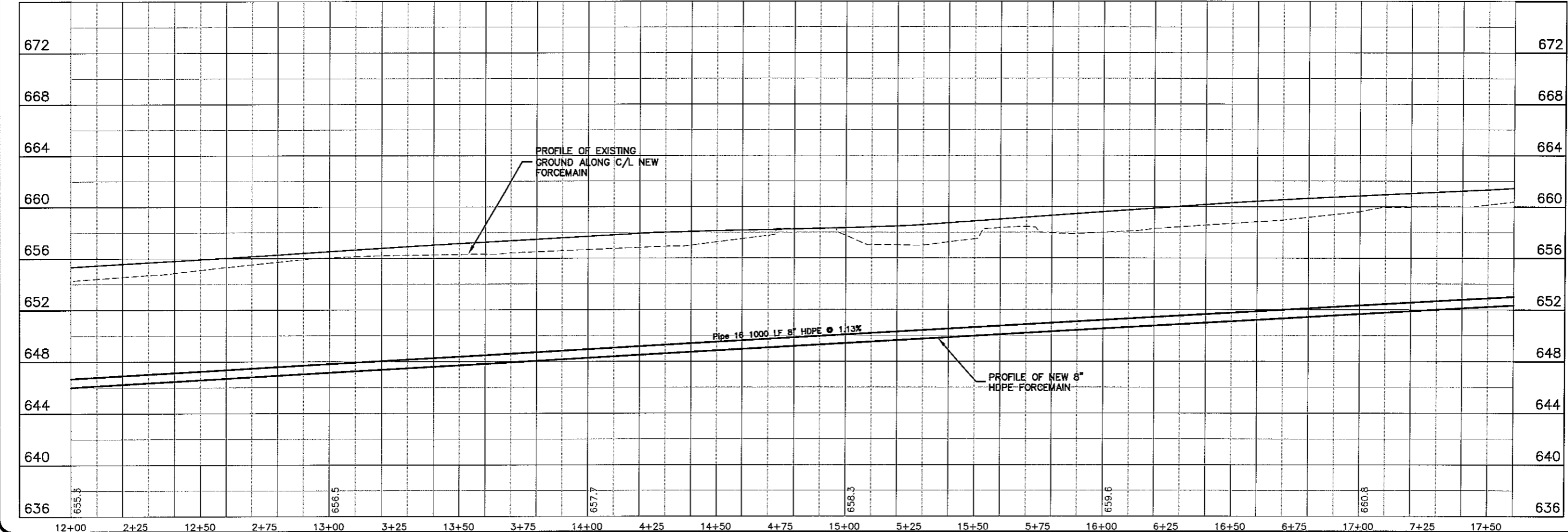
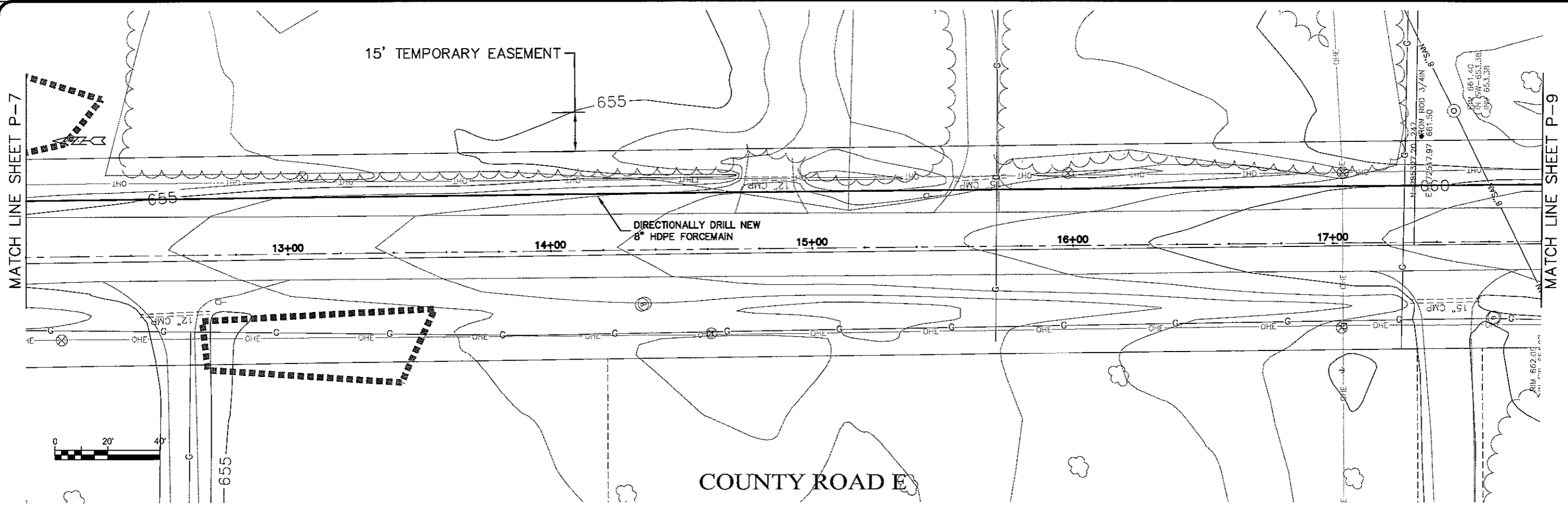


**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-2380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO: 626000  
 DATE: 12 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CMS  
 SHEET: P-7  
 PROJECT: SEWER PLAN-PROFILE  
 TITLE: PARKLAND SANITARY DISTRICT NO. 1 WASTEWATER COLLECTION SYSTEM  
 LOCATION: PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN



LAYOUT NAME: Layout1



PLOT DATE: 12 Oct 2009 10:01 AM  
 FILENAME: K:\design\RCp34003.dwg

**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street Duluth, MN 55802  
 218-723-9115 FAX: 218-727-7300 POC: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

---

**SEWER PLAN-PROFILE**  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP DOUGLAS COUNTY WISCONSIN

---

PROJECT NO: 828000  
 PLOT DATE: 12 Oct 2009  
 SCALE: AS SHOWN

---

DRAWN BY: RWM  
 CHECKED BY: CWS

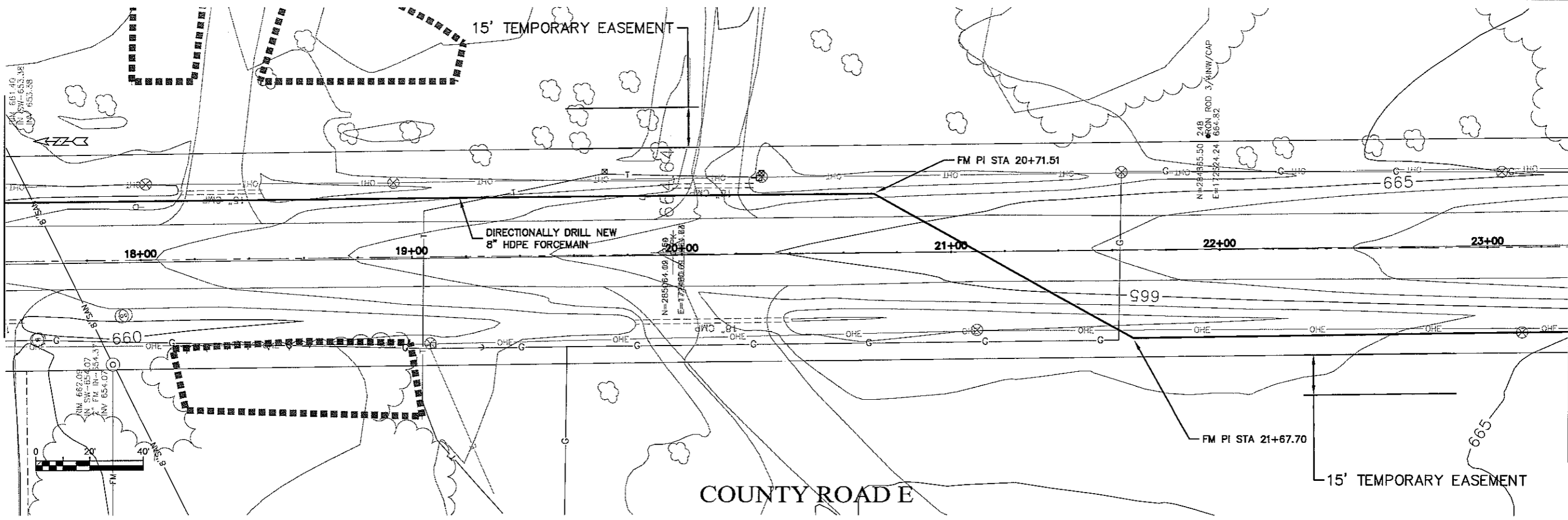
---

SHEET NO: 626-001  
 OF: 8

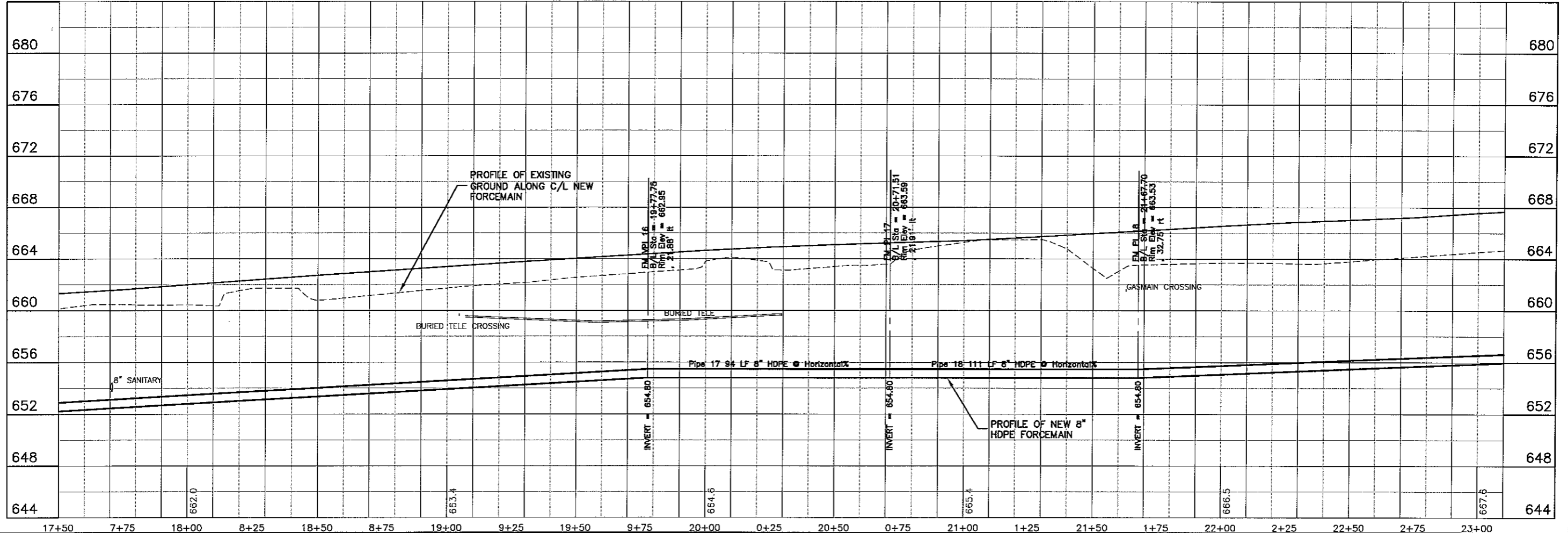
LAYOUT NAME: Layout11

MATCH LINE SHEET P-8

MATCH LINE SHEET P-10



PLAN DATE: 12 Oct 2009 8:09am  
 FILENAME: K:\Design\RCp35003.dwg

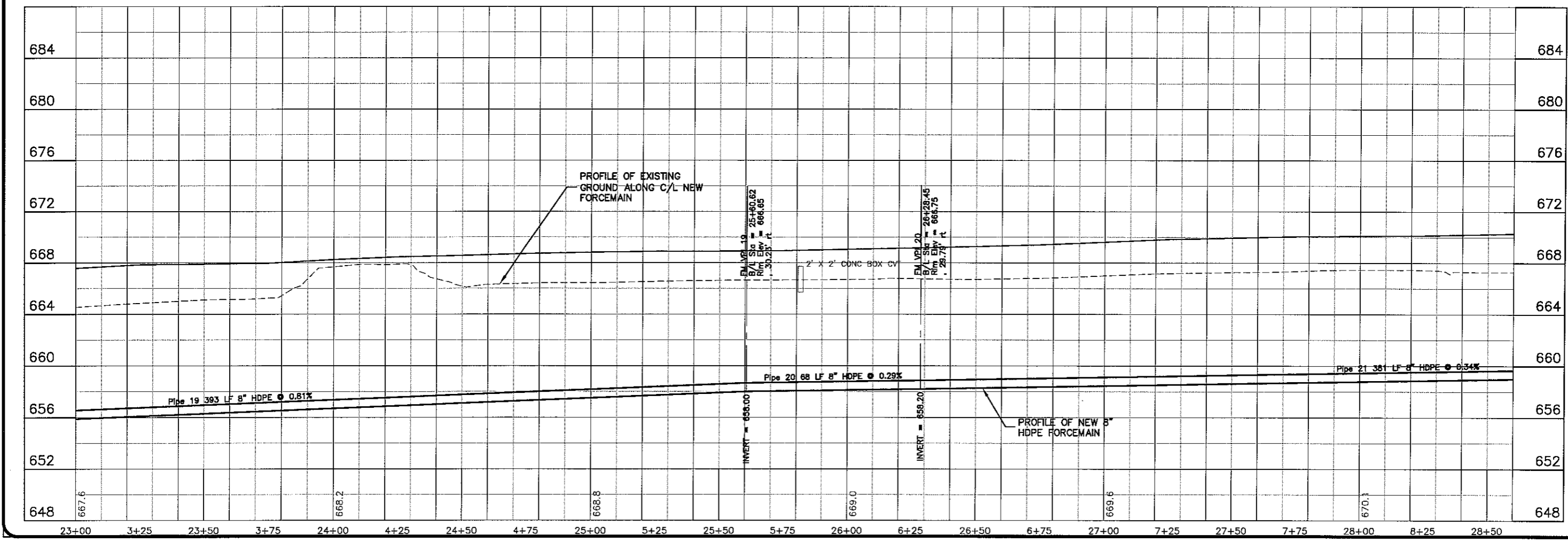
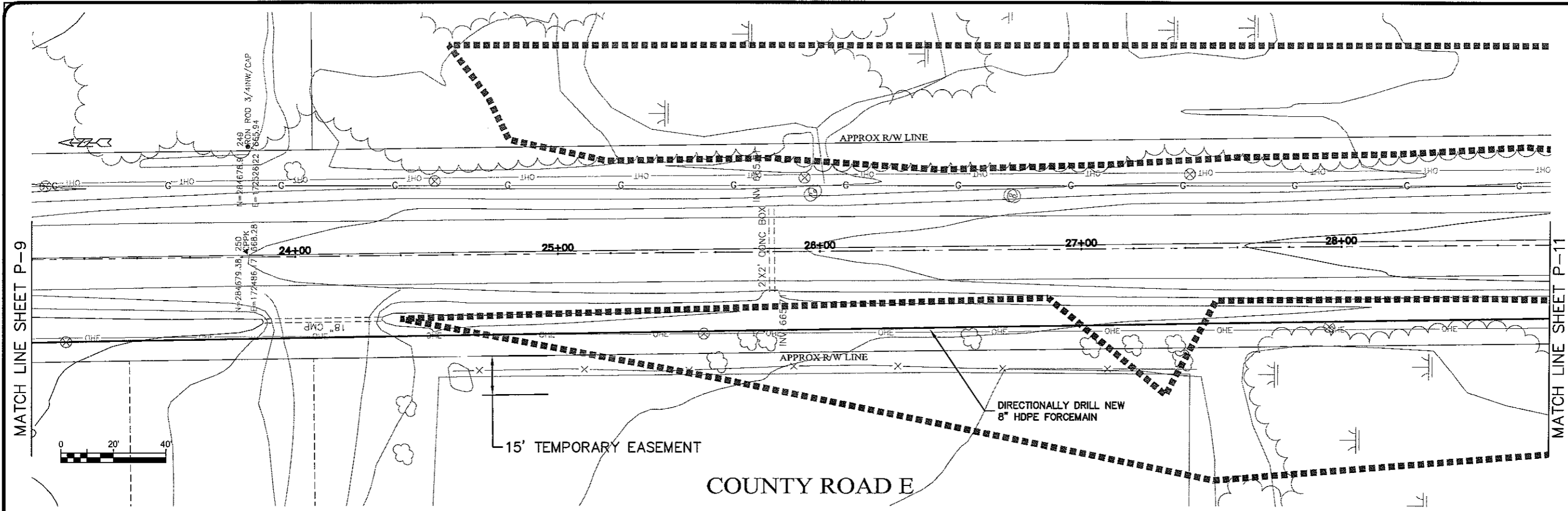


**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 • 1-800-777-3360 • Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

---

PROJECT NO: 626000  
 SHEET: P-9

sheet map P-10



Plot Date: 12 Oct 2009 Plot Size: 8.12cm  
 File Path: K:\Design\RC\36003.dwg

TRANSPORTATION - MUNICIPAL  
 DEVELOPMENT - ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-9915 1-800-777-5360 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

---

PROJECT NO: B26000  
 SHEET: 626-001  
 DATE: 12 Oct 2009  
 SCALE: AS SHOWN  
 DRAWN BY: RWM  
 CHECKED BY: CMS

---

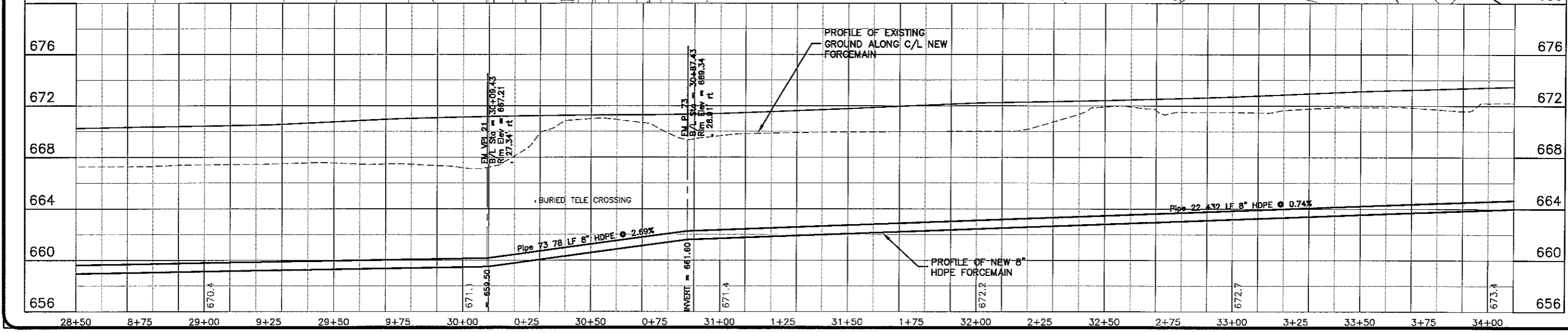
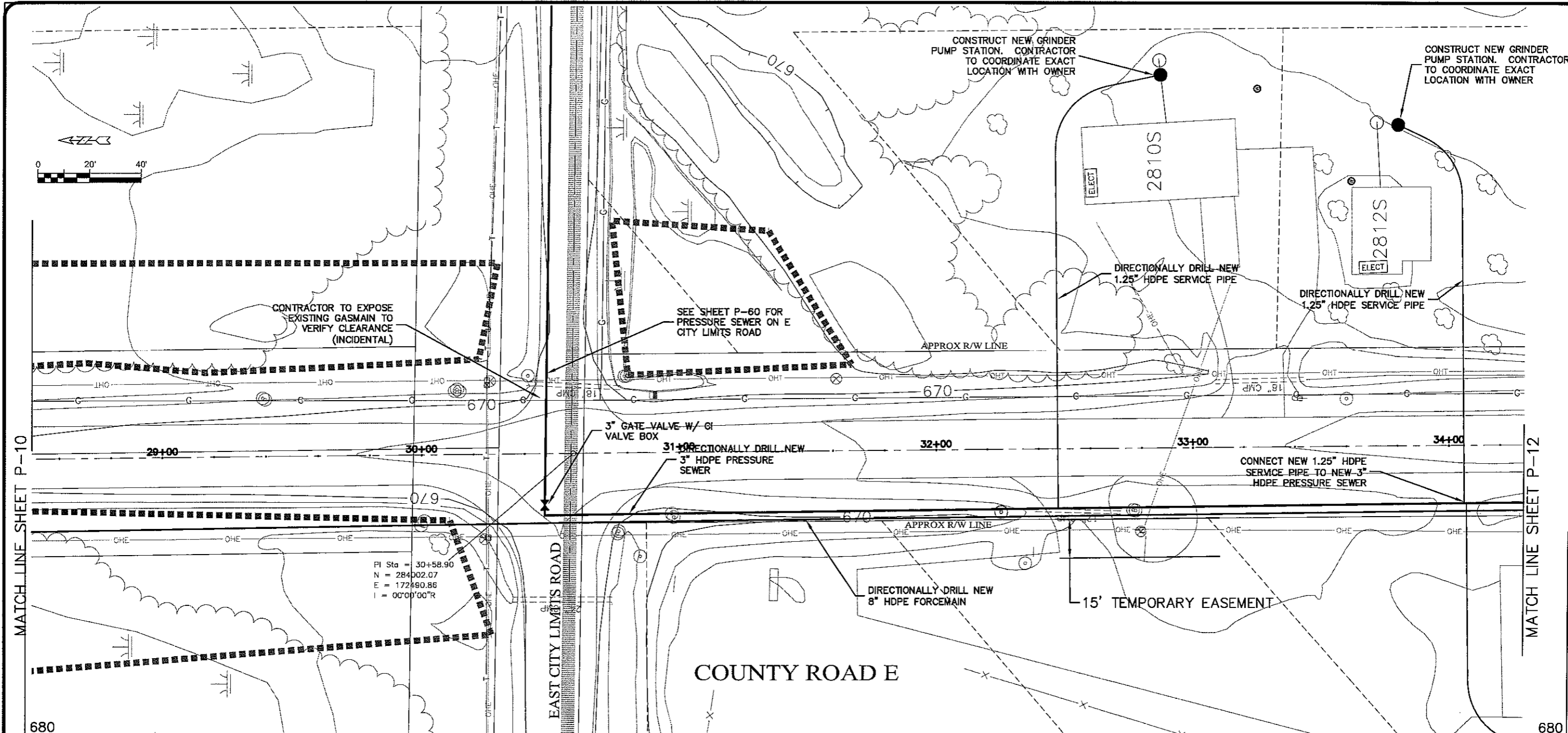
SEWER PLAN - PROFILE  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

---

FILE NO: 626-001  
 SHEET: P-10

CUT WARE P-11

PLT DATE: 12 Oct 2009 10:07:58 AM  
RUPATH: K:\Design\RCp37003.dwg



MATCH LINE SHEET P-10

MATCH LINE SHEET P-12

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-3915 1-800-777-5380 Fax: 218-722-4548  
MSA PROFESSIONAL SERVICES

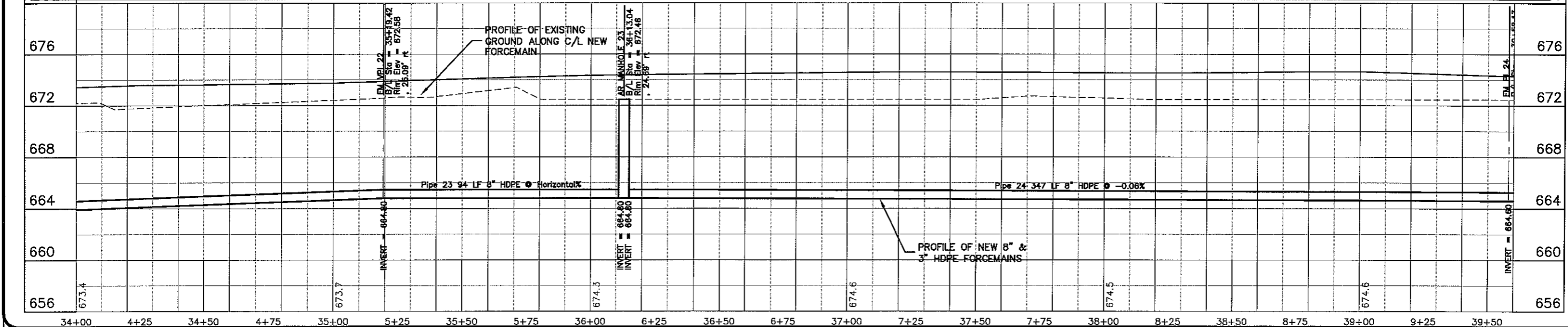
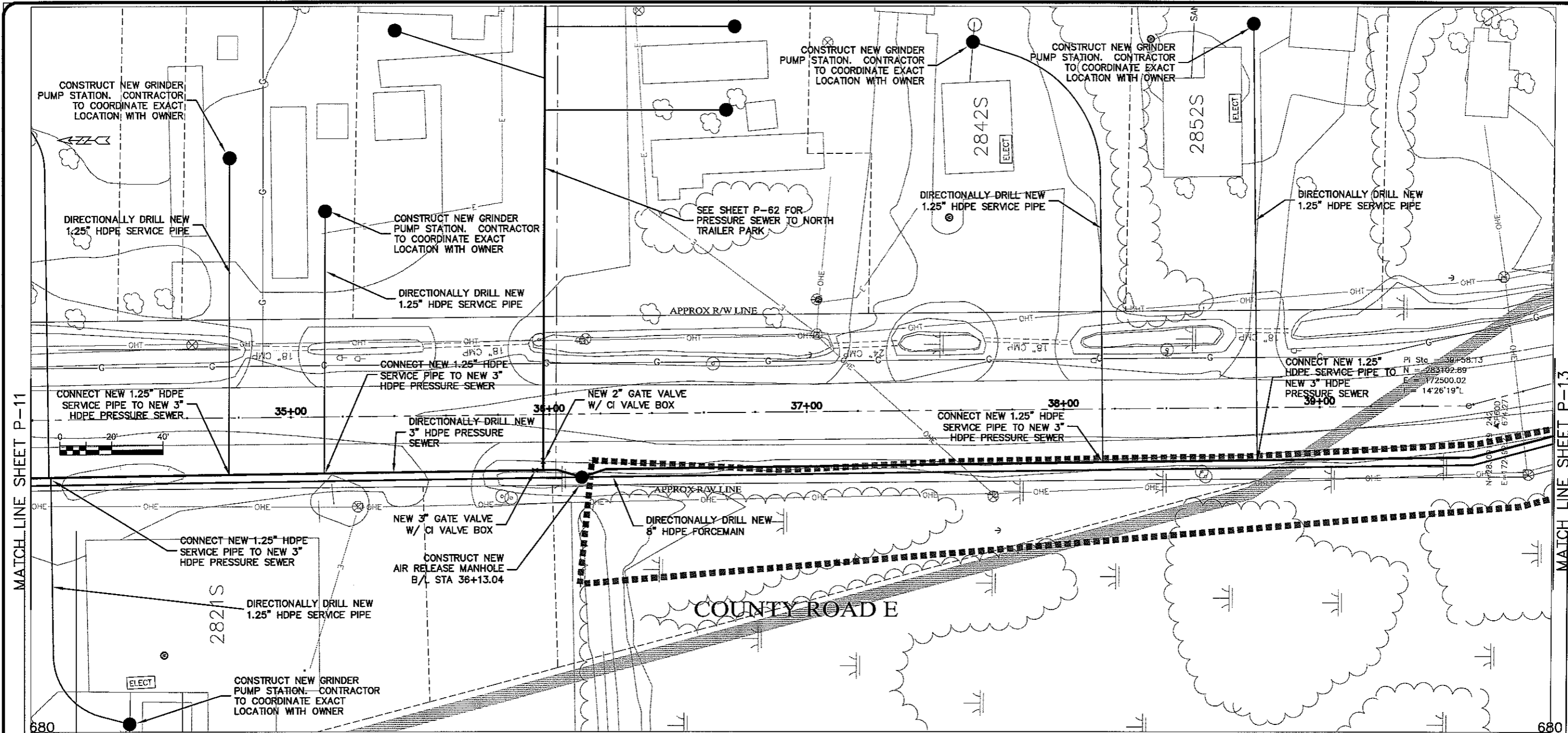
PROJECT NO: 626000  
DATE: 12 Oct 2009  
SCALE: AS SHOWN

SEWER PLAN-PROFILE  
PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

PRELIMINARY SHEET NO: 626-001  
SHEET P-11

LAYOUT NAME: P-12

PLT DATE: 12 Oct 2009 PLT TIME: 10:28am  
FILEPATH: K:\Design\RCp\36003.dwg



MATCH LINE SHEET P-11

MATCH LINE SHEET P-13

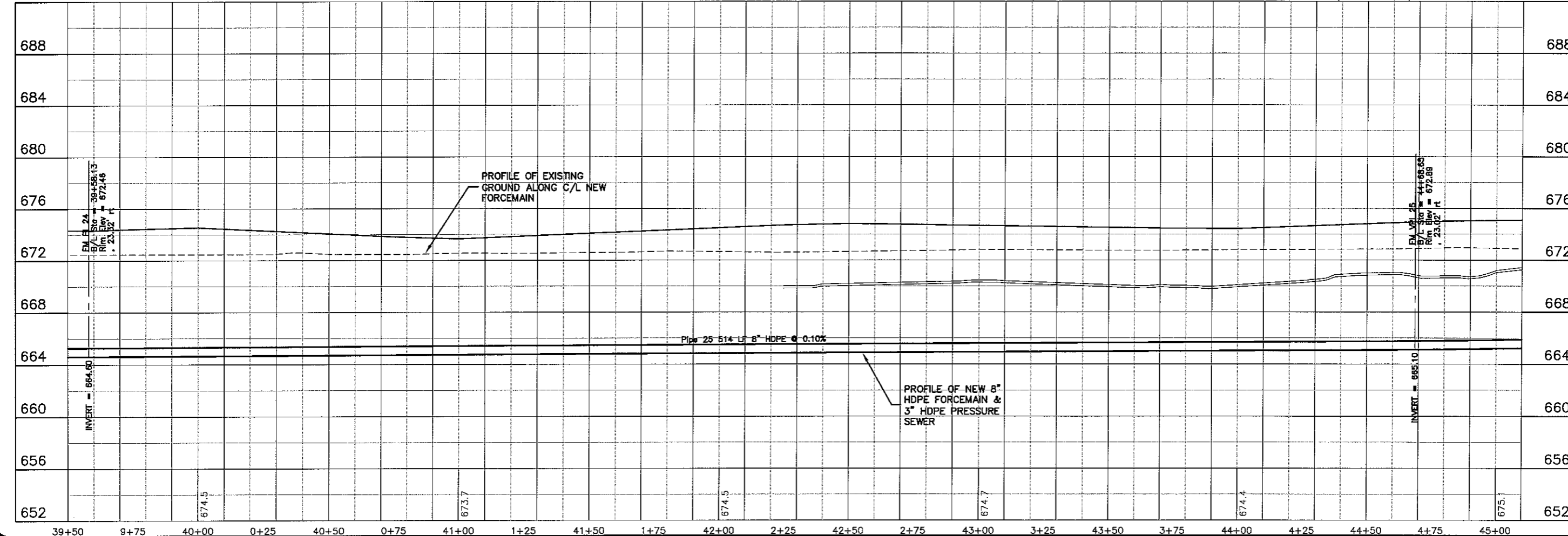
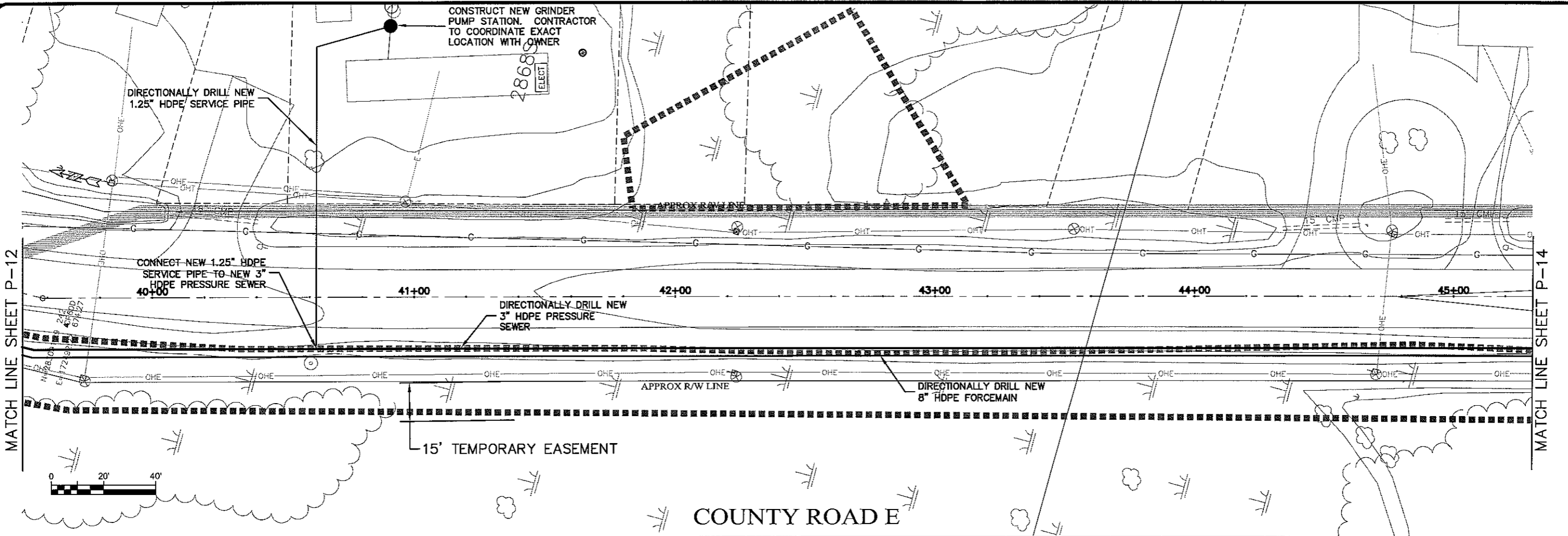
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street Duluth, MN 55802  
218-722-3915 • 800-777-7386 Fax: 218-722-4548  
© MSA PROFESSIONAL SERVICES

**MSA**  
PROFESSIONAL SERVICES

PROJECT NO. 626000	DATE
REVISED	
DATE	
NO.	
BY	
PROJECT NO. 626000	DATE: 12 Oct 2009
DESIGNED BY: RWM	CHECKED BY: CWS
SEWER PLAN-PROFILE	
PARKLAND SANITARY DISTRICT NO. 1	
WASTEWATER COLLECTION SYSTEM	
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN	
FILE NO. 626-001	
SHEET P-12	

WORK NAME: LAYOUT1

PLT DATE: 12 Oct 2009 10:27:29am  
PUPATH: K:\design\RC\39003.dwg



TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-9115 1-800-777-5460 Fax: 218-722-4548  
MSA PROFESSIONAL SERVICES

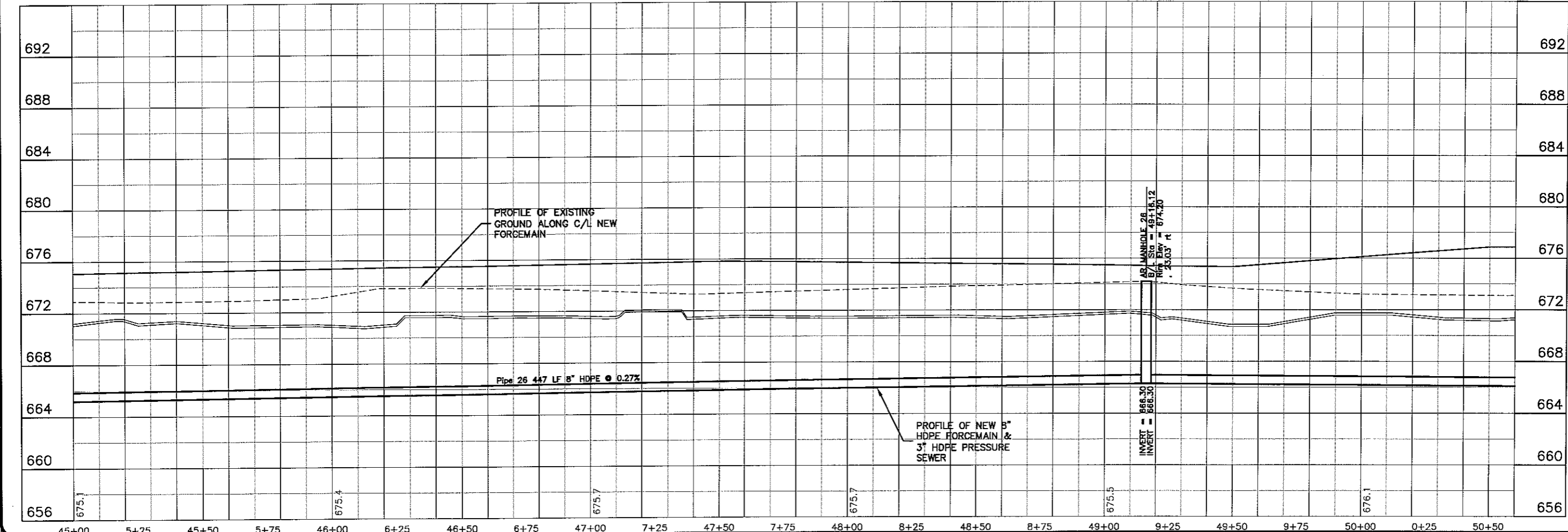
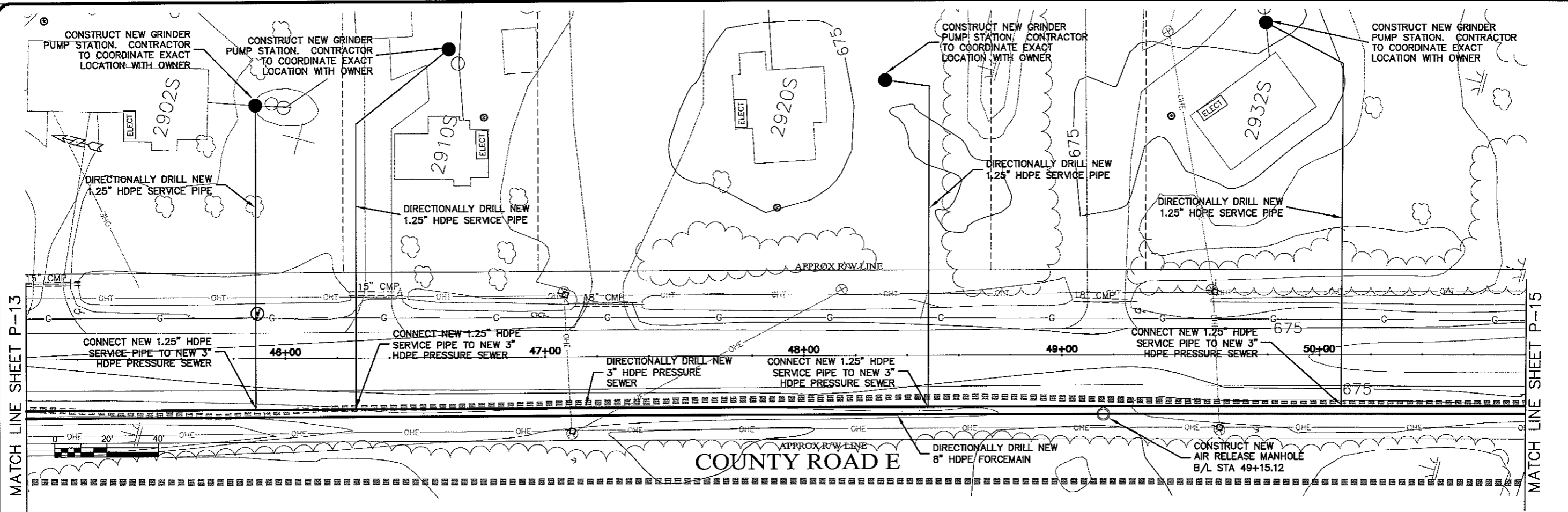
PROJECT NO: 626000  
DATE: 12 Oct 2008  
SCALE: AS SHOWN

SEWER PLAN-PROFILE  
PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

PREP: 626-001  
SHEET: P-13

LAYOUT NAME: P-14

DATE: 12 Oct 2009 10:53:30am  
 DRAWN: K:\Design\RCp\40003.dwg



MATCH LINE SHEET P-13

MATCH LINE SHEET P-15

**MSA**  
 PROFESSIONAL SERVICES

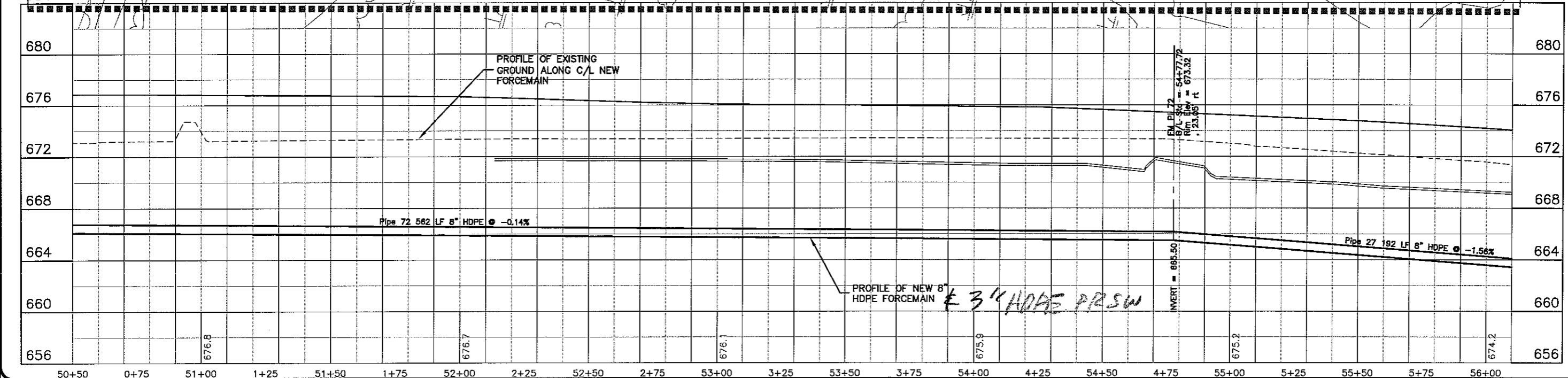
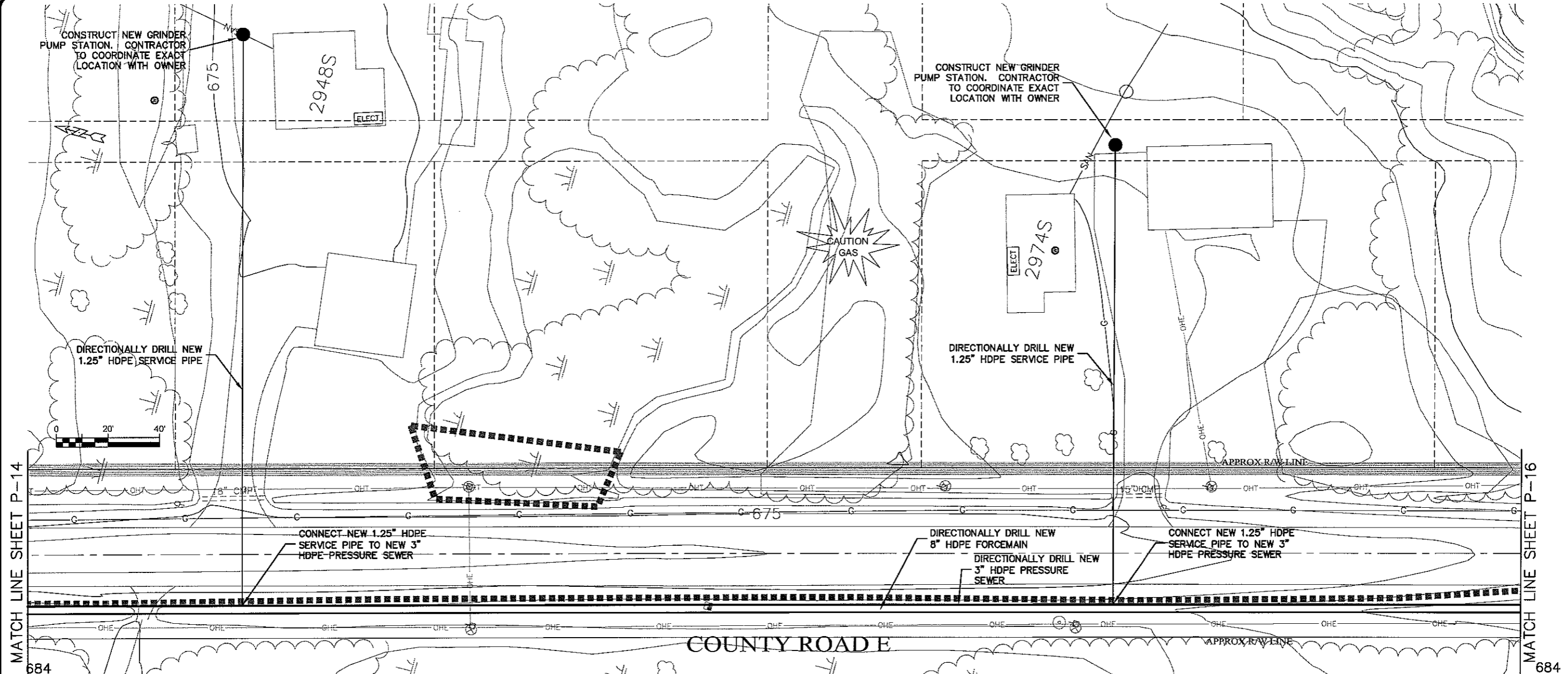
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West Third Street, Duluth, MN 55802  
 218-722-9115 • 6480-777-0360 Fax: 218-722-4448  
 © MSA Professional Services

PROJECT NO: 626000	DATE:
PROJ DATE: 12 Oct 2009	SCALE: AS SHOWN
DESIGNED BY: CHS	CHECKED BY: CHS
DRAWN BY: RWM	DATE:
REVISION:	DATE:

**SEWER PLAN-PROFILE**

**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO: 626-001  
 SHEET: P-14



MATCH LINE SHEET P-14

MATCH LINE SHEET P-16

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55812  
218-723-9113 • 1-800-777-7330 • Fax: 218-722-4546  
© 2004 Professional Services

**MSA**  
PROFESSIONAL SERVICES

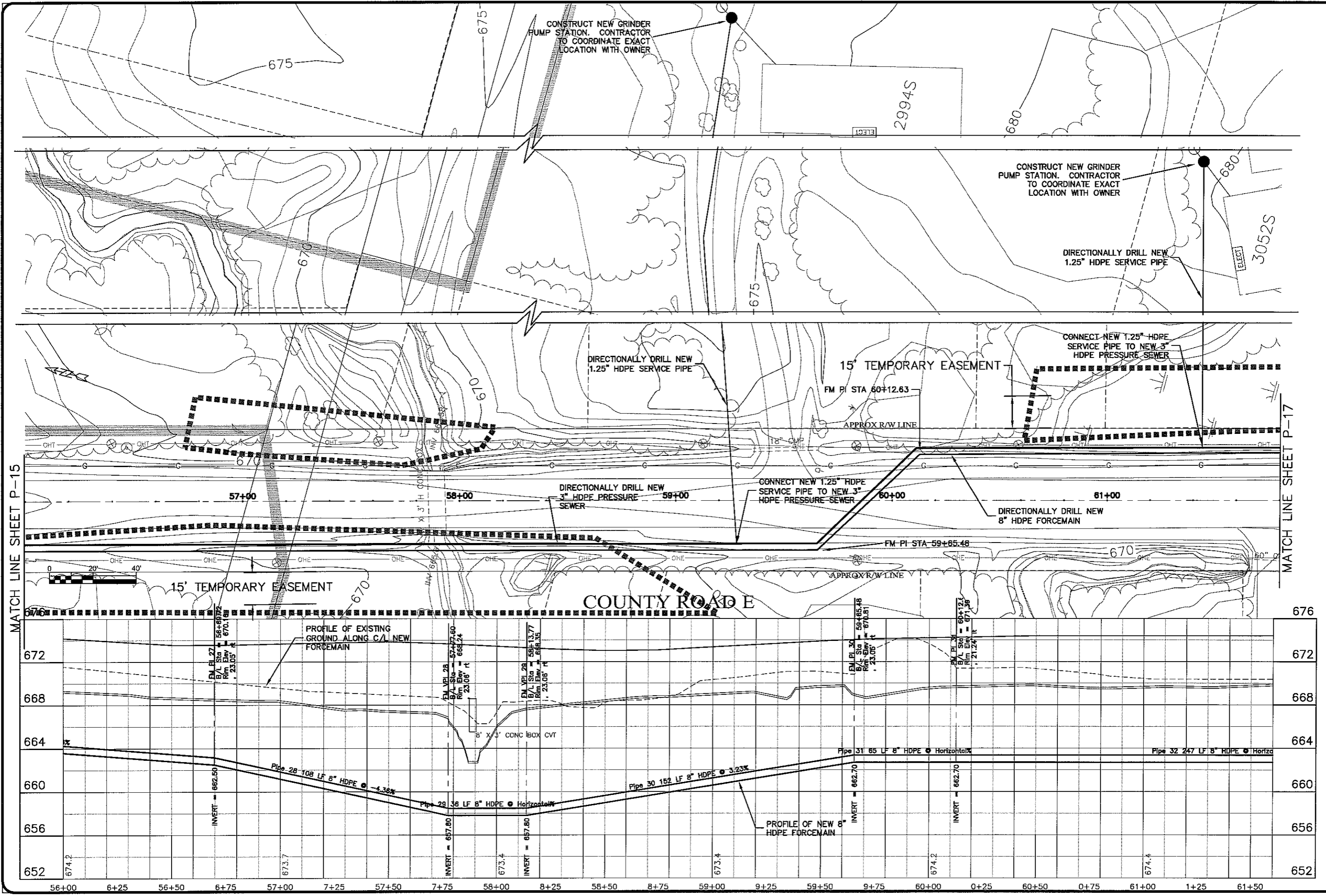
NO.	DATE	REVISION

PROJECT NO: 626000  
 PLOT DATE: 12 Oct 2009  
 SCALE: AS SHOWN

SEWER PLAN-PROFILE  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE # 626-001  
 SHEET P-15

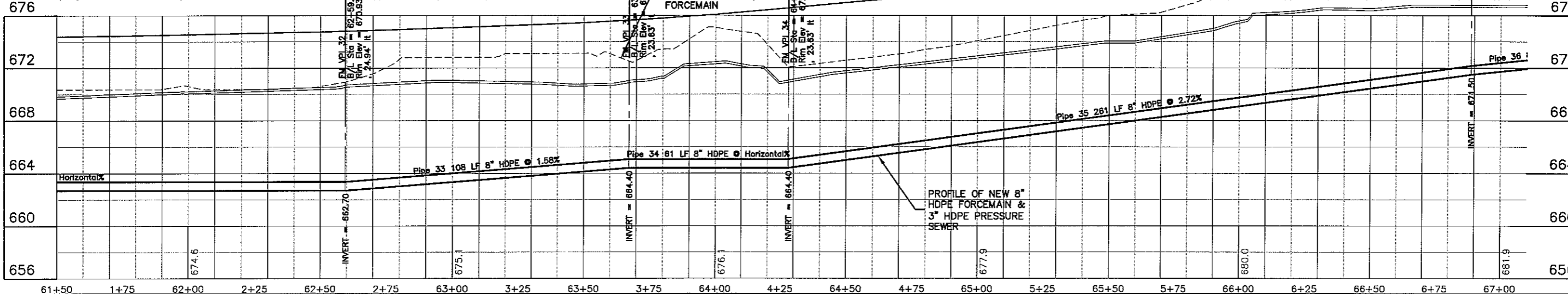
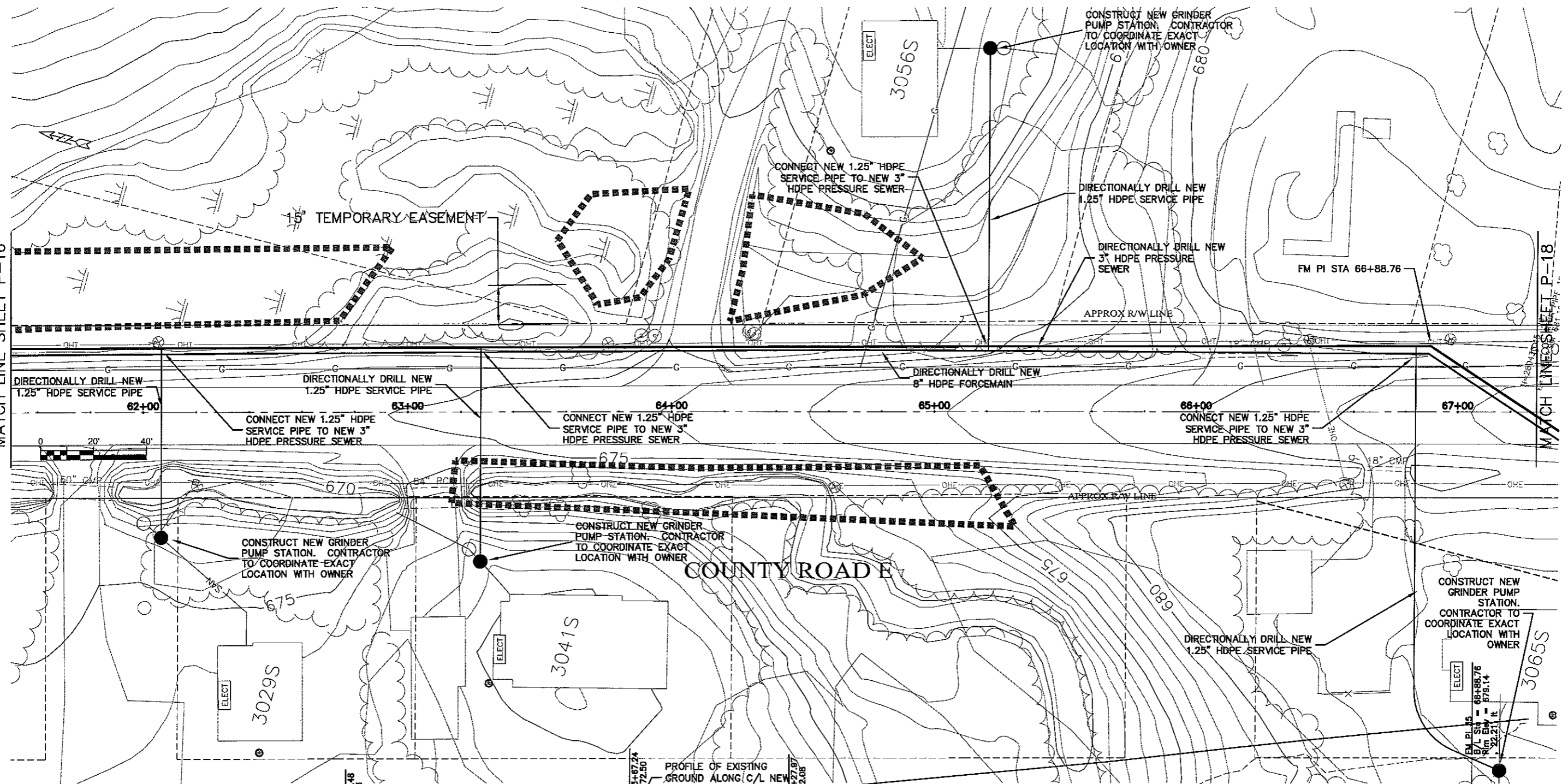


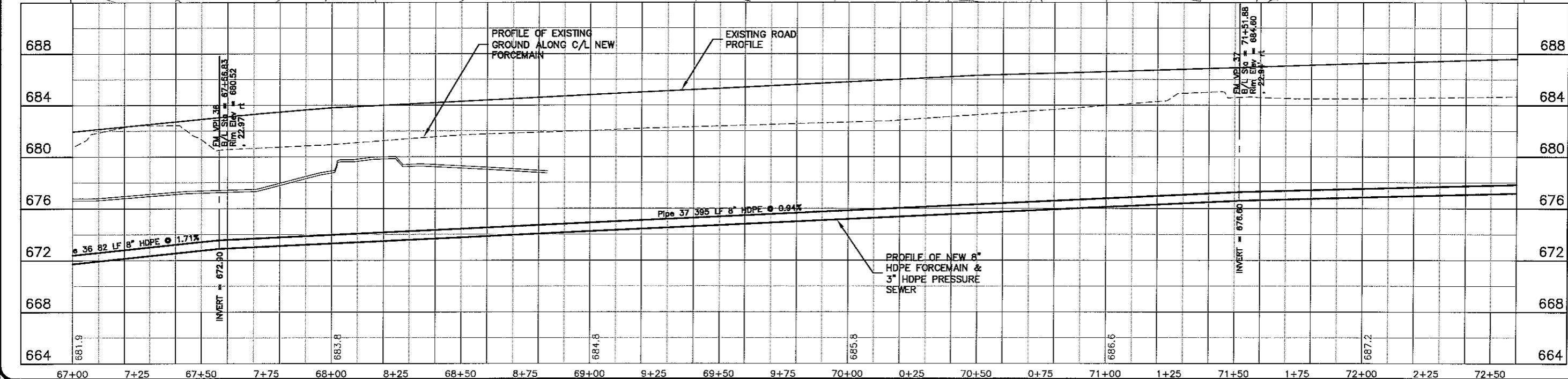
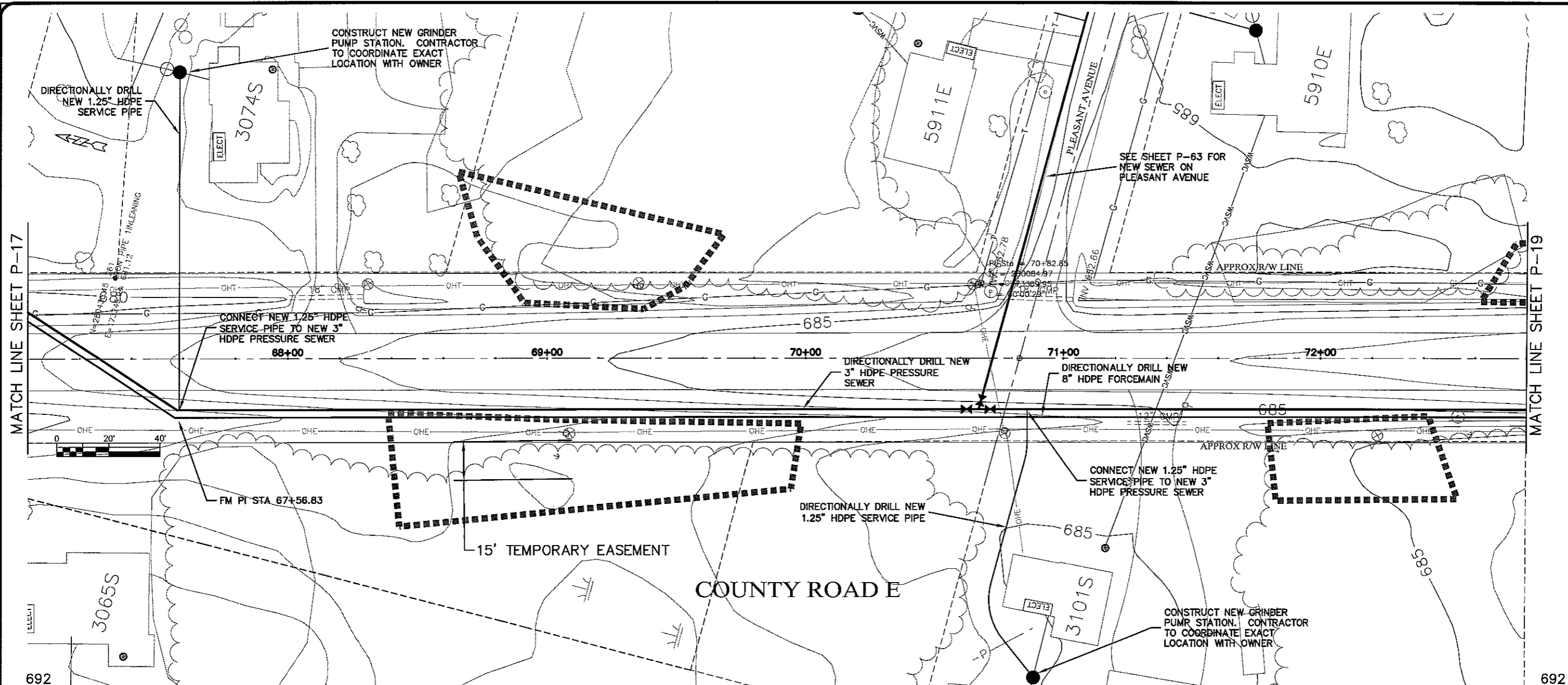


MATCH LINE SHEET P-15

MATCH LINE SHEET P-17

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL	
301 West First Street, Duluth, MN 55802 218-722-9915 • 1-800-777-3380 Fax: 218-722-4548 © USA PROFESSIONAL SERVICES	
<b>MSA</b> PROFESSIONAL SERVICES	
PROJECT NO. 626000	DATE 12 Oct 2009
SCALE AS SHOWN	DESIGNED BY: CWS
PROJECT: SEWER PLAN-PROFILE	DRAWN BY: RWM
PROJECT: PARKLAND SANITARY DISTRICT NO. 1 WASTEWATER COLLECTION SYSTEM	CHECKED BY: CWS
PROJECT: PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN	
FILE NO. 626-001	
SHEET P-16	





MATCH LINE SHEET P-17

MATCH LINE SHEET P-19

**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street, Duluth, MN 55802  
 218-723-9115 • FAX: 218-727-7330 • FAX: 218-727-4548  
**MSA**  
 PROFESSIONAL SERVICES

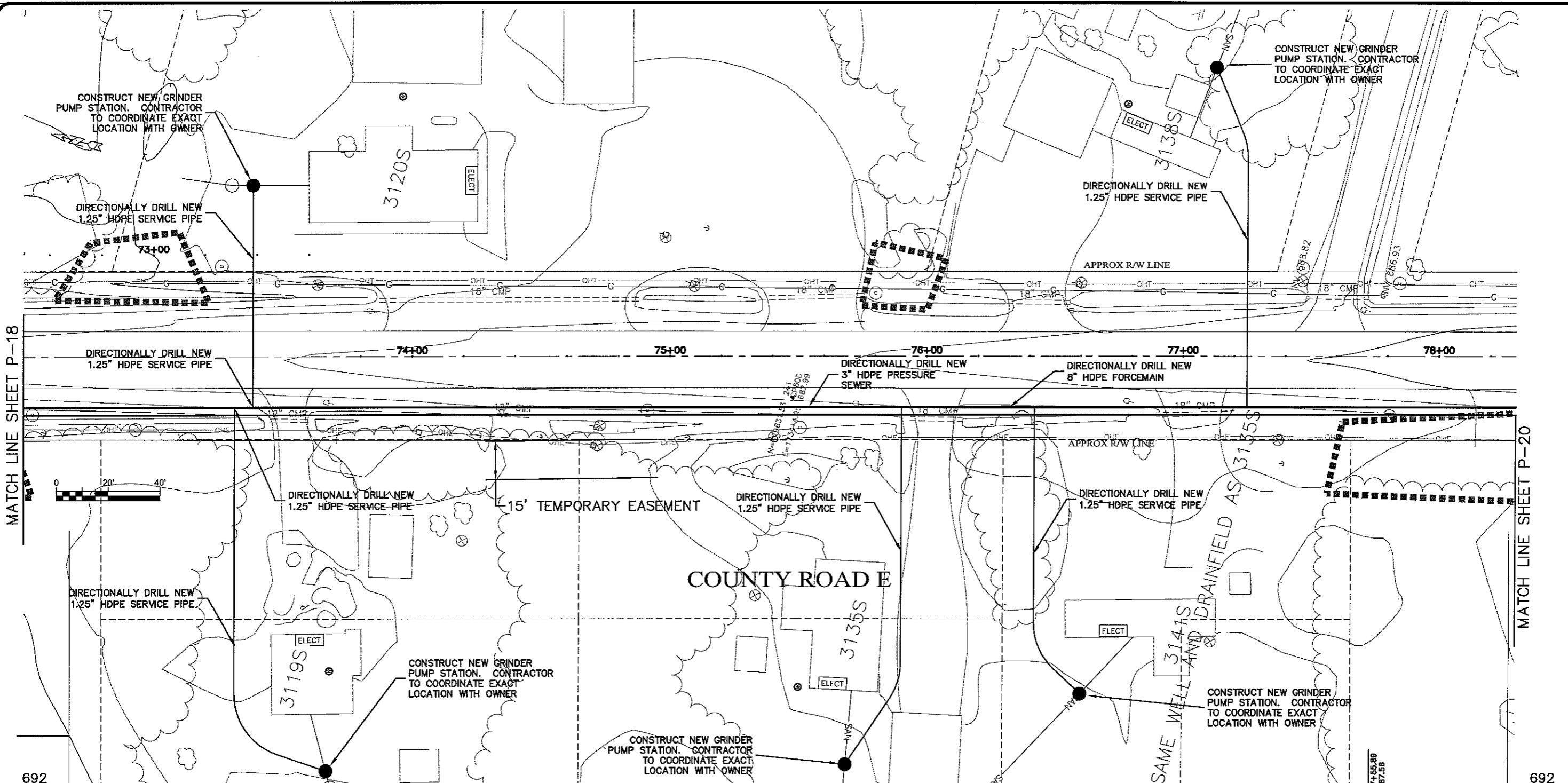
PROJECT NO. 626000  
 FILE NO. 626-001  
 SHEET P-18

DATE: \_\_\_\_\_  
 NO. \_\_\_\_\_  
 DRAWN BY: RWH  
 CHECKED BY: CWS

SEWER PLAN - PROFILE  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

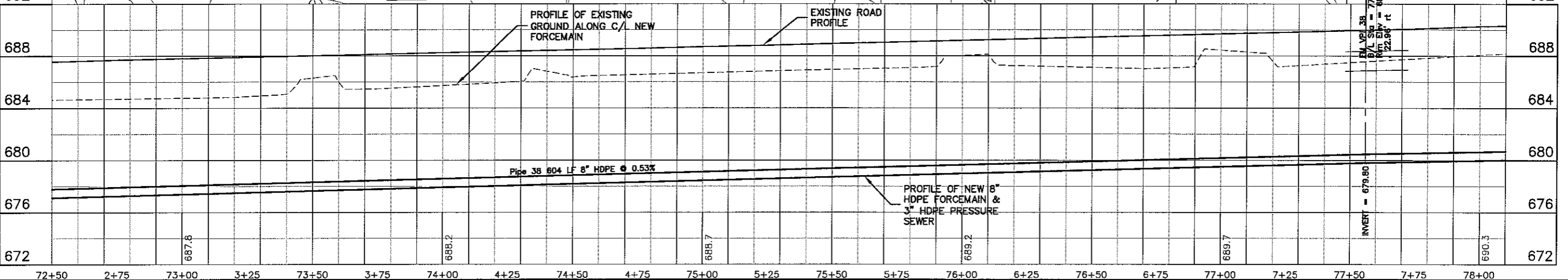
SCALE: AS SHOWN  
 PLOT DATE: 12 Oct 2009

LAYER NAME: P-19



MATCH LINE SHEET P-18

MATCH LINE SHEET P-20



PLT DATE: 12 Oct 2009 PLT TIME: 10:48am  
FILENAME: K:\design\p\p-19-5003.dwg

72+50 2+75 73+00 3+25 73+50 3+75 74+00 4+25 74+50 4+75 75+00 5+25 75+50 5+75 76+00 6+25 76+50 6+75 77+00 7+25 77+50 7+75 78+00

692 688 684 680 676 672

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street Duluth, MN 55802  
218-722-3915 1-800-777-7380 Fax: 218-722-4548  
MSA PROFESSIONAL SERVICES

---

PROJECT NO. 626000  
DATE: 12 Oct 2009  
SCALE: AS SHOWN

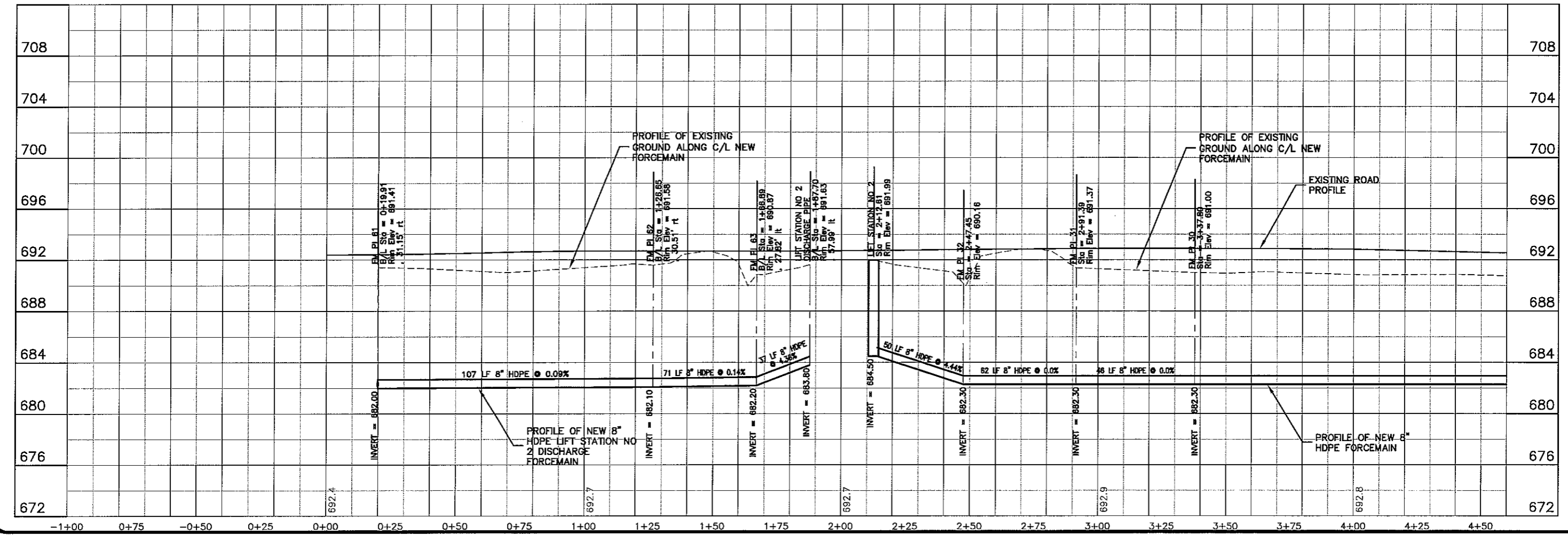
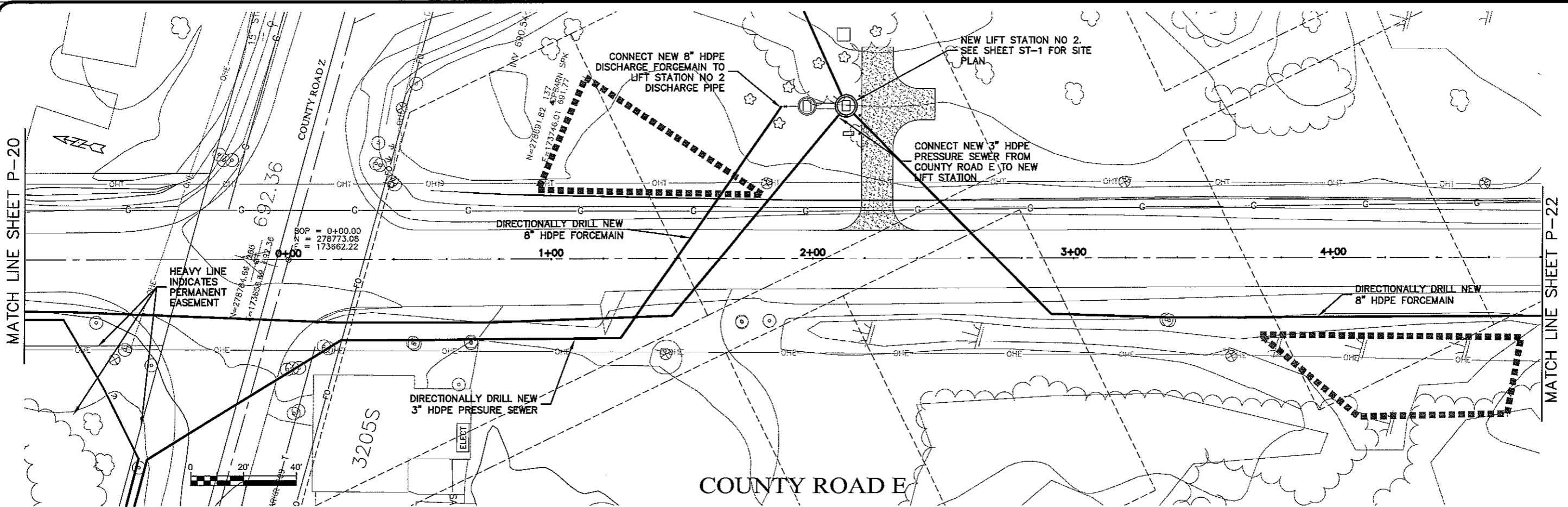
---

SEWER PLAN-PROFILE  
PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

---

FILE NO. 626-001  
SHEET P-19



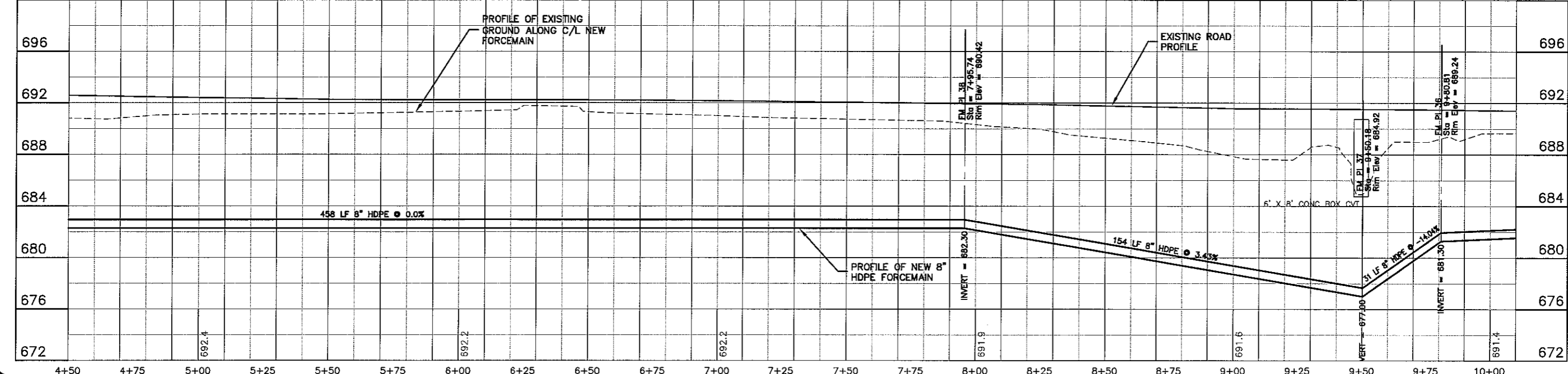
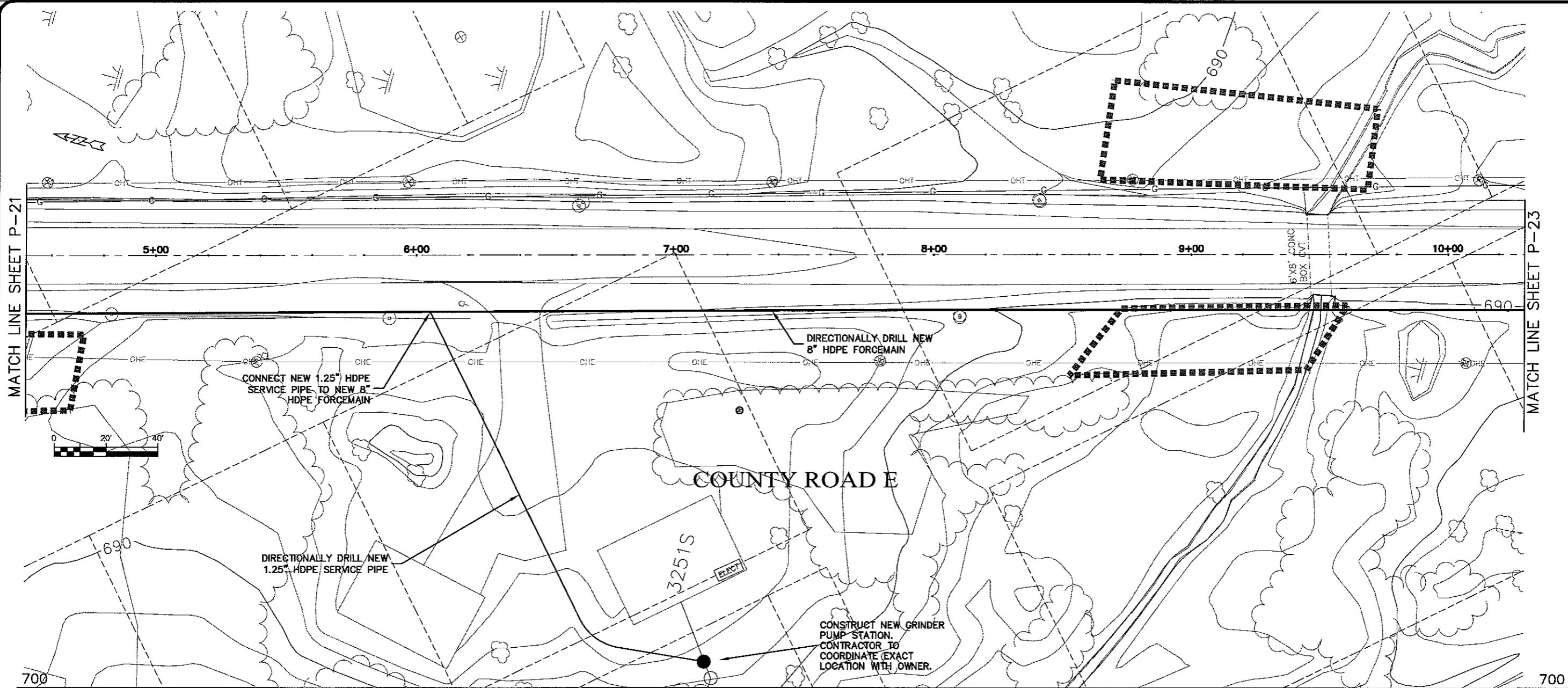


TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 | 402-777-1580 | Fax: 218-722-4348  
 © USA PROFESSIONAL SERVICES

**MSA**  
 PROFESSIONAL SERVICE CENTER

PROJECT NO.: 626000  
 SHEET: P-21  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 DATE: 12 Oct 2009  
 SCALE: AS SHOWN

SEWER PLAN PROFILE  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN



TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-725-3315 • 1-800-777-1380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SURVEYORS

---

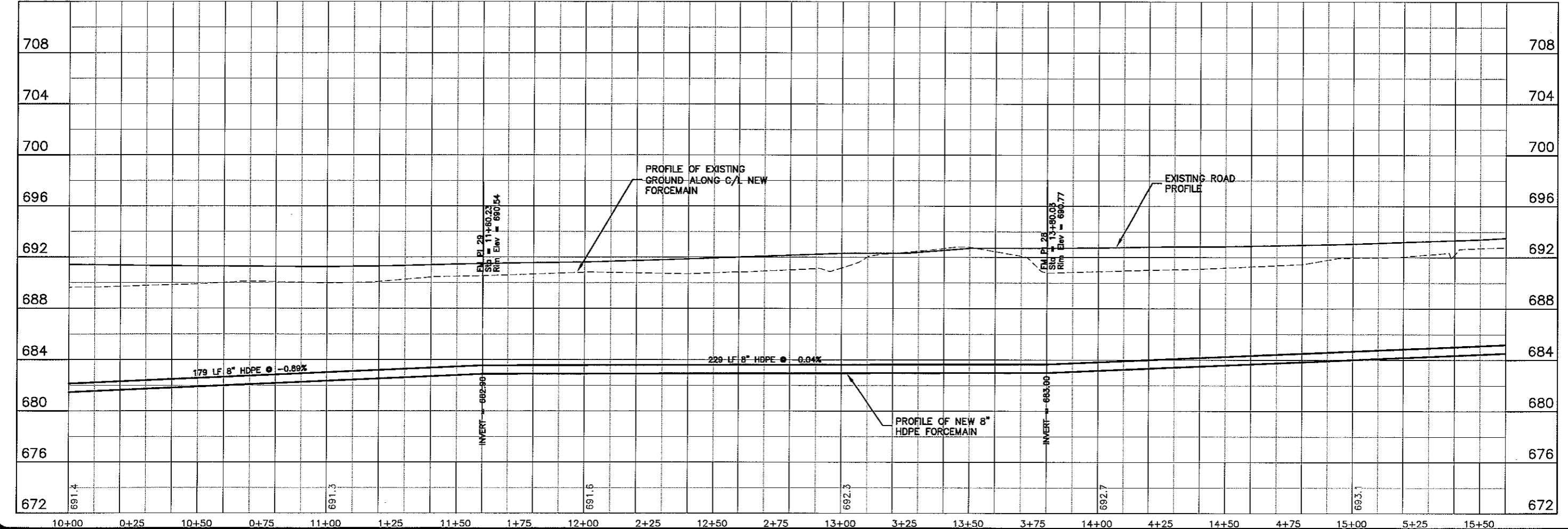
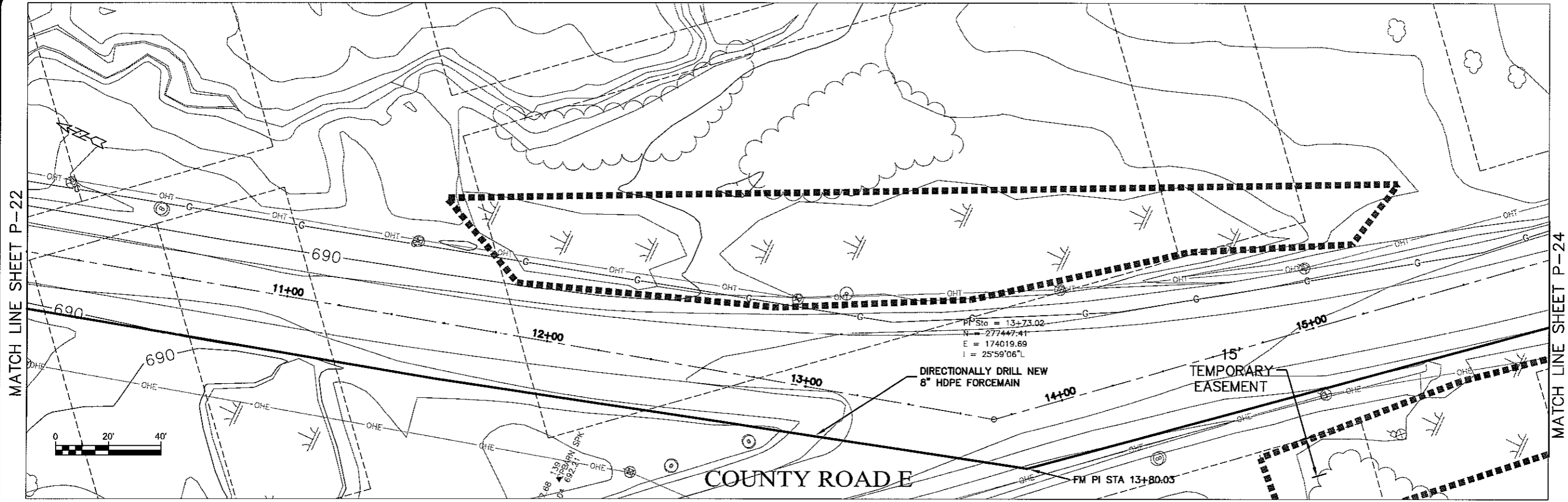
PROJECT NO.: 626000  
 SHEET: P-22  
 DATE: \_\_\_\_\_  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 PLOT DATE: 12 Oct 2009  
 SCALE: AS SHOWN

---

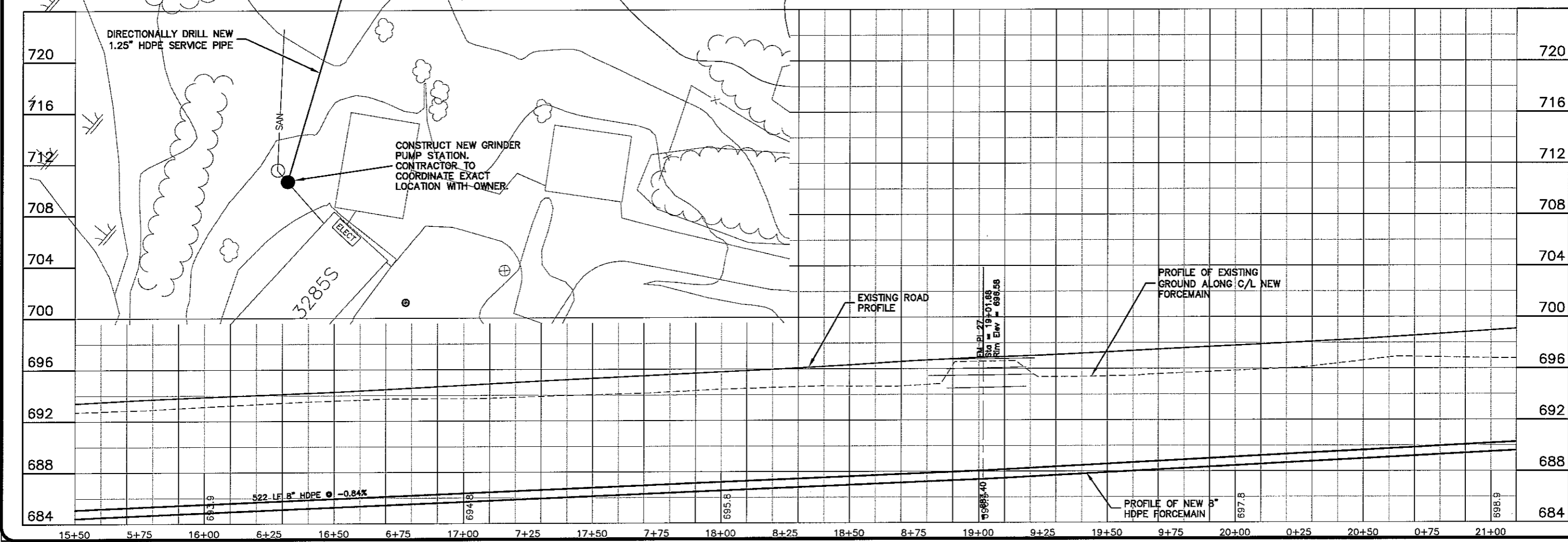
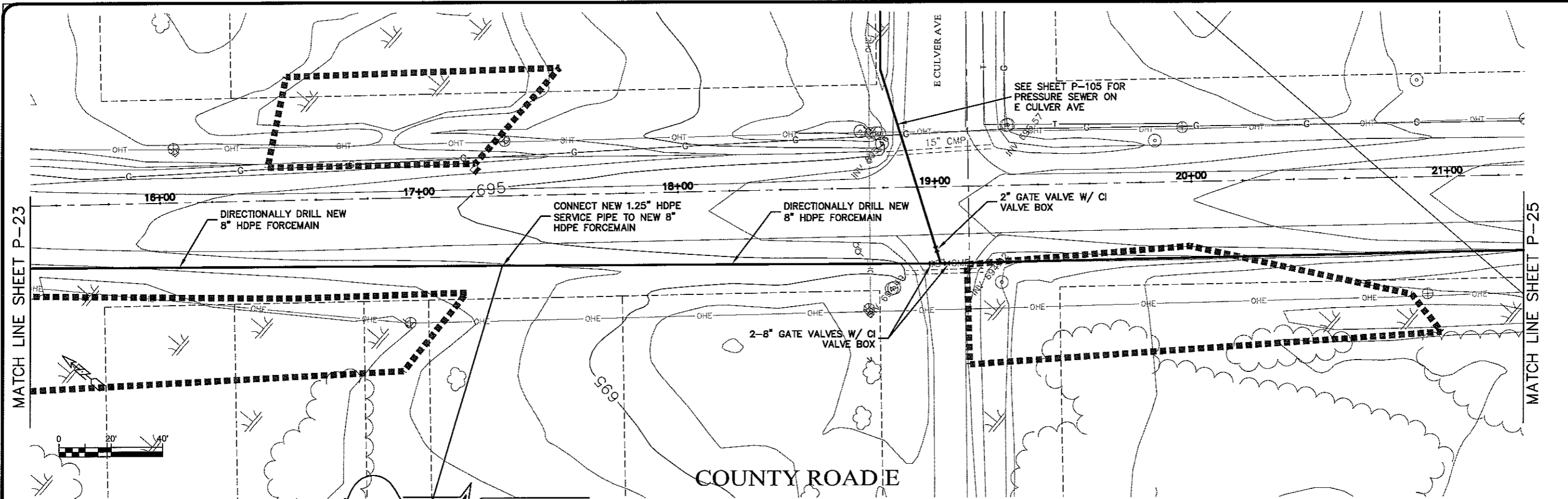
**SEWER PLAN PROFILE**  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

---

FILE NO.: 626-001  
 SHEET: P-22







MATCH LINE SHEET P-23

MATCH LINE SHEET P-25

**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street, Dubuque, IA 52002  
 218-723-9191, 1-800-777-1381, Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

---

PROJECT NO.: 626000  
 DATE: 23 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS

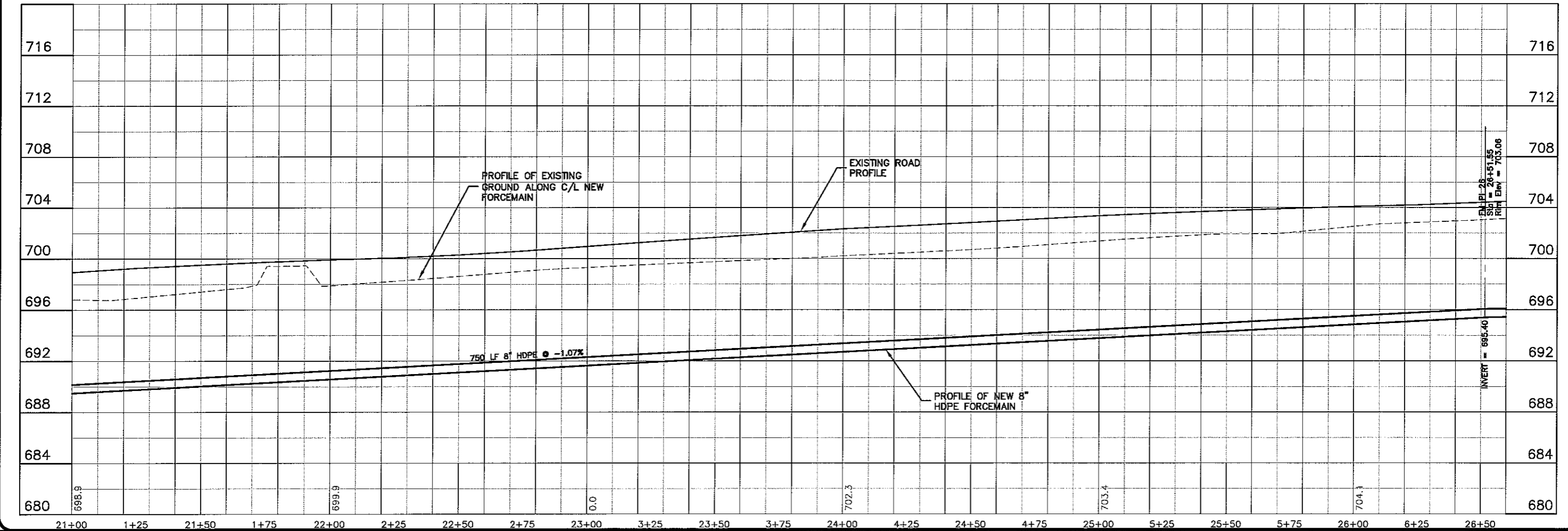
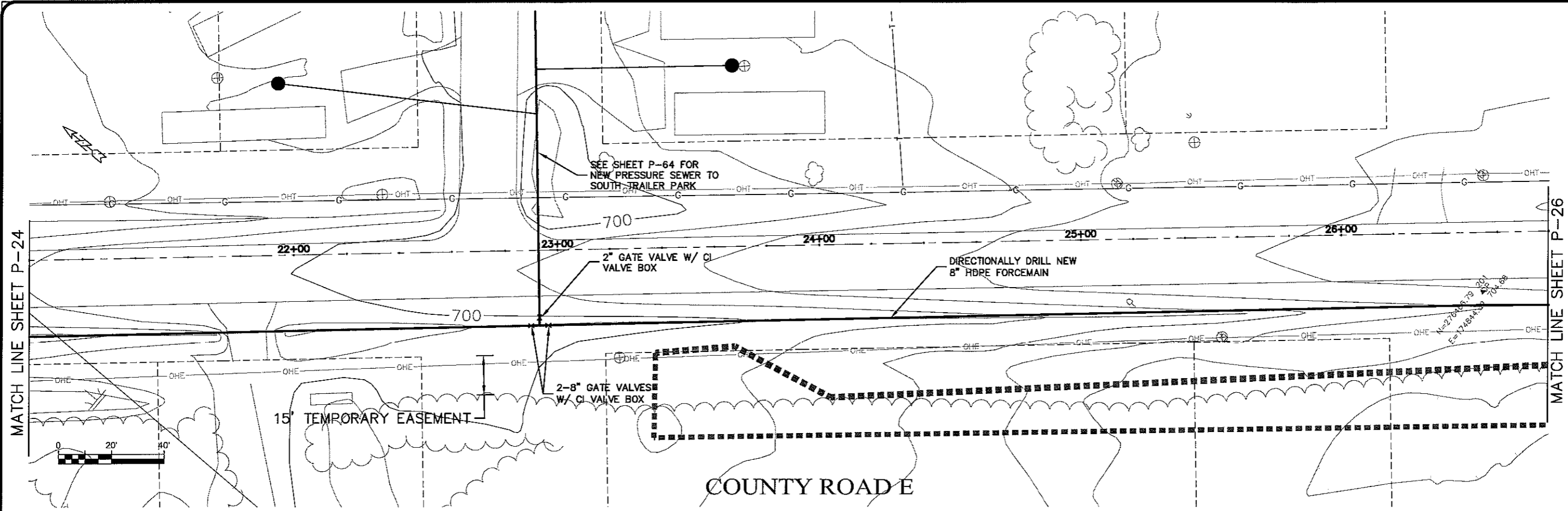
---

**SEWER PLAN - PROFILE**  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

---

FILE NO.: 626-001  
 SHEET: P-24

LAYOUT NAME: P-25

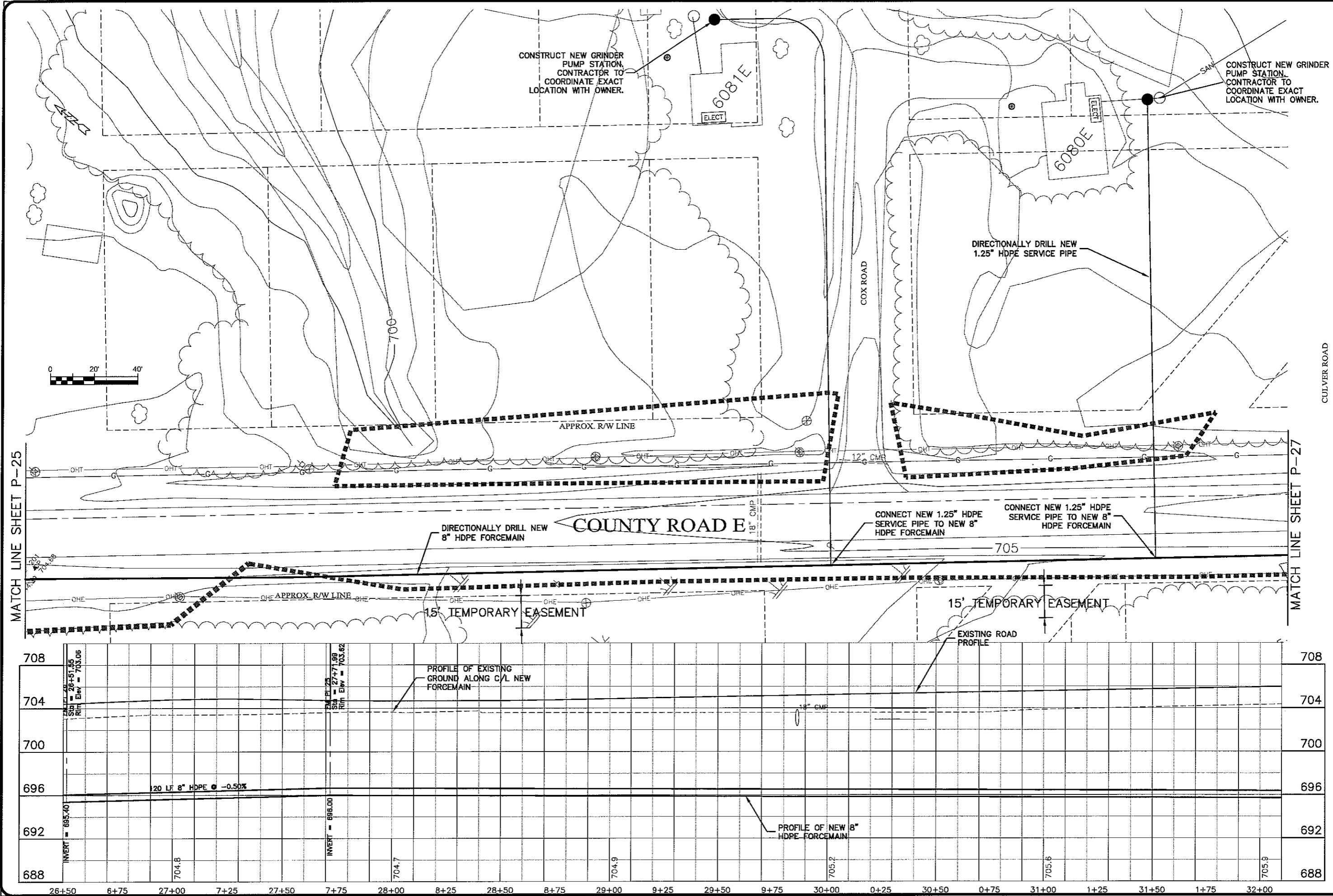


PLT DATE: 13 Oct 2009 10:05:55am  
FILEPATH: K:\Design\RCp05009.dwg

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-723-2713 • 1-800-777-5381 FAX: 218-723-1438  
© 2004 Professional Services

**MSA**  
PROFESSIONAL SERVICES

PROJECT NO.	626000	DATE	13 Oct 2009	DRAWN BY: RWM	CHECKED BY: CWS
PROJECT NAME	SEWER PLAN PROFILE				
DISTRICT	PARKLAND SANITARY DISTRICT NO. 1				
SYSTEM	WASTEWATER COLLECTION SYSTEM				
TOWNSHIP	PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN				
SCALE	AS SHOWN				
FILE NO.	626-001				
SHEET	P-25				



MATCH LINE SHEET P-25

MATCH LINE SHEET P-27

CULVER ROAD

COUNTY ROAD E

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-9713, 1-800-777-2780, Fax: 218-722-4546  
 © MSA PROFESSIONAL SERVICES

**MSA**  
 PROFESSIONAL SERVICES

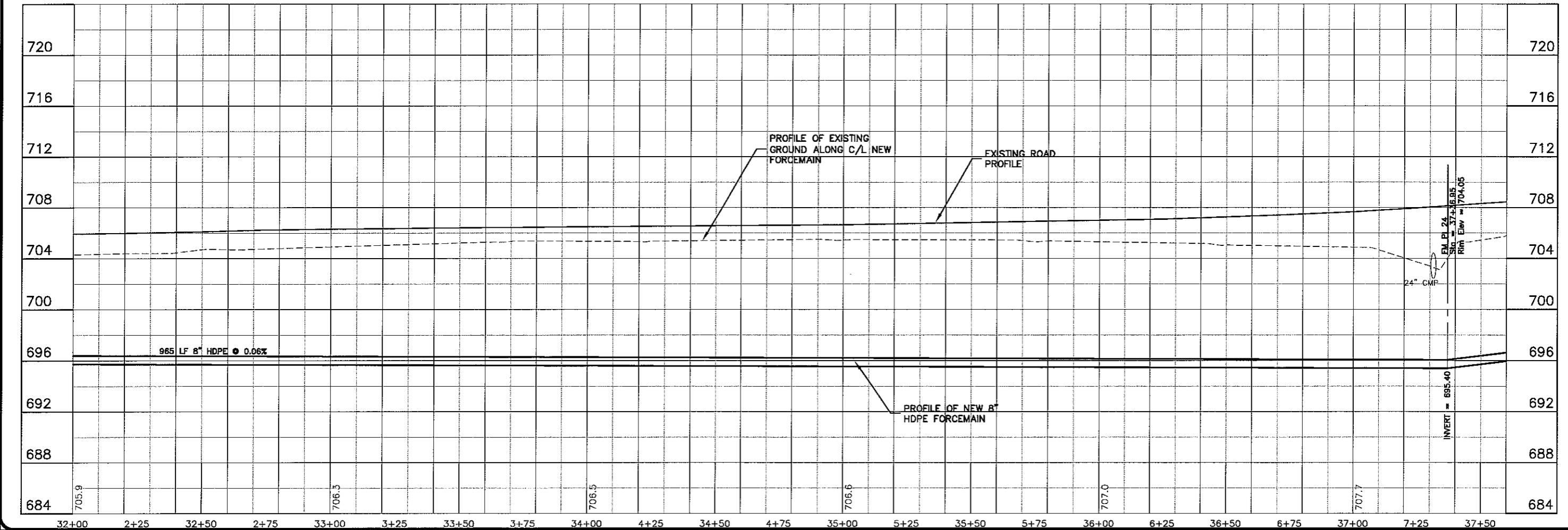
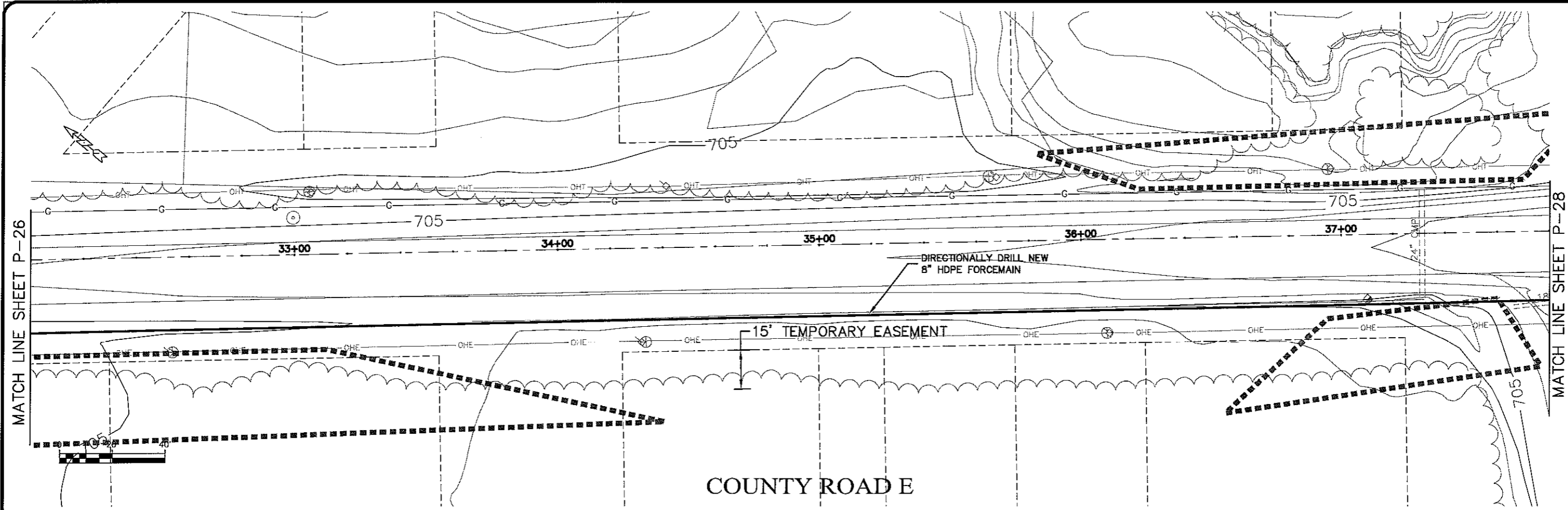
PROJECT NO.	626000
DATE	13 Oct 2009
SCALE	AS SHOWN
DESIGNED BY	CMS
CHECKED BY	CMS

SEWER PLAN - PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO.  
 626-001

SHEET  
 P-26

LAYOUT NAME: P-27



Plot Date: 13 Oct 2009 Plot Time: 7:02am  
 File Path: K:\design\rcp07008.dwg

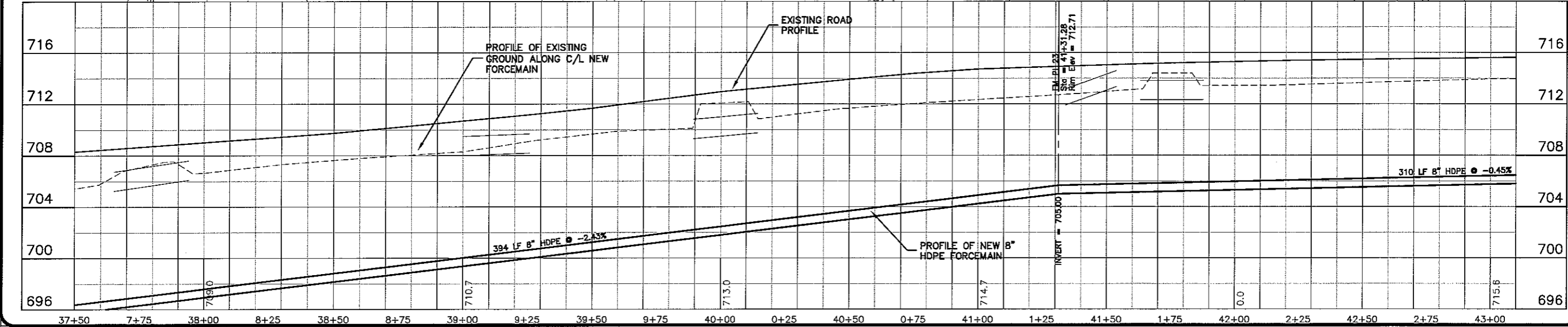
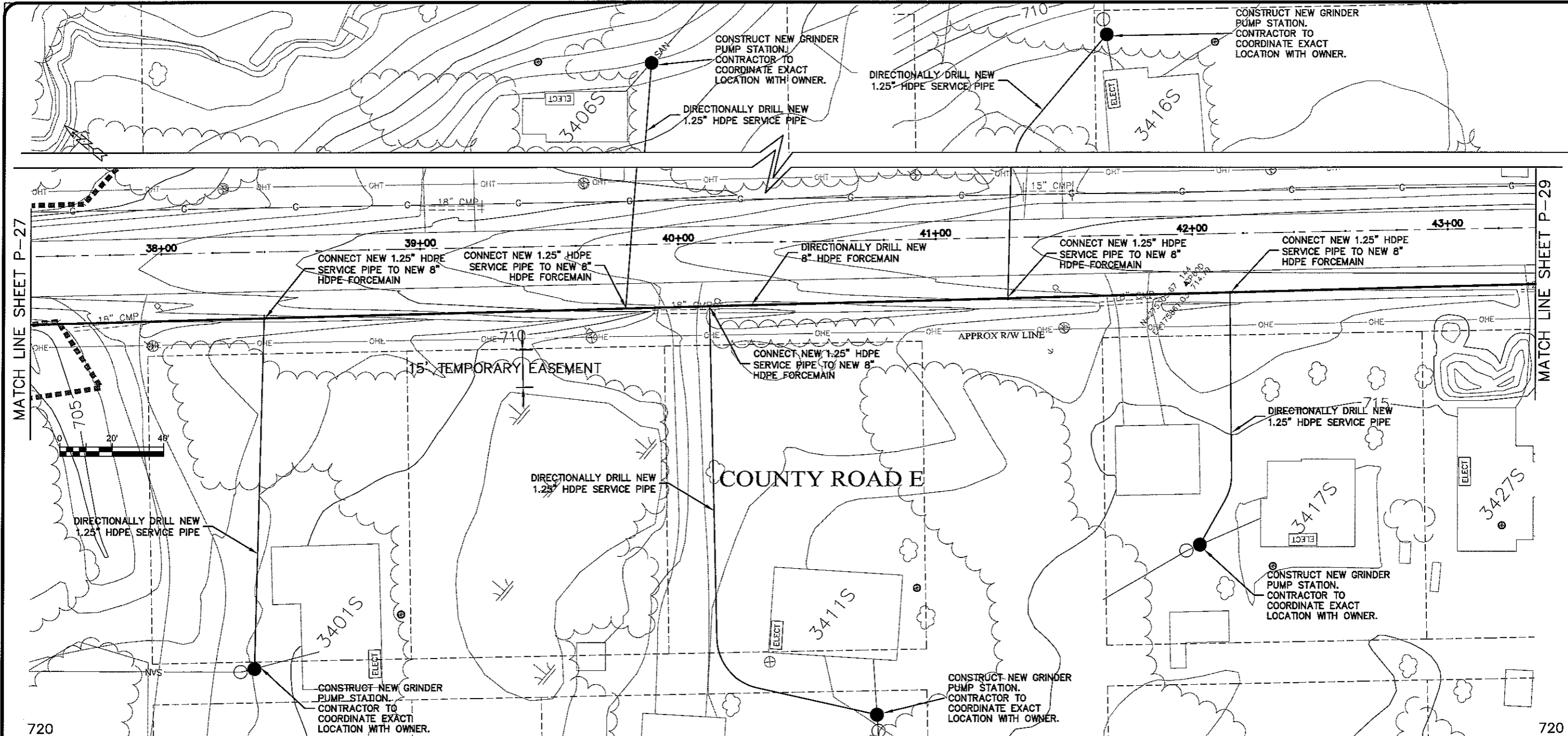
TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-723-3013, 1-800-271-2719 Fax: 218-721-4518  
 © MSA, PROFESSIONAL SERVICE



PROJECT NO. 626000	DATE	BY
PROJECT DATE: 13 Oct 2009		
SCALE AS SHOWN		
SEWER PLAN PROFILE		
PARKLAND SANITARY DISTRICT NO. 1		
WASTEWATER COLLECTION SYSTEM		
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN		
FILE NO. 626-001		
SHEET P-27		

EXPORT NAME: P-28

PLOT DATE: 13 Oct 2009 Plot Name: 7:07am  
FILEPATH: K:\design\rcp080003.dwg



MATCH LINE SHEET P-27

MATCH LINE SHEET P-29

TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-9935 1-800-777-1381 Fax: 218-722-4548  
© MSA PROFESSIONAL SERVICES

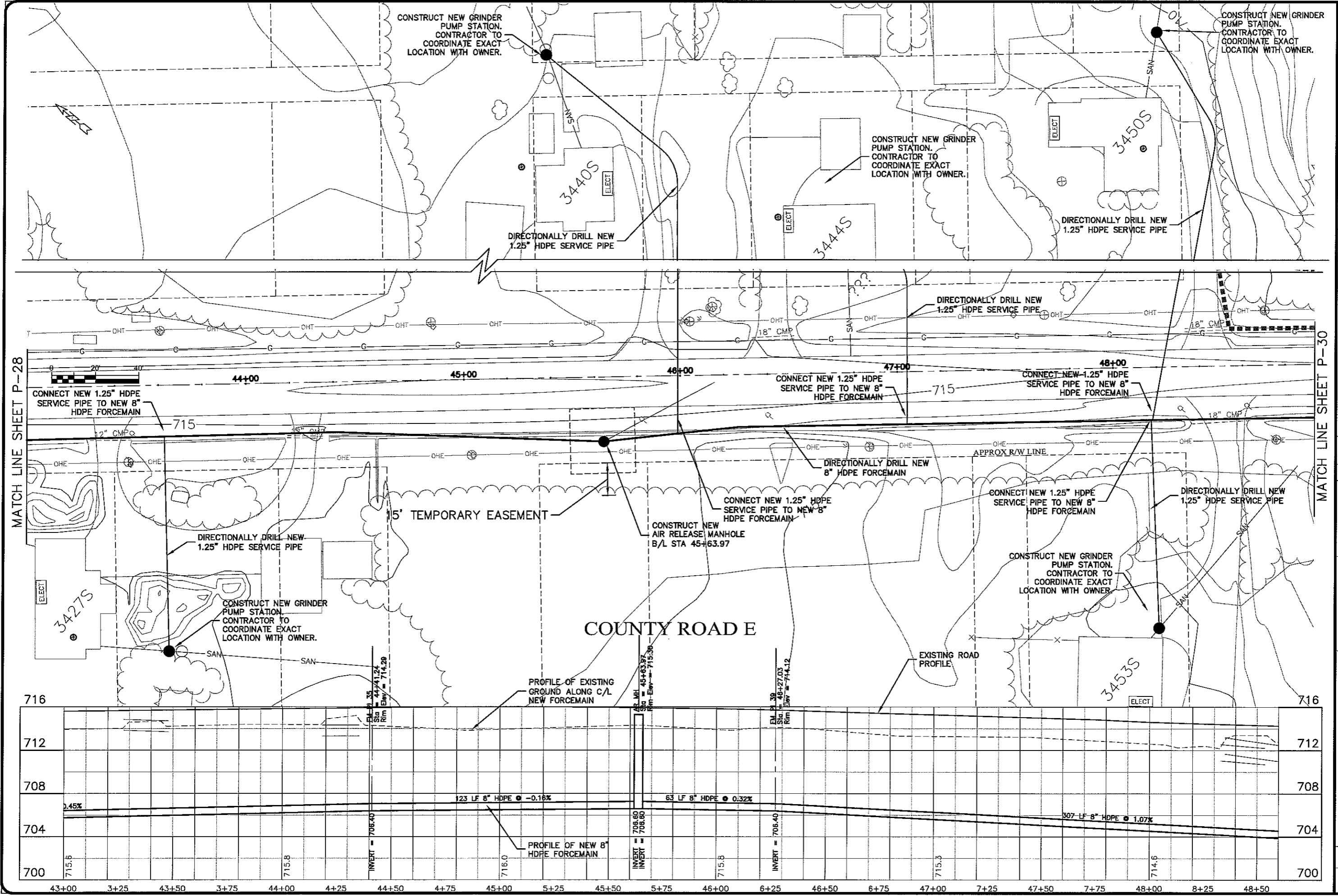
**MSA**  
PROFESSIONAL SERVICES

PROJECT NO.	626000
DATE	13 Oct 2009
SCALE	AS SHOWN
DRAWN BY	RWM
CHECKED BY	CWS

SEWER PLAN PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO.  
626-001

SHEET  
P-28



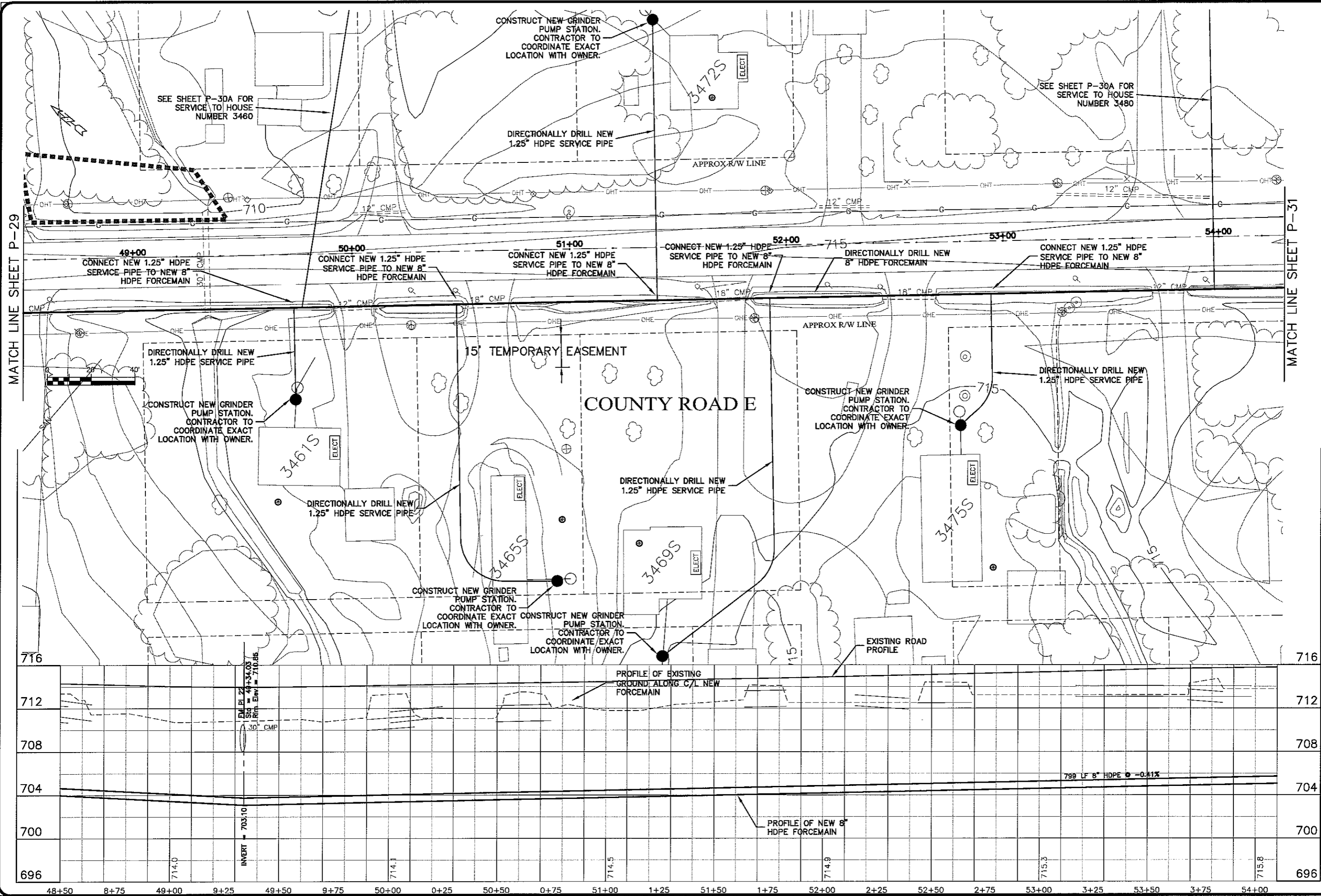
MATCH LINE SHEET P-28

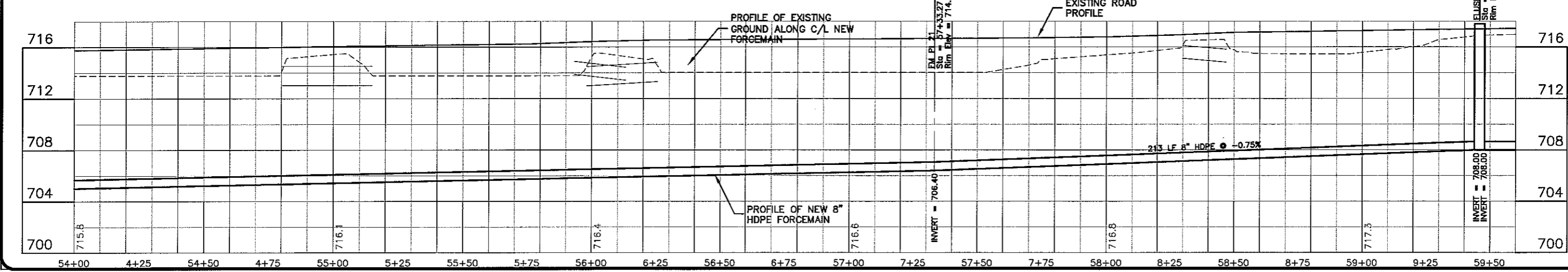
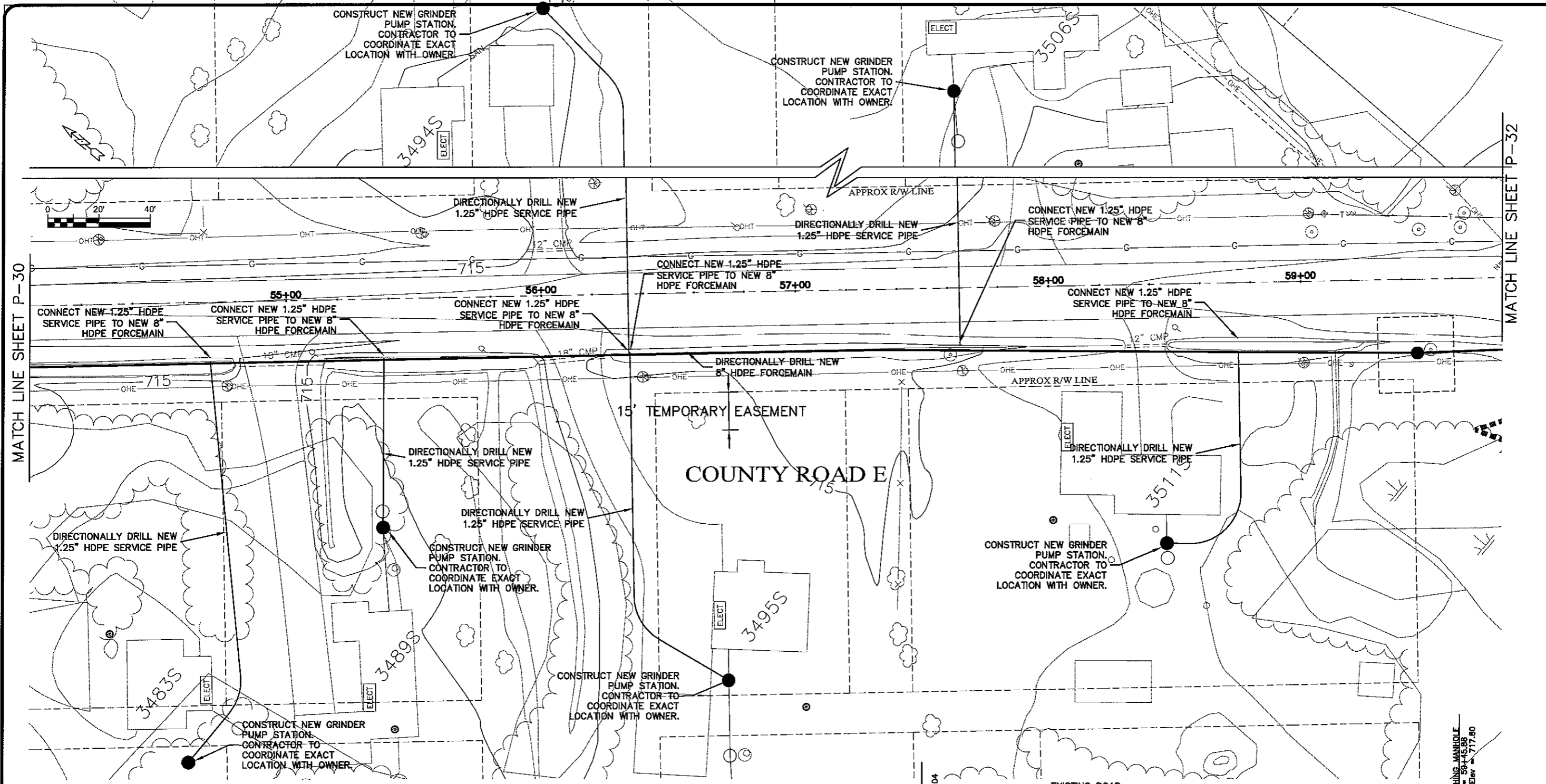
MATCH LINE SHEET P-30

SEWER PLAN PROFILE

**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

PROJECT NO.	626000
DATE	13 Oct 2009
BY	RWM
CHECKED BY	CWS
SCALE	AS SHOWN
FILE NO.	626-001
SHEET	P-29





MATCH LINE SHEET P-30

MATCH LINE SHEET P-32

**MSA**  
PROFESSIONAL ENGINEERS

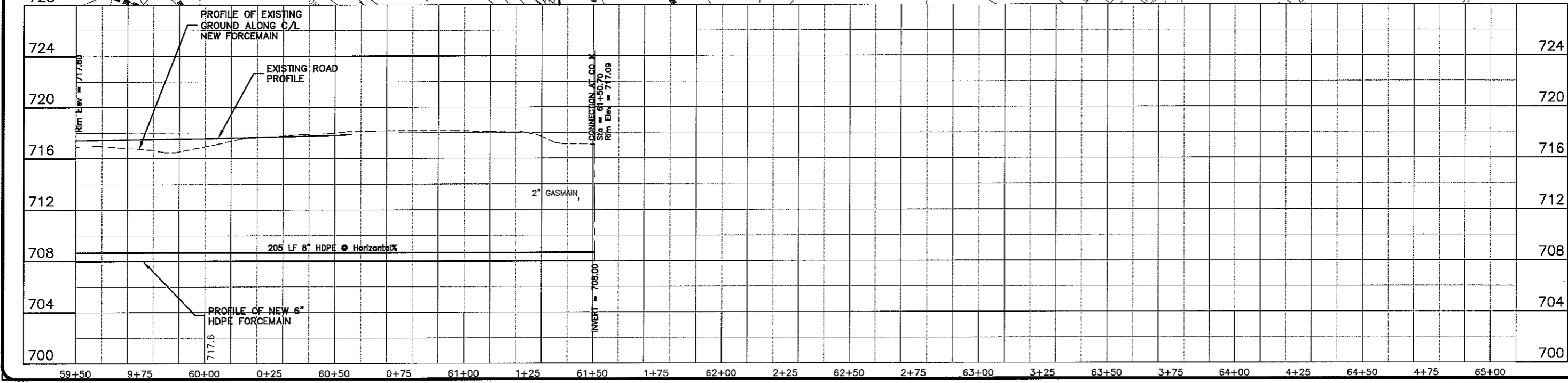
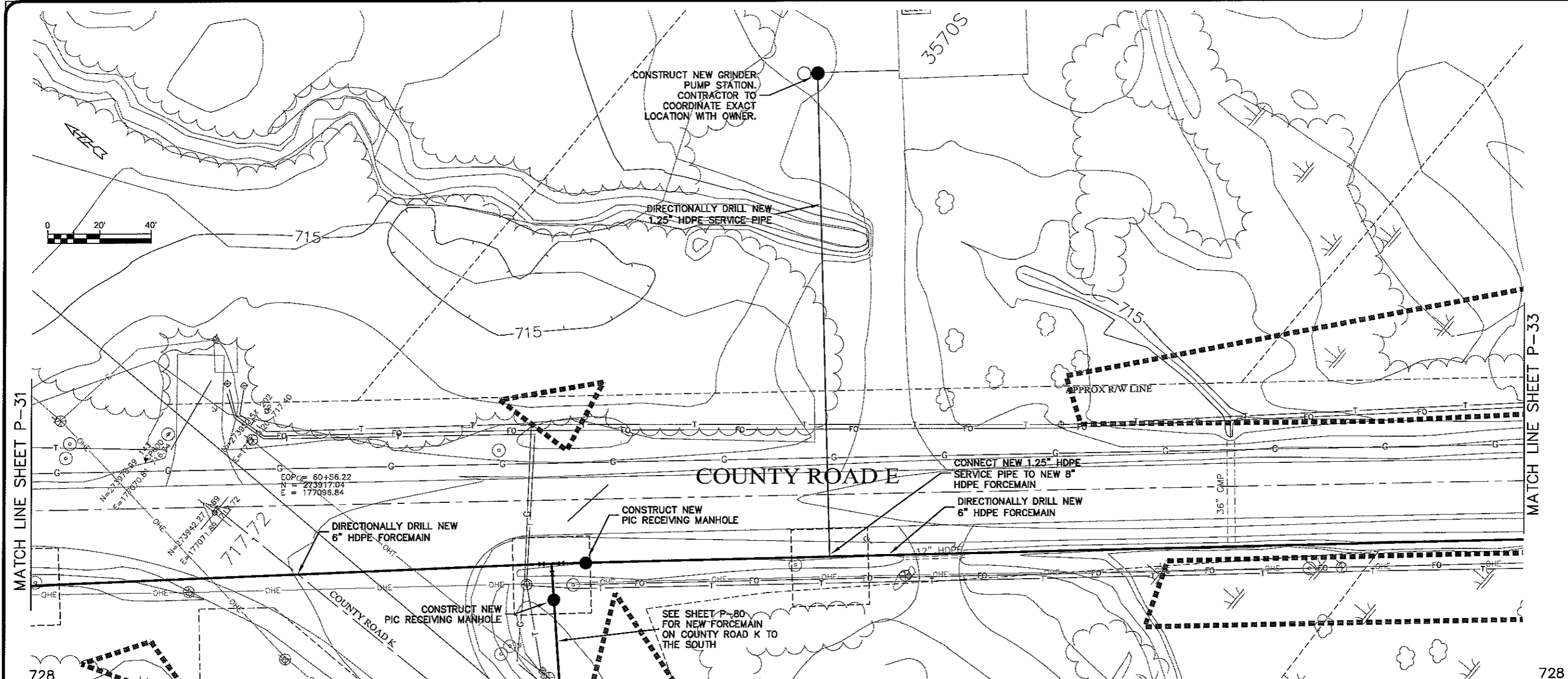
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-8913 • 1-800-777-2580 Fax: 218-722-4516

PROJECT NO.	626000
DATE	
REVISED	
BY	
FILE NO.	
DATE	13 Oct 2009
DRAWN BY	R/W/M
CHECKED BY	CWS
SCALE	AS SHOWN

**SEWER PLAN - PROFILE**  
**PARKLAND SANITARY DISTRICT NO. 1**  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
SHEET P-31





MATCH LINE SHEET P-31

MATCH LINE SHEET P-33

**MSA**  
PROFESSIONAL SERVICES

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 W. 1st Street, Duluth, MN 55802  
 218-722-9191 • 1-800-771-7389 Fax: 218-722-4548  
 © MSA Professional Services

REV.	NO.	DATE	BY	REVISION

PROJECT NO.: 626000  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 DATE: 13 Oct 2009  
 SCALE: AS SHOWN

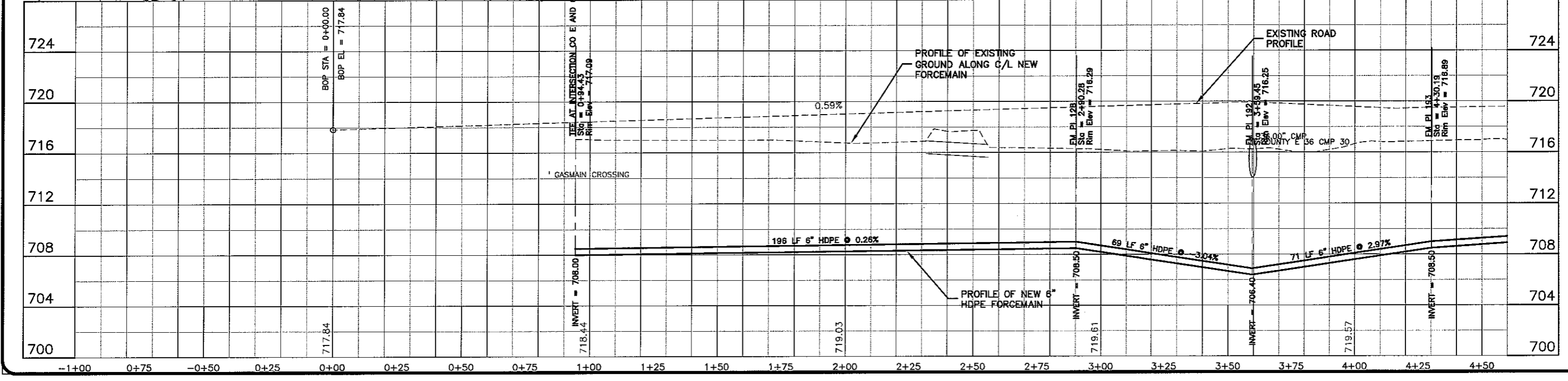
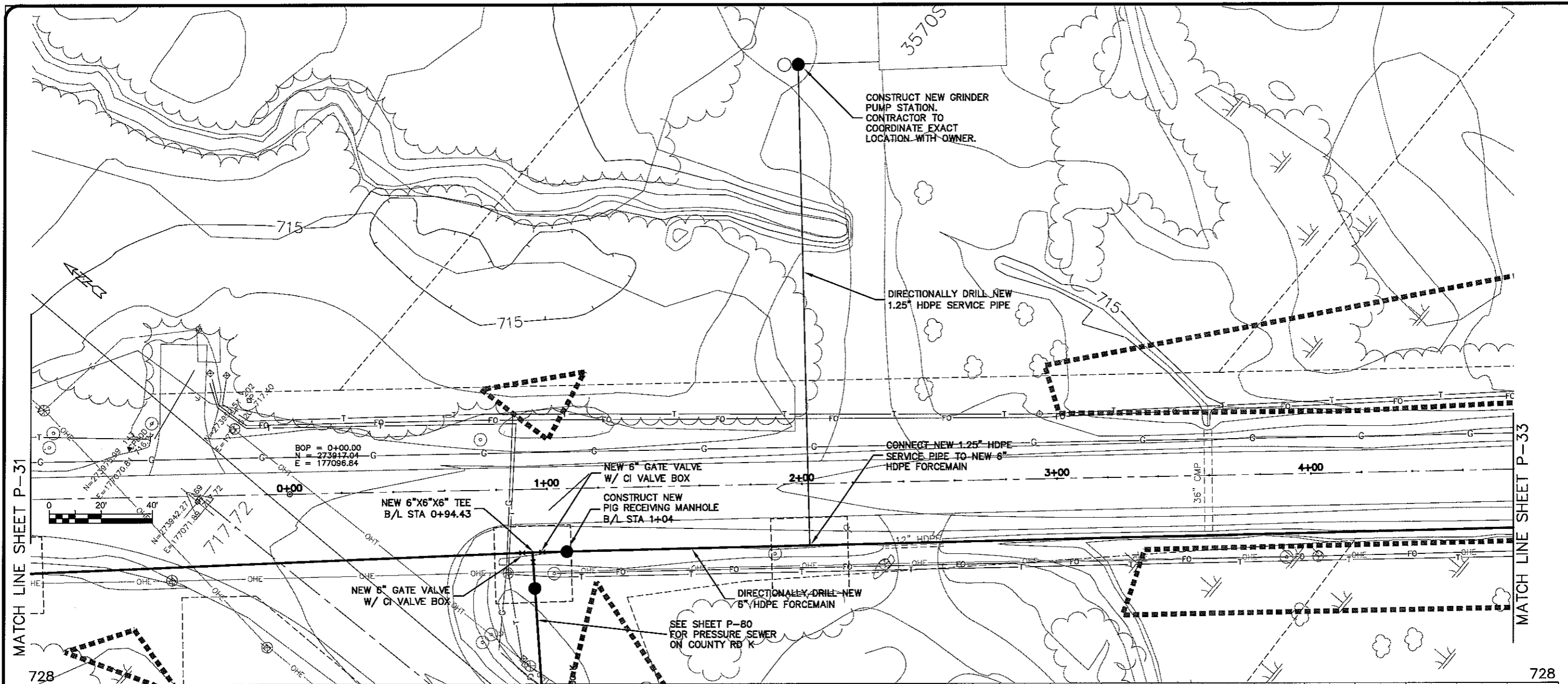
**SEWER PLAN - PROFILE**

**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO.: 626-001  
 SHEET: P-32

UPRINT NAME Layout1

PLT: WWSL16 Oct 2009 10:34:01  
 FILENAME: K:\design\RCp01011.dwg



MATCH LINE SHEET P-31

MATCH LINE SHEET P-33

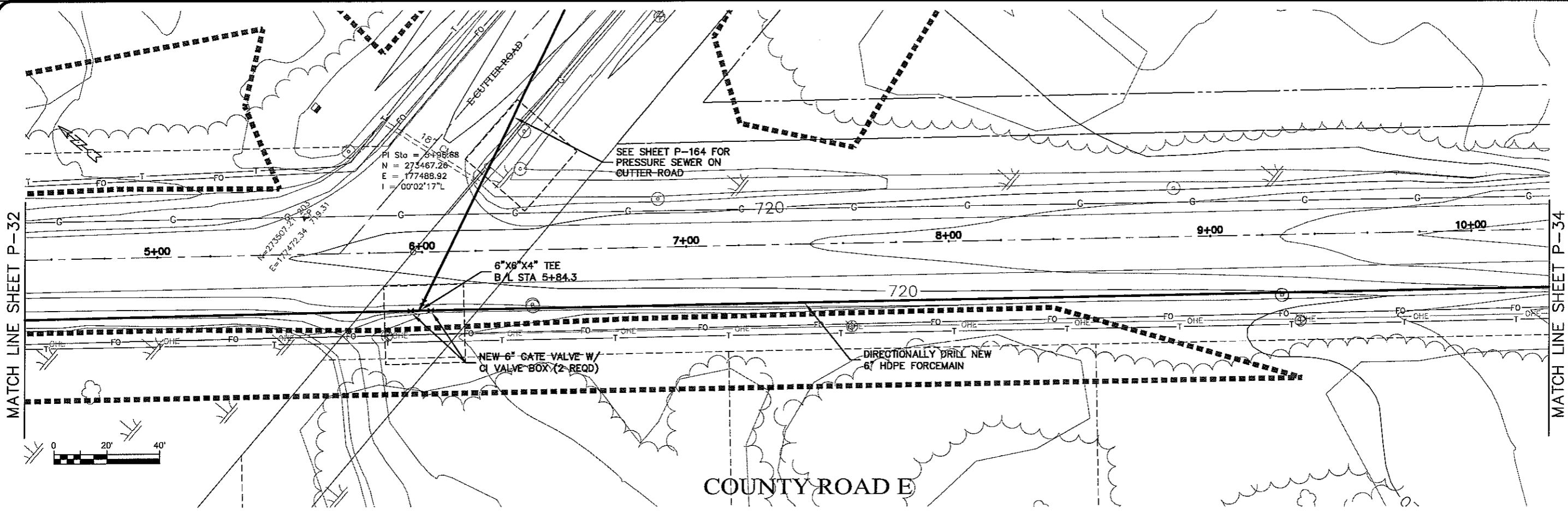
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 300 West First Street, Duluth, MN 55802  
 218-723-8913 FAX: 218-723-7388 E-MAIL: 218-723-4568  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO. 626000  
 DATE 16 Oct 2009  
 DRAWN BY RWM  
 CHECKED BY CHS

SEWER PLAN PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
 SHEET P-32B

UPRINT NAME LAYOUT1



PI Sta = 4+98.68  
 N = 273467.26  
 E = 177488.92  
 I = 00°02'17" L

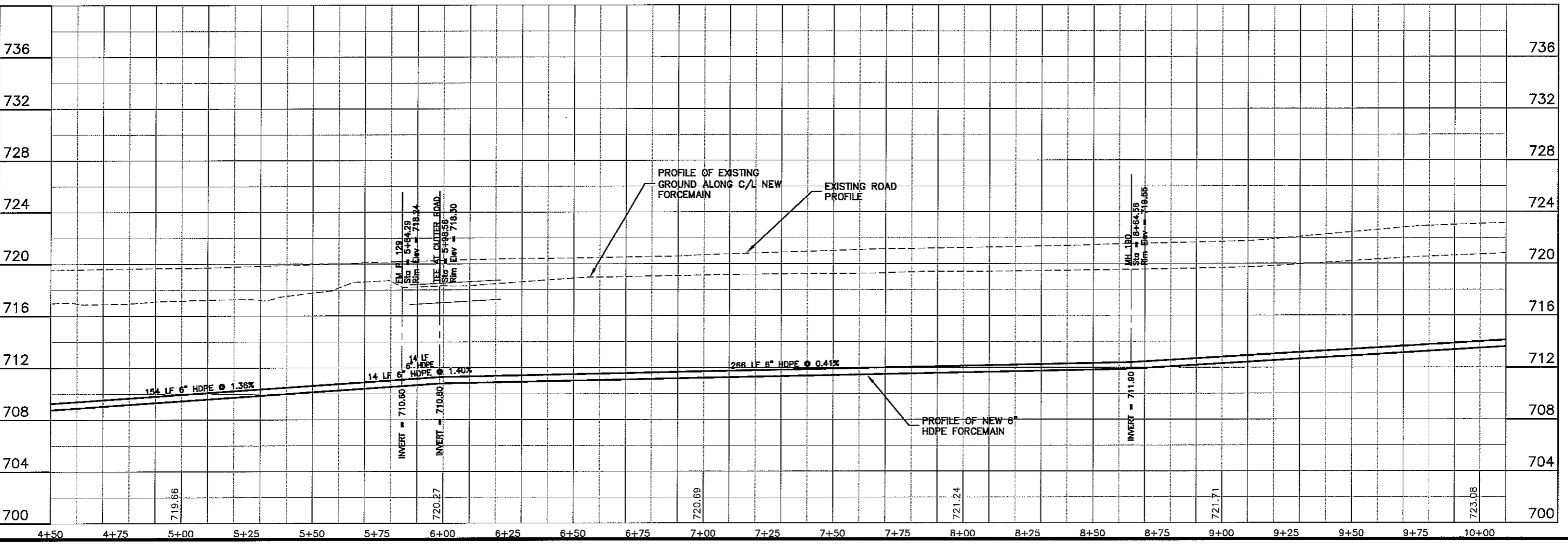
SEE SHEET P-164 FOR  
 PRESSURE SEWER ON  
 OUTER ROAD

6" X 6" X 4" TEE  
 B/L STA 5+84.3

NEW 6" GATE VALVE W/  
 CI VALVE BOX (2 REQD)

DIRECTIONALLY DRILL NEW  
 6" HDPE FORCEMAIN

COUNTY ROAD E



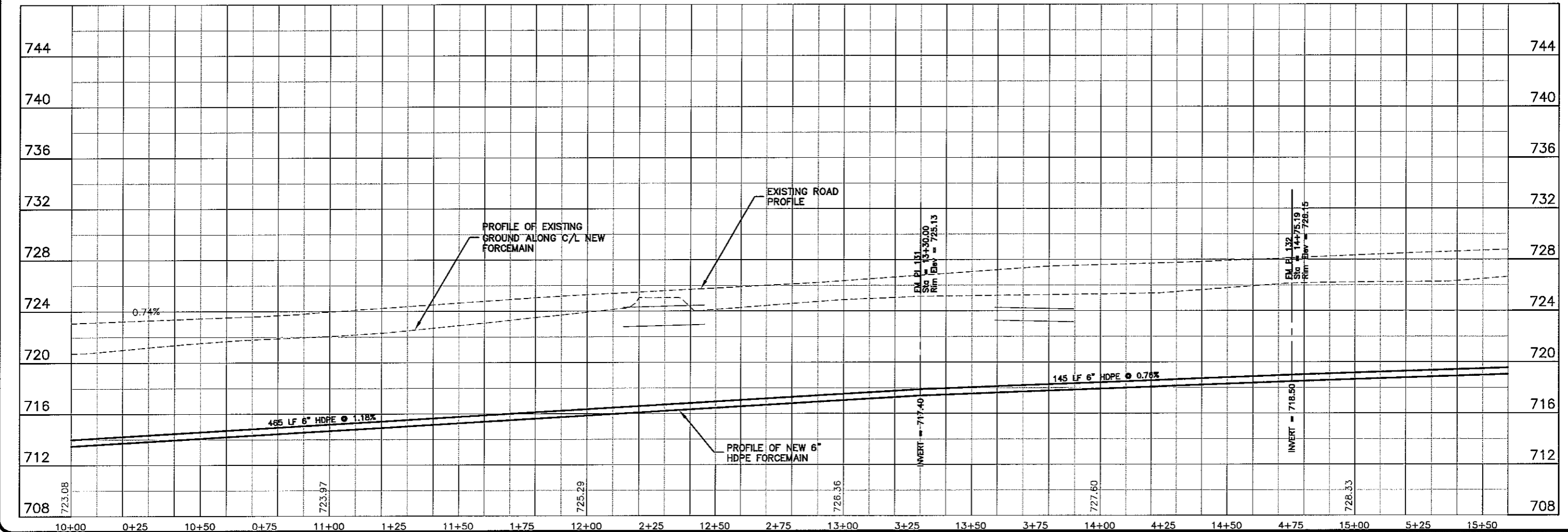
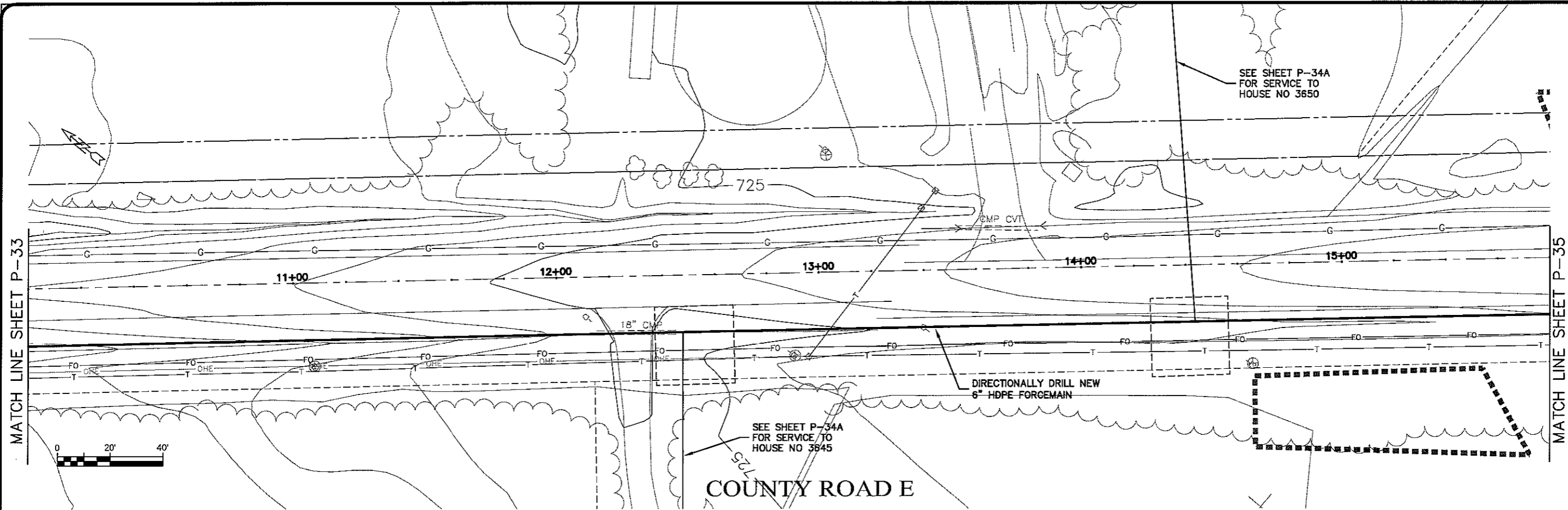
PLT DATE: 16 Oct 2009 PLT TIME: 10:53:00  
 FILENAME: K:\design\RC-p02011.dwg

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-723-3913 • 1-800-377-7380 Fax: 218-723-4148  
 © 1998 PROFESSIONAL SERVICES



PROJECT NO.	626000
DATE	
BY	
REVISION	
F.S.I.	PROJECTED: 626000
DRAWN BY:	RWM
CHECKED BY:	CWS
DATE	16 Oct 2009
SCALE	AS SHOWN
PROJECT NAME	SEWER PLAN PROFILE
DISTRICT	PARKLAND SANITARY DISTRICT NO. 1
SYSTEM	WASTEWATER COLLECTION SYSTEM
COUNTY	PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN
FILE NO.	626-001
SHEET	P-33

UPRINT NAME P-34



PLT W/16 Oct 2009 11:22am  
FILEPATH K:\design\RCp03011.dwg

TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-723-9113 • 1-800-377-4538 • FAX: 218-723-4538  
© MSA PROFESSIONAL SERVICES

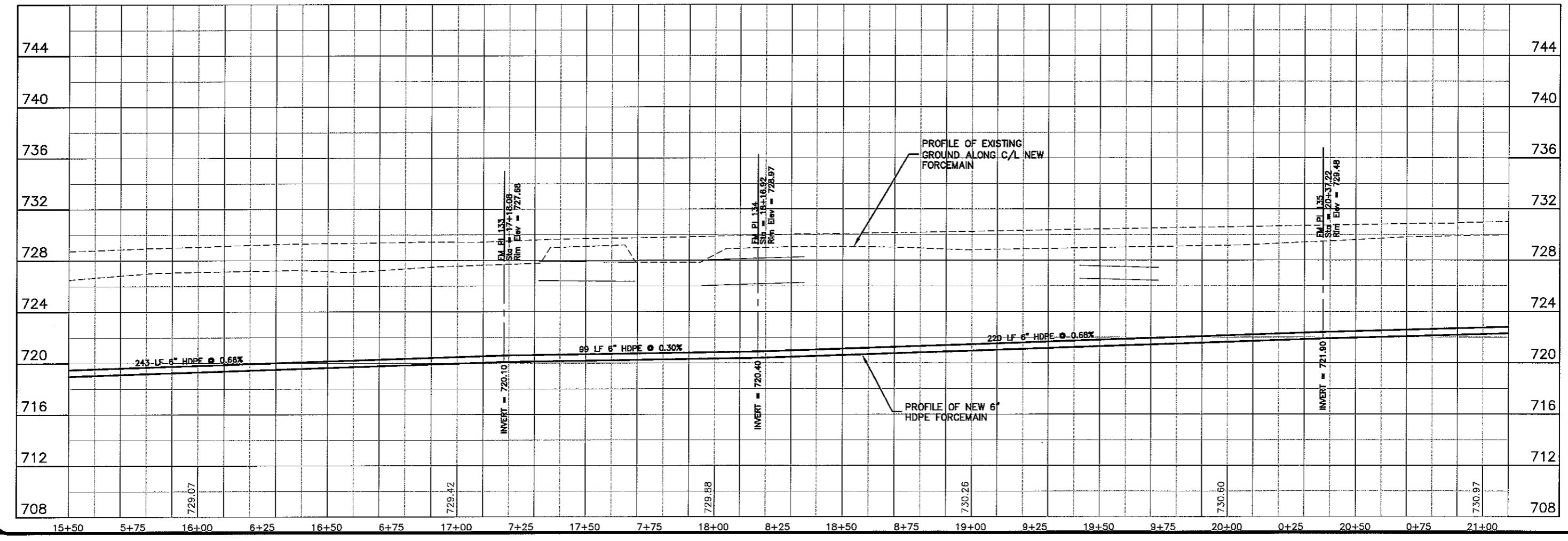
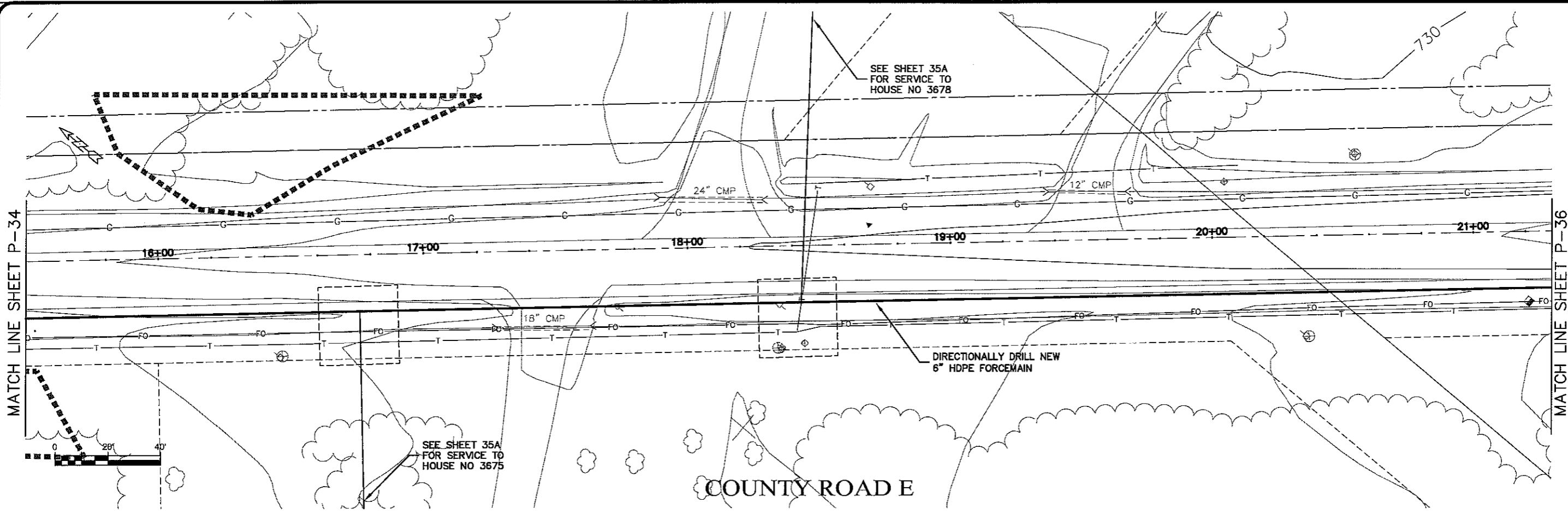
**MSA**  
PROFESSIONAL SERVICES

PROJECT NO.	625000	DATE	16 Oct 2009	BY	
PROJECT NAME	PARKLAND SANITARY DISTRICT NO. 1	SCALE	AS SHOWN	REVISION	
DESIGNED BY	CWS	CHECKED BY		DATE	
DRAWN BY	RWM	DATE		BY	

SEWER PLAN - PROFILE  
PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

SHEET  
P-34

UNROUT NAME P-35



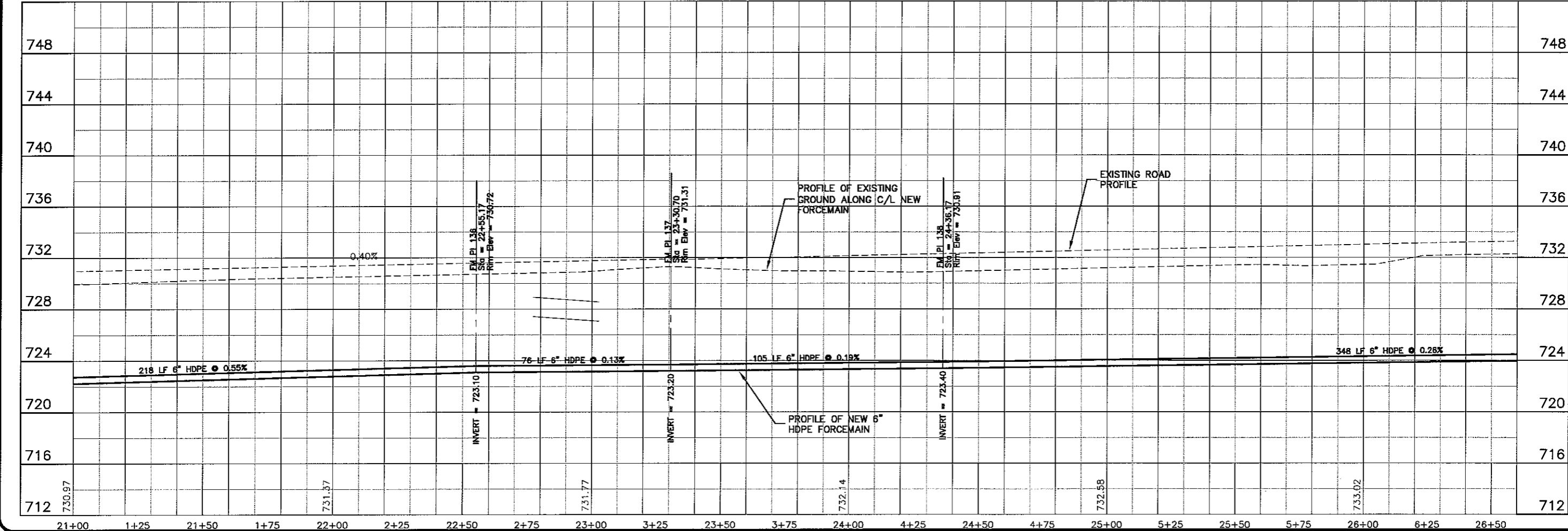
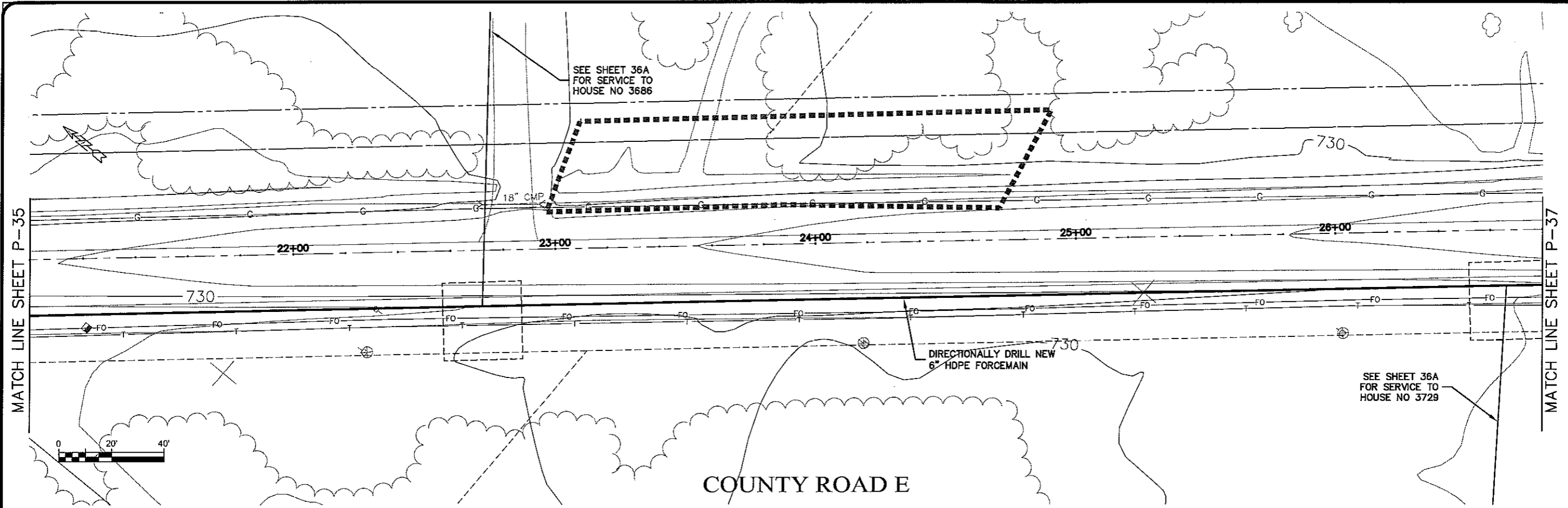
PLT DATE: 16 Oct 2009 11:30am  
 FILEPATH: K:\design\RCp04011.dwg

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 30 West First Street, Duluth, MN 55802  
 218-722-3915 • 1-800-777-7380 Fax: 218-722-4548  
 © USA PROFESSIONAL SERVICES

**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO.	626000	DATE	16 Oct 2009	SCALE	AS SHOWN
PROJECT NAME	PARKLAND SANITARY DISTRICT NO. 1 WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN				
BY	DESIGNED BY	DRAWN BY	CHECKED BY		
	RWM	RWM	CWS		

SHEET  
P-35



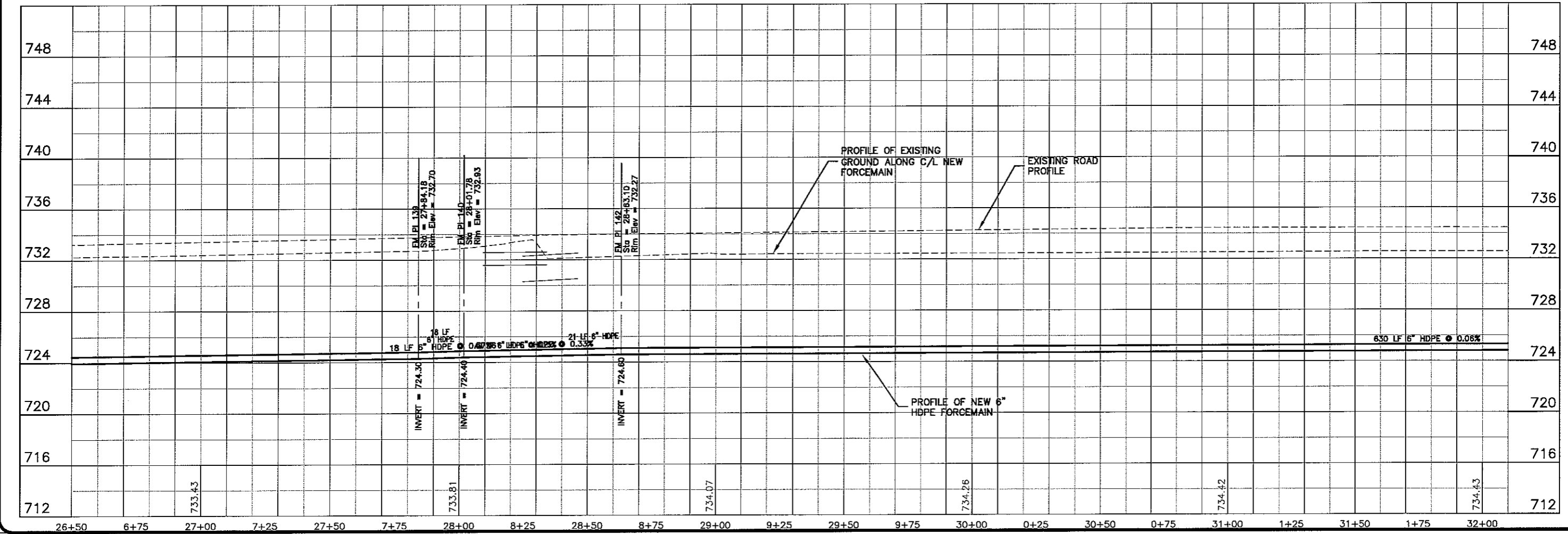
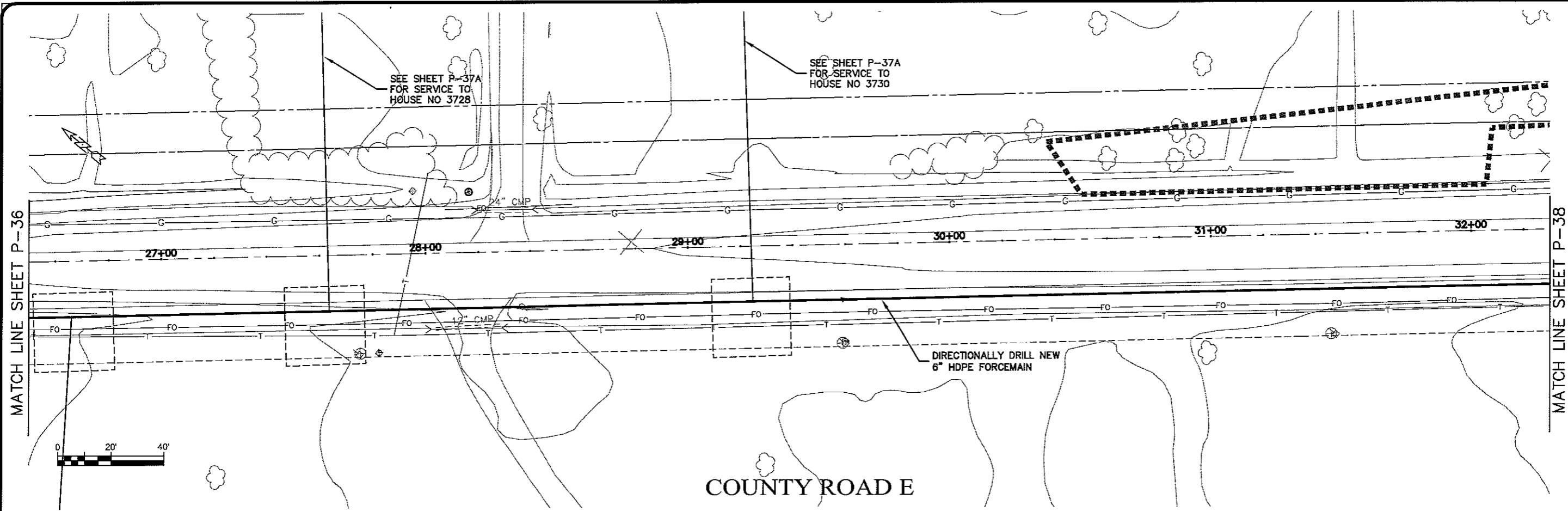
**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 • 1-800-777-7380 Fax: 218-722-4548  
 © USA PROFESSIONAL SERVICES

**MSA**  
 PROFESSIONAL SERVICES

PROJECTING: 626000  
 DATE: 16 Oct 2009  
 SCALE: AS SHOWN

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO.: 626-001  
 SHEET: P-36



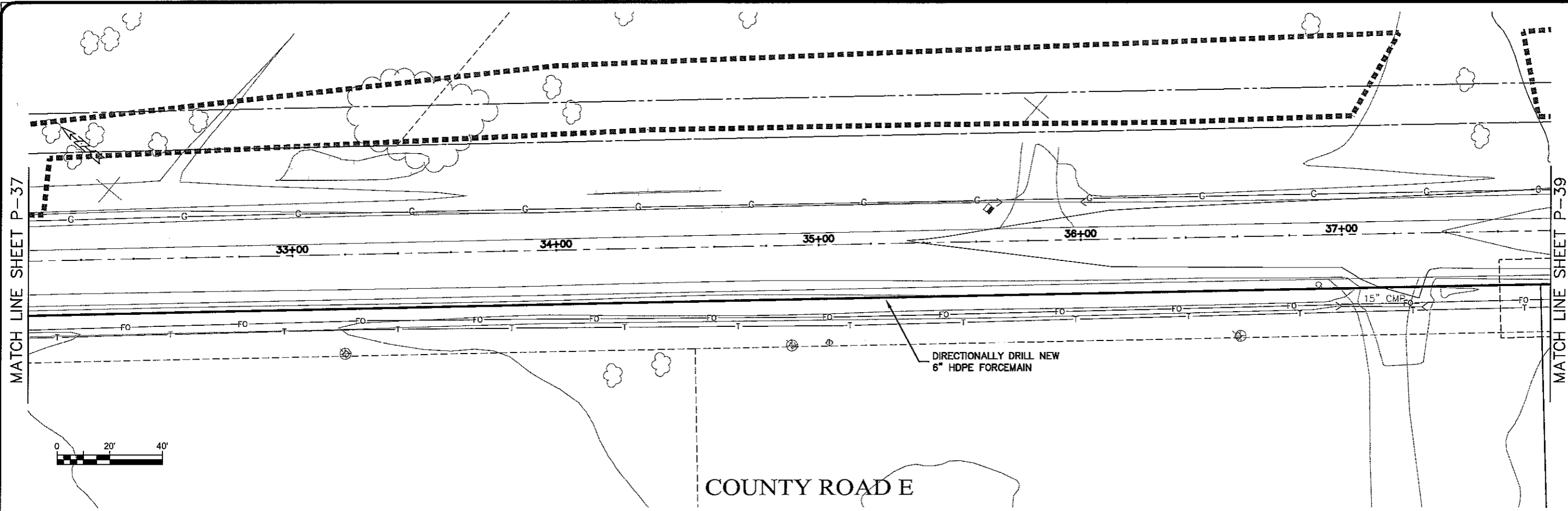
TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 30 West First Street, Duluth, MN 55802  
 218-722-5915 1-800-777-7339 FAX: 218-722-4588  
 © MSA PROFESSIONAL SERVICES

**MSA**  
 PROFESSIONAL SERVICES

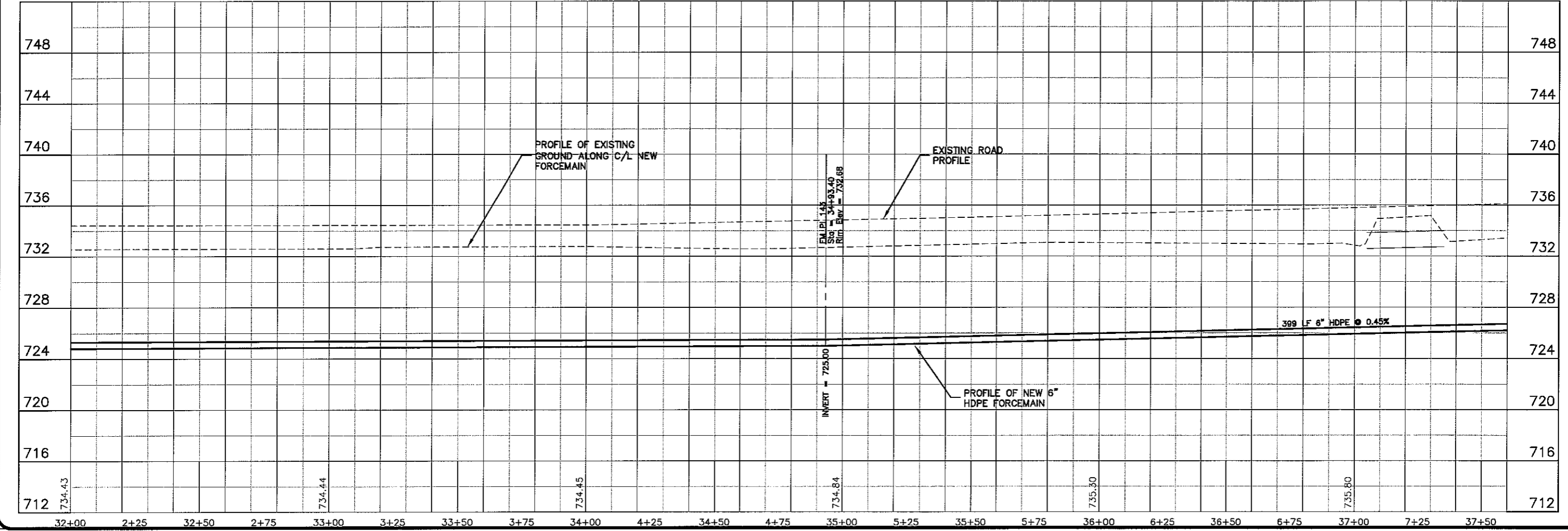
PROJECT NO. 626000  
 DATE: 16 Oct 2009  
 SCALE: AS SHOWN

SEWER PLAN PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
 SHEET P-37



COUNTY ROAD E



**MSA**  
 PROFESSIONAL ENGINEERS

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3291 • 1-800-777-7380 • Fax: 218-722-3448  
 © MSA PROFESSIONAL SERVICES

---

PROJECT NO.: 626000  
 DATE: \_\_\_\_\_  
 DRAWN BY: RWM  
 CHECKED BY: CWS

---

PROJECT: PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

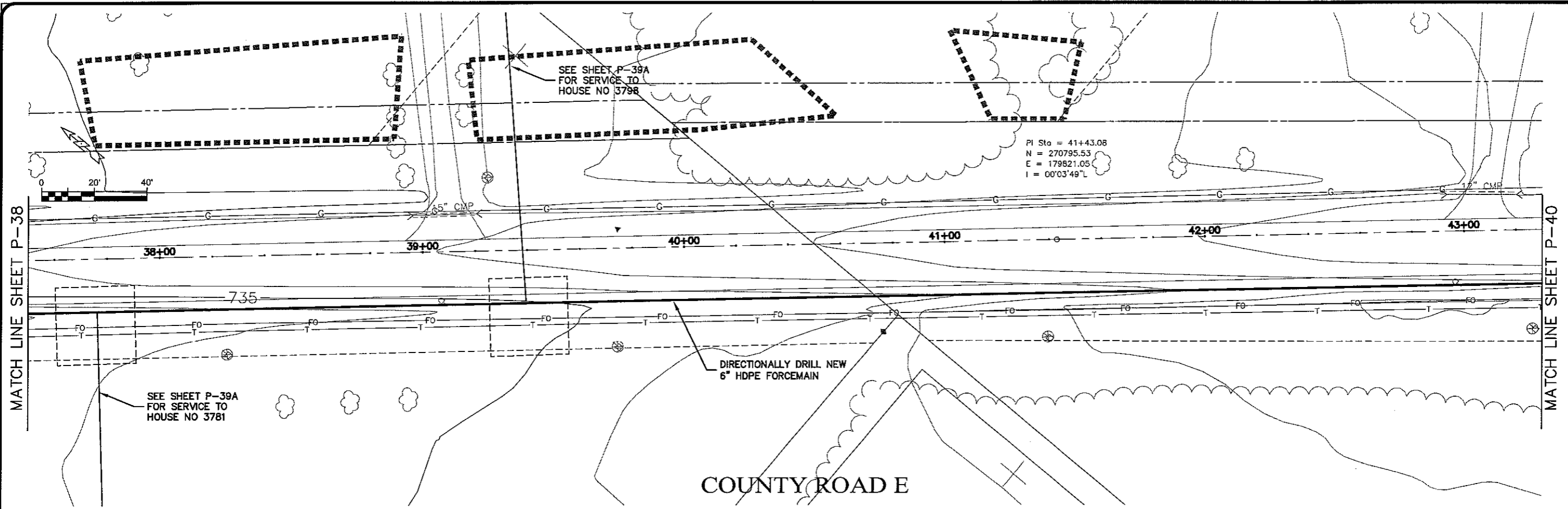
---

SCALE: AS SHOWN

---

SHEET NO.: 626-001  
 SHEET: P-38





TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-3915 • 1-800-777-7380 Fax: 218-722-4548

**MSA**  
PROFESSIONAL ENGINEERS

PROJECT NO: 626000  
DATE: 16 Oct 2009  
SCALE: AS SHOWN

PROJECT: PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

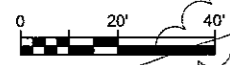
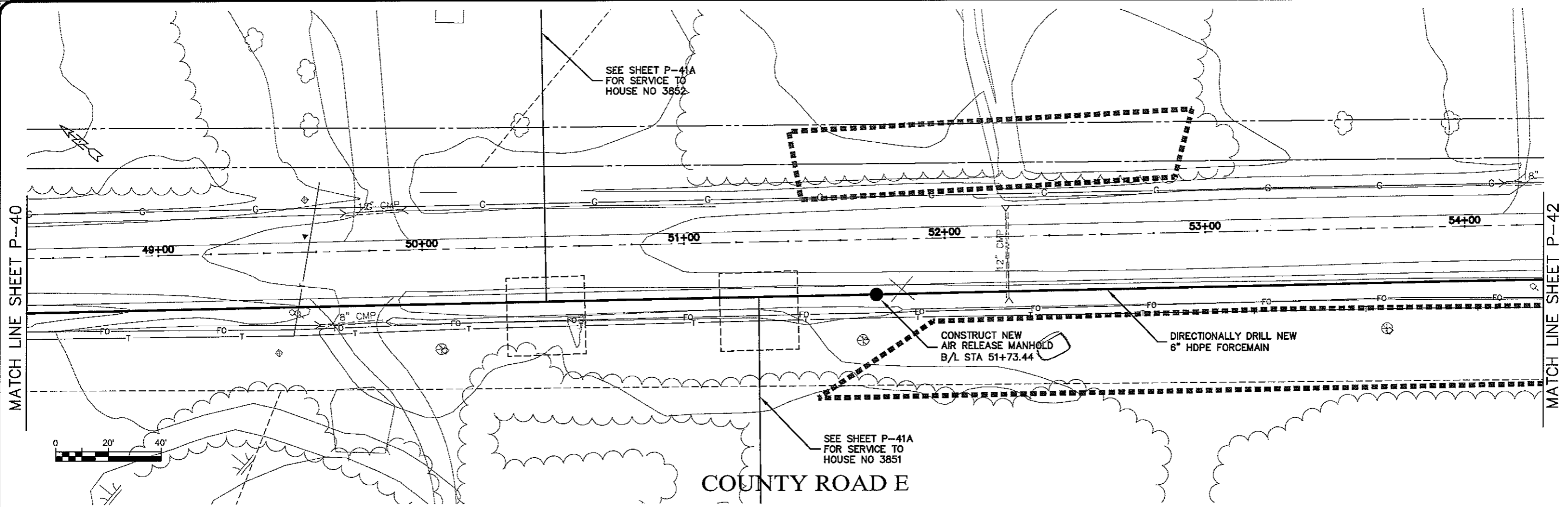
BY: \_\_\_\_\_  
DATE: \_\_\_\_\_

DRAWN BY: RWM  
CHECKED BY: CWS

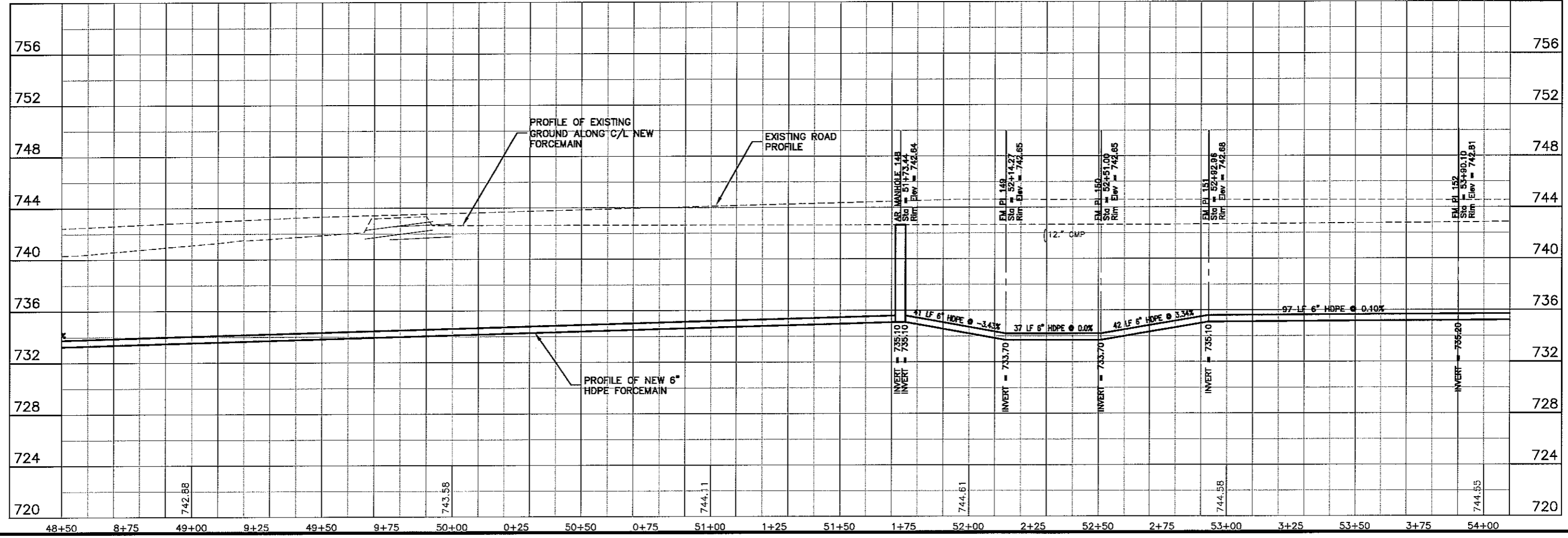
SHEET P-39



EXPORT MAPS P-41



COUNTY ROAD E



Plot Date: 16 Oct 2009 12:20pm  
 File Path: K:\Design\Wcp\10011.dwg

**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 300 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

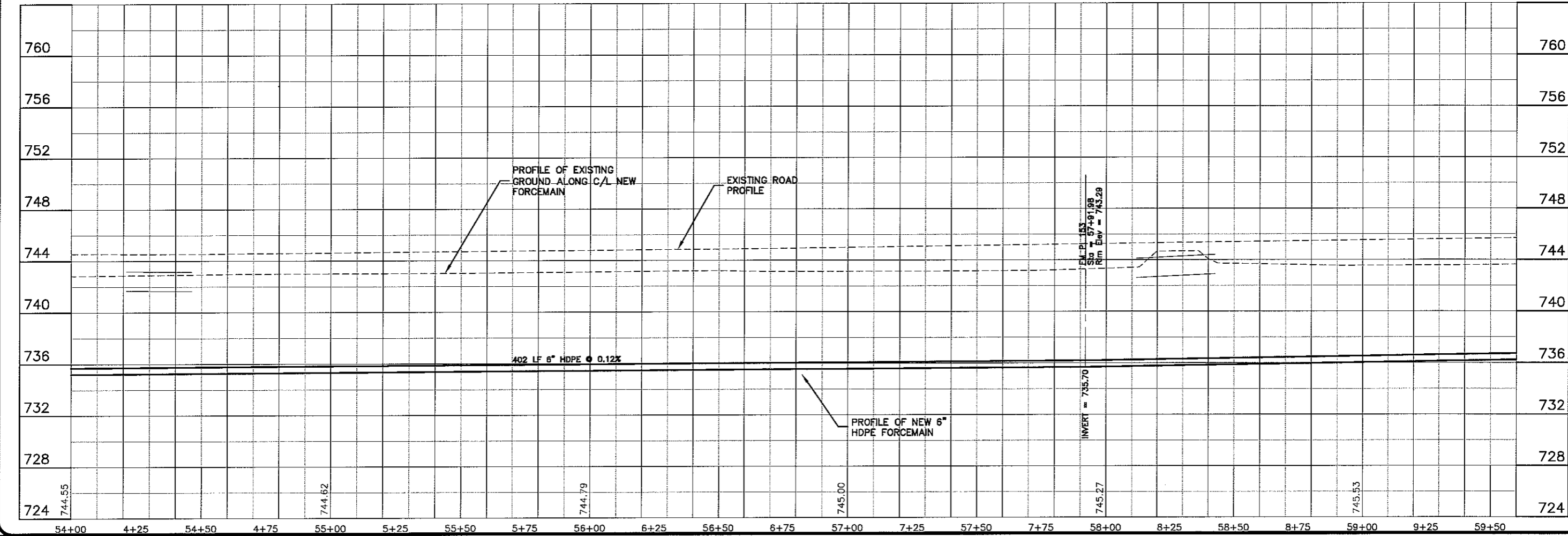
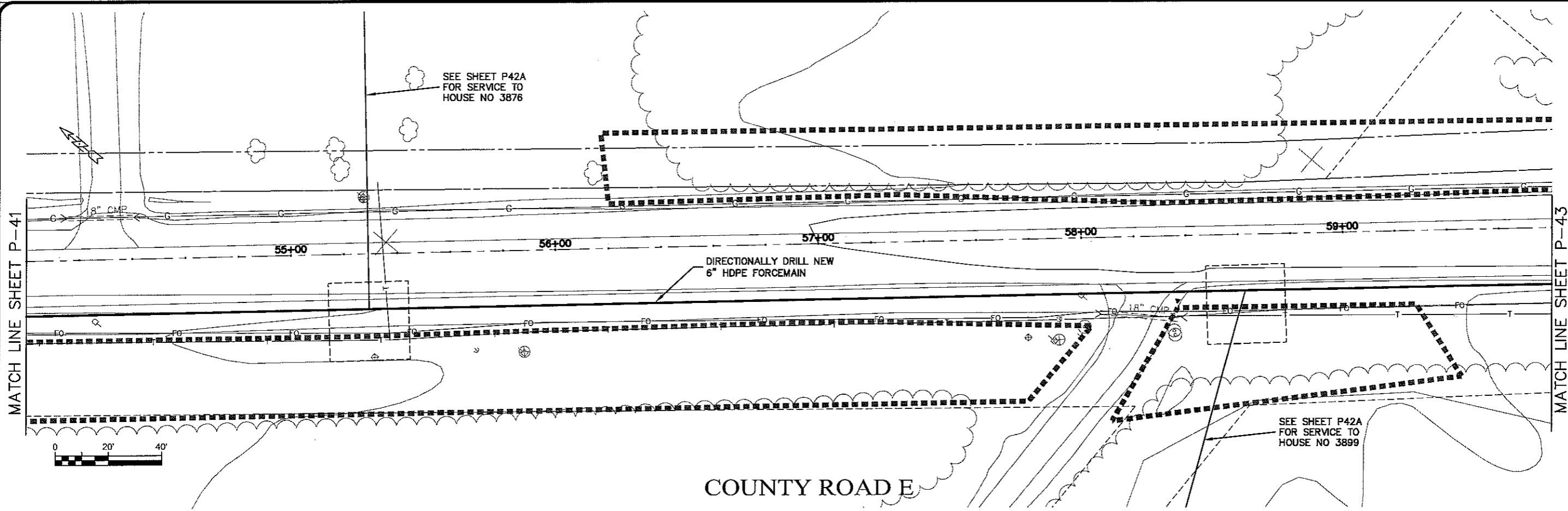
PROJECT NO: 626000  
 SHEET P-41

DATE: 16 Oct 2009  
 SCALE: AS SHOWN

PROJECT: SEWER PLAN-PROFILE  
 DISTRICT: PARKLAND SANITARY DISTRICT NO. 1  
 SYSTEM: WASTEWATER COLLECTION SYSTEM  
 LOCATION: PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

BY: \_\_\_\_\_  
 CHECKED BY: CWS

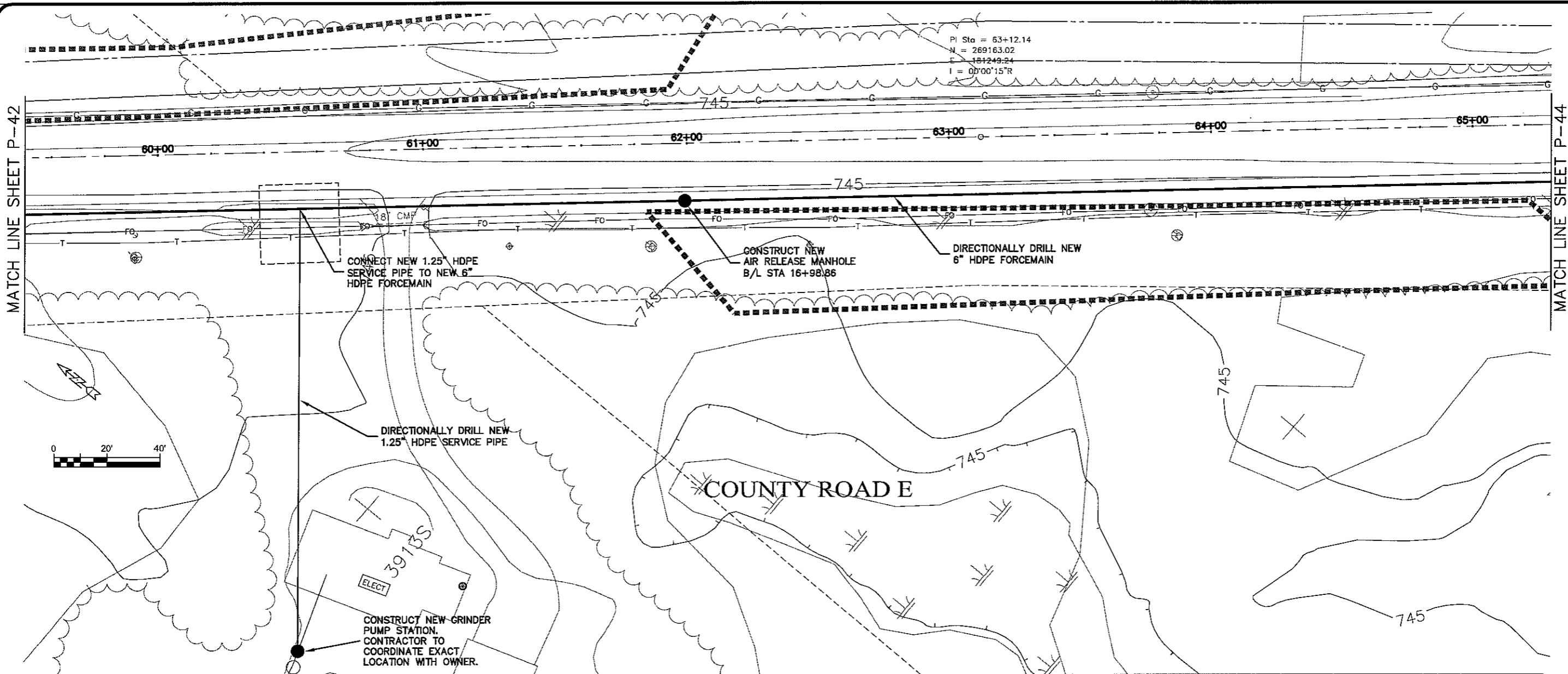
LAYOUT NAME: P-42



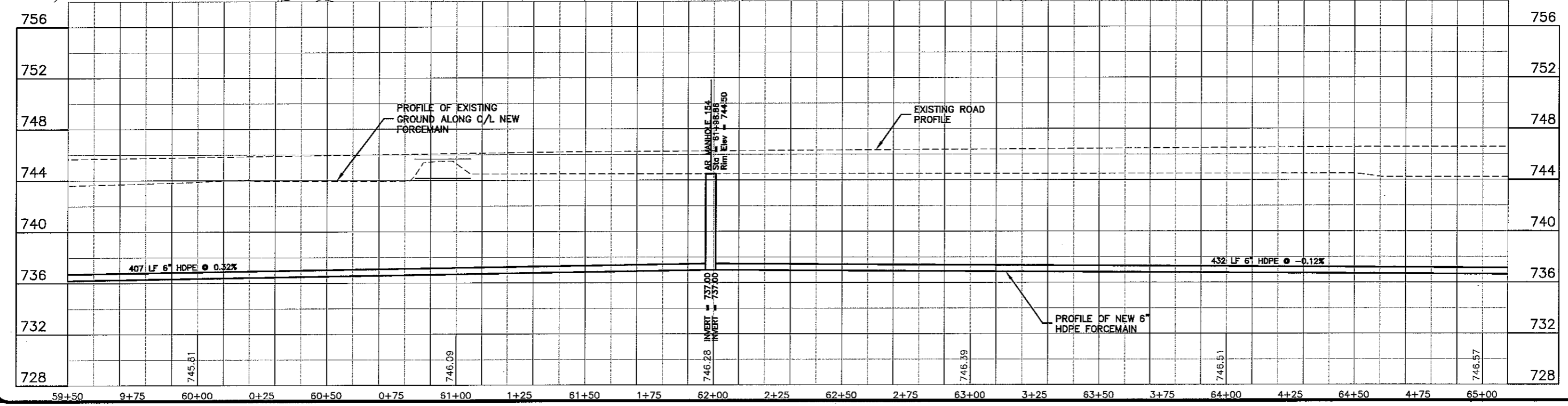
PLOT DATE: 16 Oct 2009 Plot Time: 12:29pm  
FILE PATH: K:\design\rcp\1011.dwg

<b>TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL</b>	
30 West First Street Duluth, MN 55802 218-722-9513 1-800-777-1361 Fax: 218-722-1548	
<b>MSA</b> PROFESSIONAL SERVICES	
PROJECT NO. 626000	DATE
SHEET P-42	DATE
FILE NO. 626-001	DATE
PROJECT NO. 626000	DATE
PLOT DATE: 16 Oct 2009	DATE
SCALE AS SHOWN	DATE
SEWER PLAN-PROFILE	DATE
PARKLAND SANITARY DISTRICT NO. 1 WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN	DATE
DESIGNED BY: RWM	DATE
CHECKED BY: CNS	DATE

CONTR. NAME P-43



PI Sta = 63+12.14  
 N = 269163.02  
 E = 187249.24  
 I = 00°00'15"R



PLT DATE: 16 Oct 2009 12:43pm  
 FILENAME: K:\design\RCp\2011.dwg

MATCH LINE SHEET P-42

MATCH LINE SHEET P-44

TRANSPORTATION - MUNICIPAL  
 DEVELOPMENT - ENVIRONMENTAL  
 300 West First Street, Duluth, MN 55802  
 218-722-9313 FAX: 218-722-4548  
 © MSA PROFESSIONAL SERVICES

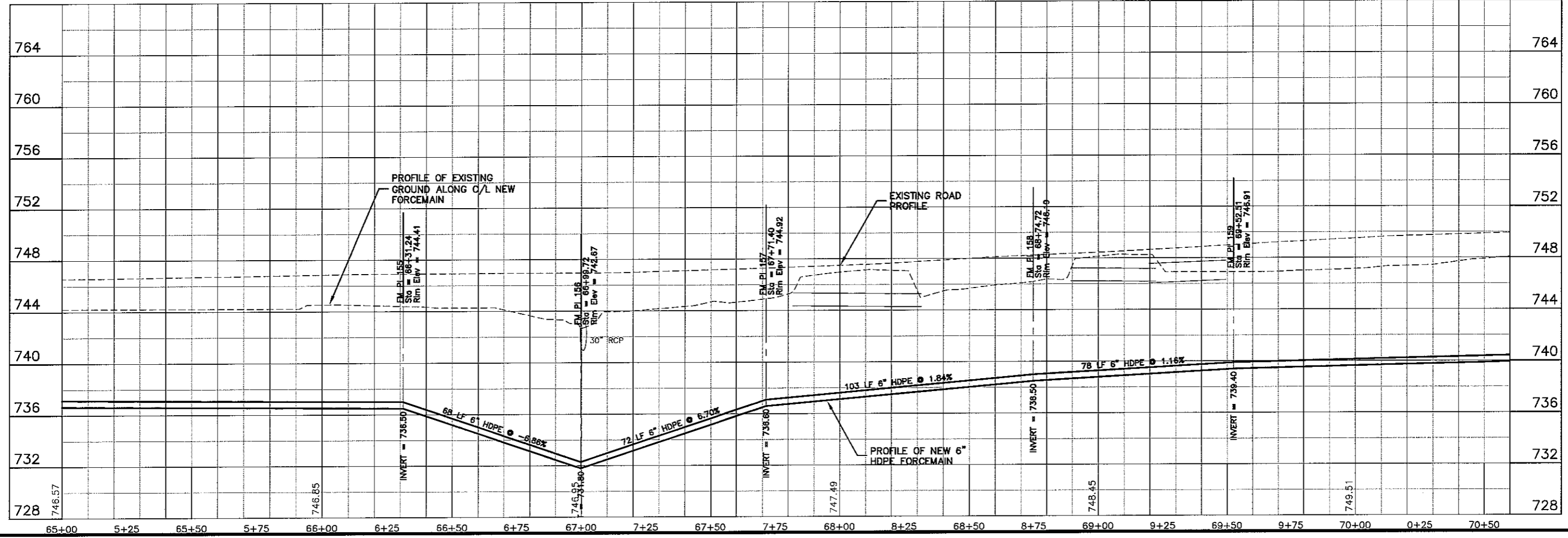
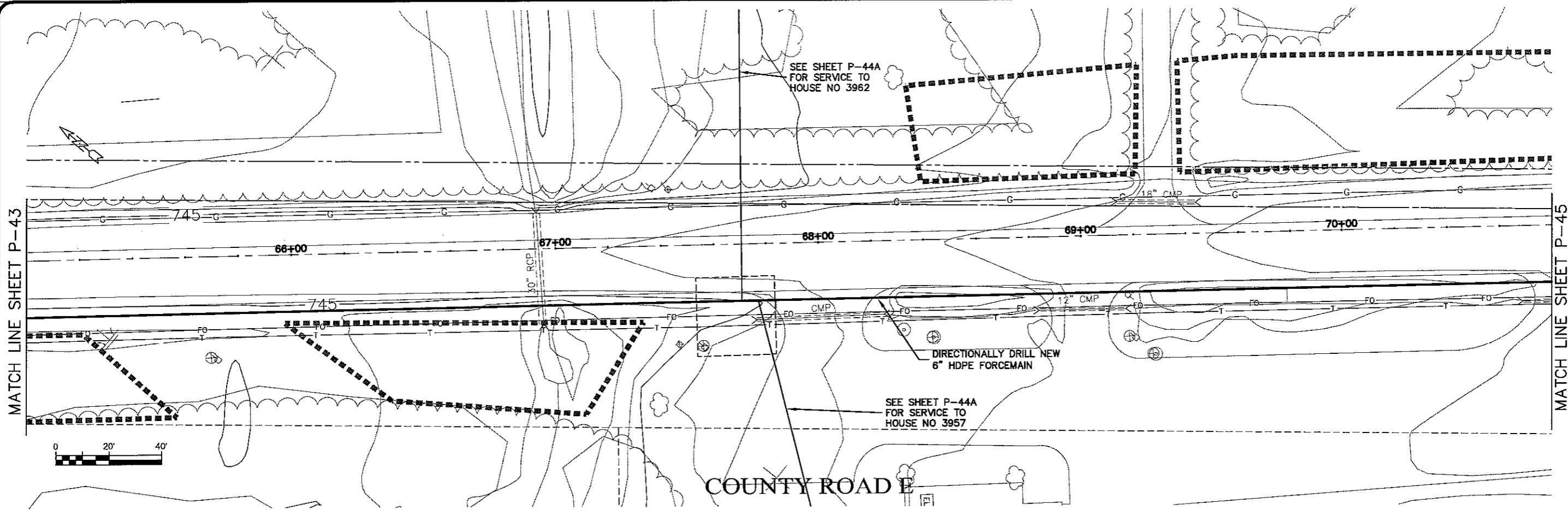
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO.	626000
DATE	16 Oct 2009
NO.	
BY	
DESIGNED BY	RWM
CHECKED BY	CWS
SCALE	AS SHOWN

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO.  
 626-001

SHEET  
 P-43



TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-3380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

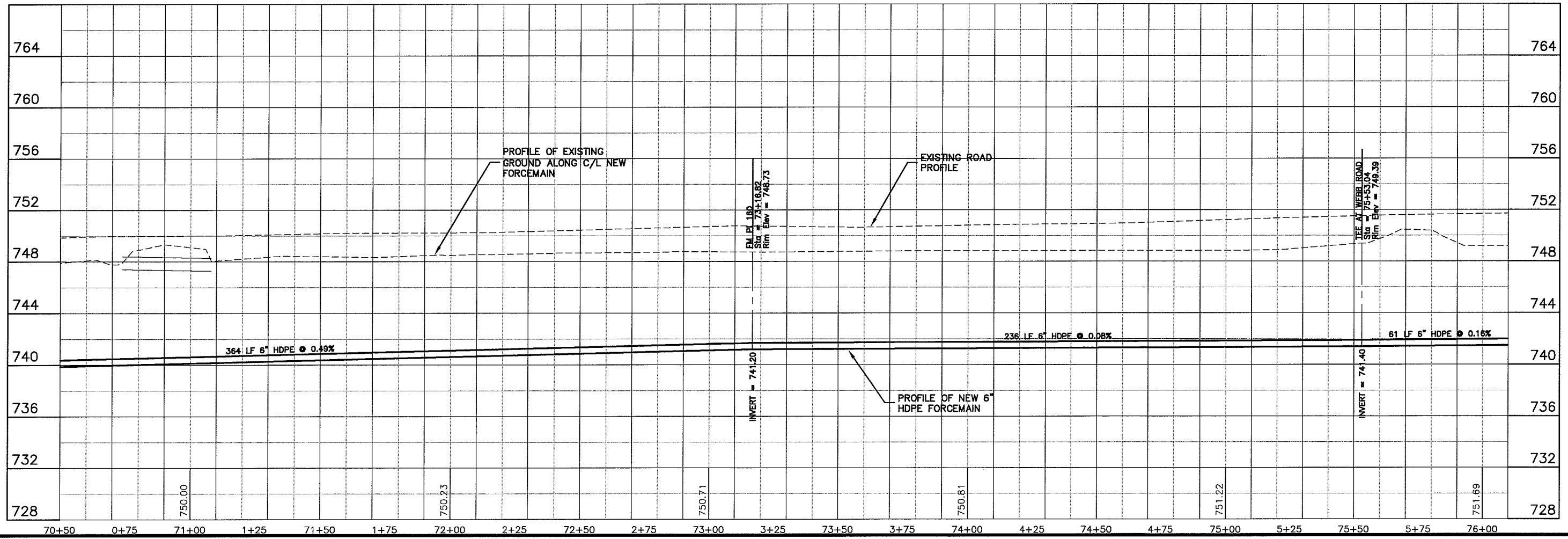
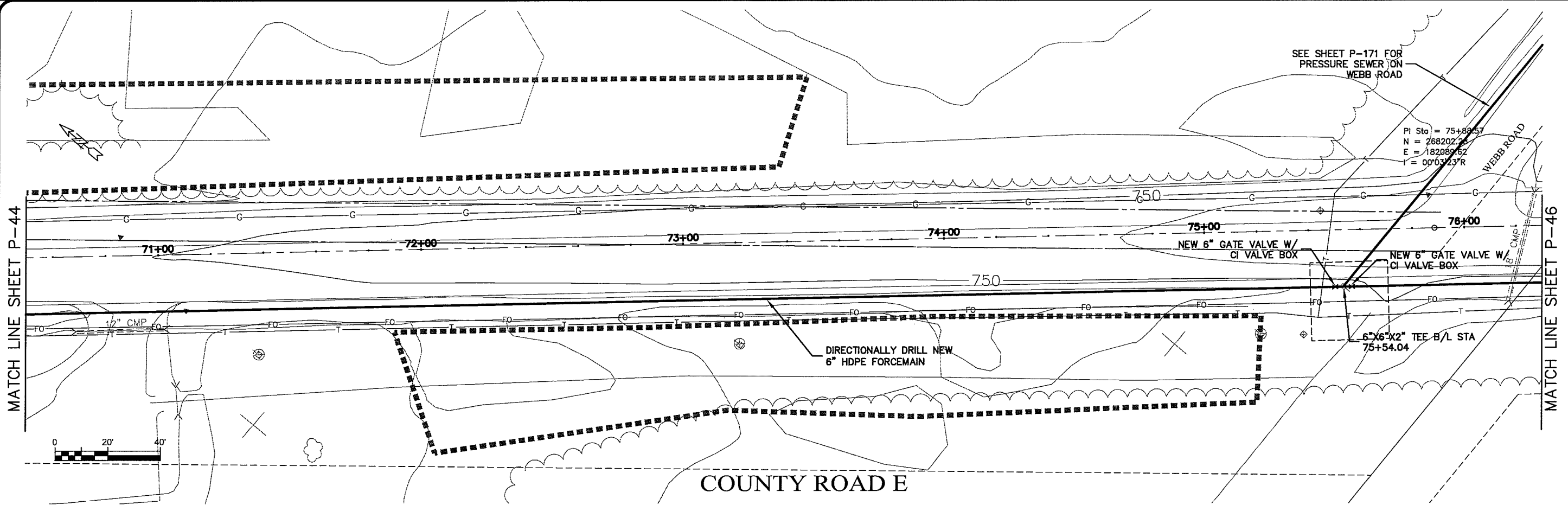
PROJECT NO: 626000  
 PLOT DATE: 16 Oct 2009  
 SCALE: AS SHOWN

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

TITLE: 626-001  
 SHEET: P-44

BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 REGION: \_\_\_\_\_  
 DRAWN BY: RWM  
 CHECKED BY: CWS

LAYOUT NAME P-45



PLOT DATE: 16 Oct 2009 12:59pm  
FILEPATH: K:\design\RCp14011.dwg

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-3915 1-800-777-7380 Fax: 218-722-4548  
© MSA PROFESSIONAL SERVICES

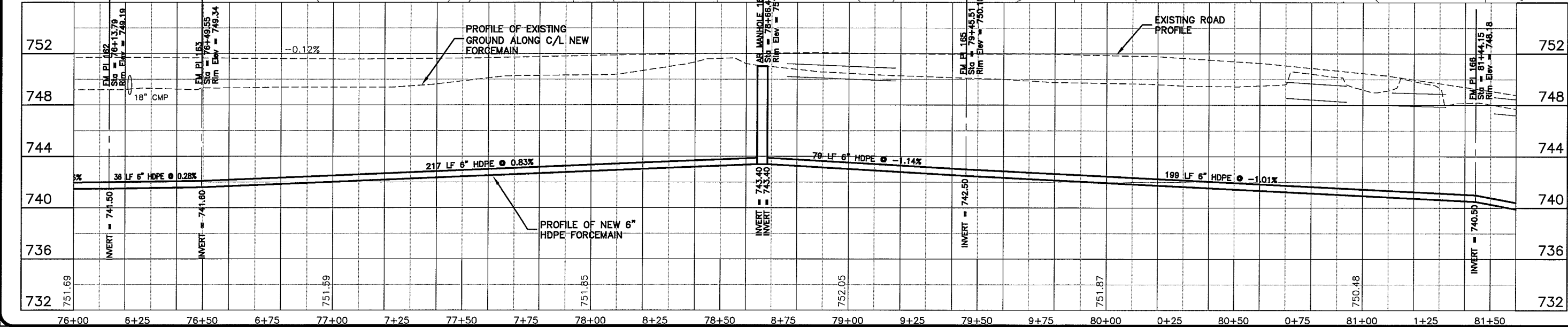
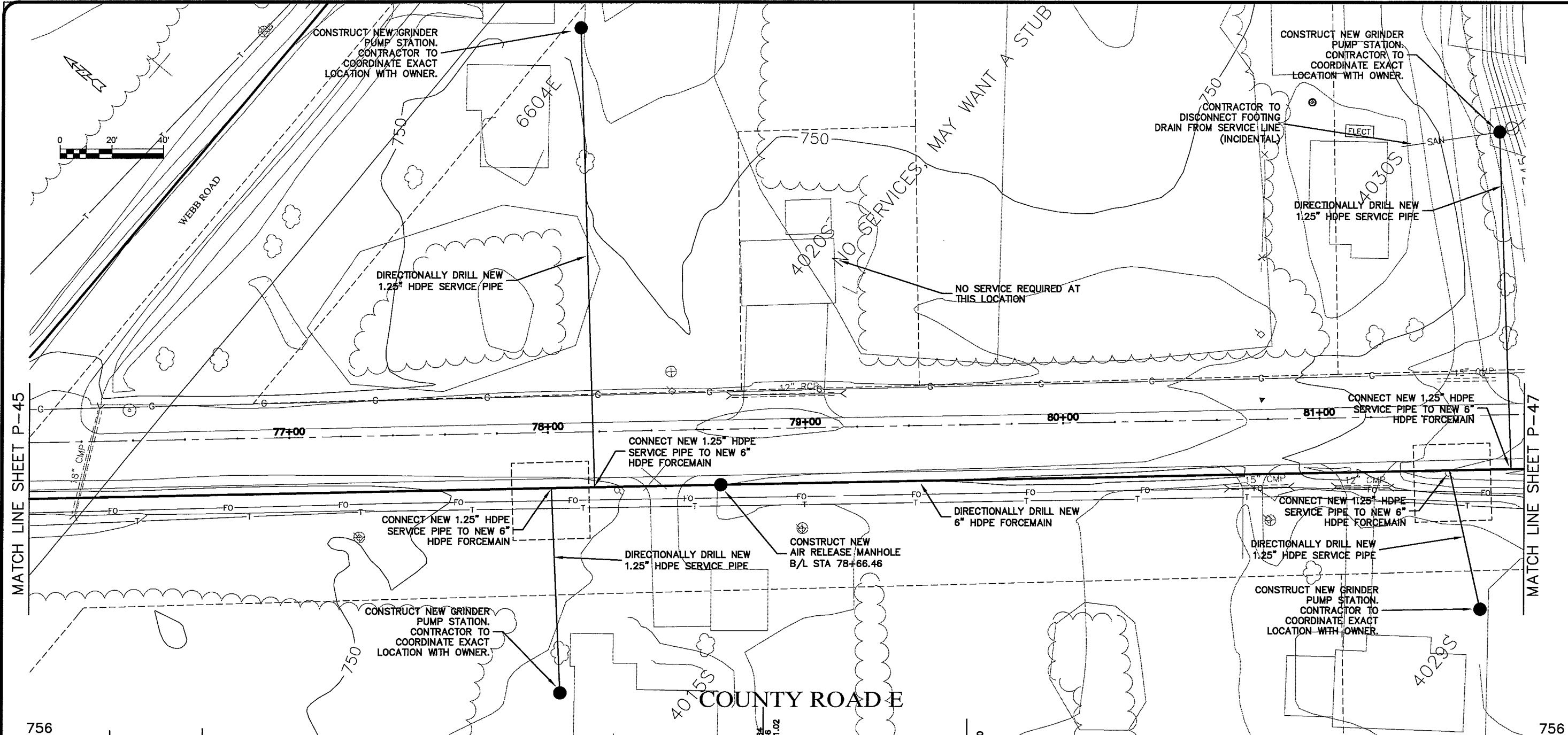
**MSA**  
PROFESSIONAL ENGINEERS

PROJECT NO. 626000  
DATE 16 Oct 2009  
SCALE AS SHOWN

SEWER PLAN - PROFILE  
PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
SHEET P-45

BY: \_\_\_\_\_  
CHECKED BY: CWS



MATCH LINE SHEET P-45

MATCH LINE SHEET P-47

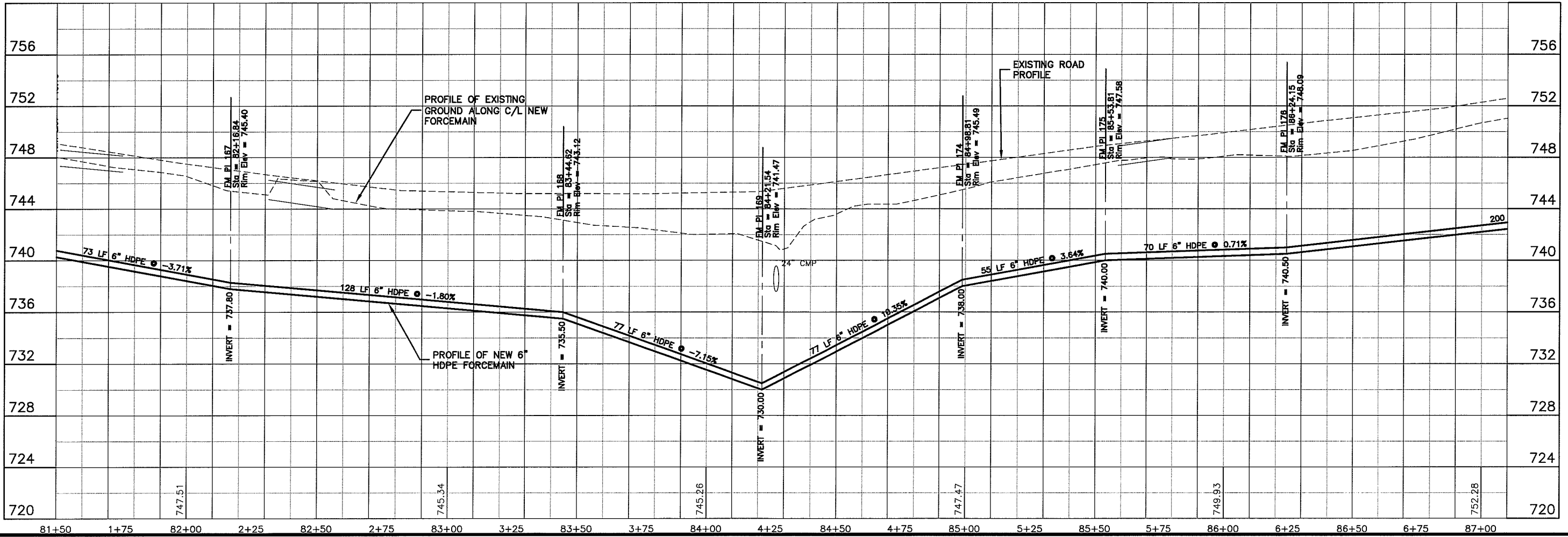
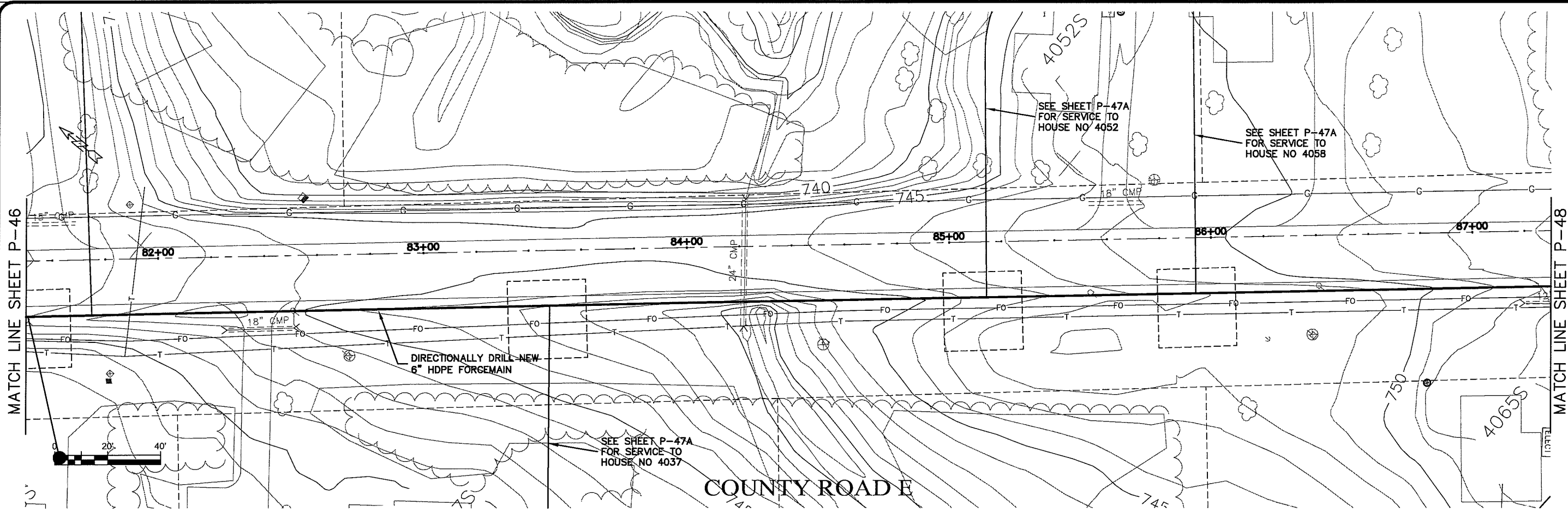
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 • 800-777-7380 • Fax: 218-722-5498  
**MSA**  
 PROFESSIONAL ENGINEERS

PROJECT NO.: 626000  
 PLOT DATE: 16 Oct 2009  
 SCALE AS SHOWN

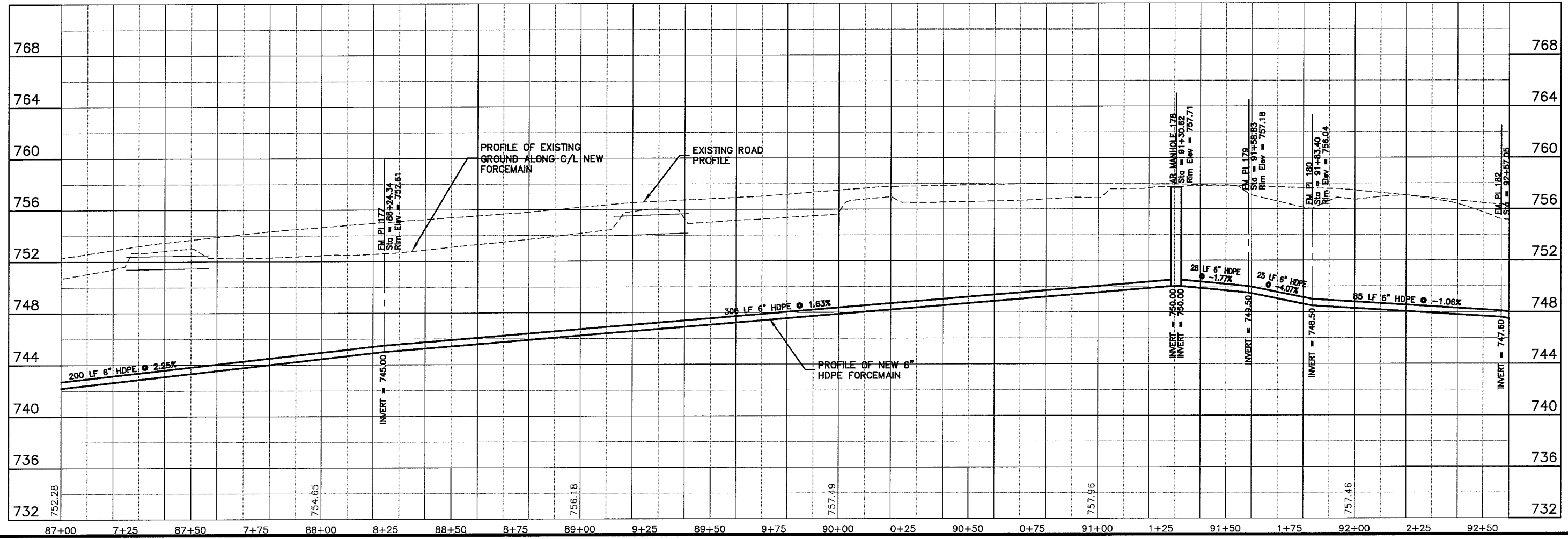
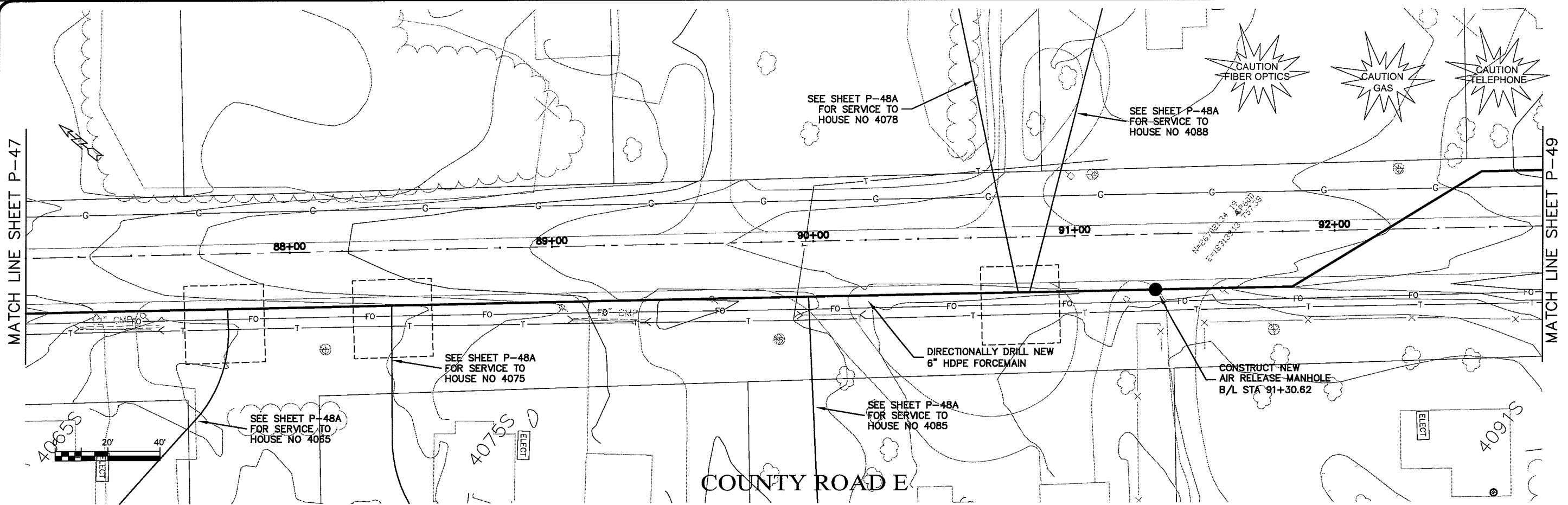
SEWER PLAN PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO.: 626-001  
 SHEET: P-46





LAYOUT NAME P-48



PLT DATE: 16 Oct 2009, PLT TIME: 1:37pm  
 DRAWING: K:\Design\RCp17011.dwg

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3913, 1-800-777-7380 Fax: 218-722-4588  
**MSA**  
 PROFESSIONAL SERVICES

---

PROJECT NO: 626000  
 DATE: 16 Oct 2009  
 SCALE: AS SHOWN  
 DRAWN BY: RWM  
 CHECKED BY: CWS

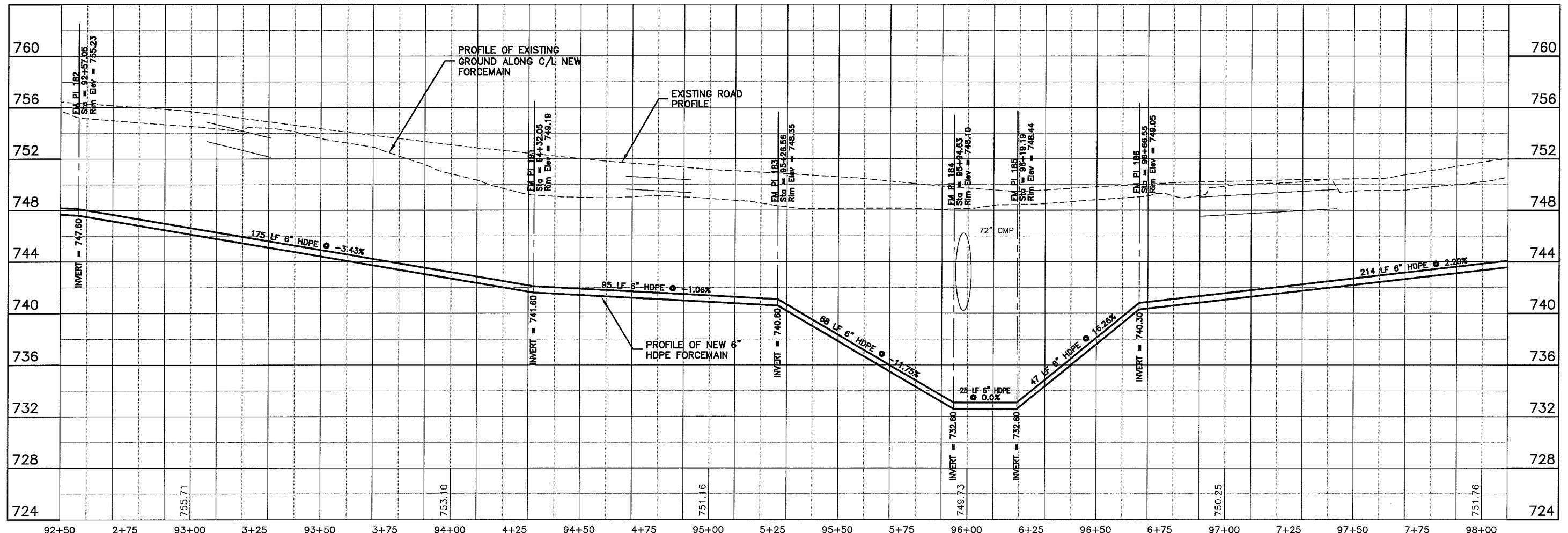
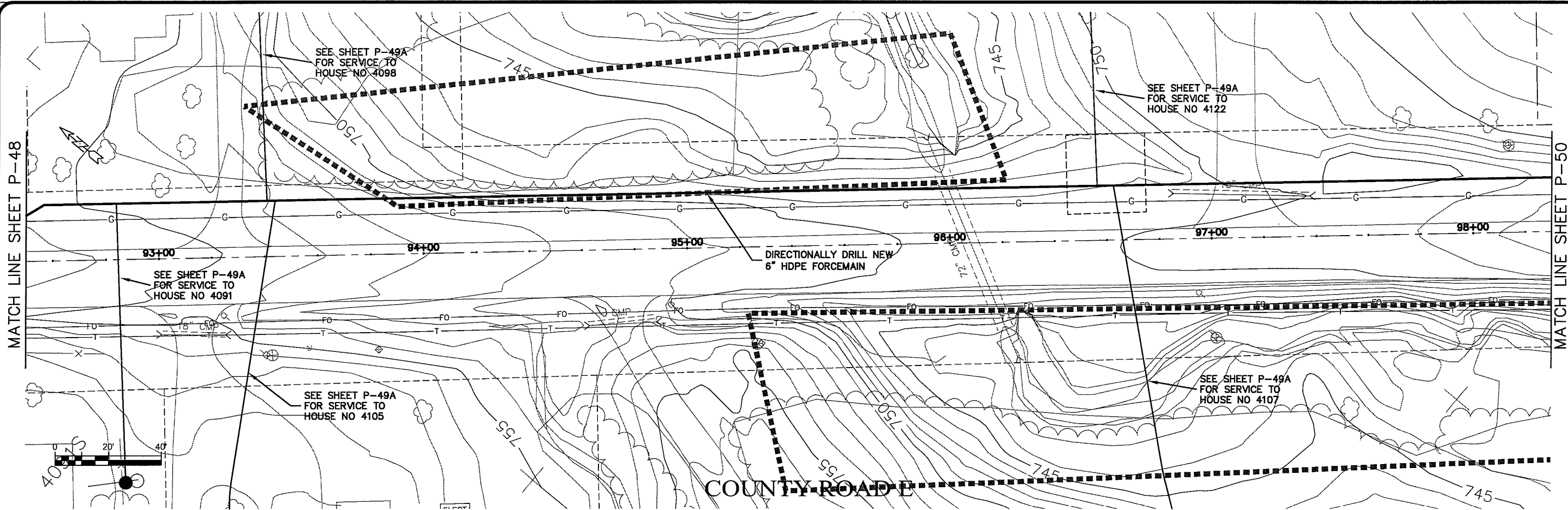
---

**SEWER PLAN - PROFILE**  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

---

FILE NO:  
 626-001  
 SHEET  
 P-48

DATE: 10/16/09



FILE: K:\design\rcp18011.dwg

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-3915 • 1-800-777-7380 • Fax: 218-722-5248  
© USA PROFESSIONAL SERVICES

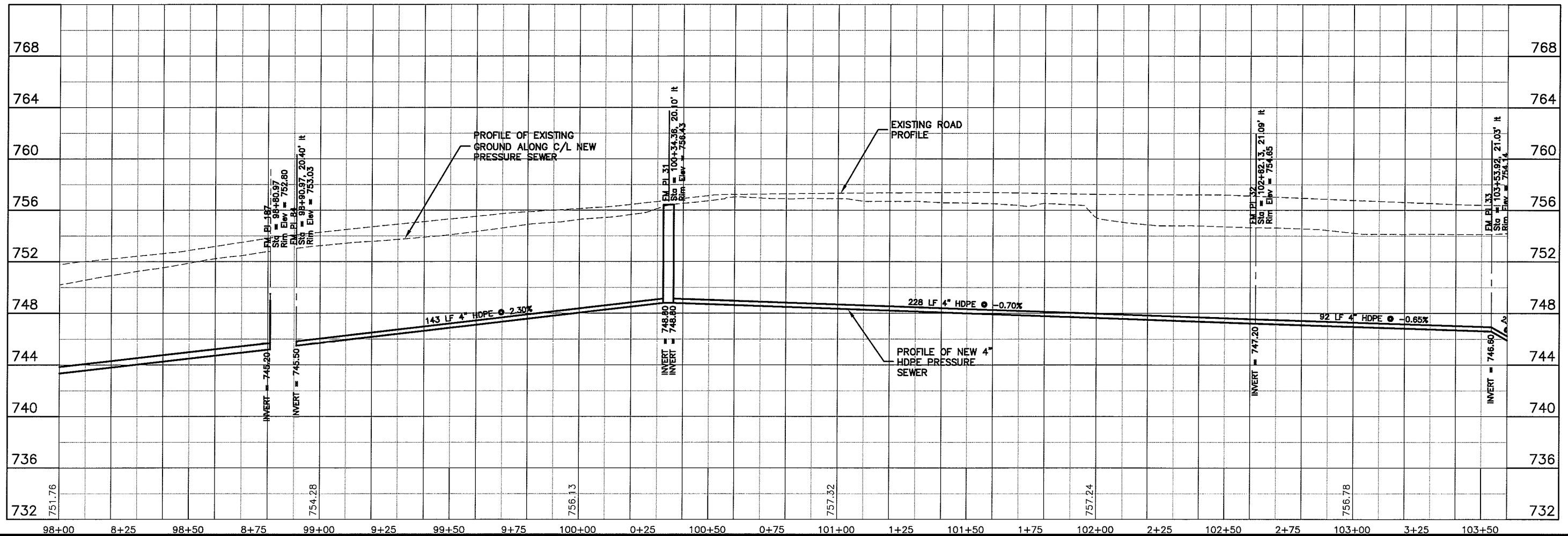
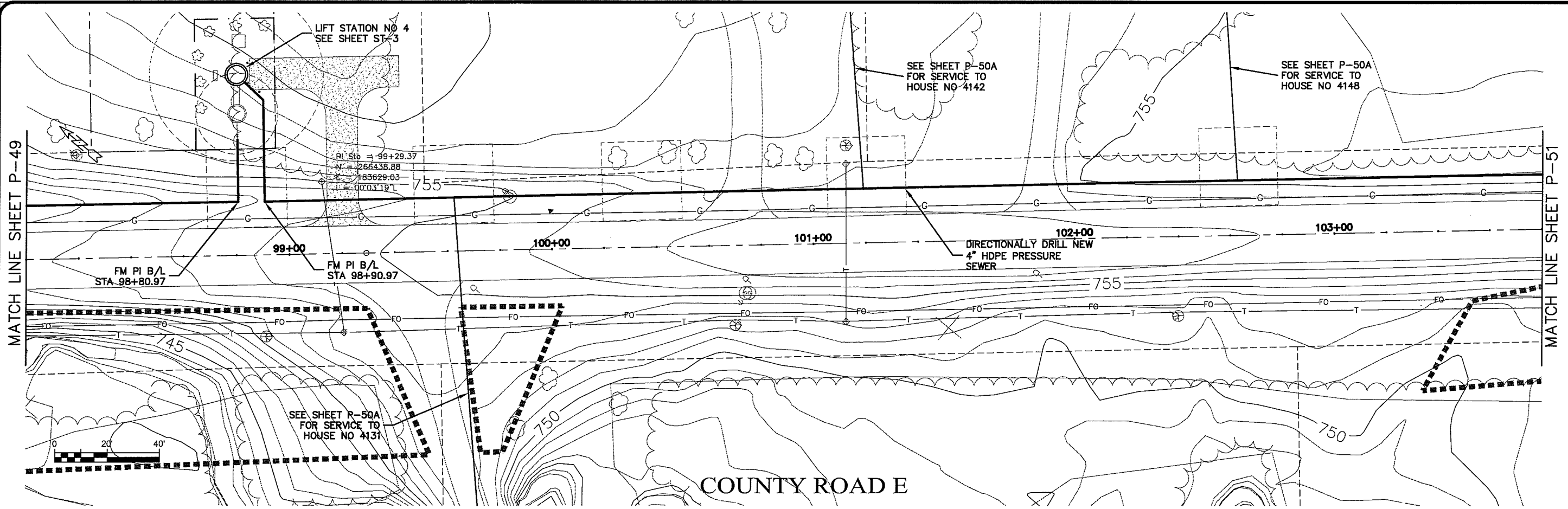
**MSA**  
PROFESSIONAL SERVICES

PROJECT NO.: 626000  
PLOT DATE: 16 Oct 2009  
SCALE: AS SHOWN

SEWER PLAN - PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO.: 626-001  
SHEET: P-49

BY: \_\_\_\_\_  
DATE: \_\_\_\_\_  
NO.: \_\_\_\_\_  
F.E.: \_\_\_\_\_  
DRAWN BY: RWM  
CHECKED BY: CWS



**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 • 1-800-777-7380 Fax: 218-722-5488  
 © MSA PROFESSIONAL SERVICES

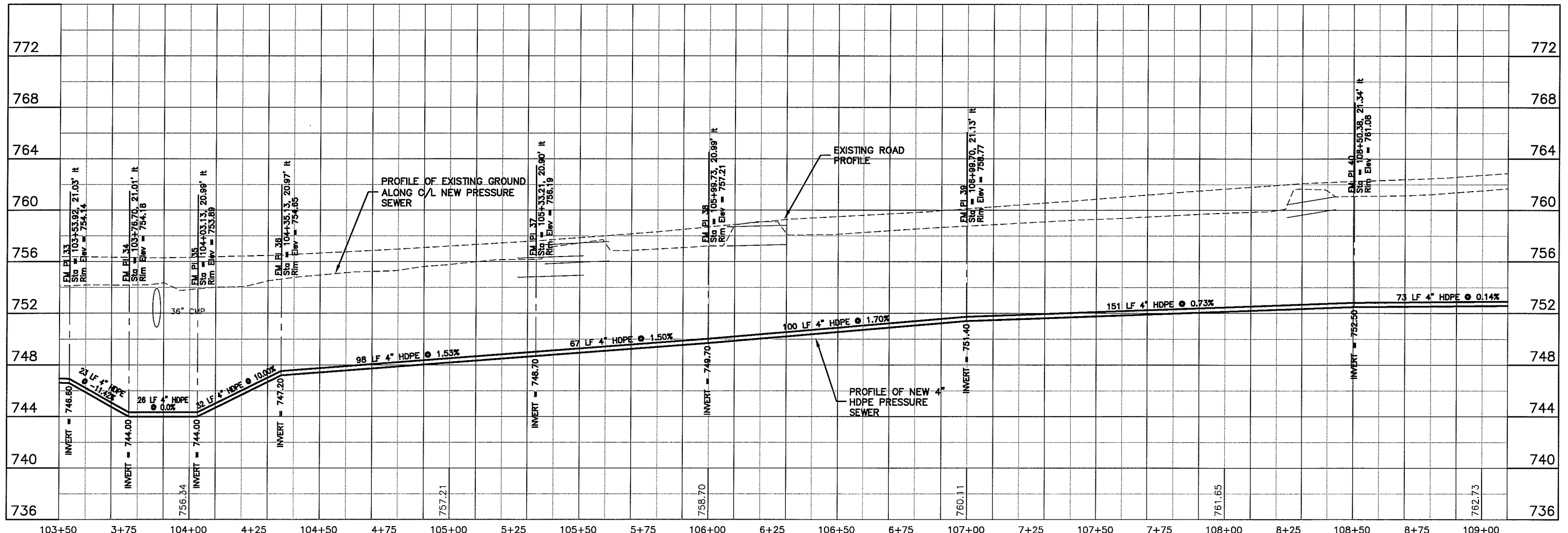
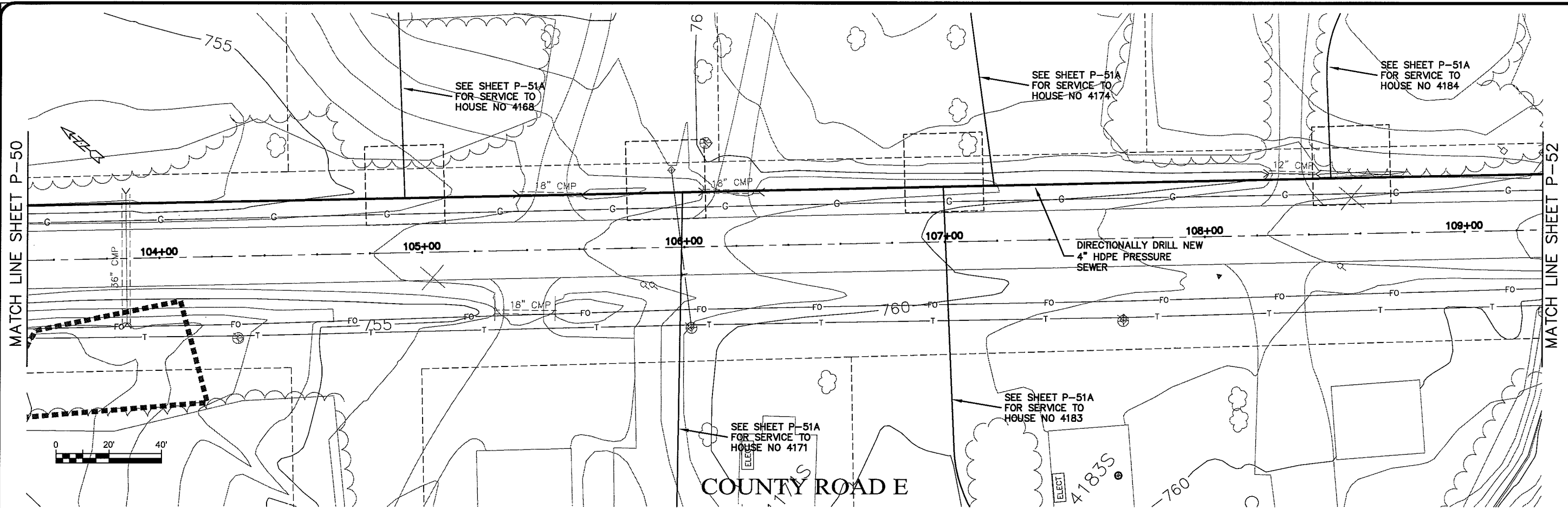
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO: 626000  
 FILE NO: 626-001  
 SHEET: P-50

DATE: \_\_\_\_\_  
 NO: \_\_\_\_\_  
 F.E.L: \_\_\_\_\_  
 DRAWN BY: RWM  
 CHECKED BY: CWS

PROJECT: PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

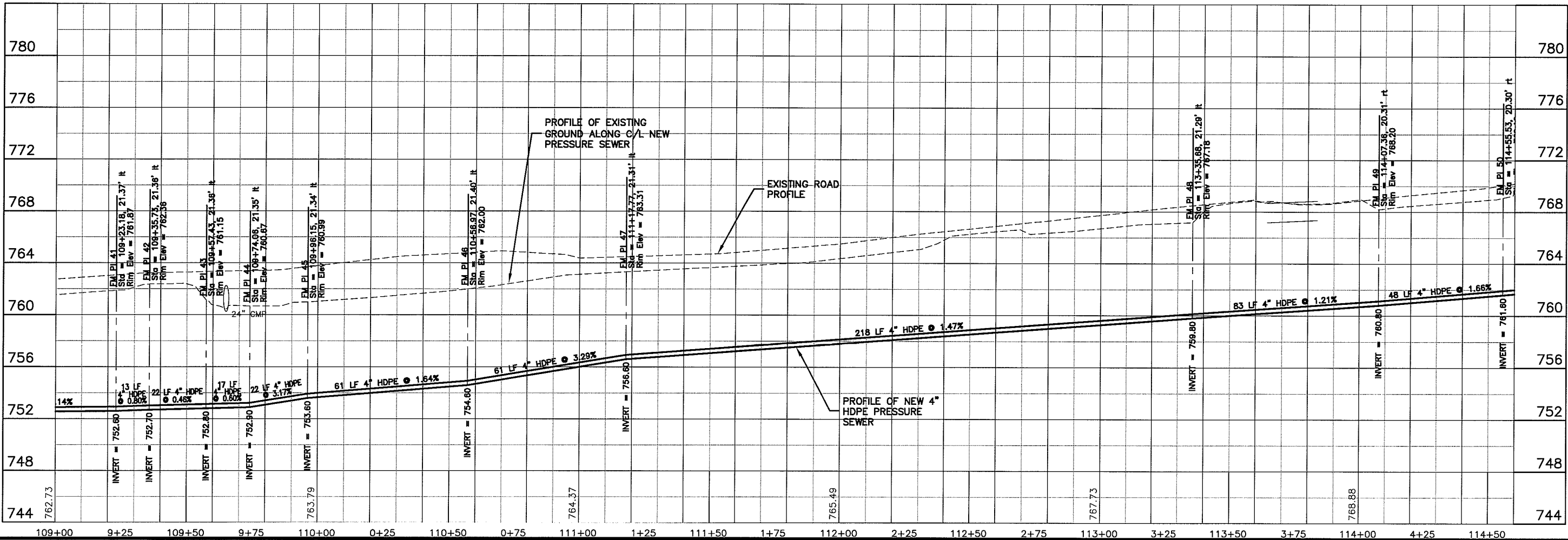
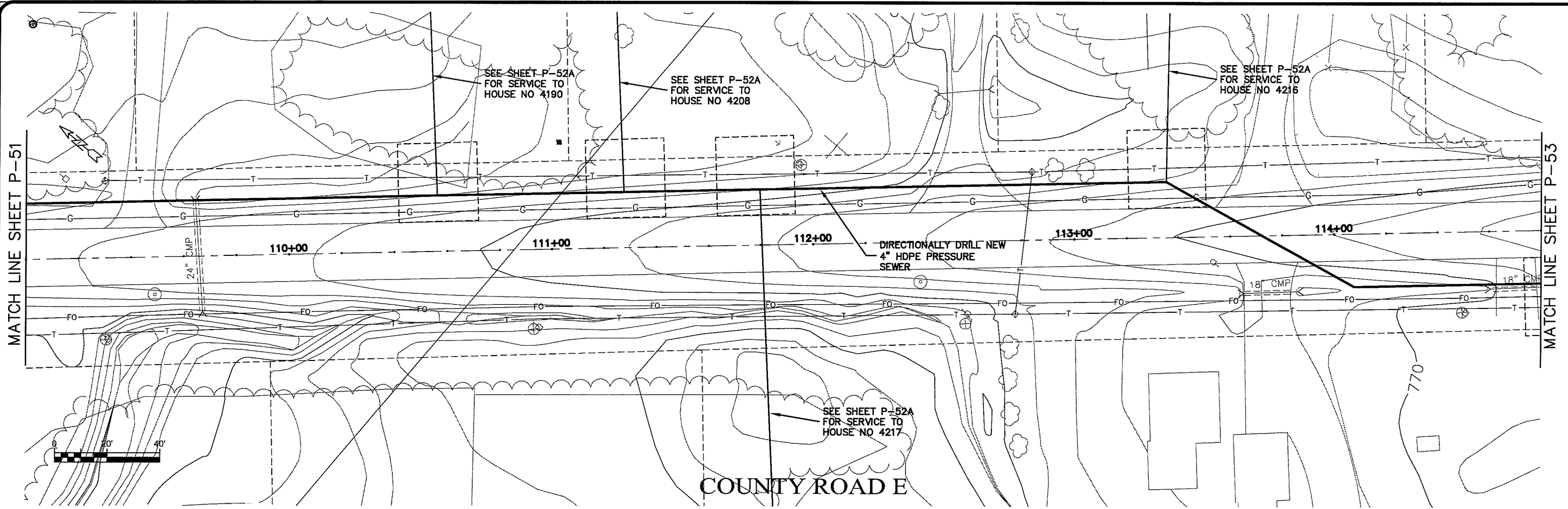
SCALE: AS SHOWN  
 PLOT DATE: 20 Oct 2009



TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street • Duluth, MN 55802  
 218-722-3915 • 800-777-7380 • Fax: 218-722-5458  
**MSA**  
 PROFESSIONAL SERVICES

---

PROJECT NO. 626000  
 PLOT DATE: 20 Oct 2009  
 SCALE: AS SHOWN  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 SHEET P-51



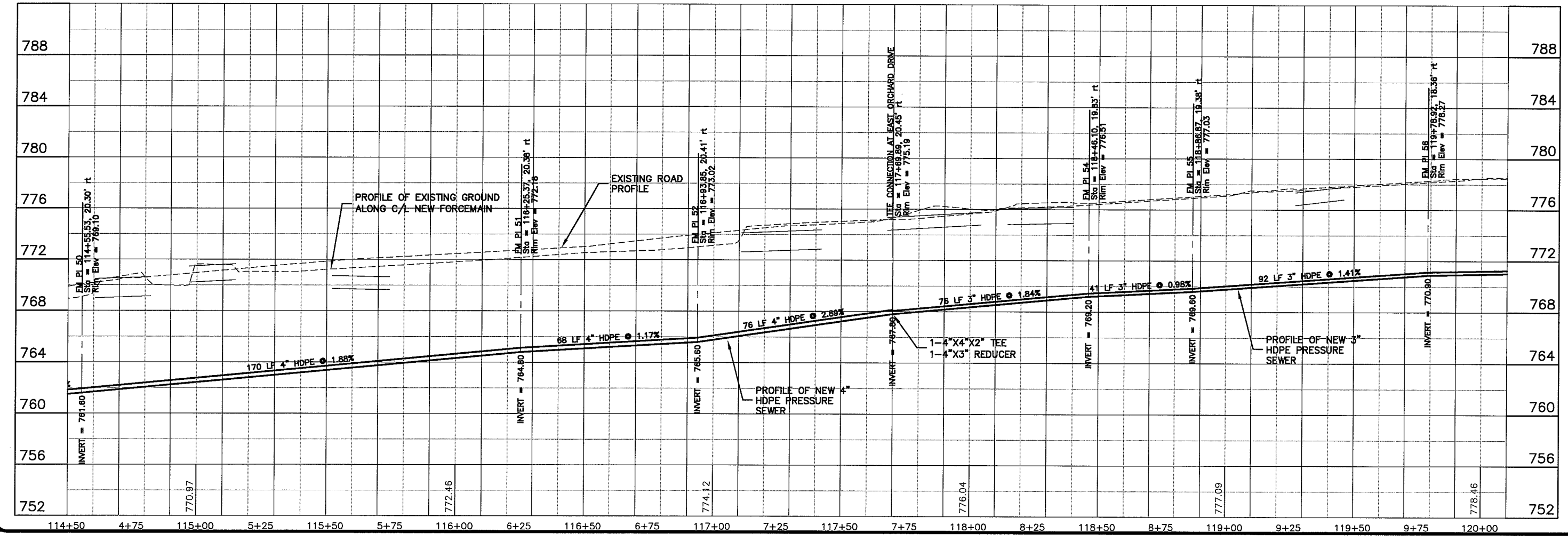
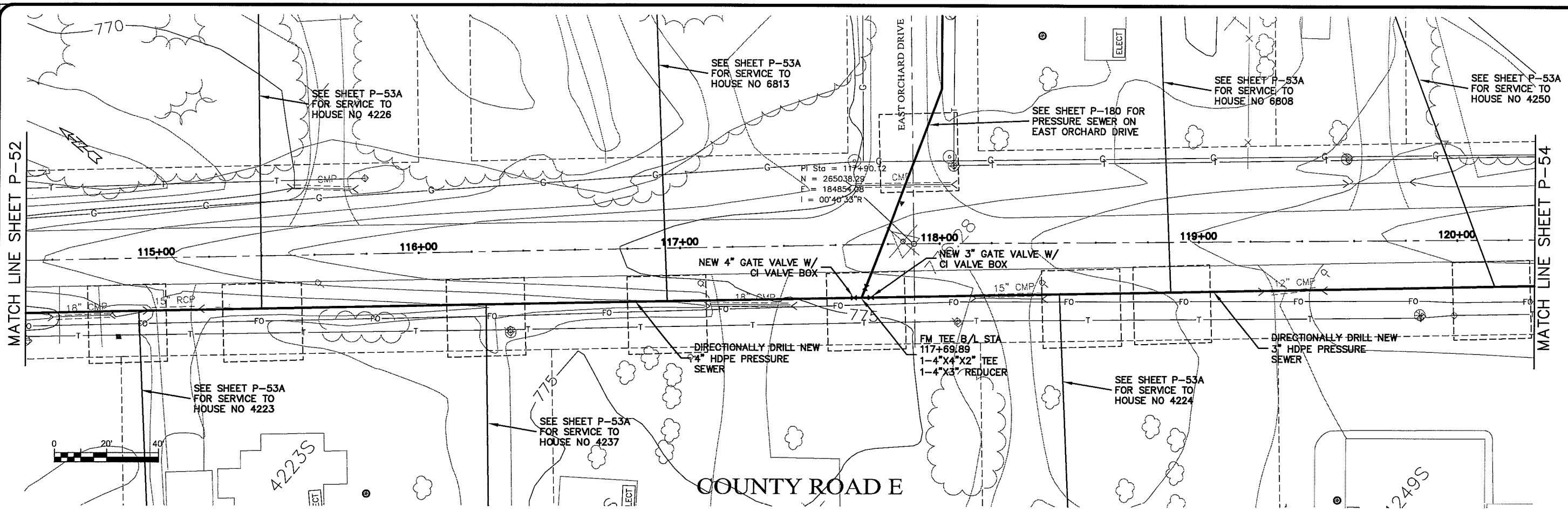
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-725-9313 1-800-777-7380 Fax: 218-725-4548  
MSA PROFESSIONAL SERVICES

PROJECT NO: 626000  
DATE: 21 Oct 2009  
SCALE: AS SHOWN

SEWER PLAN-PROFILE  
PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO: 626-001  
SHEET: P-52

UNNOT NAME P-53



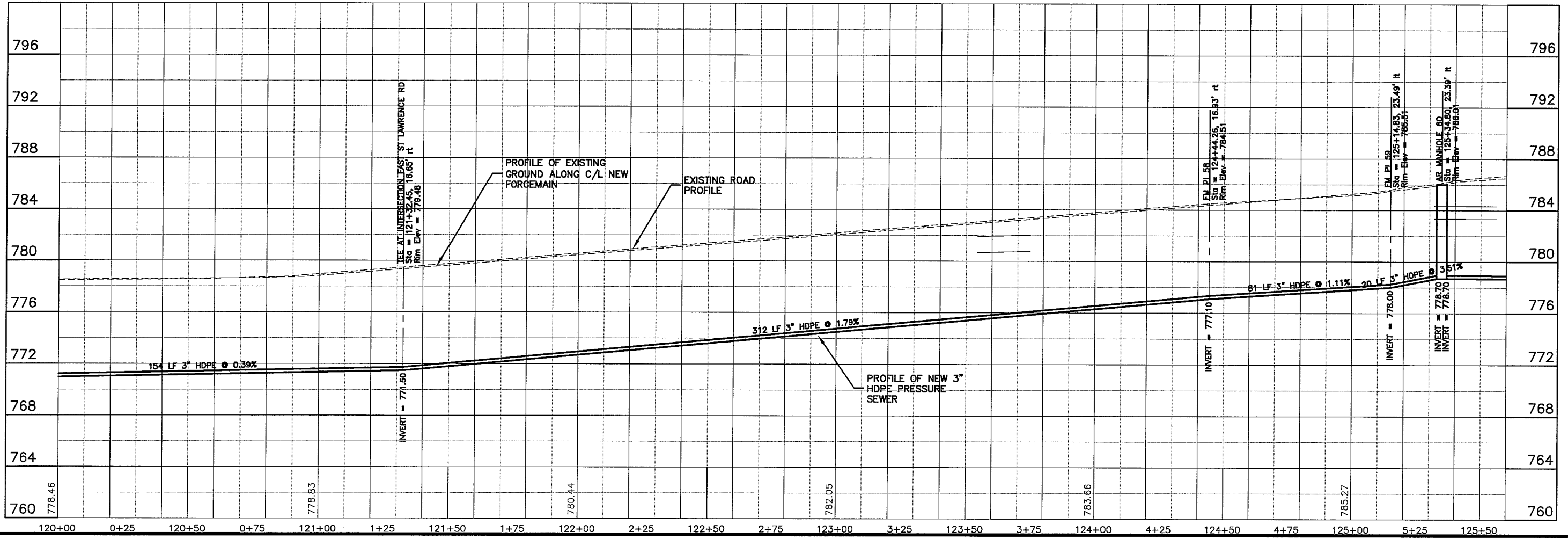
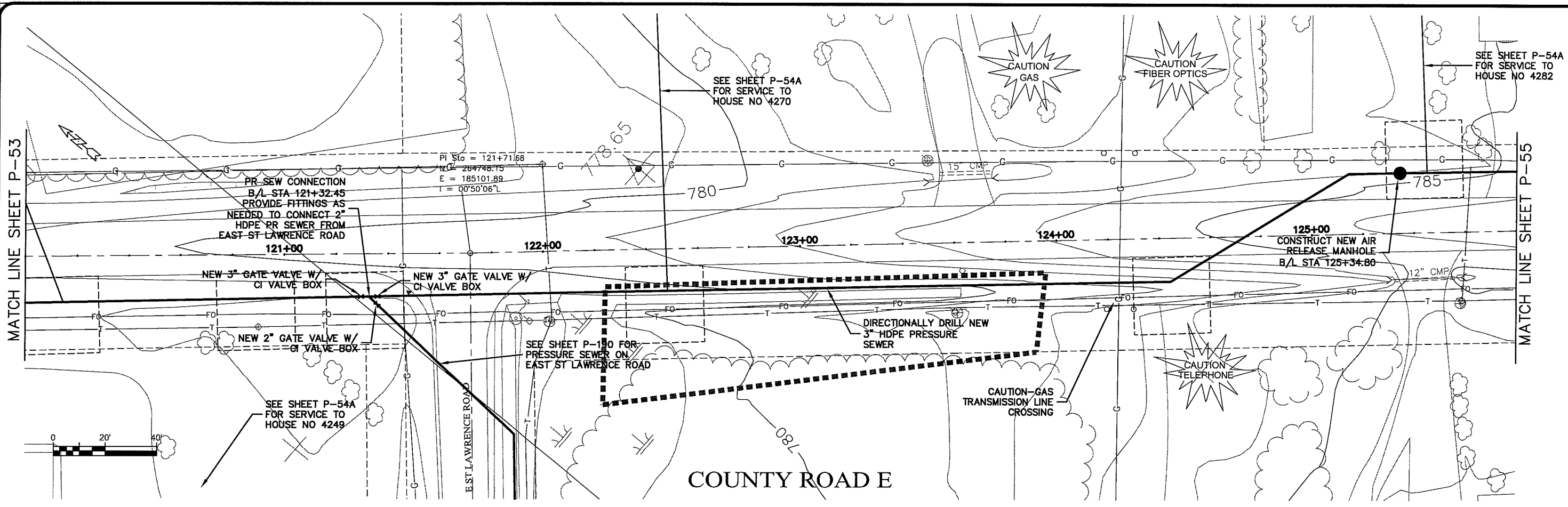
PLT DATE: 21 Oct 2009 10:47:01  
 FILENAME: K:\design\RCp22011.dwg

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-7390 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO: 626000  
 SHEET: P-53  
 DATE: 21 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 SCALE: AS SHOWN

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

UNBID NAME P-54



PLOT DATE: 21 Oct 2009 PLOT TIME: 7:18 AM  
 FILEPATH: K:\design\RCp23011.dwg

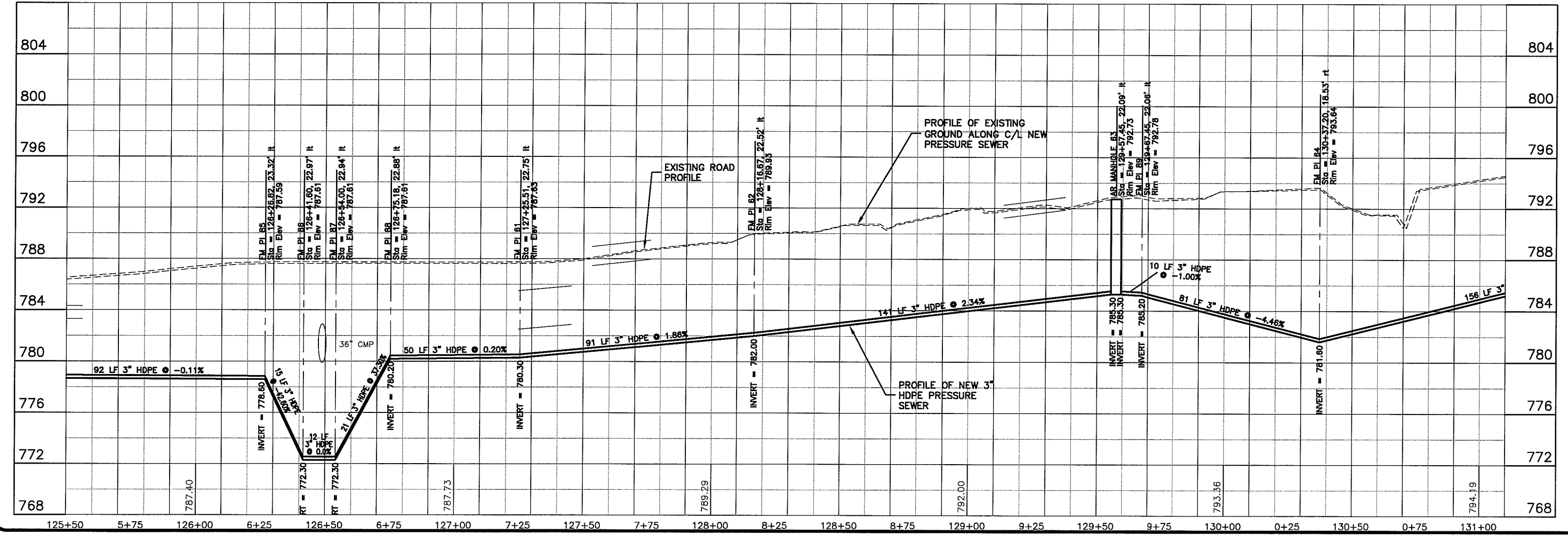
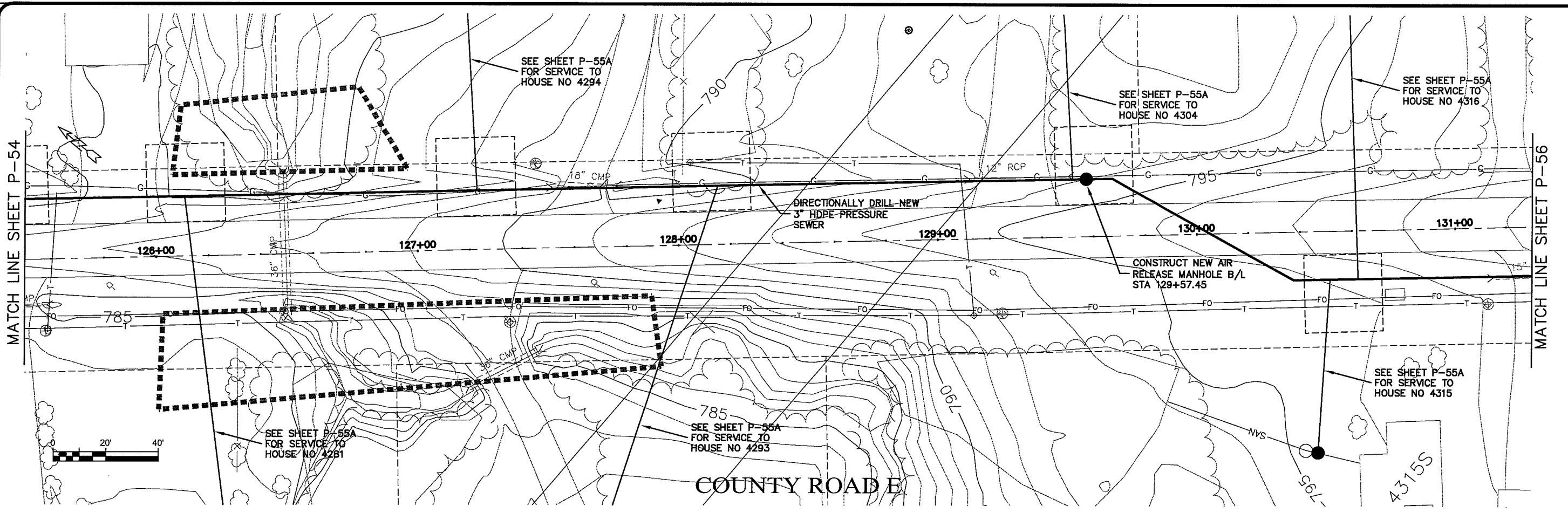
TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-9915 Fax: 218-722-4548  
 MSA PROFESSIONAL SERVICES



PROJECT NO. 626000	DATE
PLOT DATE: 21 Oct 2009	NO.
SCALE AS SHOWN	BY
SEWER PLAN PROFILE	DATE
PARKLAND SANITARY DISTRICT NO. 1	NO.
WASTEWATER COLLECTION SYSTEM	DATE
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN	NO.
FILE NO. 626-001	NO.
SHEET P-54	NO.



EXPORT NAME: P-55



Plot Date: 21 Oct 2009 Plot Time: 8:04am  
 File Path: K:\design\RCp24011.dwg

**MSA**  
 PROFESSIONAL SERVICES

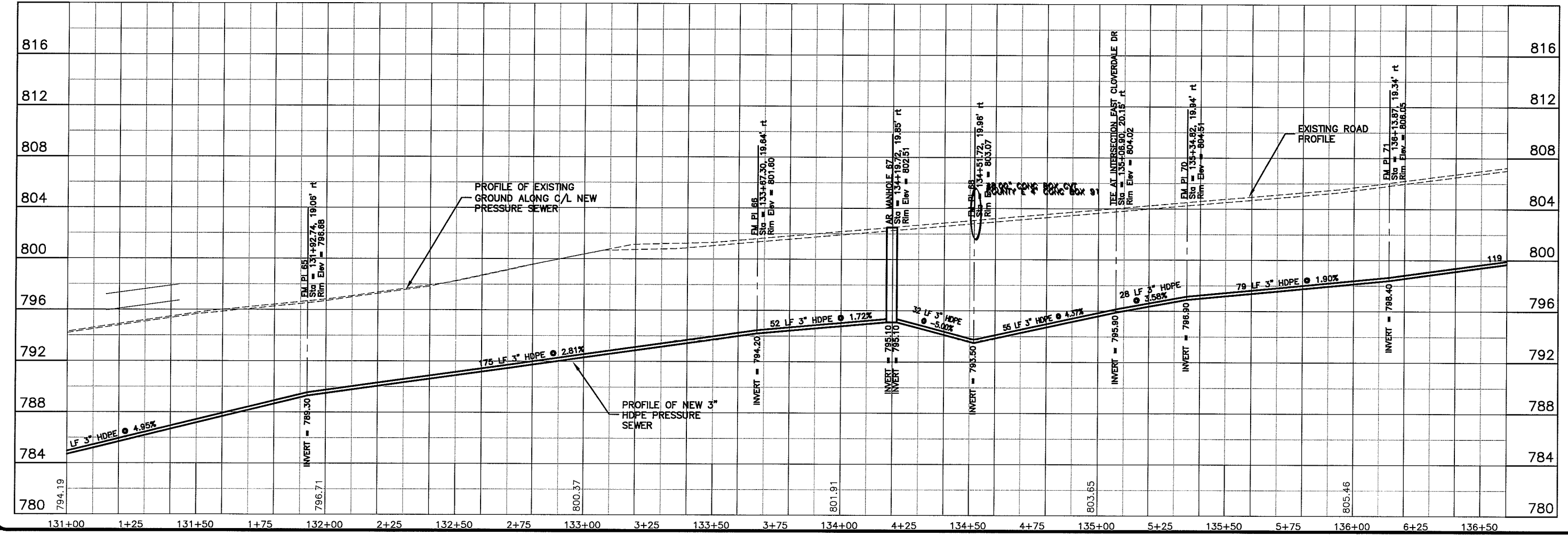
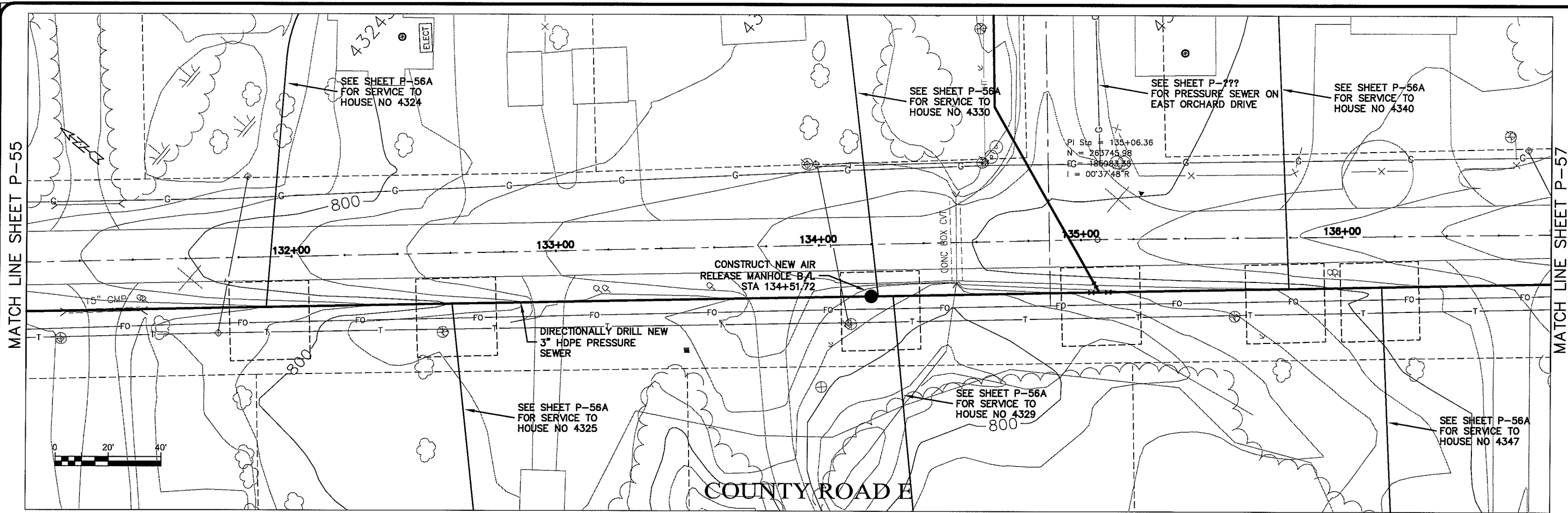
TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3315 • 1-800-777-7300 Fax: 218-722-6486

PROJECT NO: 626000  
 SHEET: P-55

DATE: 21 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS

SCALE: AS SHOWN

SEWER PLAN - PROFILE  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN



TRANSPORTATION - MUNICIPAL  
 DEVELOPMENT - ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-7390 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

---

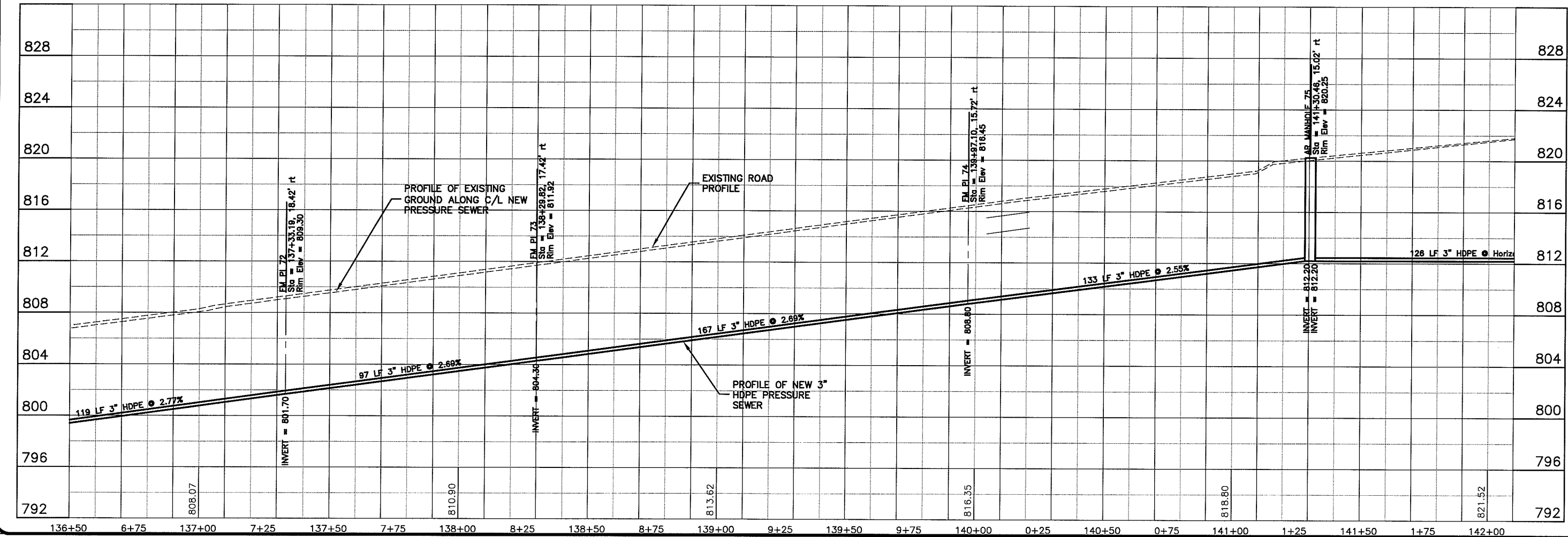
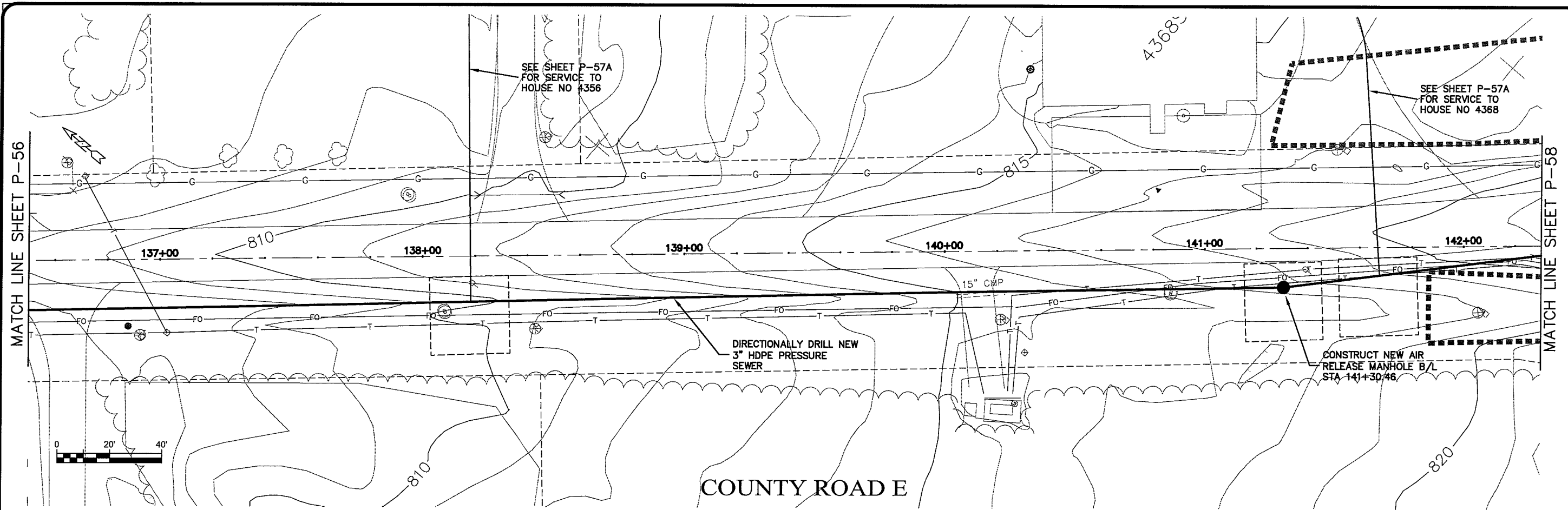
PROJECT NO: 626000  
 SHEET: P-56  
 DATE: 21 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 SCALE: AS SHOWN

---

SEWER PLAN PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

---

FILE NO: 626-001



**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

---

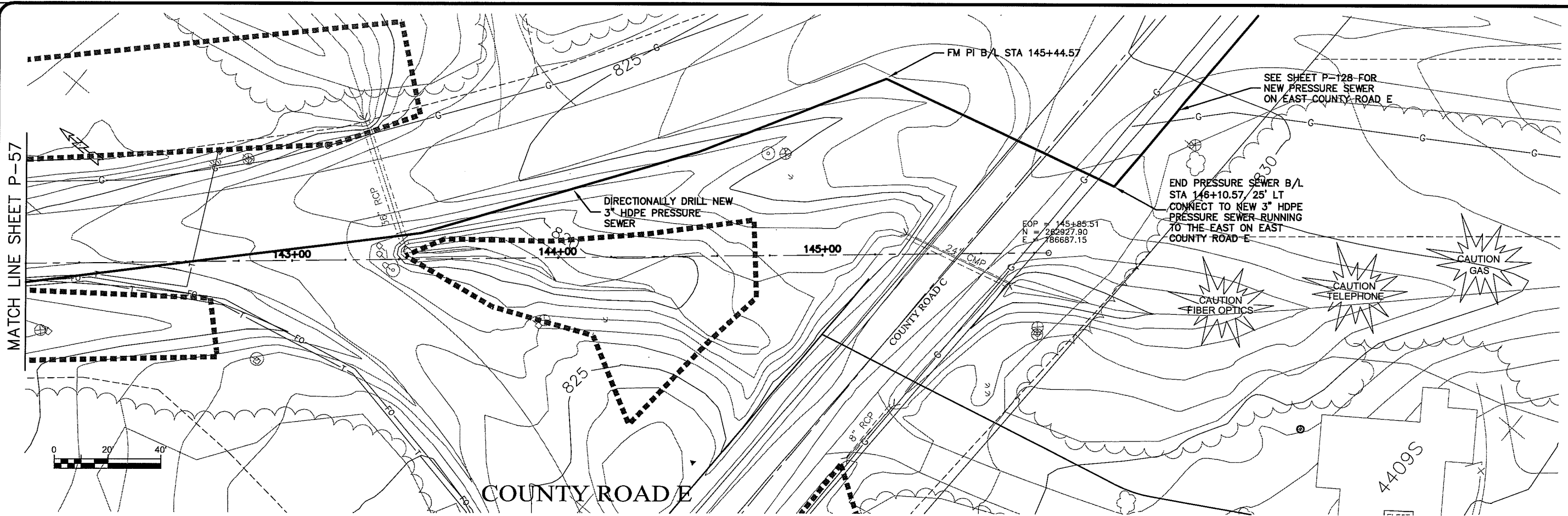
PROJECT NO: 626000  
 FILE NO: 626-001  
 SHEET: P-57

DATE: Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS

PROJECT: PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

SCALE: AS SHOWN

UNNOT NAME P-58



SEE SHEET P-128 FOR  
NEW PRESSURE SEWER  
ON EAST COUNTY ROAD E

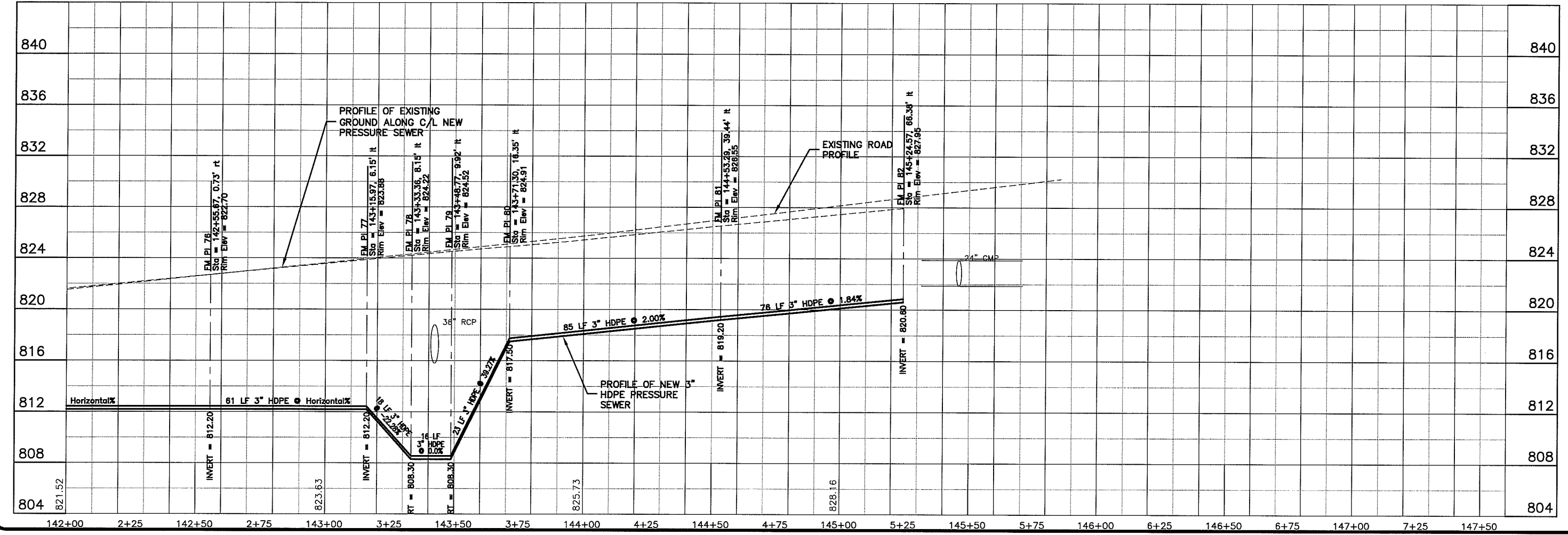
END PRESSURE SEWER B/L  
STA 146+10.57 / 25' LT  
CONNECT TO NEW 3" HDPE  
PRESSURE SEWER RUNNING  
TO THE EAST ON EAST  
COUNTY ROAD E

EOP = 145+85.51  
N = 282927.90  
E = 786687.15

COUNTY ROAD E

COUNTY ROAD C

4409S



PLT DATE: 21 Oct 2009 10:08:37am  
FILEPATH: K:\design\RCp27011.dwg

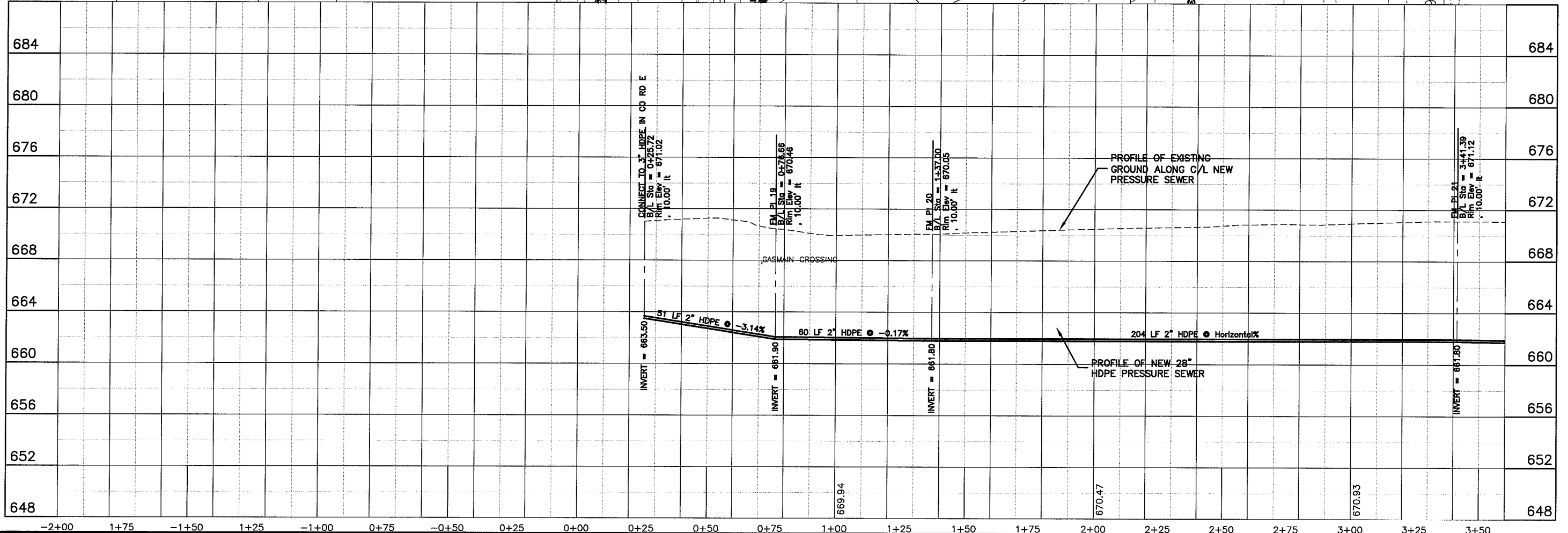
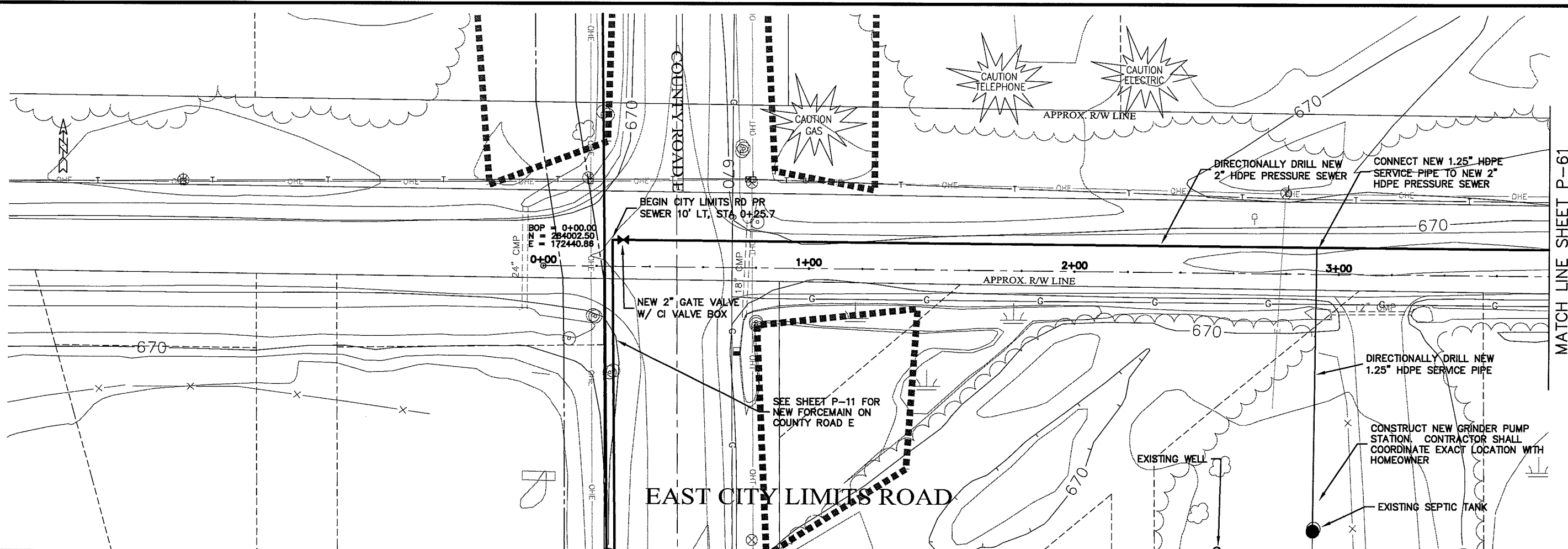
TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street Duluth, MN 55802  
218-722-3915 1-800-777-7380 Fax: 218-722-4548

**MSA**  
PROFESSIONAL SERVICES

PROJECT NO. 626000  
DATE 21 Oct 2009  
SCALE AS SHOWN

SEWER PLAN PROFILE  
PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

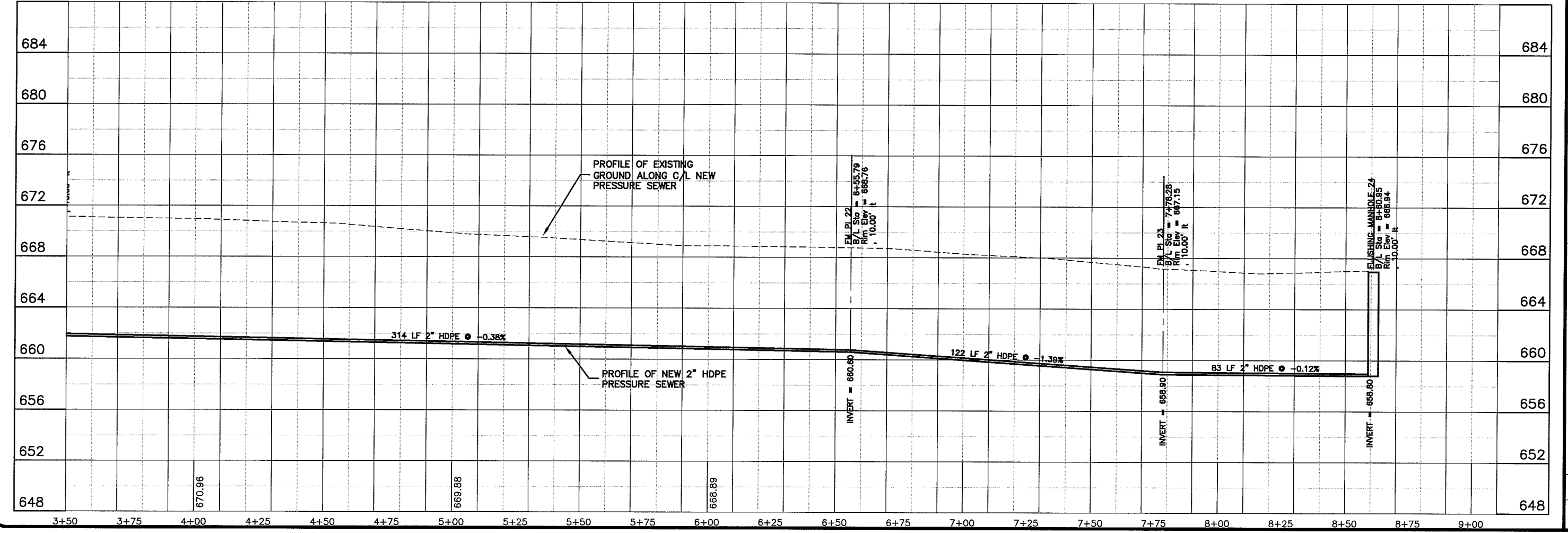
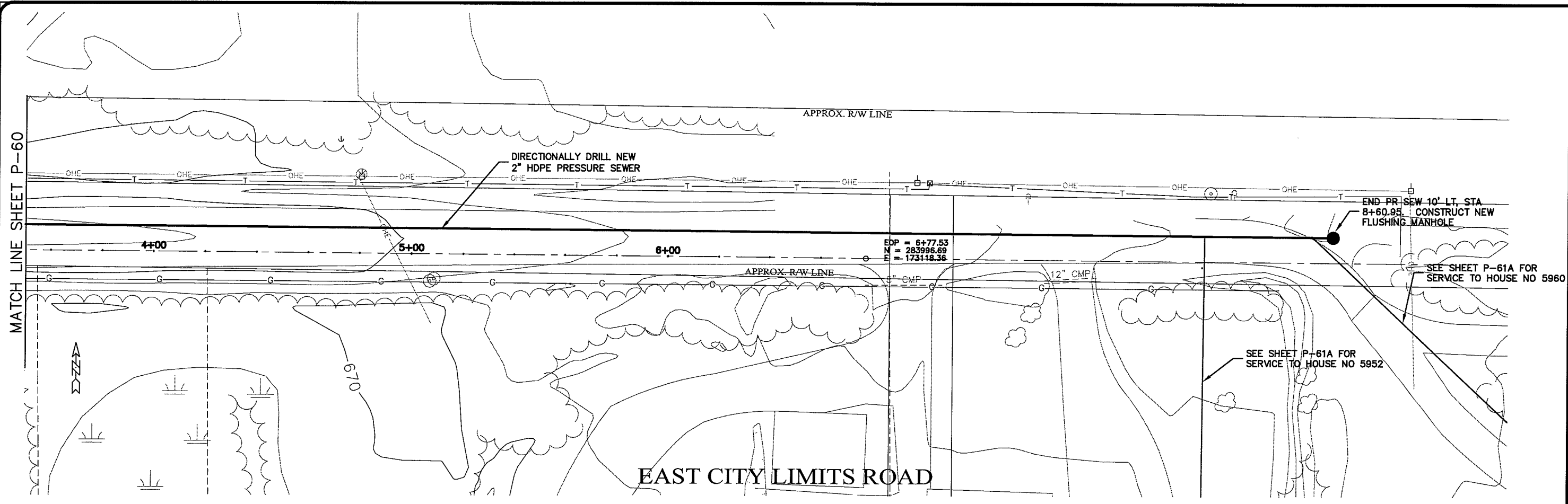
FILE NO. 626-001  
SHEET P-58



**MSA**  
 PROFESSIONAL SERVICES  
 TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 • 1-800-777-7390 Fax: 218-722-5458

PROJECT NO.:	626000	DATE:	21 Oct 2009	SCALE:	AS SHOWN
FILE NO.:	626-001	DESIGNED BY:	RWM	CHECKED BY:	CWS
SEWER PLAN PROFILE <b>PARKLAND SANITARY DISTRICT NO. 1</b> WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN					
SHEET P-60					

UNOFF. NAME: P-61



PLOT DATE: 21 Oct 2009 PLOT TIME: 10:34am  
 FILEPATH: K:\design\RCp02005.dwg

**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548

**MSA**  
 PROFESSIONAL SERVICES

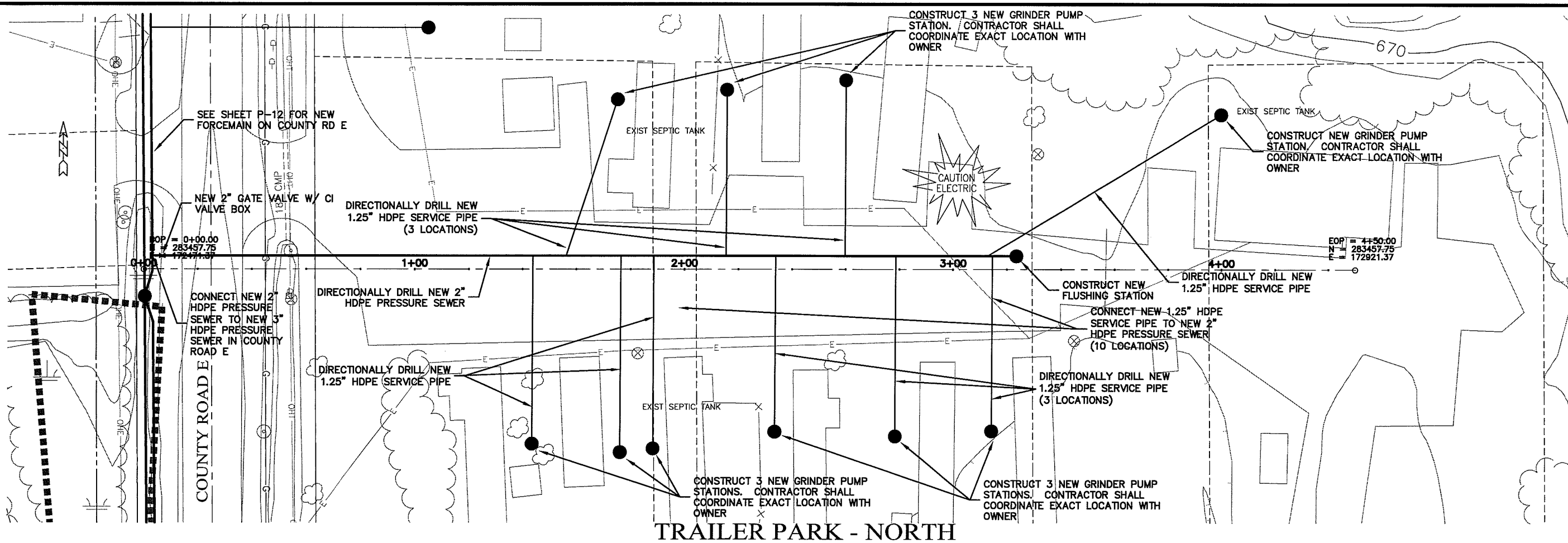
PROJECT NO. 526000  
 PLOT DATE: 21 Oct 2009  
 SCALE: AS SHOWN

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

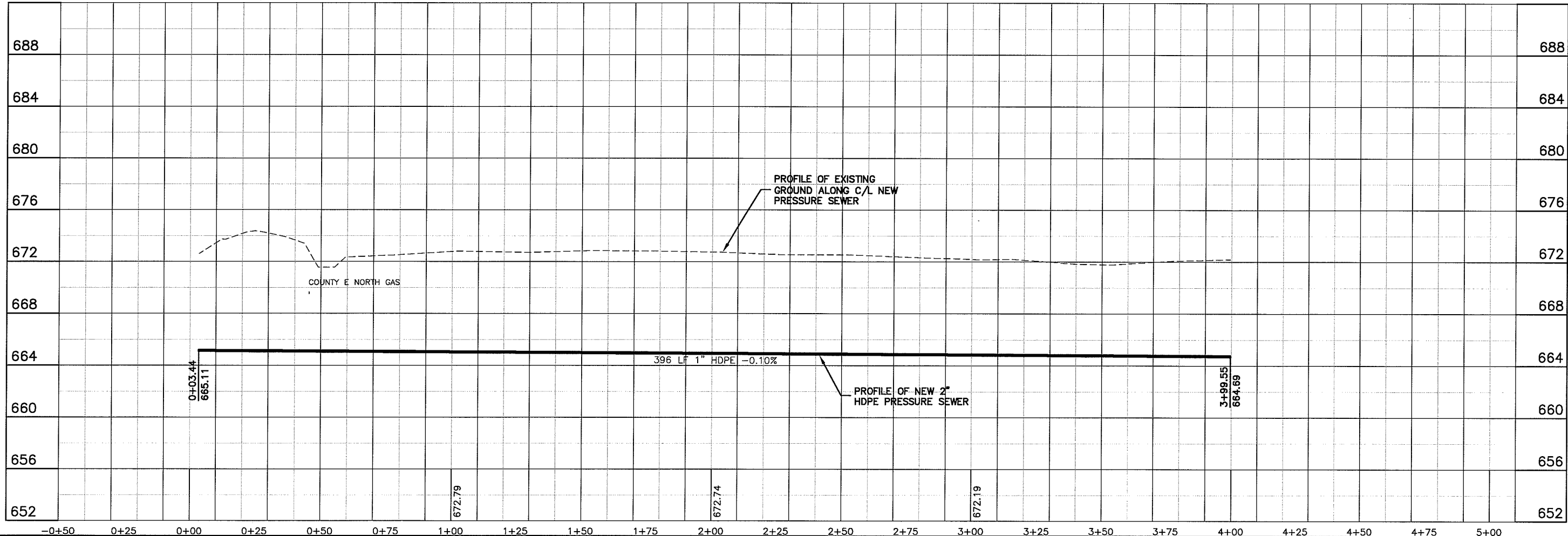
FILE NO. 626-001  
 SHEET P-61

BY: \_\_\_\_\_  
 CHECKED BY: CWS  
 DATE: \_\_\_\_\_

UNBOUT NAME P-62



TRAILER PARK - NORTH



PLT DATE: 23 Oct 2009 PLT TIME: 10:40am  
 FILEPATH: K:\Design\RCp01007.dwg

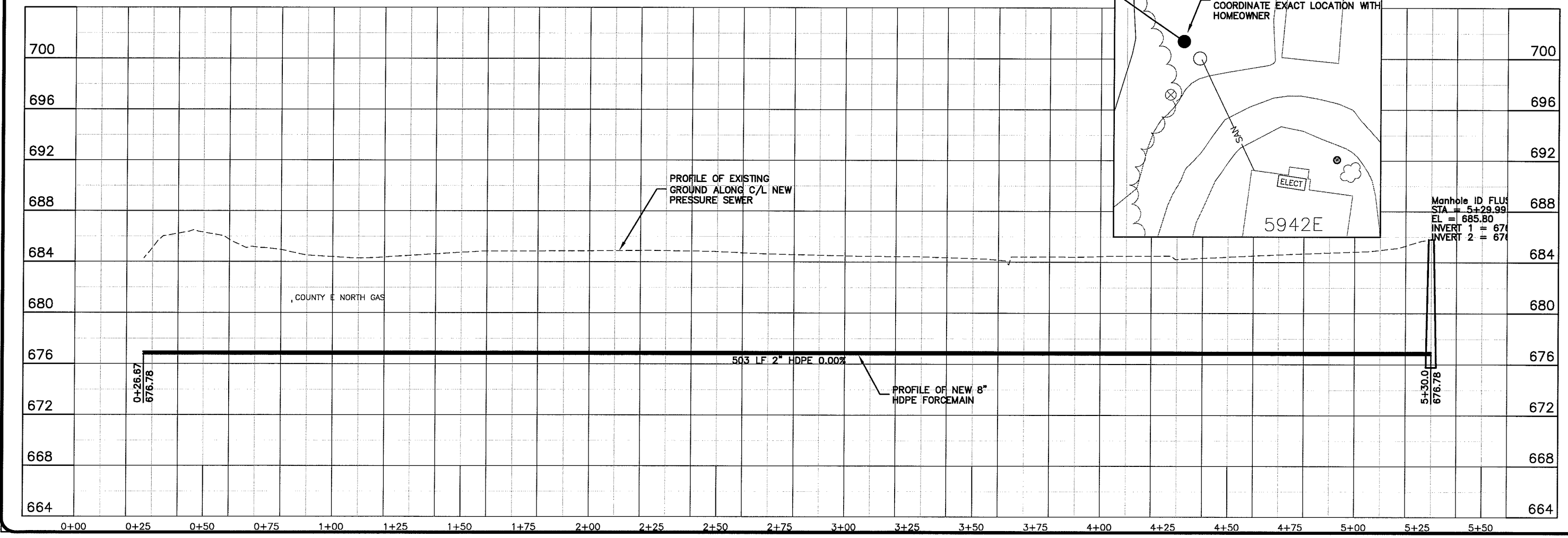
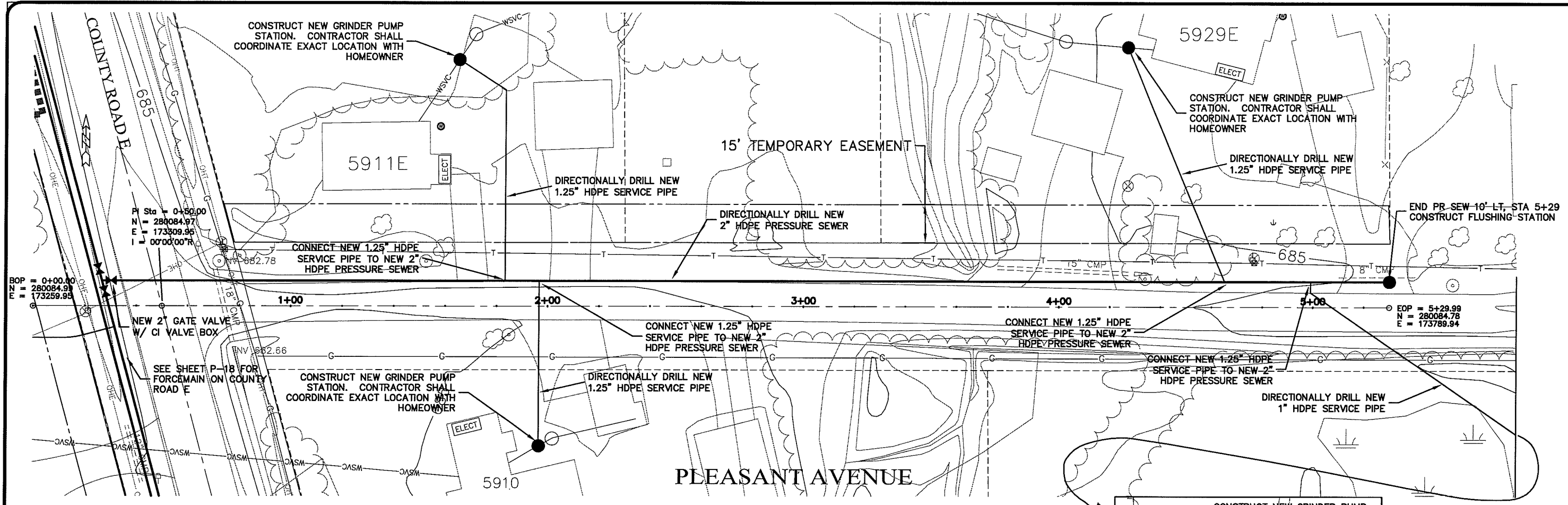
TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 | 800-777-7380 | Fax: 218-722-5498  
**MSA**  
 PROFESSIONAL SERVICE CORP.

PROJECT NO.: 626000  
 PLT DATE: 23 Oct 2009  
 SCALE: AS SHOWN

SEWER PLAN PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO.: 626-001  
 SHEET: P-62

LAYOUT NAME: P-63



PLT DATE: 23 Oct 2009 PLT TIME: 10:19am  
FILEPATH: K:\design\RCp01006.dwg

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-3915 1-800-777-7380 Fax: 218-722-6518  
© MSA PROFESSIONAL SERVICES

**MSA**  
PROFESSIONAL SERVICES

PROJECT NO.: 626000  
DATE: 23 Oct 2009  
SCALE: AS SHOWN

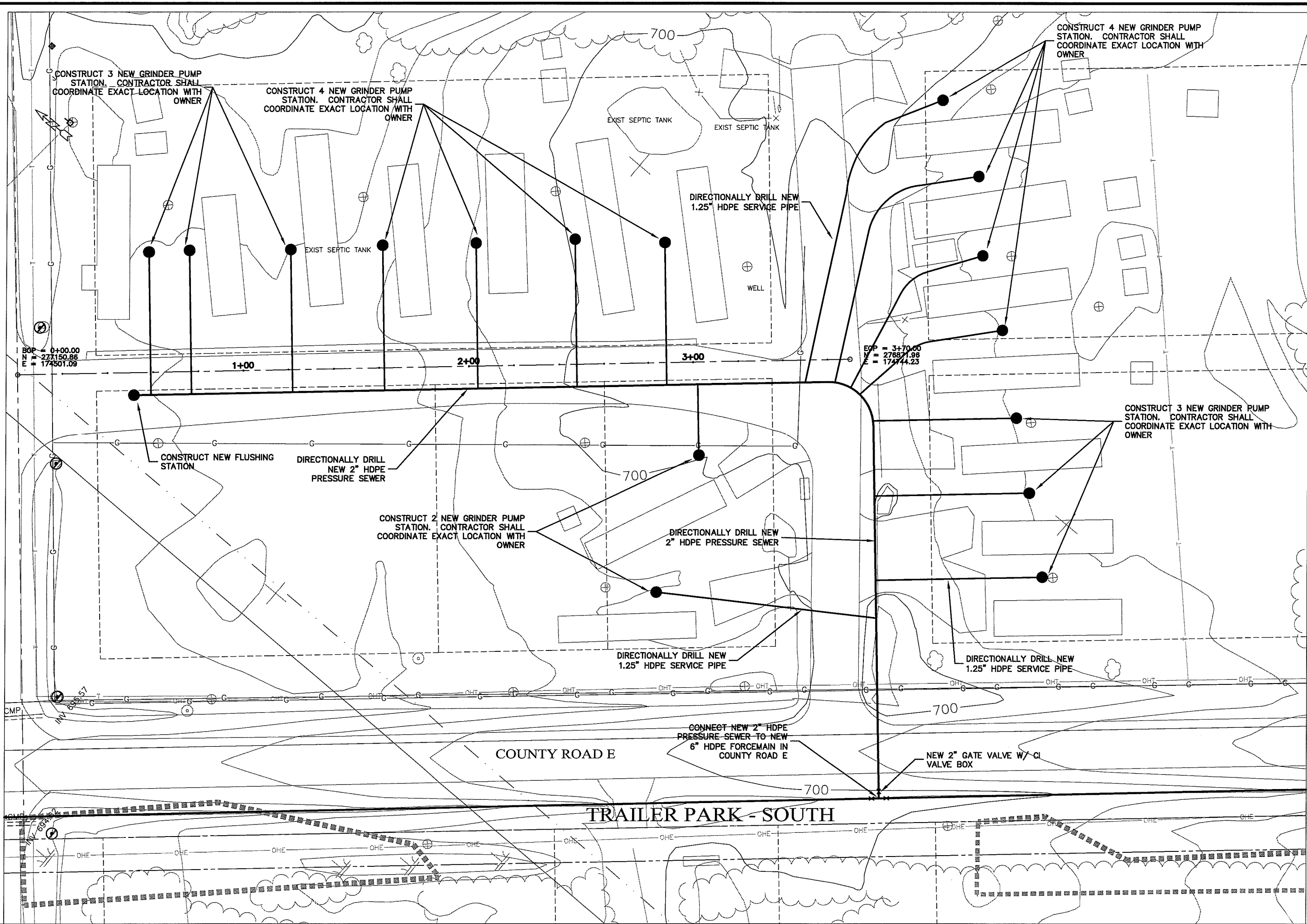
SEWER PLAN PROFILE  
PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO.: 626-001  
SHEET: P-63



UNBID NAME P-64

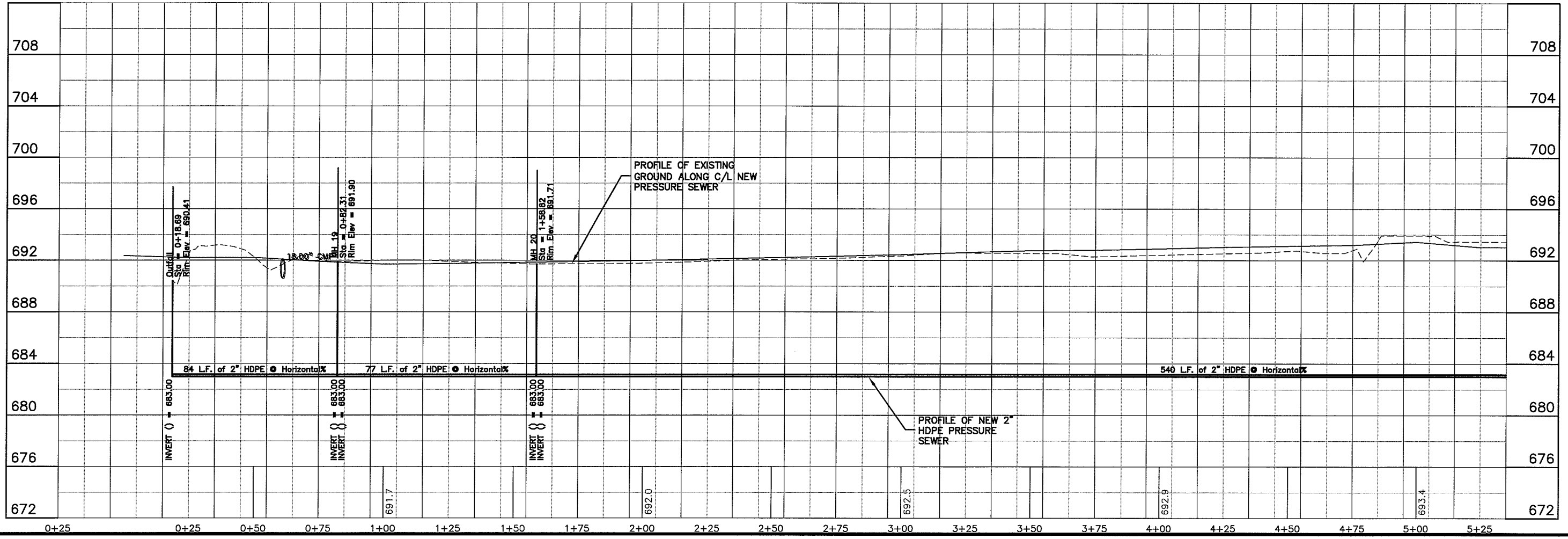
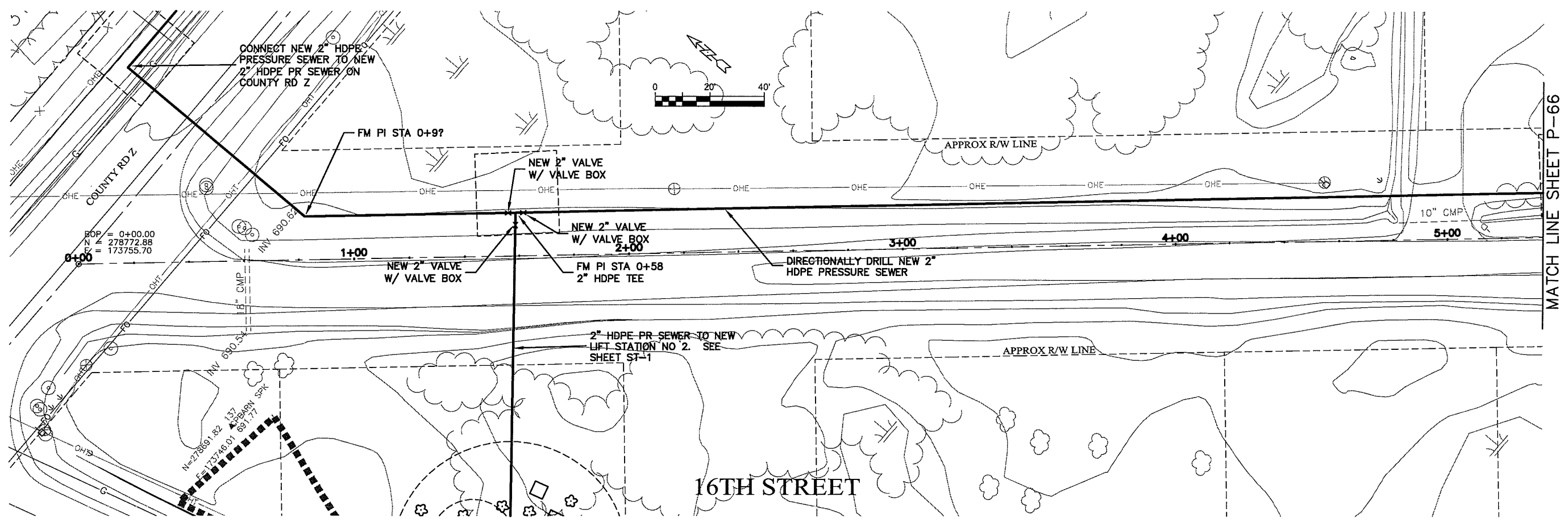
PLT DATE: 23 Oct 2009 10:32am  
FILENAME: K:\Design\RCp01008.dwg



**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
301 West First Street, Duluth, MN 55802  
218-722-3915 | 1-800-777-7380 Fax: 218-722-4548  
**MSA** PROFESSIONAL SERVICES

PROJECT NO. 626000	DATE 23 Oct 2009	SCALE AS SHOWN
FILE NO. 626-001	DRAWN BY: RWM	CHECKED BY: CWS
SEWER PLAN		
PARKLAND SANITARY DISTRICT NO. 1		
WASTEWATER COLLECTION SYSTEM		
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN		
SHEET P-64		

UNBRT NAME: P-65



Plot Date: 23 Oct 2009 Plot Time: 10:10am  
 File Path: K:\design\RCp01010.dwg

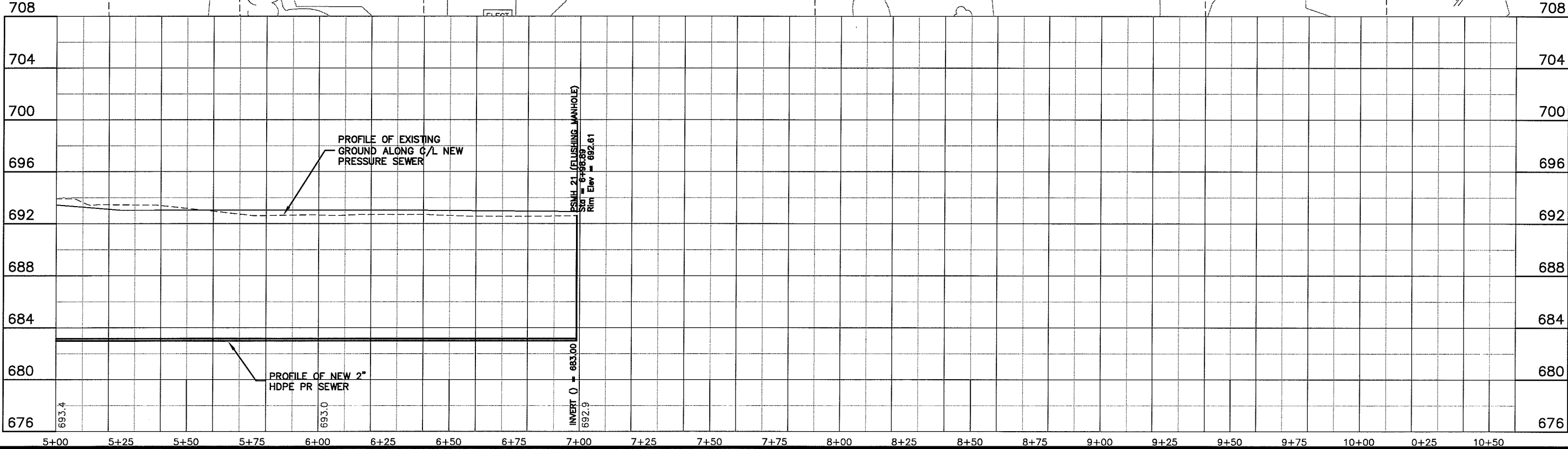
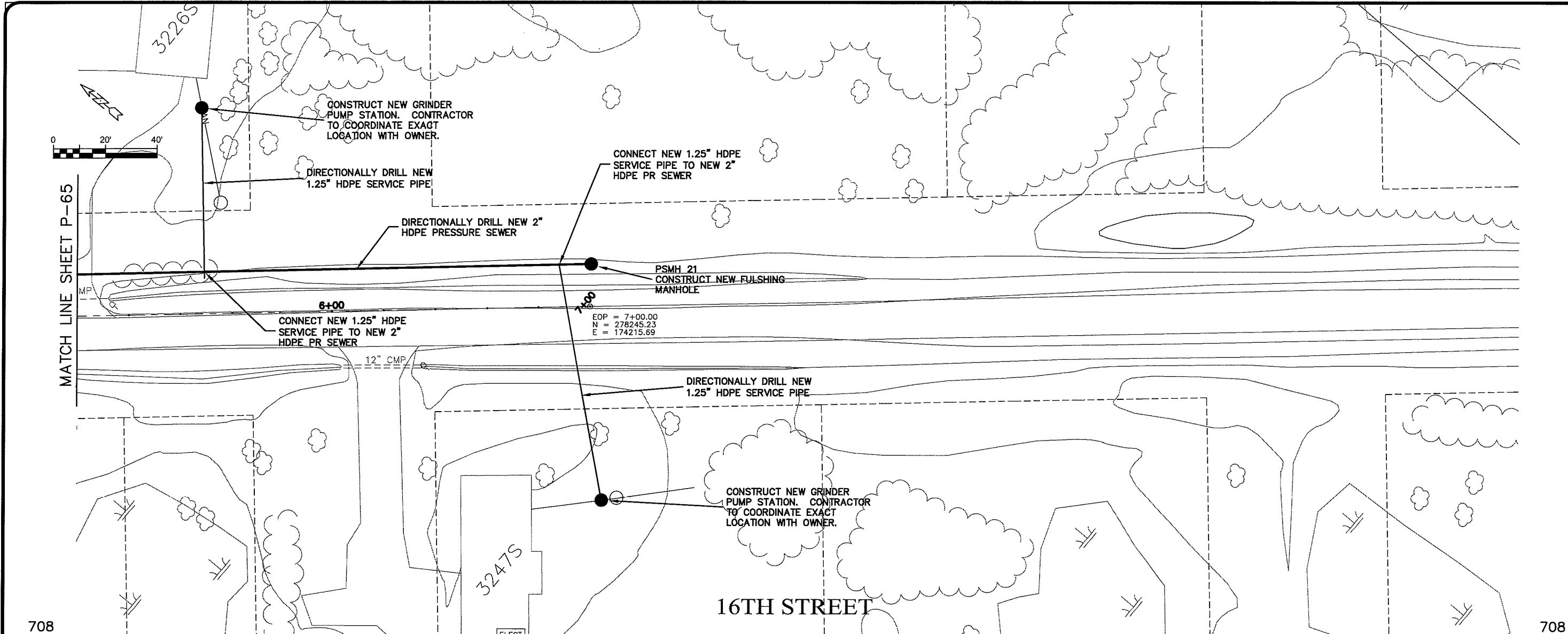
TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 • 1-800-777-1380 Fax: 218-722-4548  
 © MSA PROFESSIONAL SERVICES



PROJECT NO. 626000	DATE 23 Oct 2009	SCALE AS SHOWN
PROJECT NAME: PARKLAND SANITARY DISTRICT NO. 1 WASTEWATER COLLECTION SYSTEM	PROJECT LOCATION: PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN	PROJECT DRAWN BY: RWM
PROJECT CHECKED BY: CWS	PROJECT DATE: 23 Oct 2009	PROJECT SCALE: AS SHOWN
PROJECT SHEET: P-65	PROJECT TOTAL SHEETS: 66	PROJECT DRAWN BY: RWM

LAYOUT NAME P-66

PLOT DATE: 23 Oct 2009 10:54:54am  
FILEPATH: K:\Design\RCp02010.dwg



TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-3915 • 1-800-777-1380 Fax: 218-722-5458  
© MSA PROFESSIONAL SERVICES

**MSA**  
PROFESSIONAL SERVICES

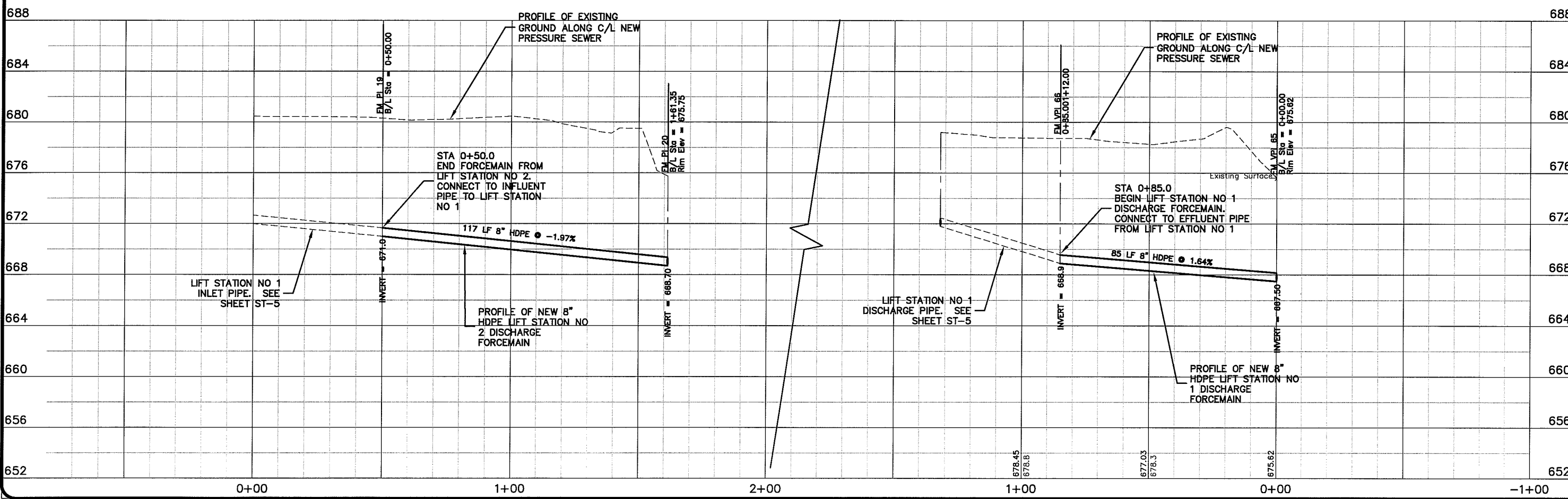
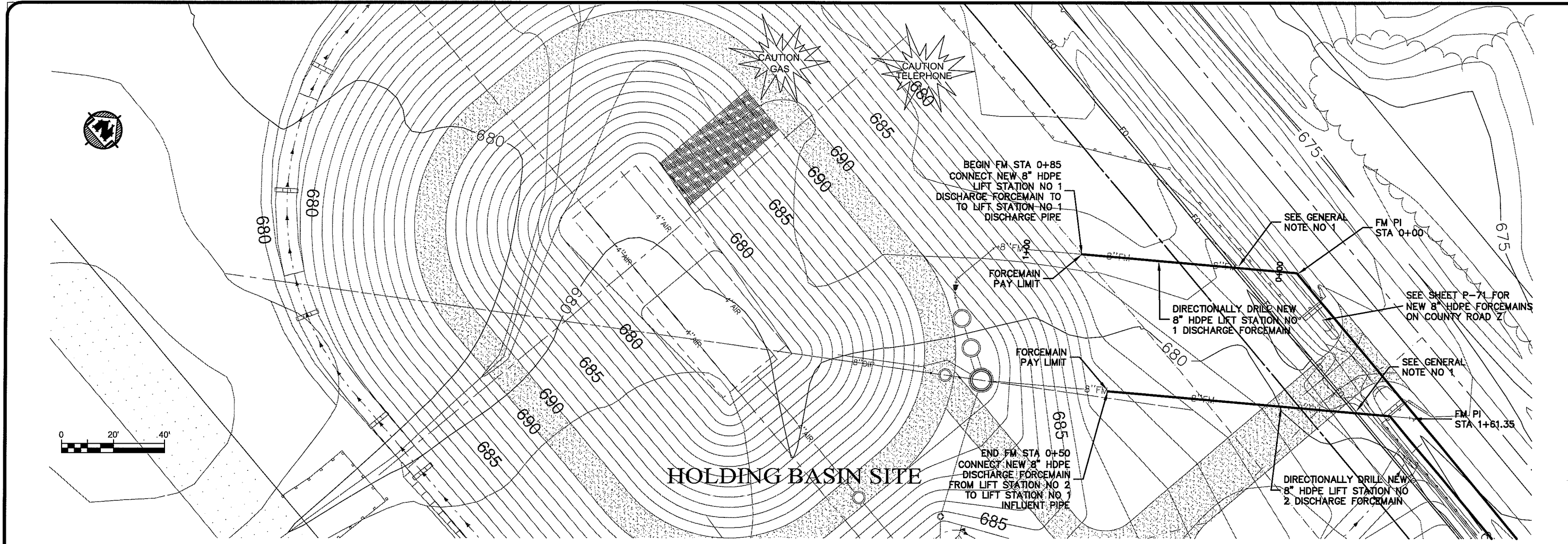
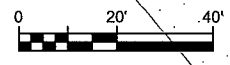
PROJECT NO.: 626000  
PLOT DATE: 23 Oct 2009  
SCALE: AS SHOWN

SEWER PLAN PROFILE  
PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO.: 626-001  
SHEET: P-66

BY: \_\_\_\_\_  
DATE: \_\_\_\_\_  
NO.: \_\_\_\_\_  
REGION: \_\_\_\_\_  
DRAWN BY: RWM  
CHECKED BY: CWS

UNIFORM NAME: P-70



PLT DATE: 04 Nov 2009 10:33:39pm  
FILEPATH: K:\Design\SS080101.dwg

TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-9151, 1-800-777-7380 Fax: 218-722-4548  
© MSA PROFESSIONAL SERVICES

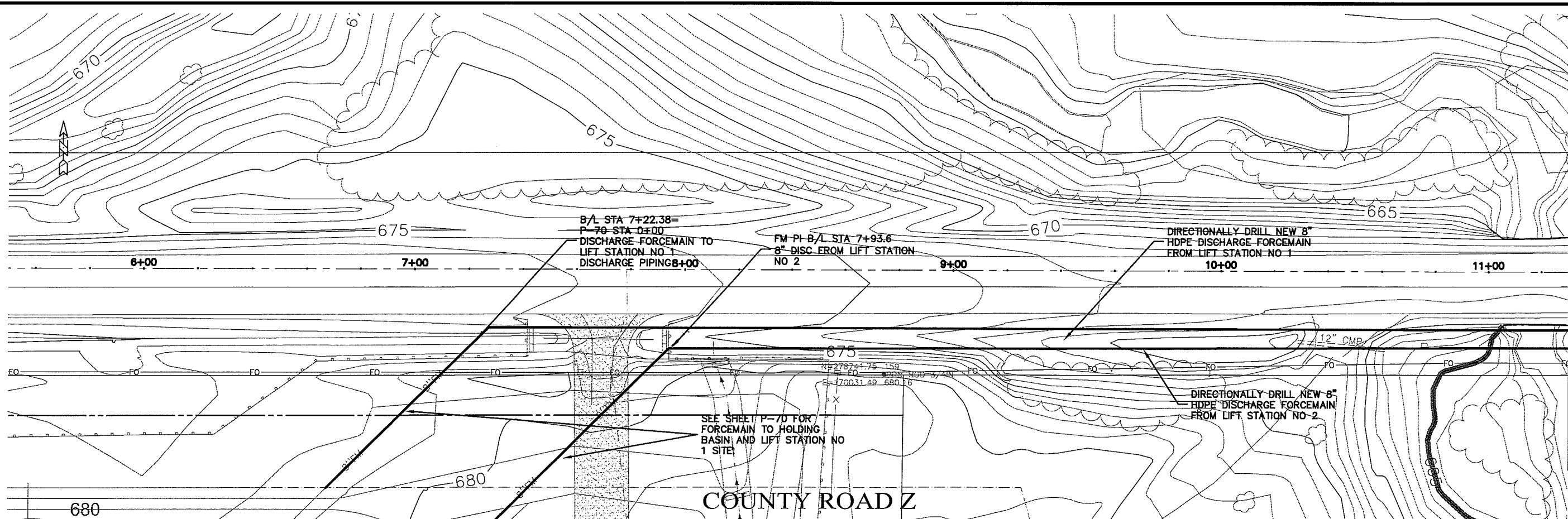
**MSA**  
PROFESSIONAL ENGINEERS

BY:	REVISION:
DATE:	NO.:
PROJECT NO. 626000	DATE: 04 Nov 2009
SCALE: AS SHOWN	DRAWN BY: RWM
CHECKED BY: CWS	

SEWER PLAN - PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

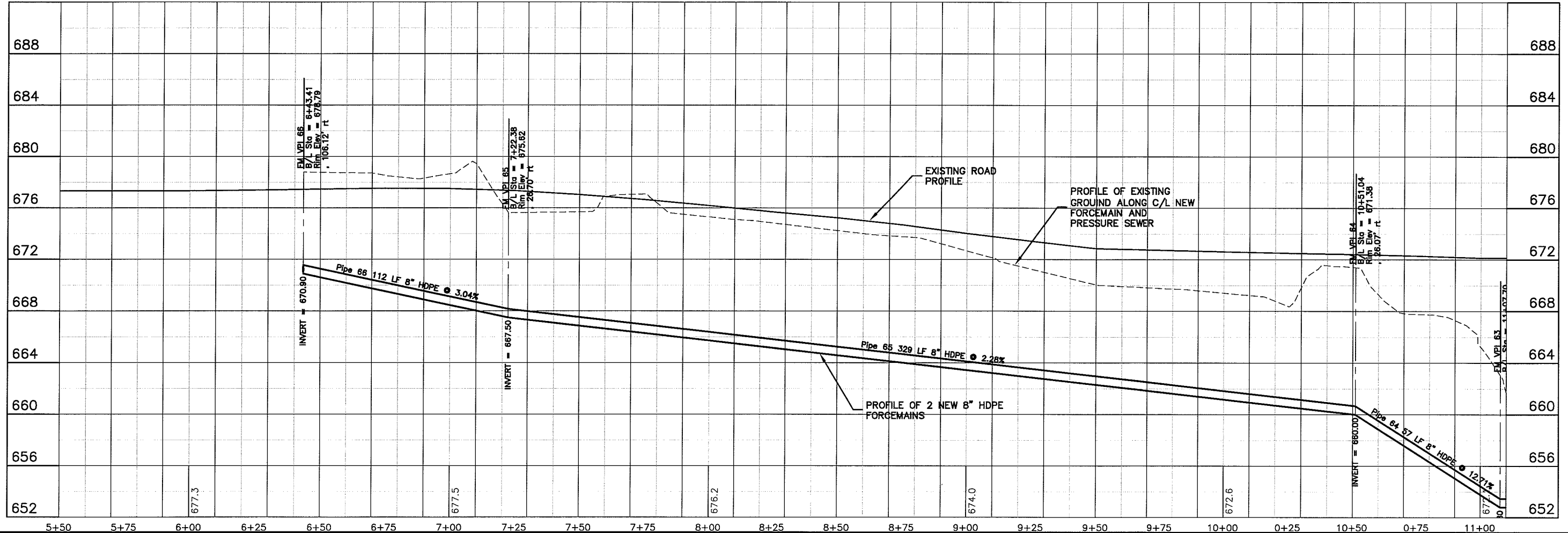
FILE NO. 626-001  
SHEET P-70

LOT NAME: P-71



MATCH LINE SEE SHEET P-72

PLT DATE: 04 Nov 2009 8:07 AM 3:56 PM  
 FILEPATH: K:\Design\RCp02004.dwg



TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-9131 1-800-777-7380 Fax: 218-722-4548  
**MSA** PROFESSIONAL SERVICES

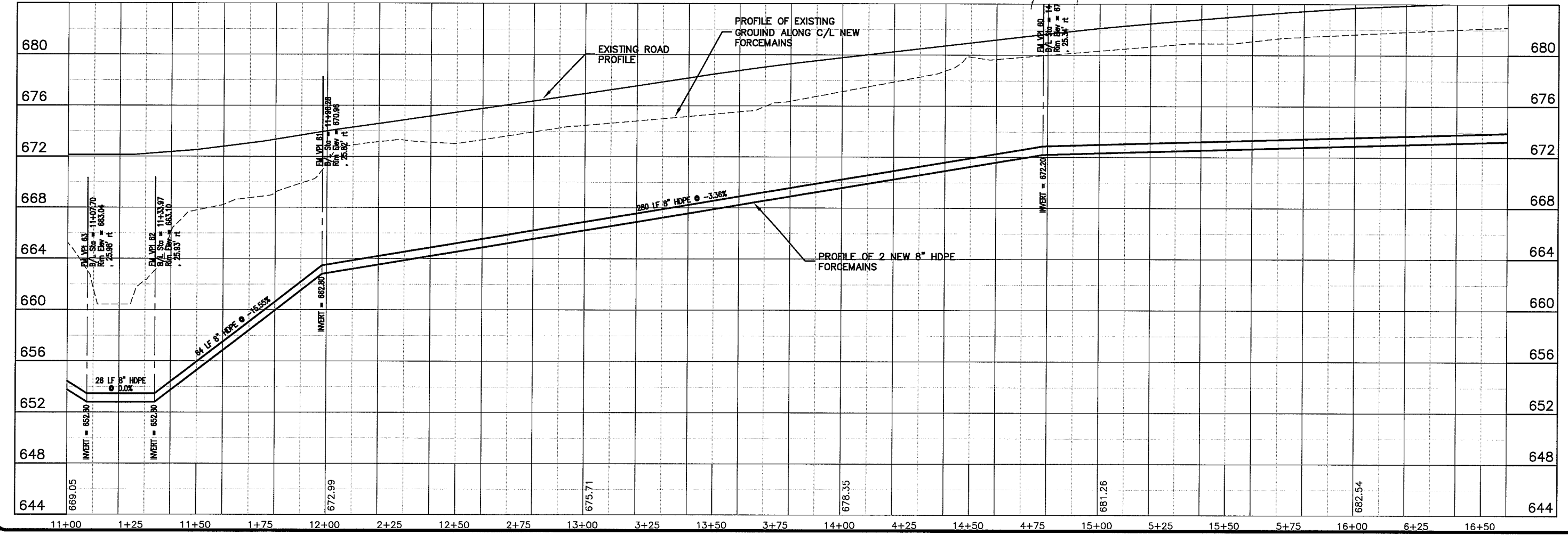
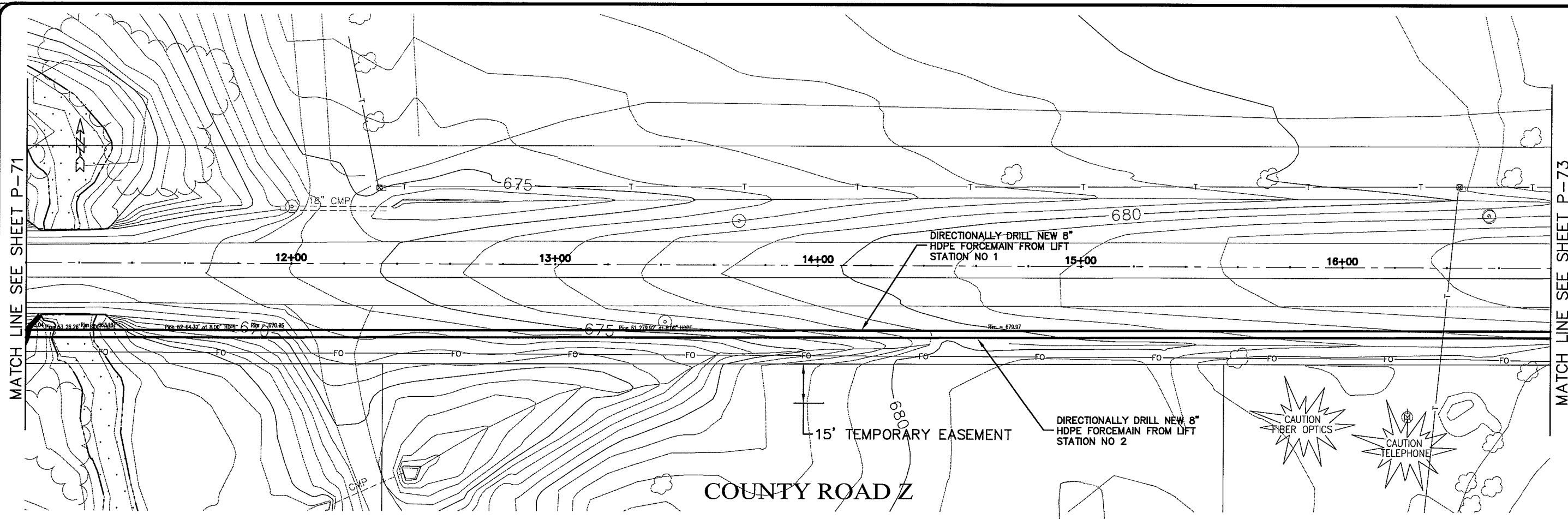
PROJECT NO. 626000  
 FILE NO. 626-001  
 SHEET P-71

DATE: 04 Nov 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS

SCALE: AS SHOWN

SEWER PLAN PROFILE  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

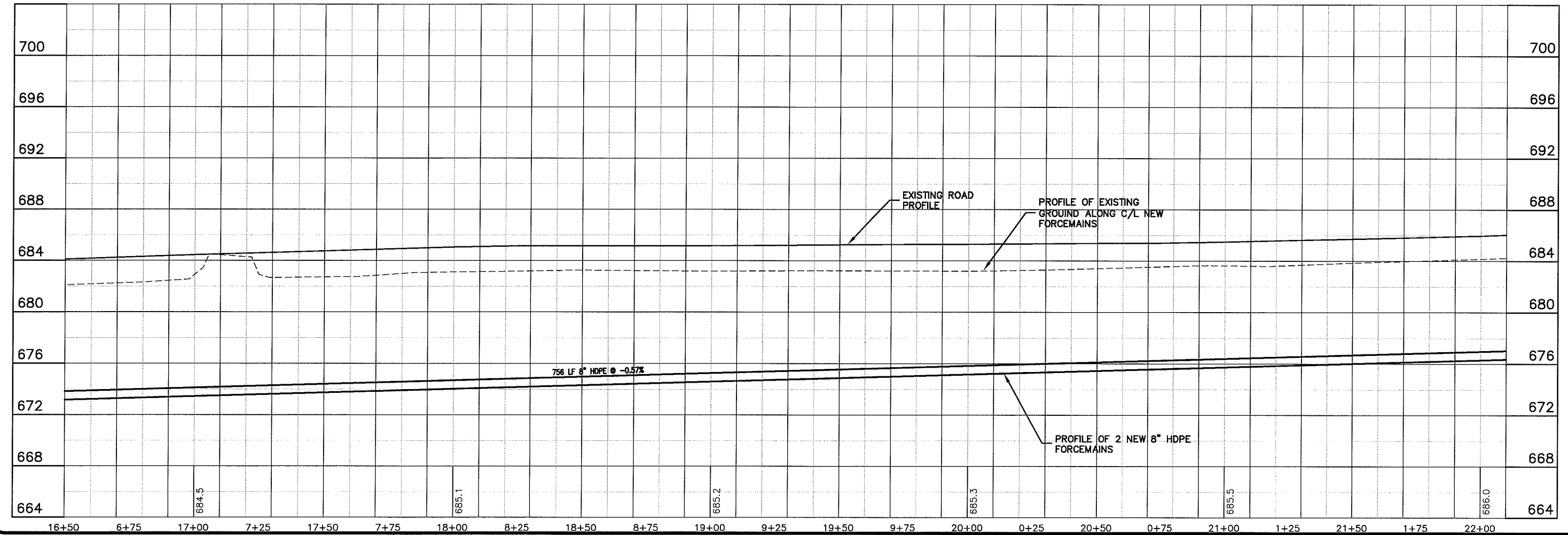
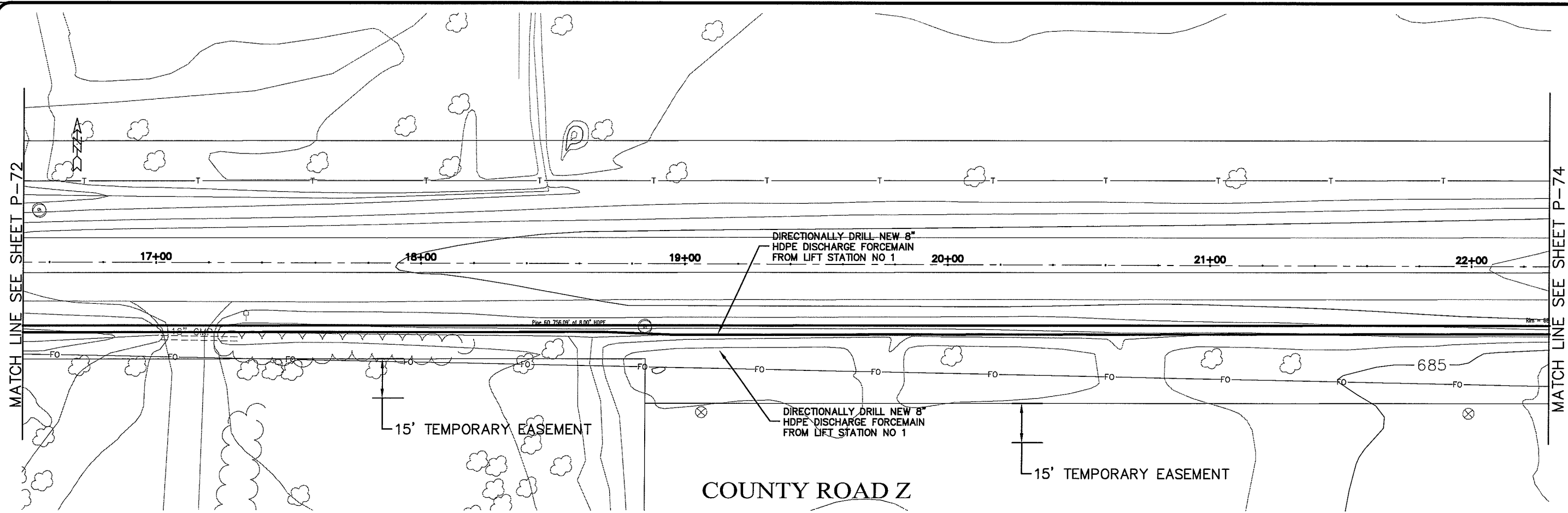
UNB'D NAME: P-72



PLOT DATE: 12 Oct 2009 PLOT TIME: 12:55pm  
 FILEPATH: K:\design\RCp03004.dwg

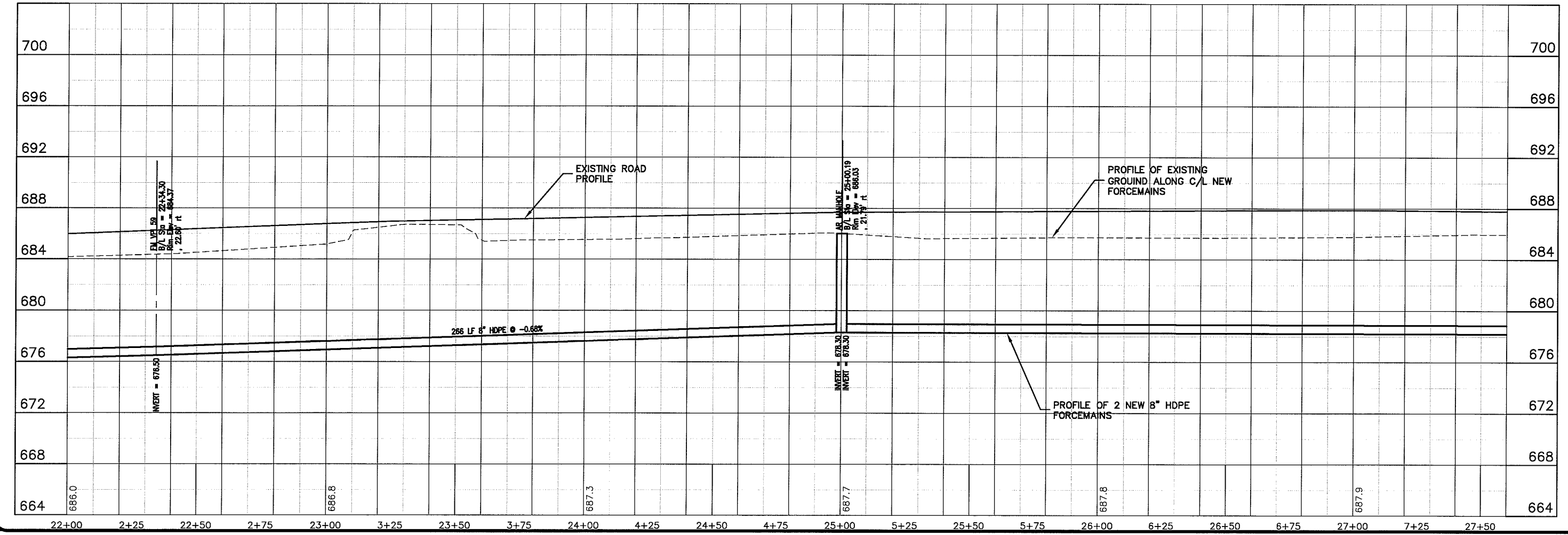
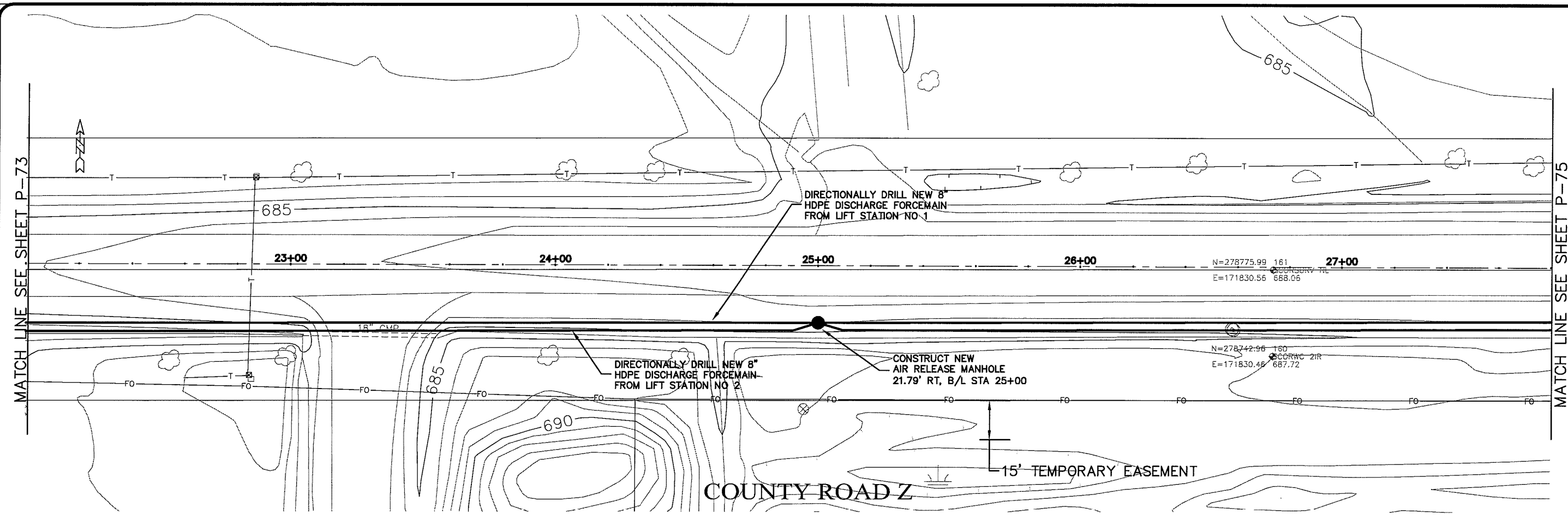
**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO.: 626000  
 SHEET: P-72  
 DATE: 12 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 SCALE: AS SHOWN  
 SEWER PLAN PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN



PROJECT NO.	626000
DATE	12 Oct 2009
SCALE	AS SHOWN
PROJECT NAME	SEWER PLAN PROFILE
DISTRICT	PARKLAND SANITARY DISTRICT NO. 1
CITY/TOWNSHIP	PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN
FILE NO.	626-001
SHEET	P-73
DESIGNED BY	RWM
CHECKED BY	CWS

UNBOUT NAME P-74



Plot Date: 12 Oct 2009 Plot Time: 1:38pm  
 File Path: K:\design\RCp05004.dwg

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICE

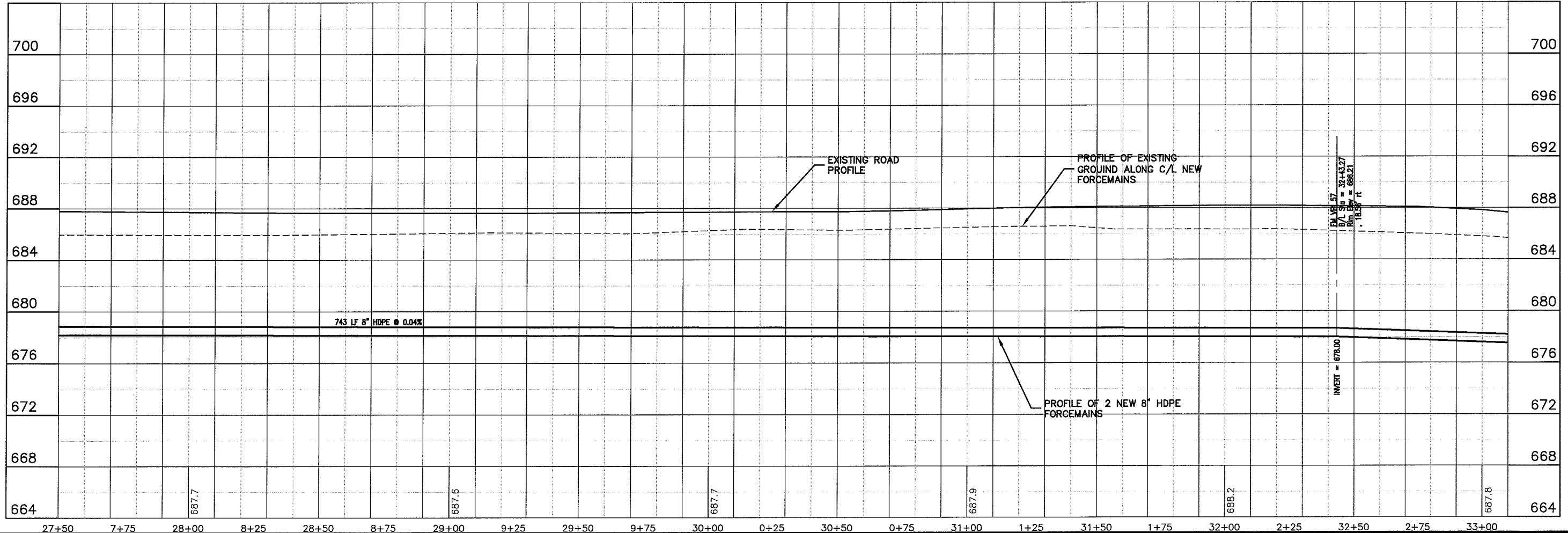
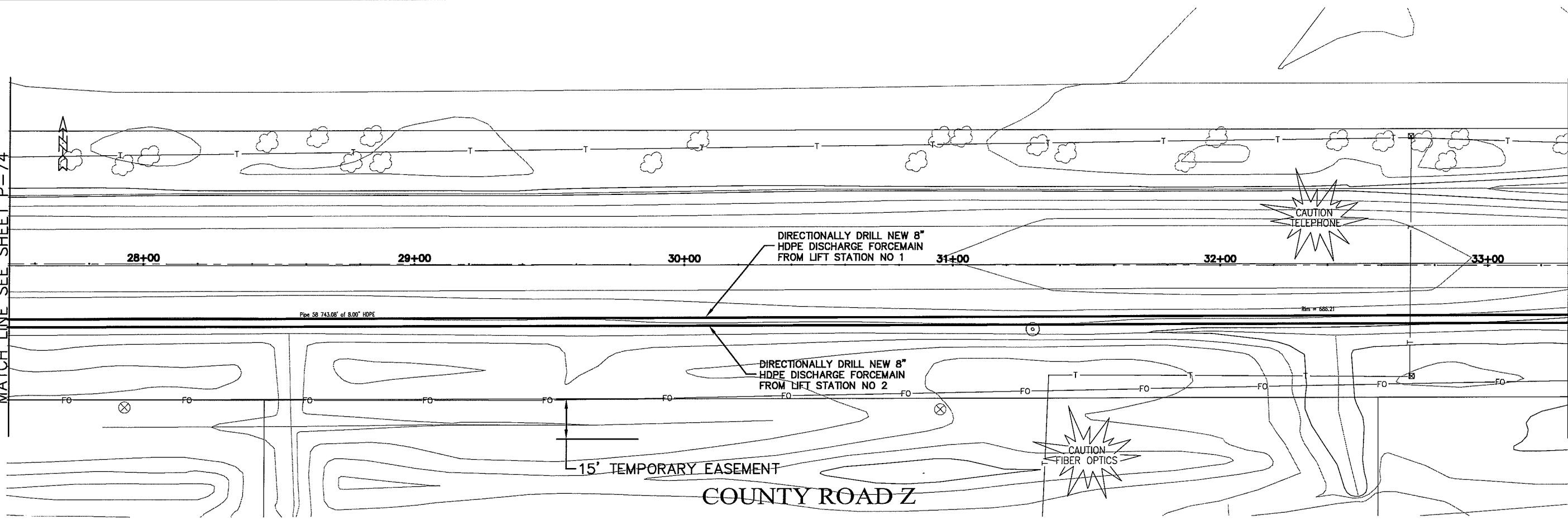
PROJECT NO.:	626000	DATE:	12 Oct 2009	BY:	
FILE NO.:	626-001	DATE:	12 Oct 2009	BY:	
PROJECT NAME:	SEWER PLAN PROFILE	DATE:	12 Oct 2009	BY:	
PROJECT LOCATION:	PARKLAND SANITARY DISTRICT NO. 1 WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN	DATE:	12 Oct 2009	BY:	
SCALE:	AS SHOWN	DATE:	12 Oct 2009	BY:	
DRAWN BY:	RWM	DATE:	12 Oct 2009	BY:	
CHECKED BY:	CWS	DATE:	12 Oct 2009	BY:	
SHEET NO.:	P-74	DATE:	12 Oct 2009	BY:	



UNBUILT MAP P-75

MATCH LINE SEE SHEET P-74

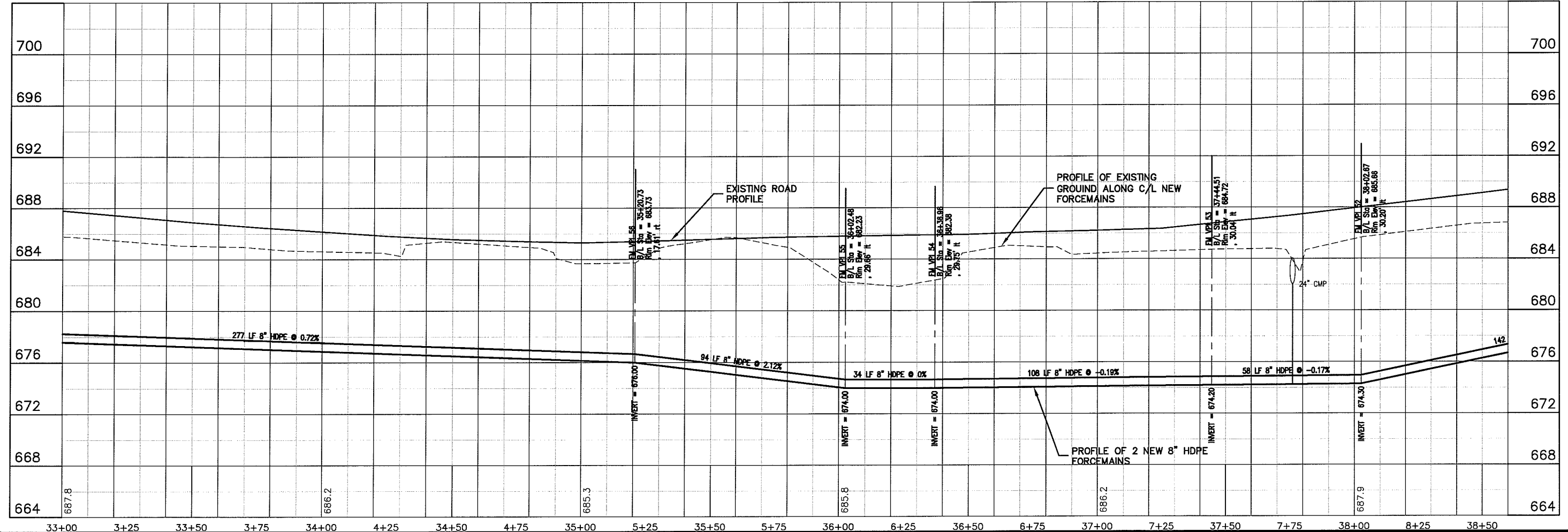
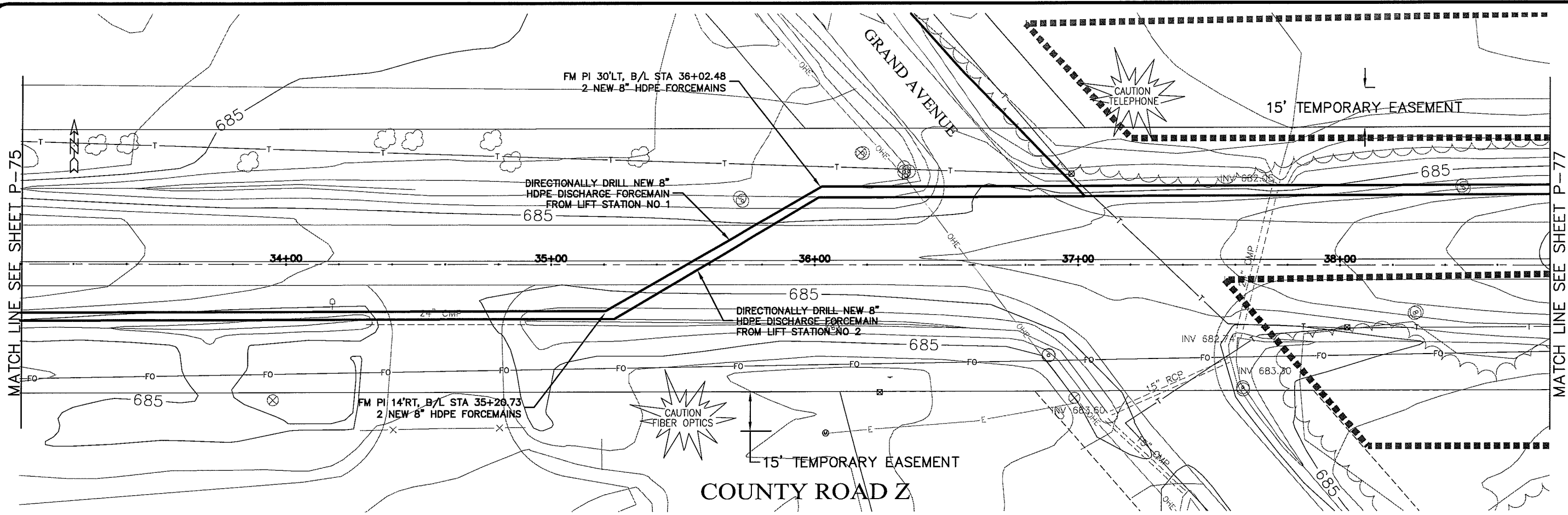
MATCH LINE SEE SHEET P-76



PLOT DATE: 12 Oct 2009 10:18:00 AM  
 FILENAME: K:\design\RCp06004.dwg

<b>TRANSPORTATION • MUNICIPAL          DEVELOPMENT • ENVIRONMENTAL</b> <small>30 West First Street Duluth, MN 55802          218-722-9113 1-800-777-1300 Fax: 218-722-4518          MSA PROFESSIONAL SERVICES</small>					
PROJECT NO. 626000	DATE	BY	REVISION	NO.	DATE
SEWER PLAN-PROFILE	12 Oct 2009				
<b>PARKLAND SANITARY DISTRICT NO. 1</b> WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN		DRAWN BY: RWM CHECKED BY: CWS			
FILE NO. 626-001					
SHEET P-75					

UNBRT NAME P-76



Plot Date: 12 Oct 2009 8:07 AM 1:46 PM  
 File Path: K:\design\RCp07004.dwg

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-725-9113 • 1-800-777-7387 • Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

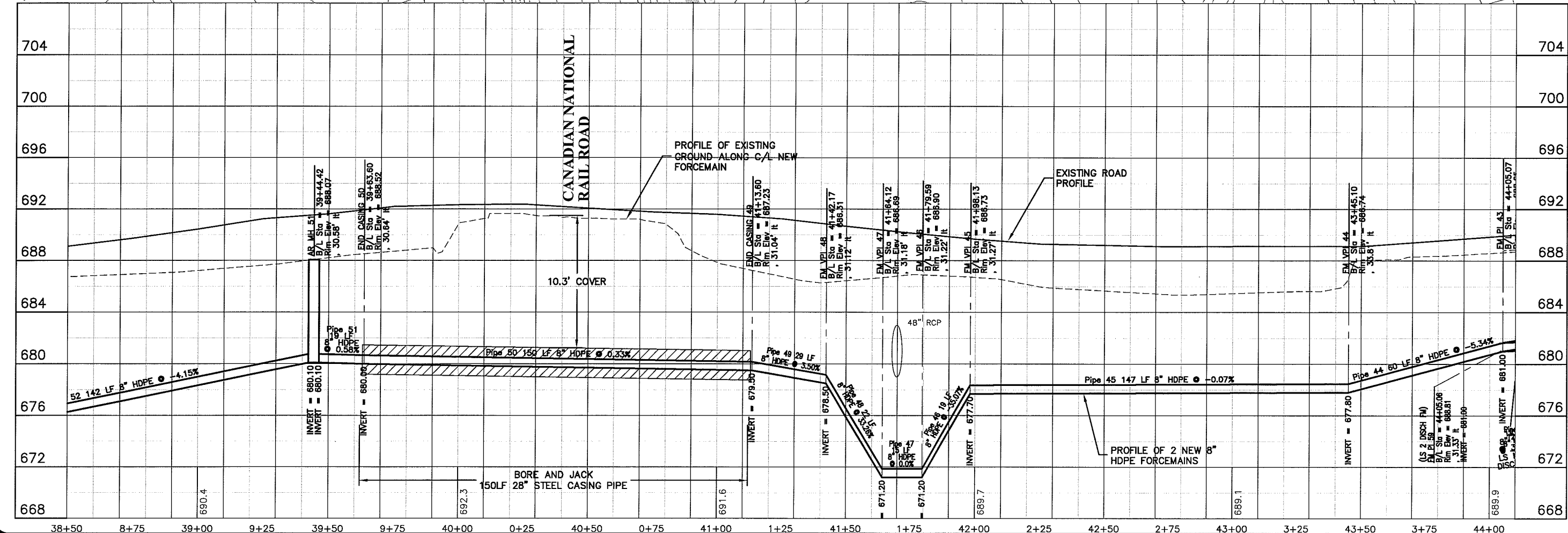
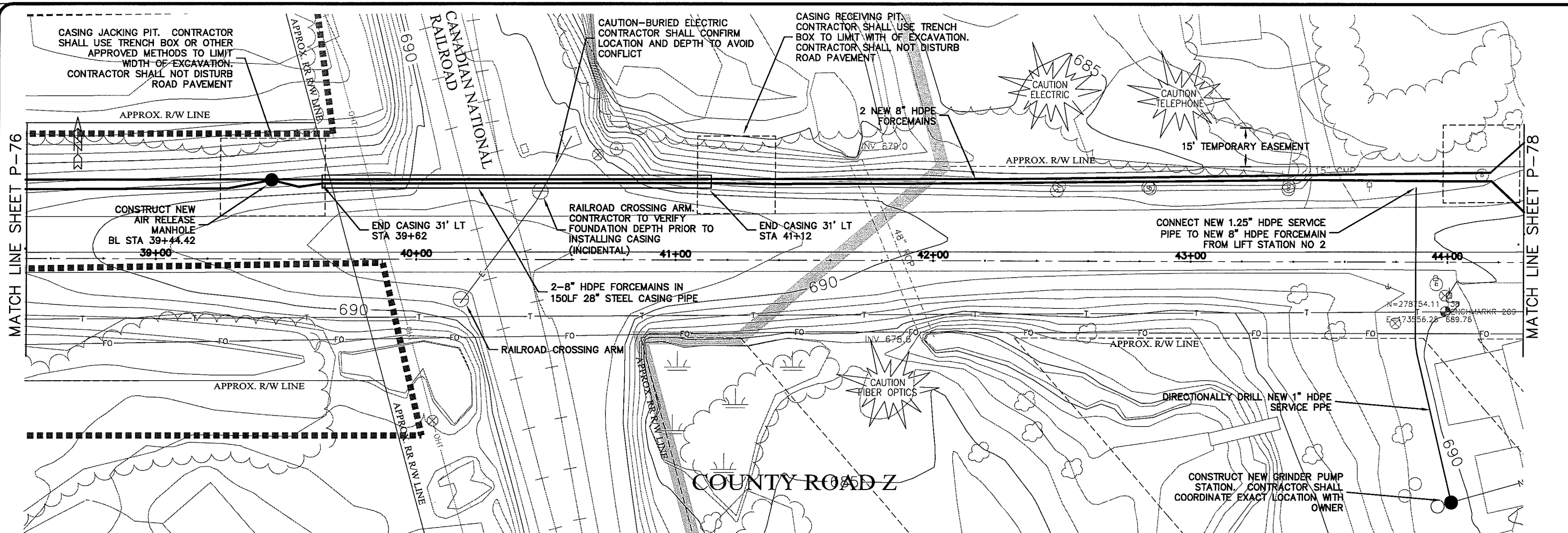
PROJECT NO. 626000  
 PLAN DATE: 12 Oct 2009  
 SCALE: AS SHOWN

SEWER PLAN - PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
 SHEET P-76

UNBRT NAME: P-77

PLOT DATE: 12 Oct 2009 10:23:30pm  
 FILENAME: K:\design\RCp08004.dwg



**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street, Duluth, MN 55802  
 218-722-2915 | 1-800-777-7380 Fax: 218-722-4518  
**MSA**  
 PROFESSIONAL ENGINEERS

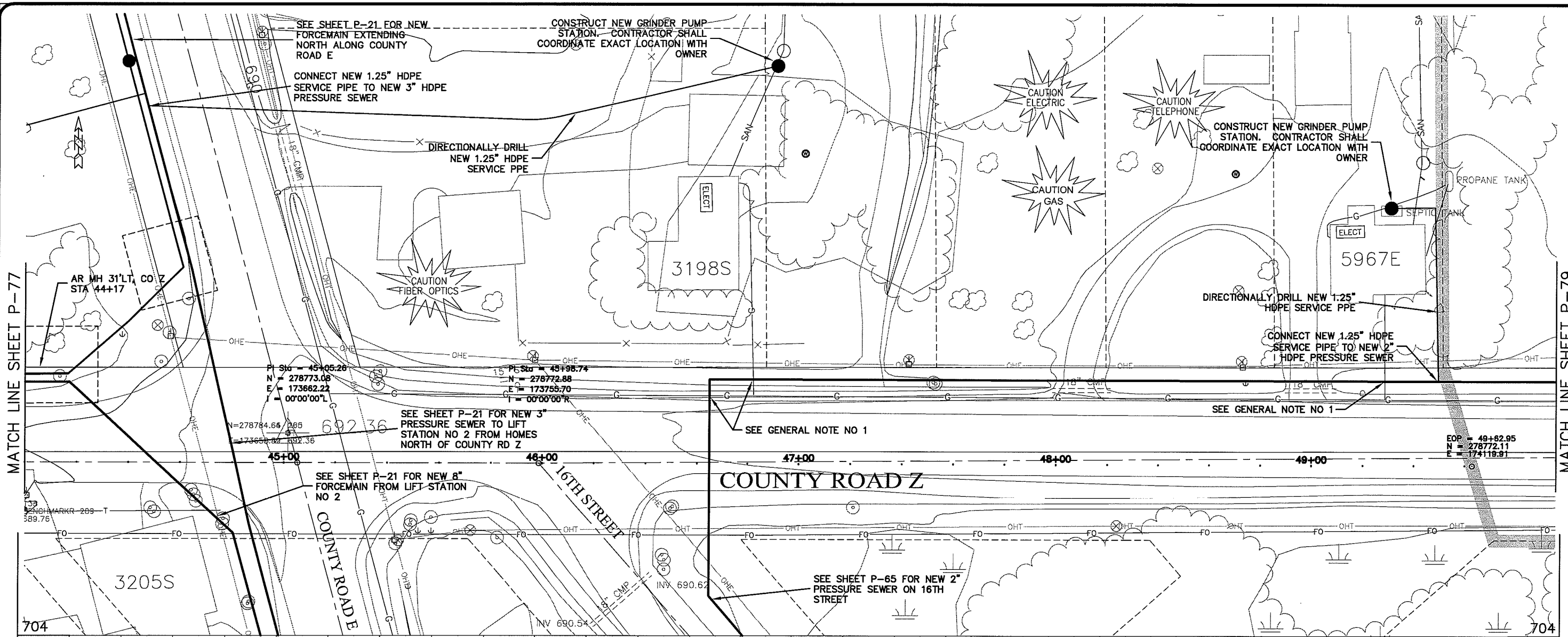
PROJECT NO: 626000  
 FILE NO: 626-001  
 SHEET: P-77

DATE: 12 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS

SCALE: AS SHOWN

SEWER PLAN PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

UNDTF NAME: P-78



700	PROFILE OF EXISTING GROUND ALONG C/L NEW LS NO 2 DISCH FORCEMAIN	700
696	<p>EM EL 43 B/L Sta = 44+05.07 Rim Elev = 688.65 Invert Elev = 687.42</p> <p>EM EL 41 B/L Sta = 44+16.81 Rim Elev = 688.85 Invert Elev = 687.34</p> <p>EM EL 40 B/L Sta = 44+38.81 Rim Elev = 689.08 Invert Elev = 687.15</p> <p>EM EL 61 B/L Sta = 44+60.80 Rim Elev = 689.85 Invert Elev = 687.26</p> <p>EM EL 61 B/L Sta = 44+80.42 Rim Elev = 691.41 Invert Elev = 687.38</p>	696
692		692
688	<p>PROFILE OF EXISTING GROUND ALONG C/L NEW LS NO 1 DISCH FORCEMAIN</p>	688
684		684
680	<p>86 LF 8" HDPE @ 0.69% FR FROM LIFT STATION NO 2</p> <p>EM EL 43 B/L Sta = 44+05.07 Rim Elev = 688.65 Invert Elev = 687.42</p> <p>EM EL 41 B/L Sta = 44+16.81 Rim Elev = 688.85 Invert Elev = 687.34</p> <p>EM EL 40 B/L Sta = 44+38.81 Rim Elev = 689.08 Invert Elev = 687.15</p> <p>EM EL 61 B/L Sta = 44+60.80 Rim Elev = 689.85 Invert Elev = 687.26</p> <p>EM EL 61 B/L Sta = 44+80.42 Rim Elev = 691.41 Invert Elev = 687.38</p>	680
676		676
672	PROFILE ON NEW 2" HDPE PRESSURE SEWER	672

Plot Date: 12 Oct 2009 Plot Time: 2:56pm  
File Path: K:\Design\RCp09004.dwg

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-3915 F: 800-777-7390 Fax: 218-722-5498

**MSA**  
PROFESSIONAL SERVICES

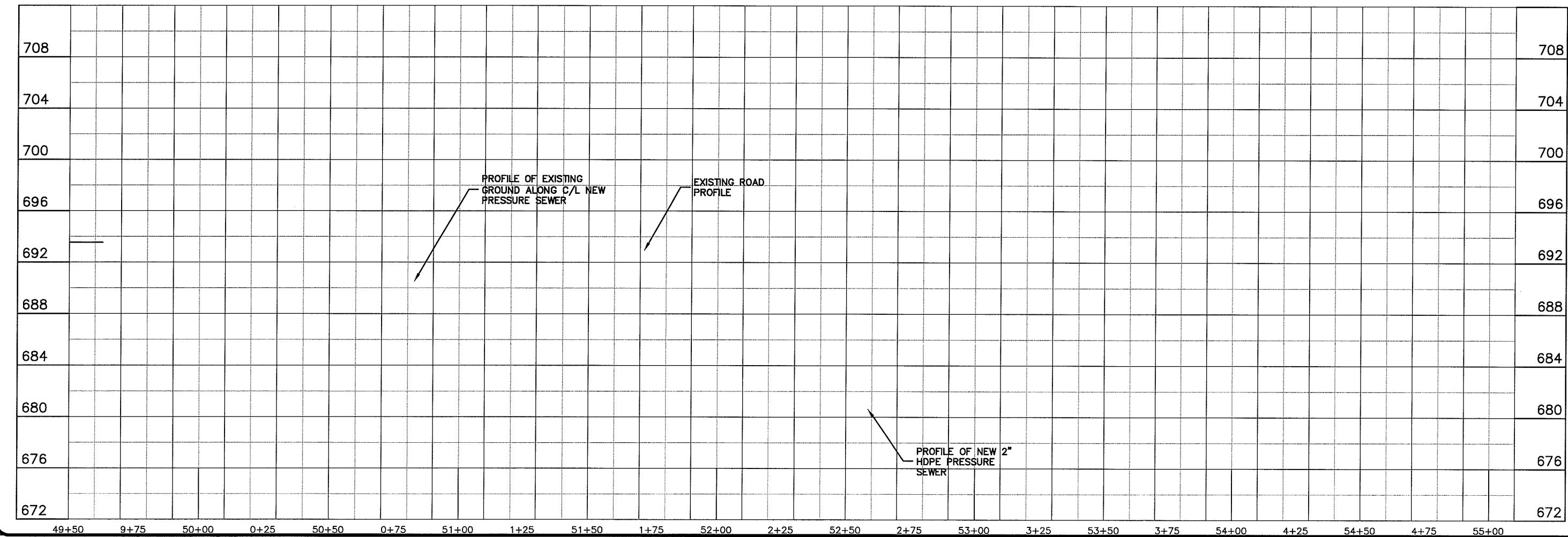
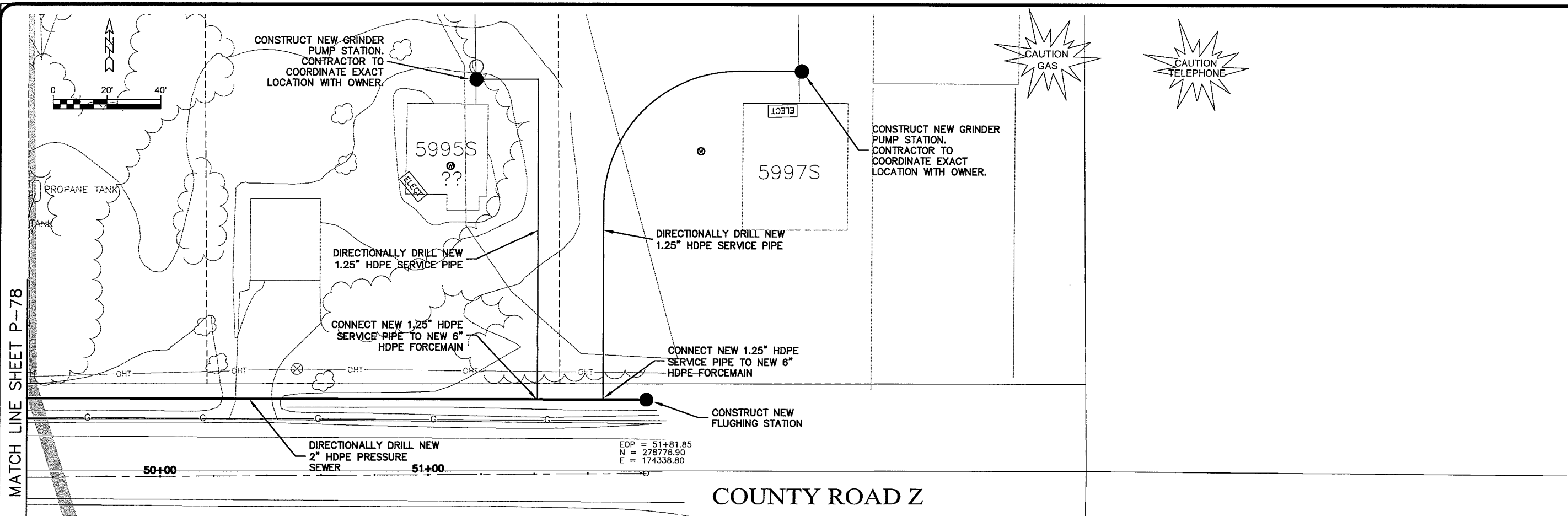
PROJECT NO.	626000
DATE	12 Oct 2009
SCALE	AS SHOWN
DRAWN BY	RWM
CHECKED BY	CWS

SEWER PLAN PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO.  
626-001

SHEET  
P-78

UNBIF WWS Layout1



Plot Date: 12 Oct 2009 Plot Time: 2:52pm  
File Path: K:\Design\RCp10004.dwg

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-725-3915 • 1-800-777-7380 Fax: 218-722-4548  
© MSA PROFESSIONAL SERVICES

**MSA**  
PROFESSIONAL SERVICES

PROJECT NO. 626000  
PLOT DATE 12 Oct 2009  
SCALE AS SHOWN

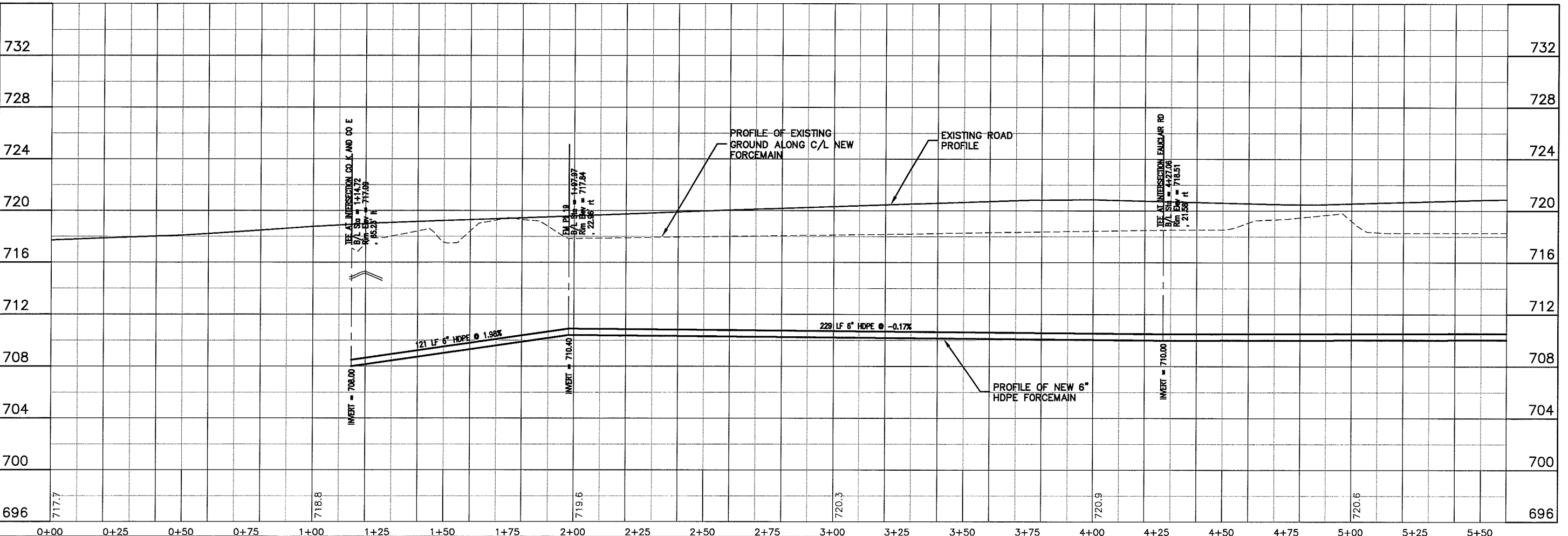
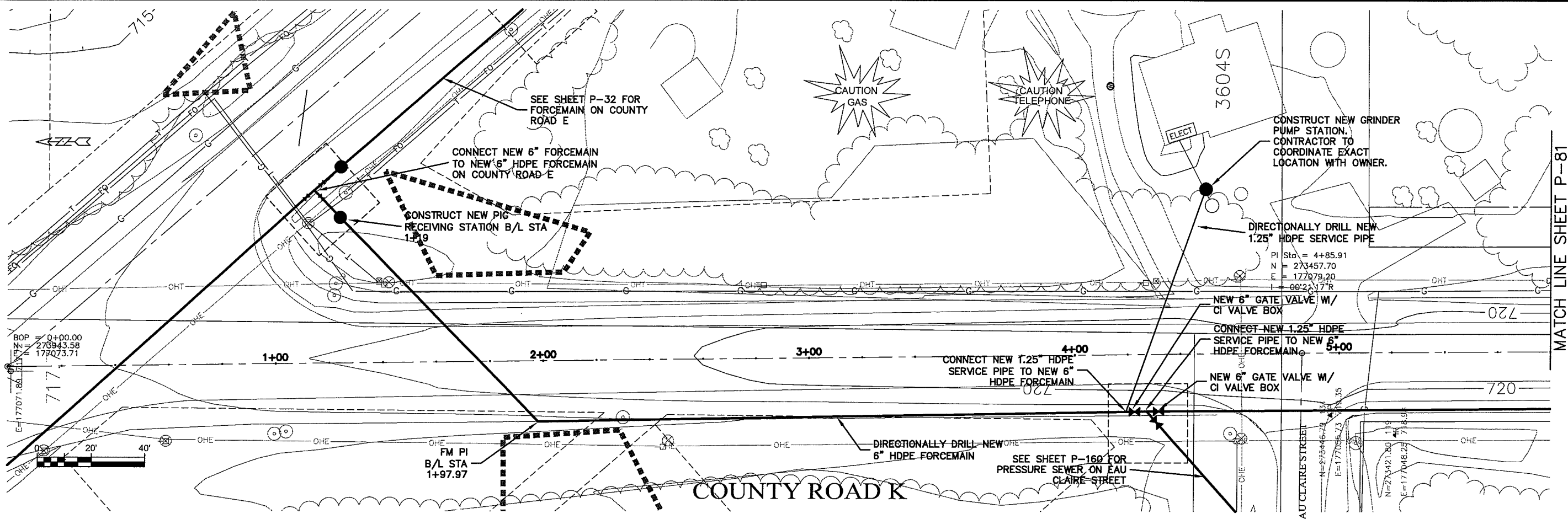
SEWER PLAN PROFILE  
PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
SHEET P-79

NO. DATE  
BY  
REVISION

P.L. DRAWN BY: RWM  
CHECKED BY: CWS

UNBRT NAME: P-80



PLT DATE: 21 Oct 2009 10:40:30pm  
 FILENAME: K:\design\RCp01013.dwg

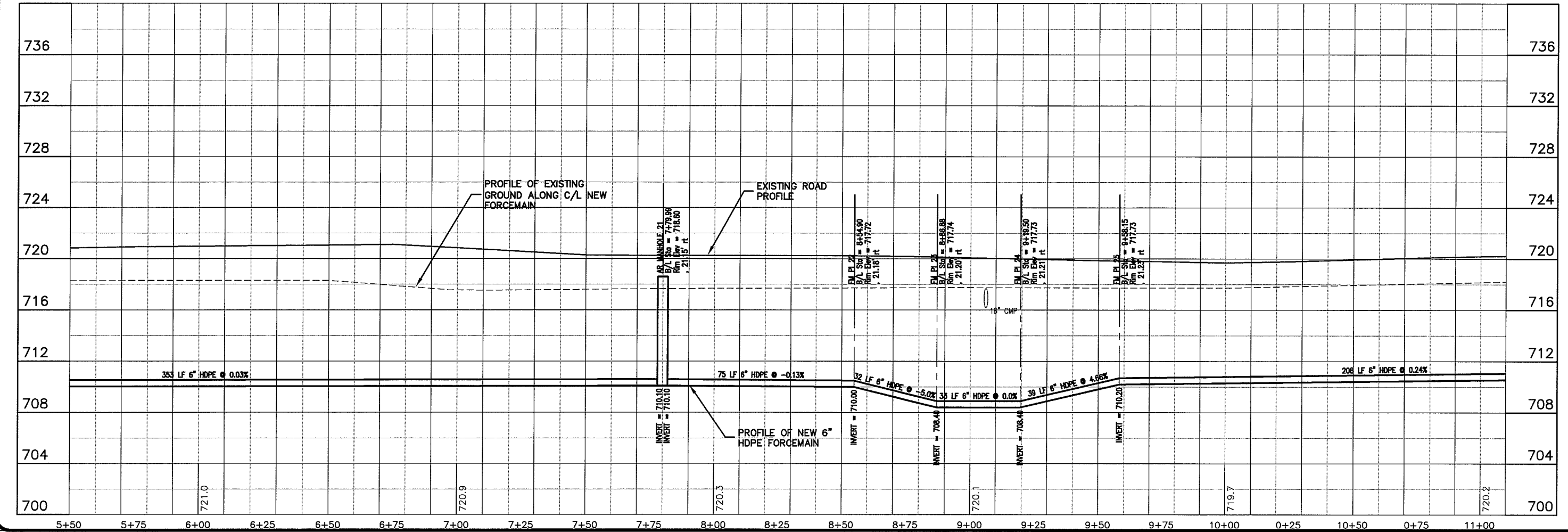
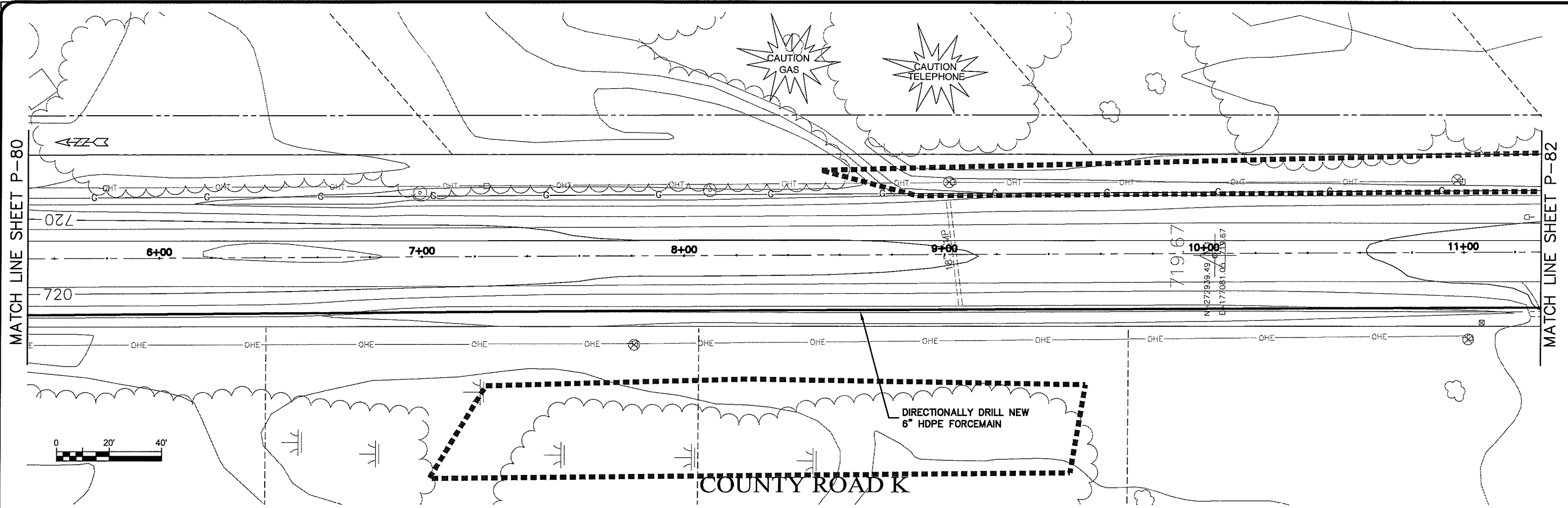
**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 • 1-800-777-7380 • Fax: 218-722-5448  
**MSA**  
 PROFESSIONAL ENGINEERS

PROJECT NO. 626000  
 SHEET P-80

DATE: 21 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS

SEWER PLAN PROFILE  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

EXPORT NAME: P-81



Plot Date: 21 Oct 2009 Plot Time: 4:06pm  
 File Path: K:\design\RCp02013.dwg

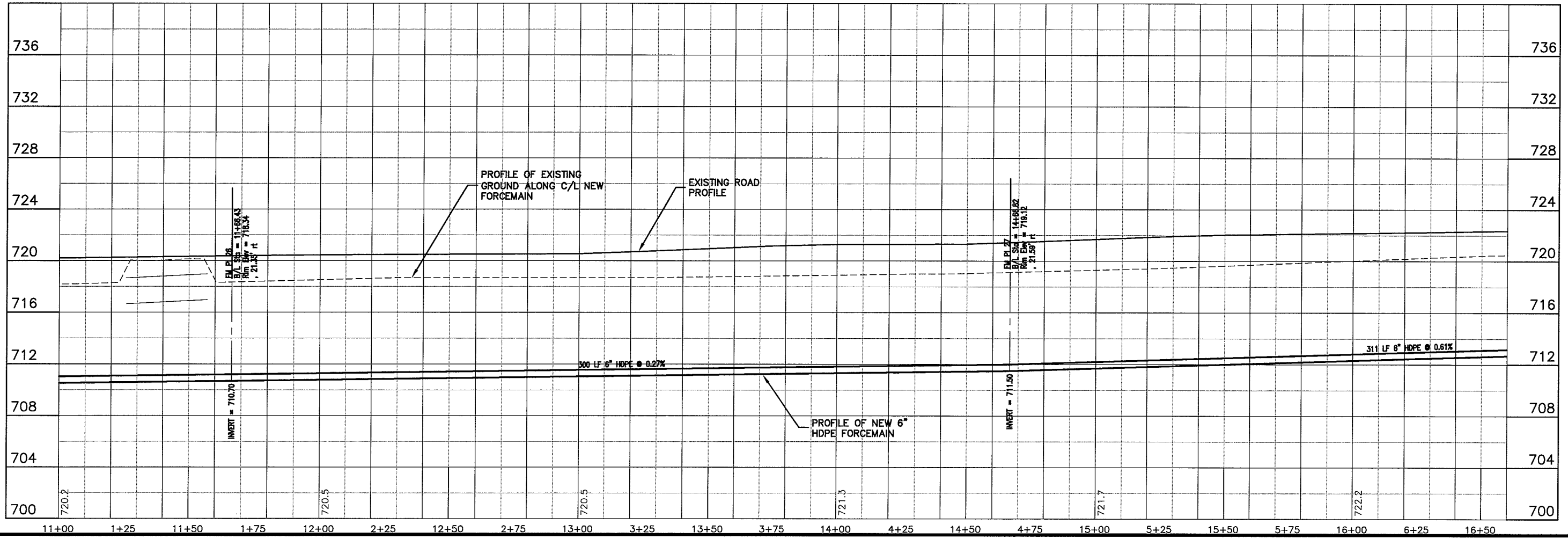
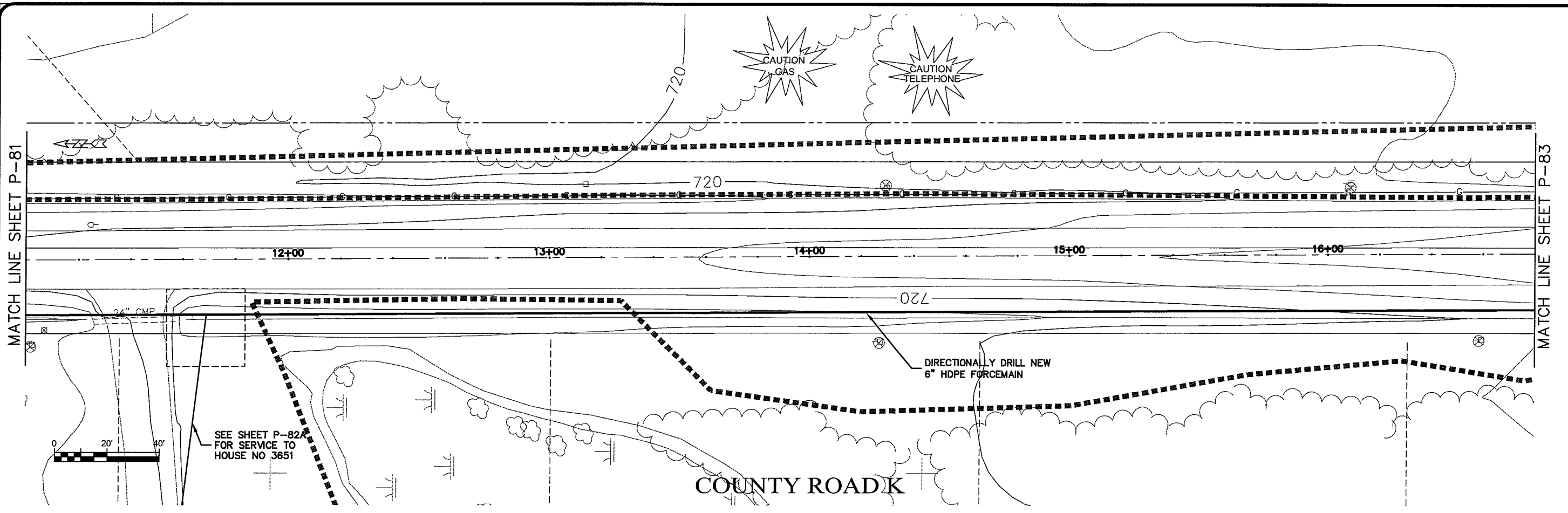
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 • 1-800-777-1380 • Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICE GROUP

PROJECT NO. 626000  
 SHEET P-81

SEWER PLAN PROFILE  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

DATE: 21 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS

UNOFFICIAL NAME P-82



PLOT DATE: 21 Oct 2009 PLOT TIME: 4:10pm  
FILENAME: K:\design\RCp03013.dwg

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 • 800-777-7380 • Fax: 218-722-5488  
 MSA PROFESSIONAL SERVICES

**MSA**  
 PROFESSIONAL SERVICES

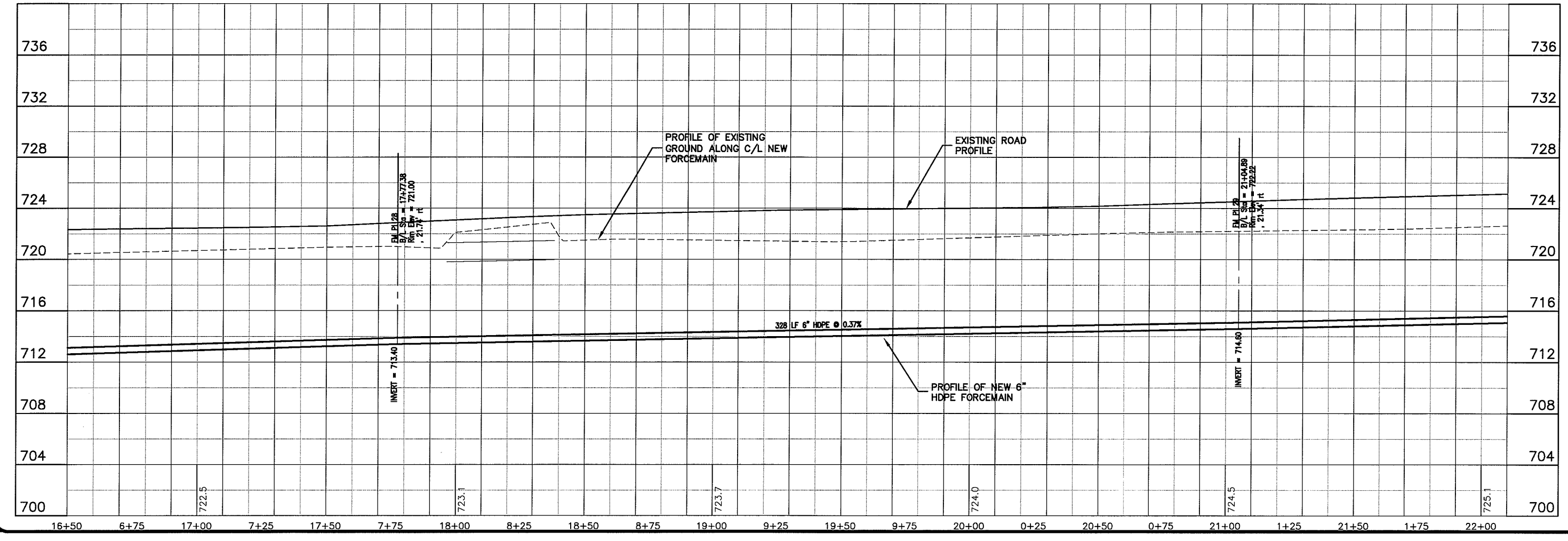
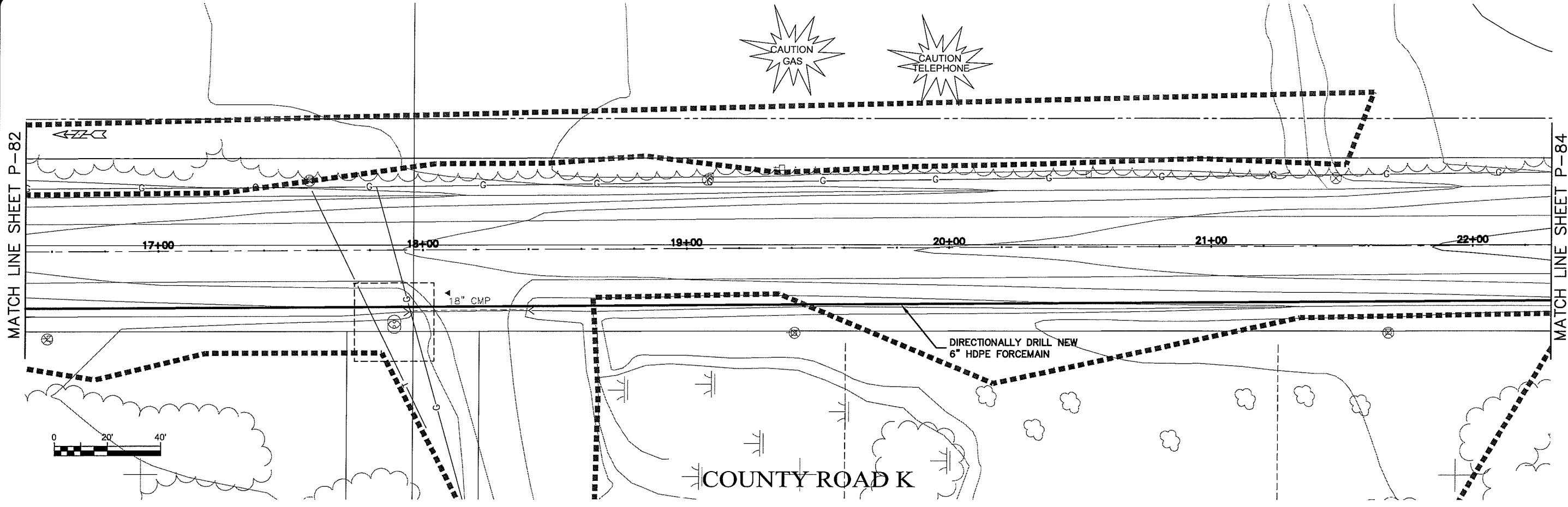
PROJECT NO.	626000
DATE	21 Oct 2009
BY	RWM
CHECKED BY	CWS
SCALE	AS SHOWN

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO.  
 626-001  
 SHEET  
 P-82



UNBID TIME P-83



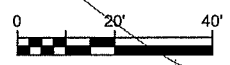
PLT DATE: 21 Oct 2009 10:41:42pm  
FILENAME: K:\design\RCp04013.dwg

MATCH LINE SHEET P-82

MATCH LINE SHEET P-84



COUNTY ROAD K



**MSA**  
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-3915 1-800-777-1380 Fax: 218-722-5518  
© MSA PROFESSIONAL SERVICES

PROFESSIONAL ENGINEERS

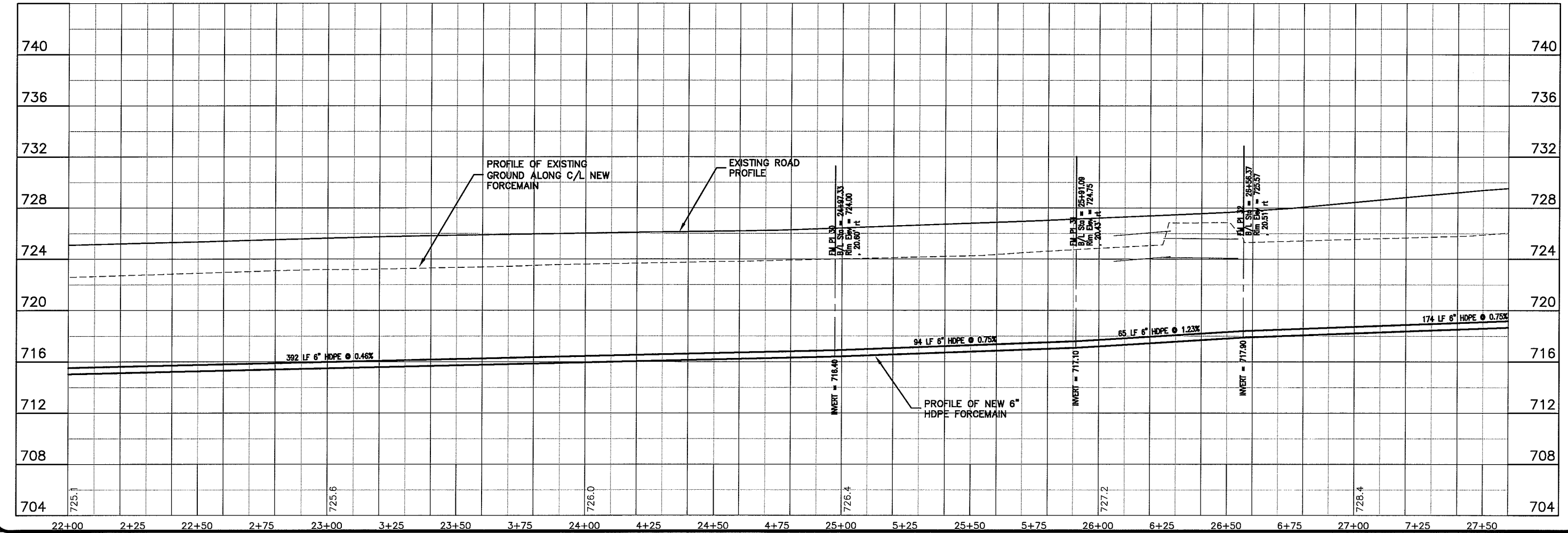
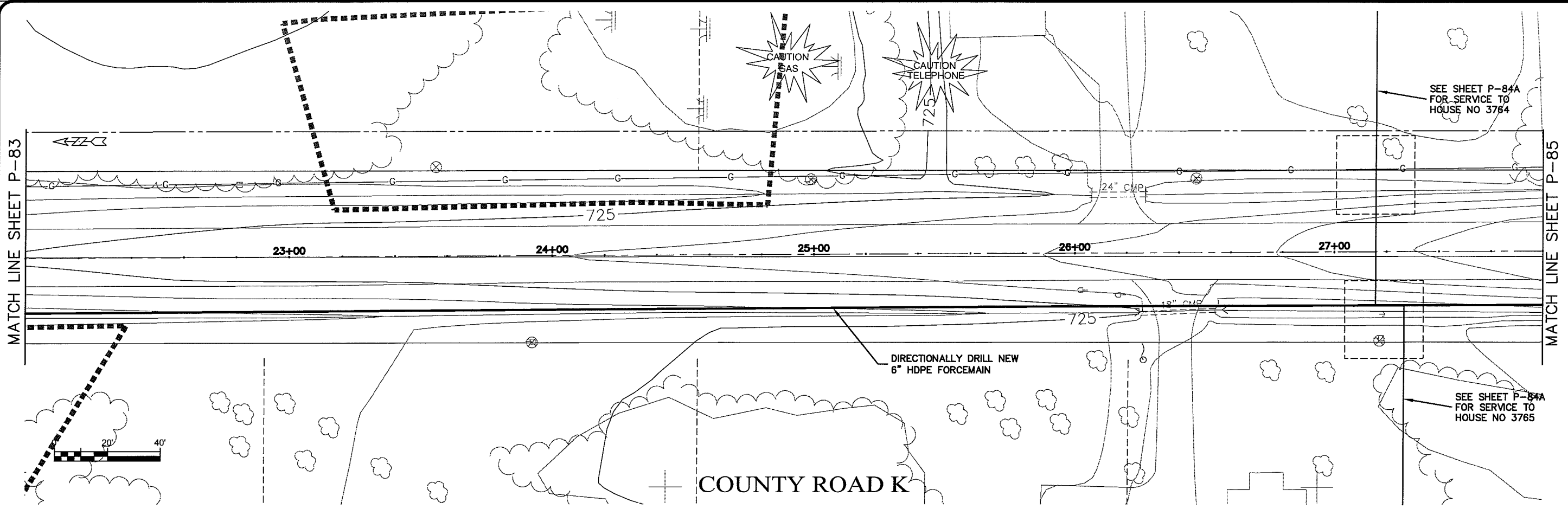
PROJECT NO. 626000  
FILE NO. 626-001  
SHEET P-83

SEWER PLAN PROFILE  
PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

DATE: 21 Oct 2009  
SCALE: AS SHOWN

DESIGNED BY: RWM  
CHECKED BY: CWS

UNDT NAME P-84



PLT DATE: 21 Oct 2009 10:41:17pm  
 FILENAME: K:\design\RCp05013.dwg

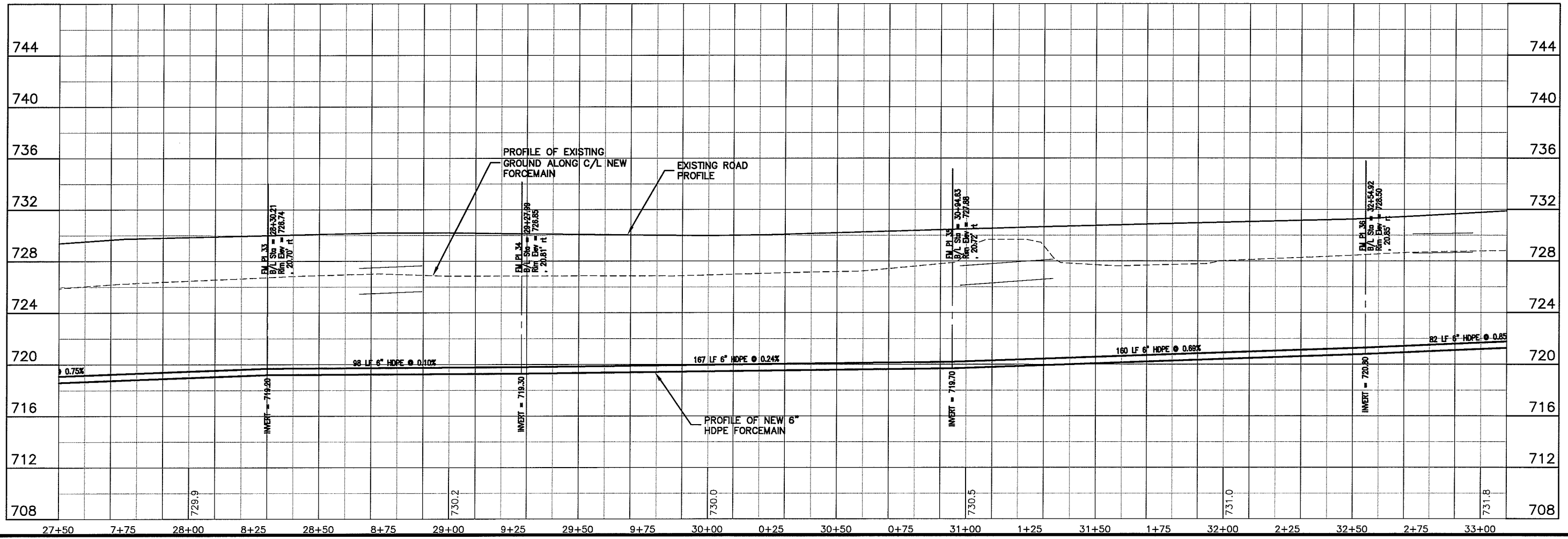
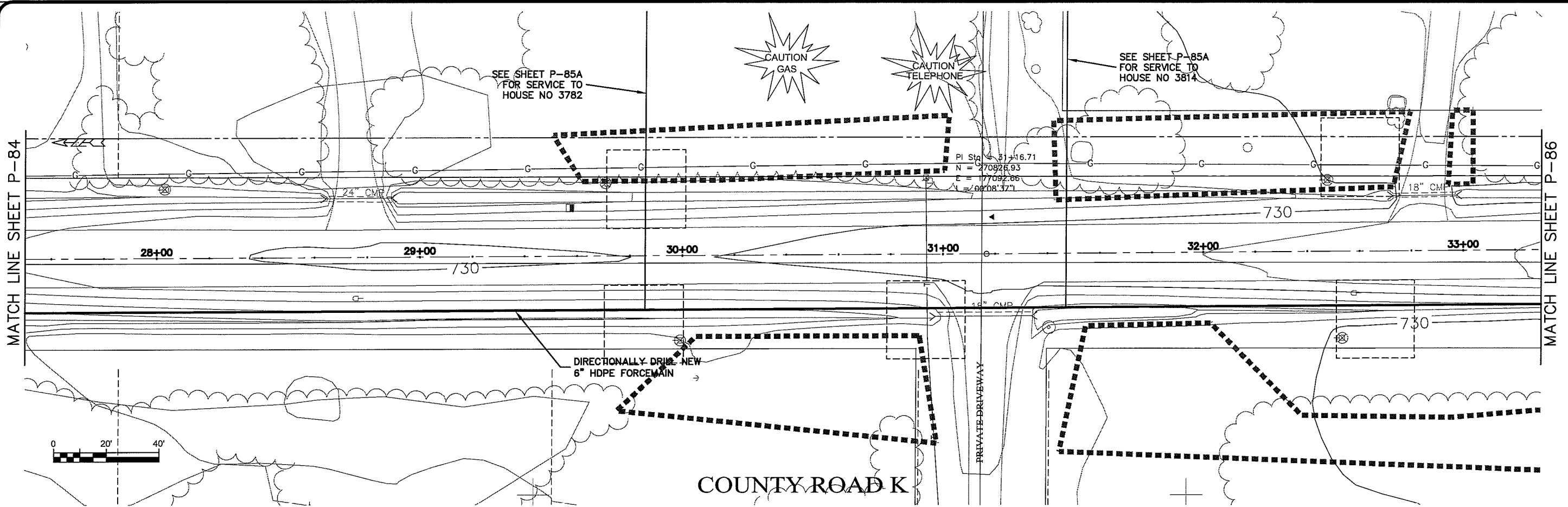
**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL ENGINEERS

PROJECT NO.: 626000  
 PLOT DATE: 21 Oct 2009  
 SCALE: AS SHOWN

SEWER PLAN - PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO.: 626-001  
 SHEET: P-84

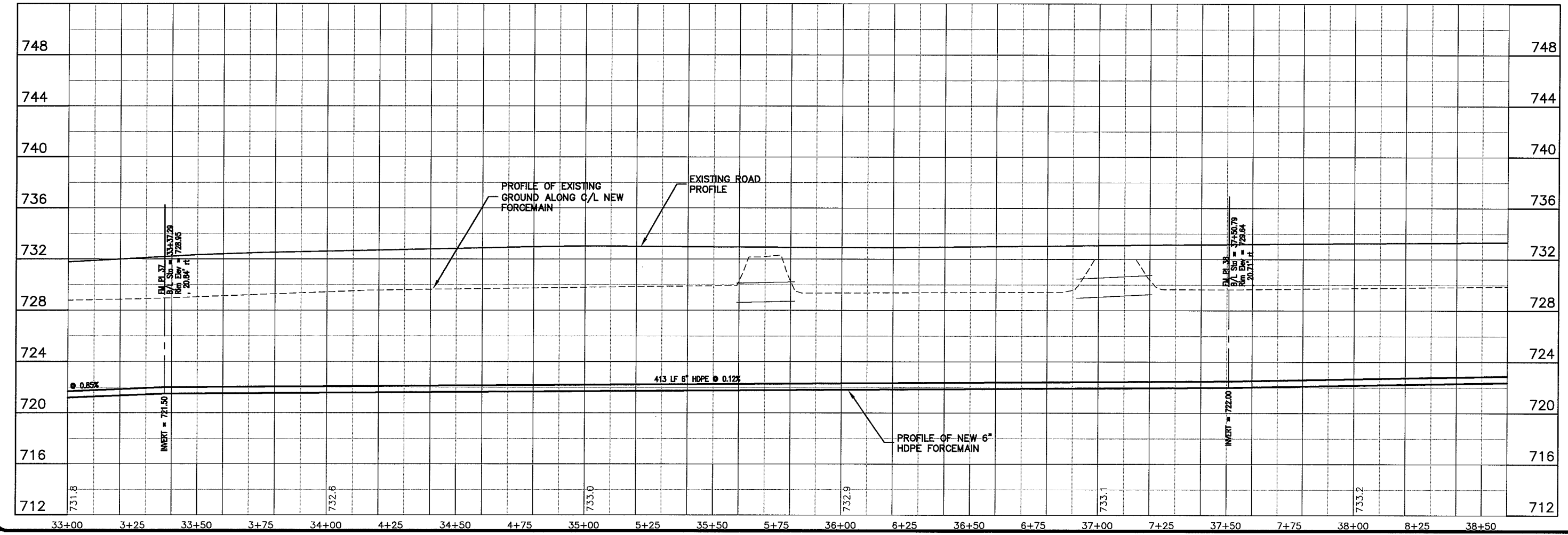
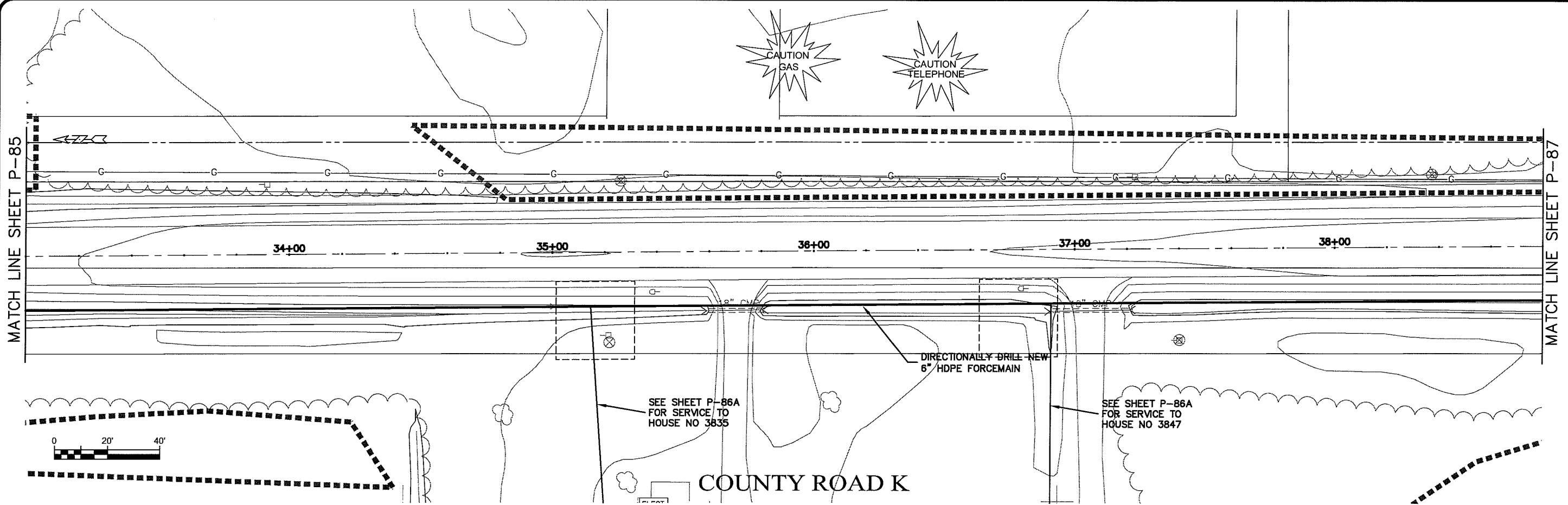
DATE: \_\_\_\_\_  
 NO.: \_\_\_\_\_  
 REGION: \_\_\_\_\_  
 BY: \_\_\_\_\_  
 DRAWN BY: RWM  
 CHECKED BY: CWS



TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 | 800-771-7380 | Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

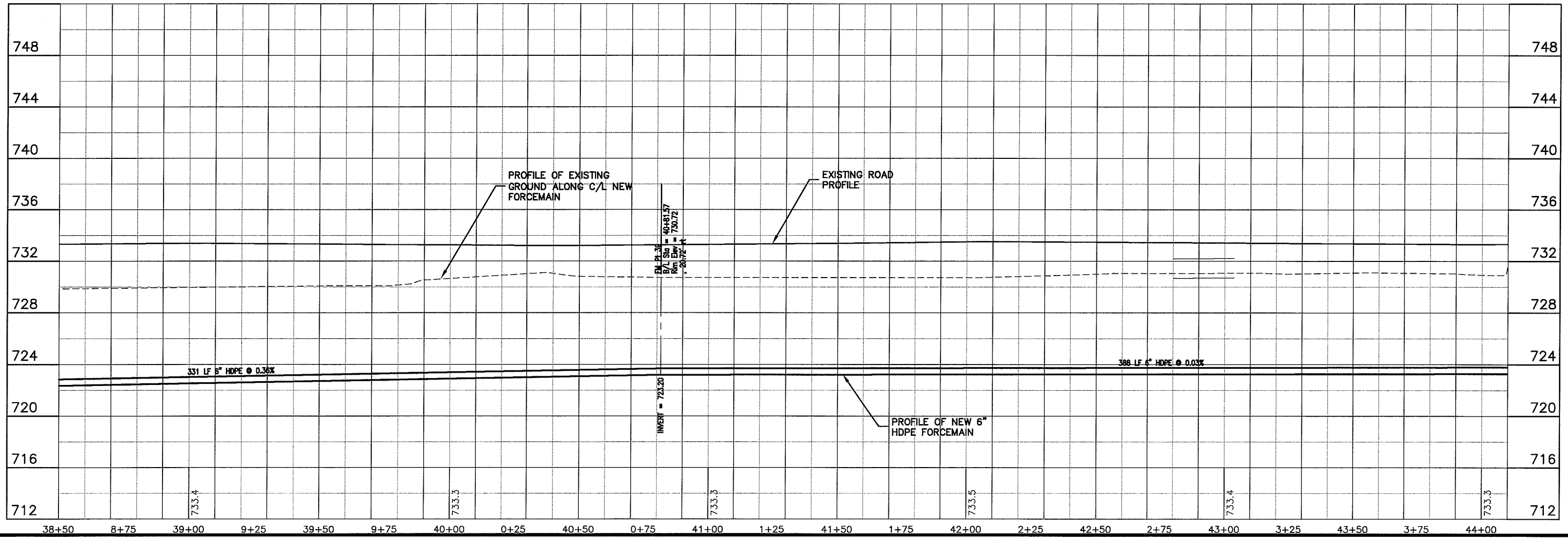
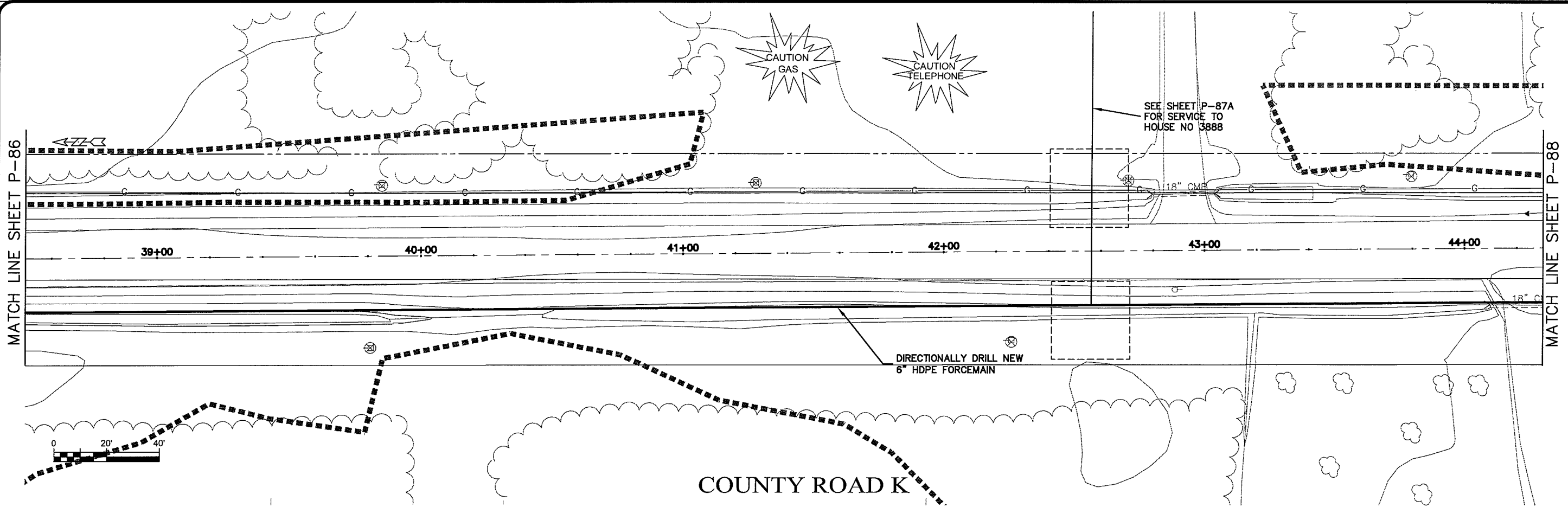
PROJECT NO.: 626000  
 SHEET: P-85

DATE: \_\_\_\_\_  
 NO.: \_\_\_\_\_  
 REVISION: \_\_\_\_\_  
 BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 PROJECT: PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 SCALE: AS SHOWN  
 PLOT DATE: 21 Oct 2009



PROJECT NO.:	626000
DATE:	21 Oct 2009
SCALE:	AS SHOWN
FILE NO.:	626-001
SHEET:	P-86
PROJECT:	PARKLAND SANITARY DISTRICT NO. 1 WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN
DESIGNED BY:	RWM
CHECKED BY:	CWS

UNROUT NAME P-87



PLT DATE: 21 Oct 2009 10:43:30pm  
 FILENAME: K:\design\RCp08013.dwg

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-1380 Fax: 218-722-5548  
**MSA**  
 PROFESSIONAL SERVICES

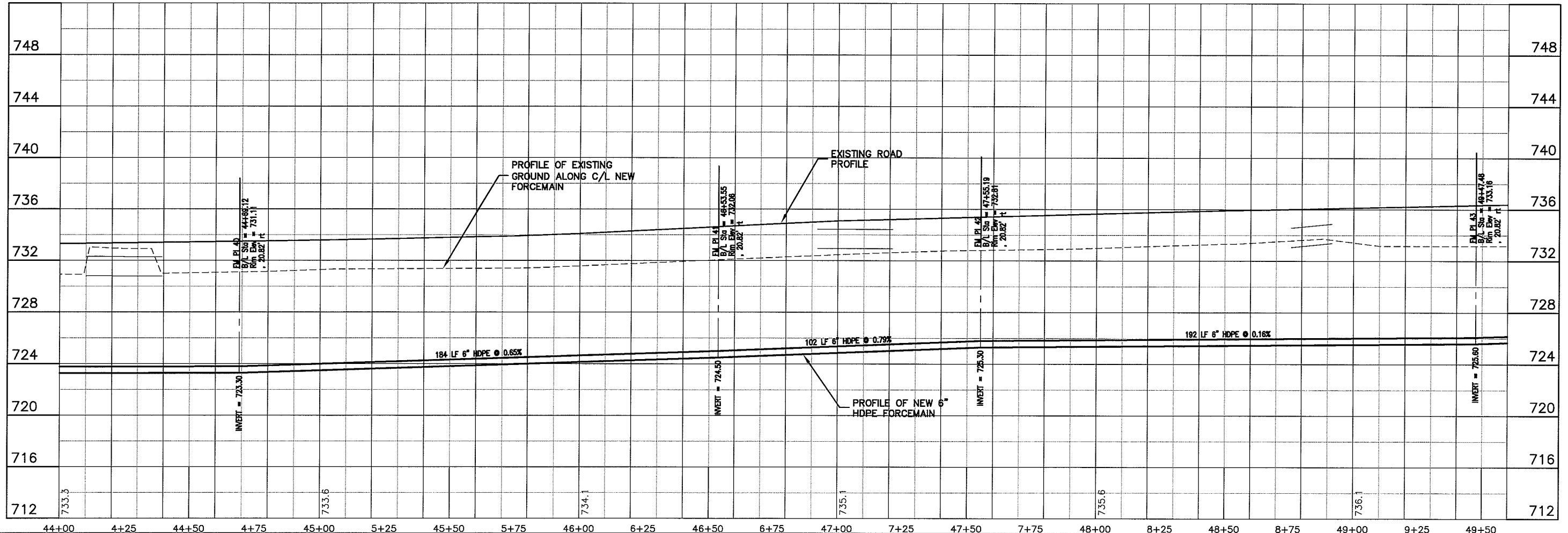
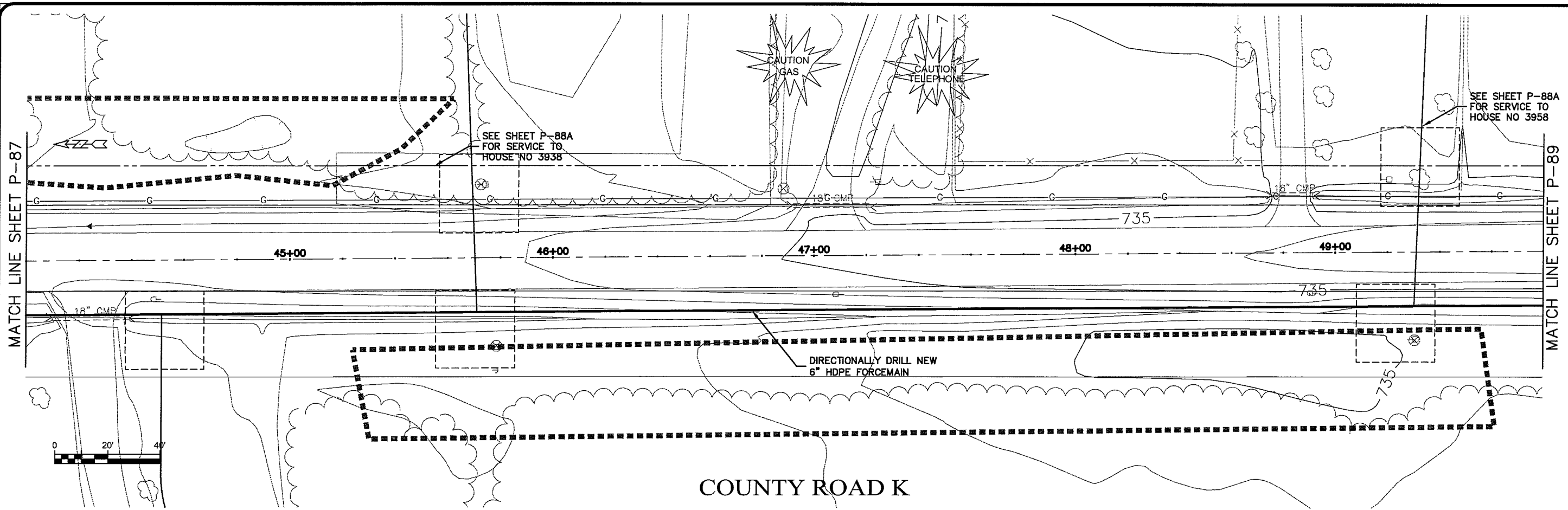
PROJECT NO. 626000  
 PROJECT: SEWER PLAN-PROFILE  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

DATE: 21 Oct 2009  
 PLOT DATE: 21 Oct 2009  
 SCALE: AS SHOWN

NO. 626-001  
 SHEET P-87

BY: [ ]  
 CHECKED BY: RWM  
 DRAWN BY: RWM  
 CHECKED BY: CWS

LAYOUT NAME: P-88



PLOT DATE: 21 Oct 2009 8:04:35pm  
FILENAME: K:\design\RCp09013.dwg

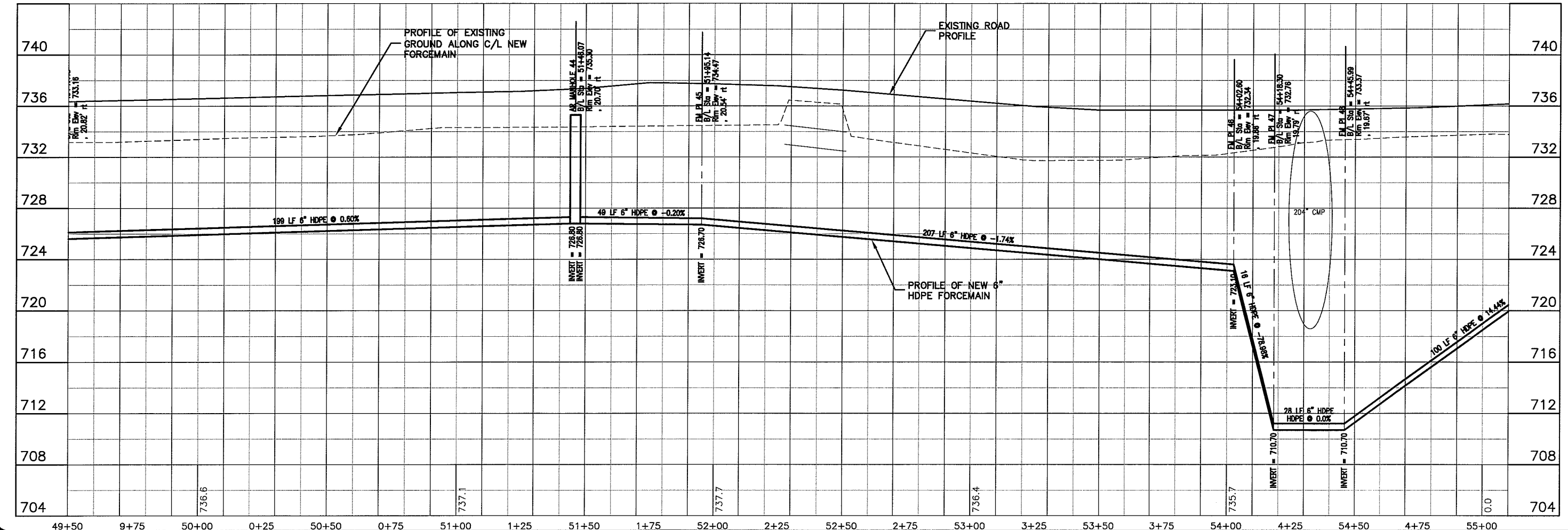
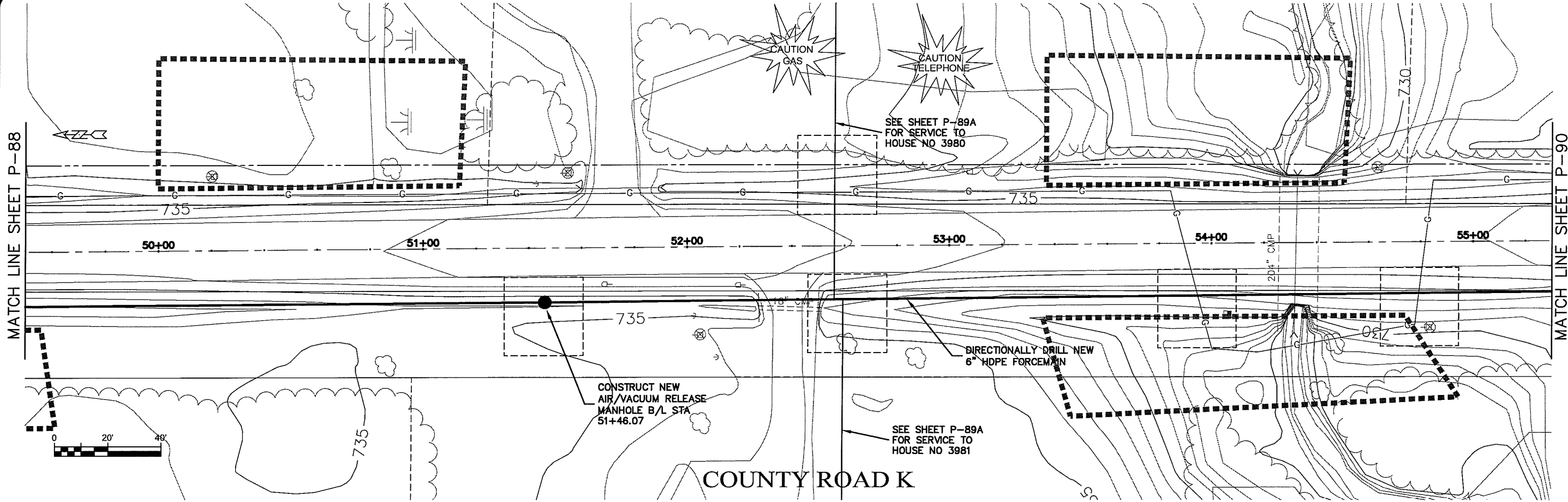
PROJECT NO: 626000  
 PLOT DATE: 21 Oct 2009  
 SCALE: AS SHOWN  
 SHEET: P-88  
 FILE NO: 626-001

SEWER PLAN-PROFILE  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

F.E.:  
 DOWN BY: RWM  
 CHECKED BY: CWS

DATE:  
 NO.:  
 REVISION:

BY:  
 TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-7190 Fax: 218-722-4548  
 MSA  
 PROFESSIONAL SERVICES



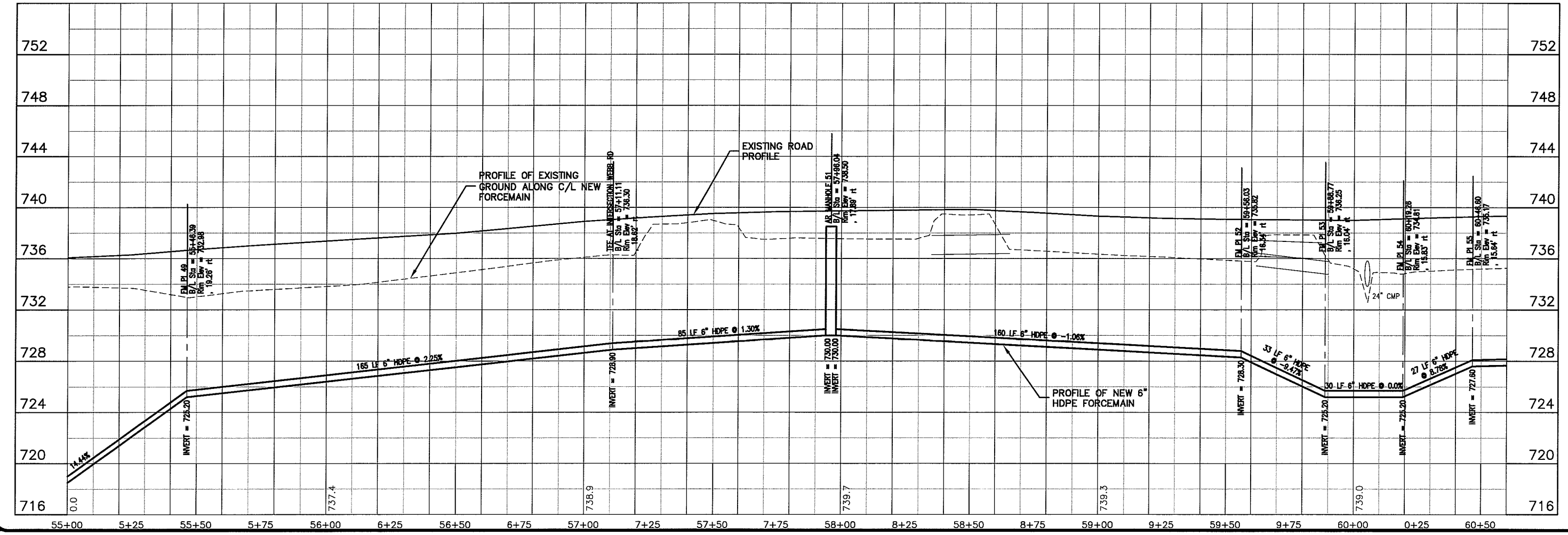
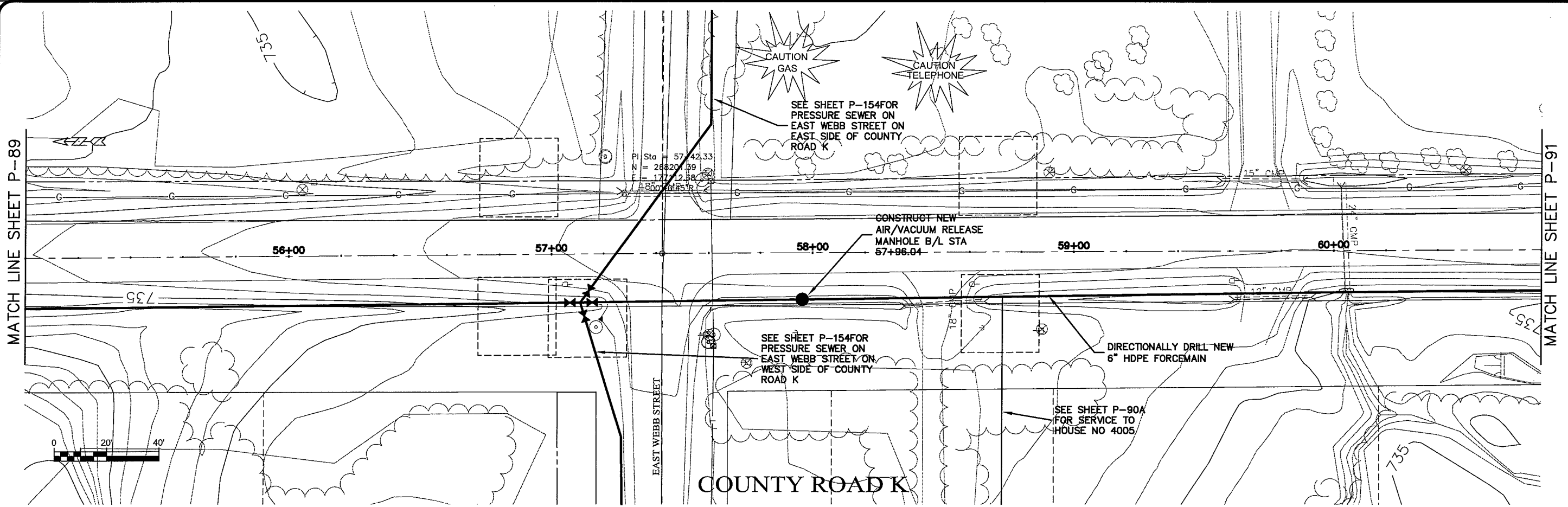
**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

---

PROJECT NO. 626000  
 DATE 21 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 SHEET P-89

---

**SEWER PLAN PROFILE**  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN



TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4588  
**MSA**  
 PROFESSIONAL SERVICES

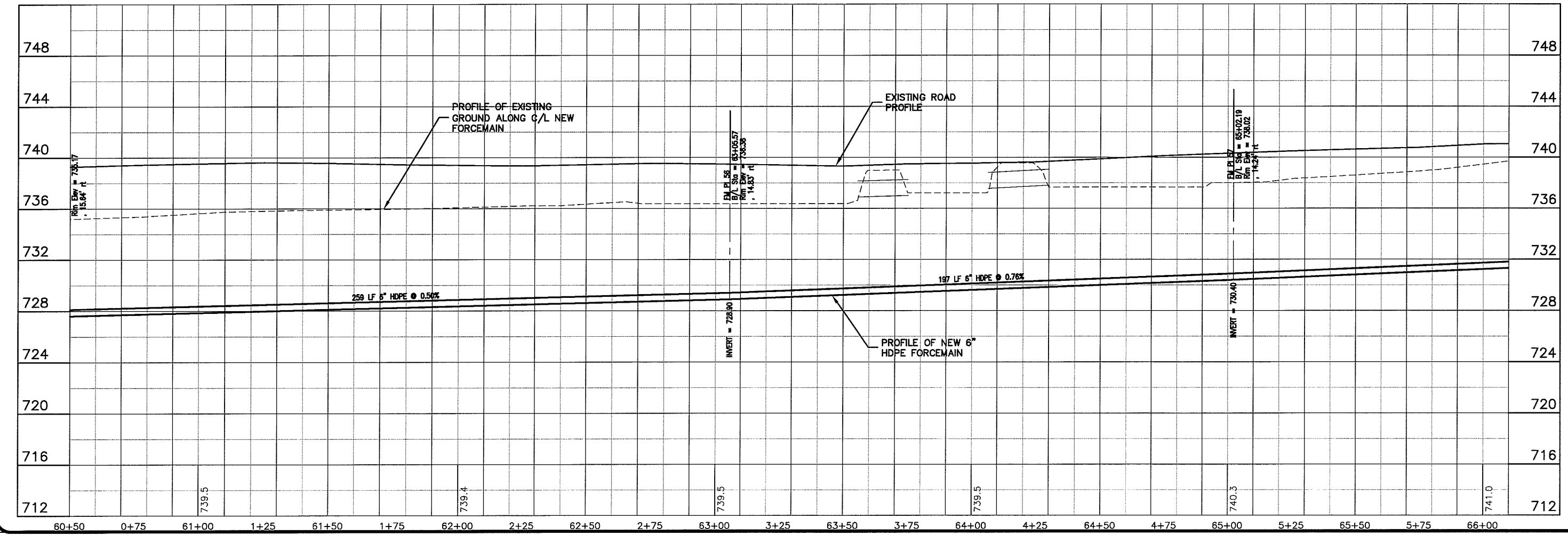
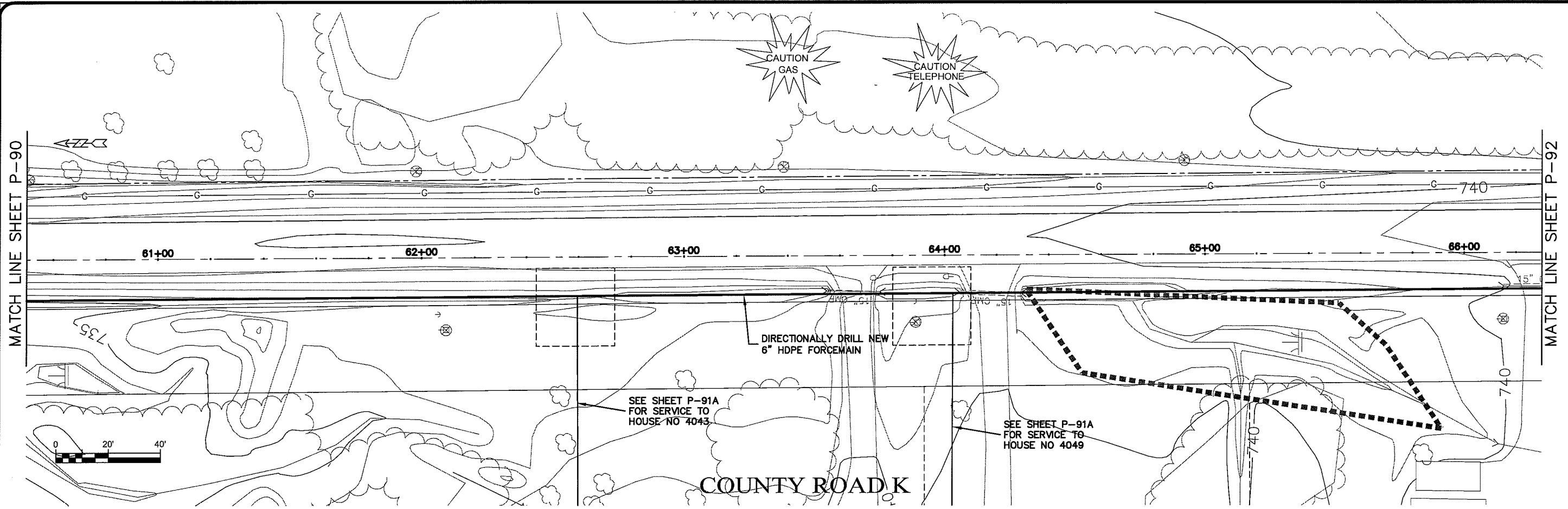
PROJECT NO.: 626000  
 DATE: 21 Oct 2009  
 SCALE: AS SHOWN

SEWER PLAN PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO.: 626-001  
 SHEET: P-90

BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 REVISION: \_\_\_\_\_  
 F.B.I.: \_\_\_\_\_  
 DRAWN BY: RWM  
 CHECKED BY: CWS





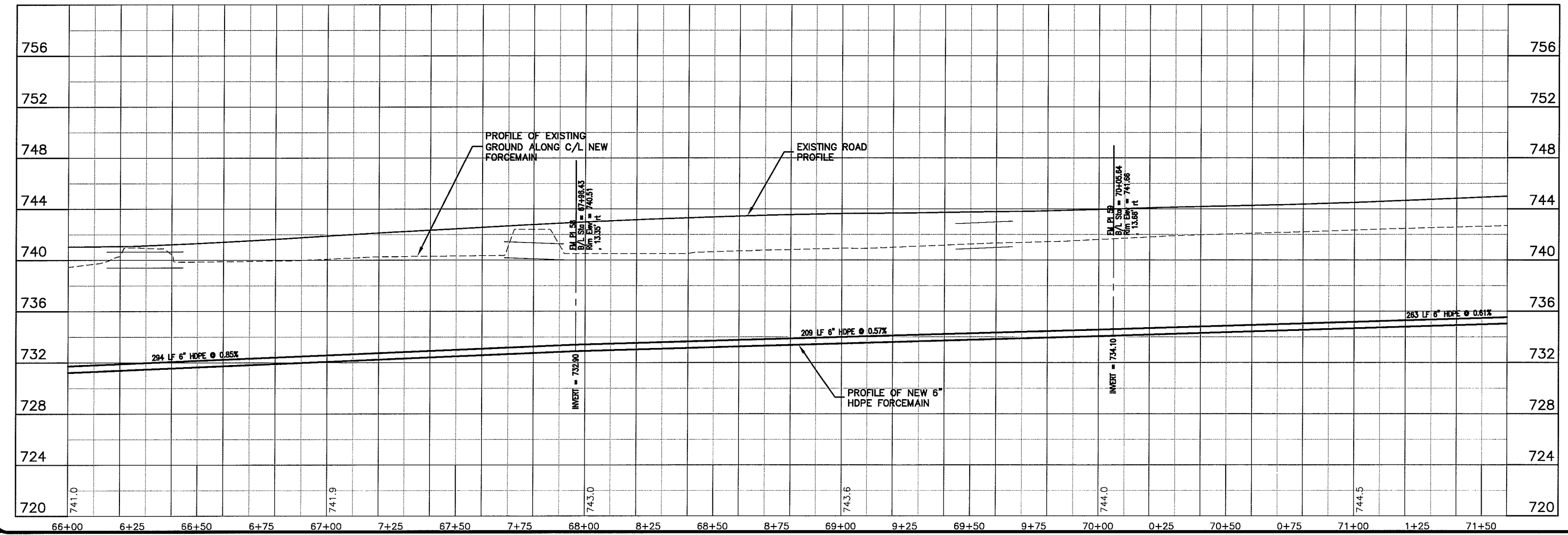
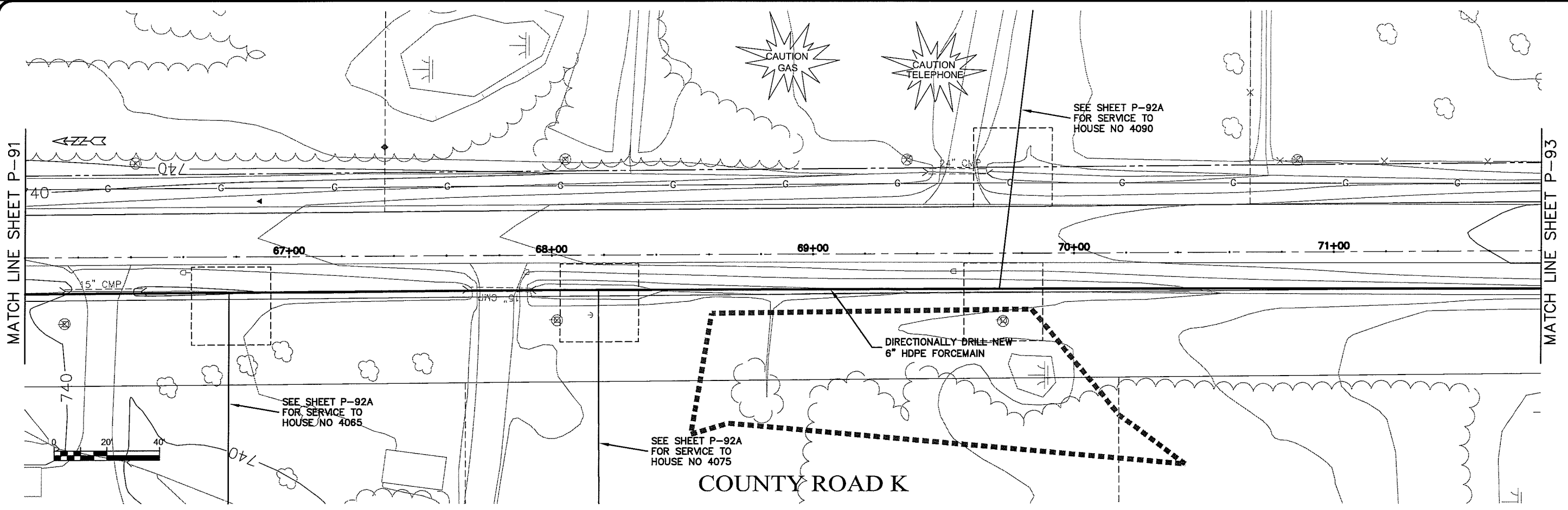
**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street, Duluth, MN 55802  
 218-722-9915 1-800-577-7380 Fax: 218-722-4516  
**MSA** PROFESSIONAL SERVICES

---

PROJECT NO. 626000  
 FILE NO. 626-001  
 SHEET P-91

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

DATE: 22 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 SCALE: AS SHOWN



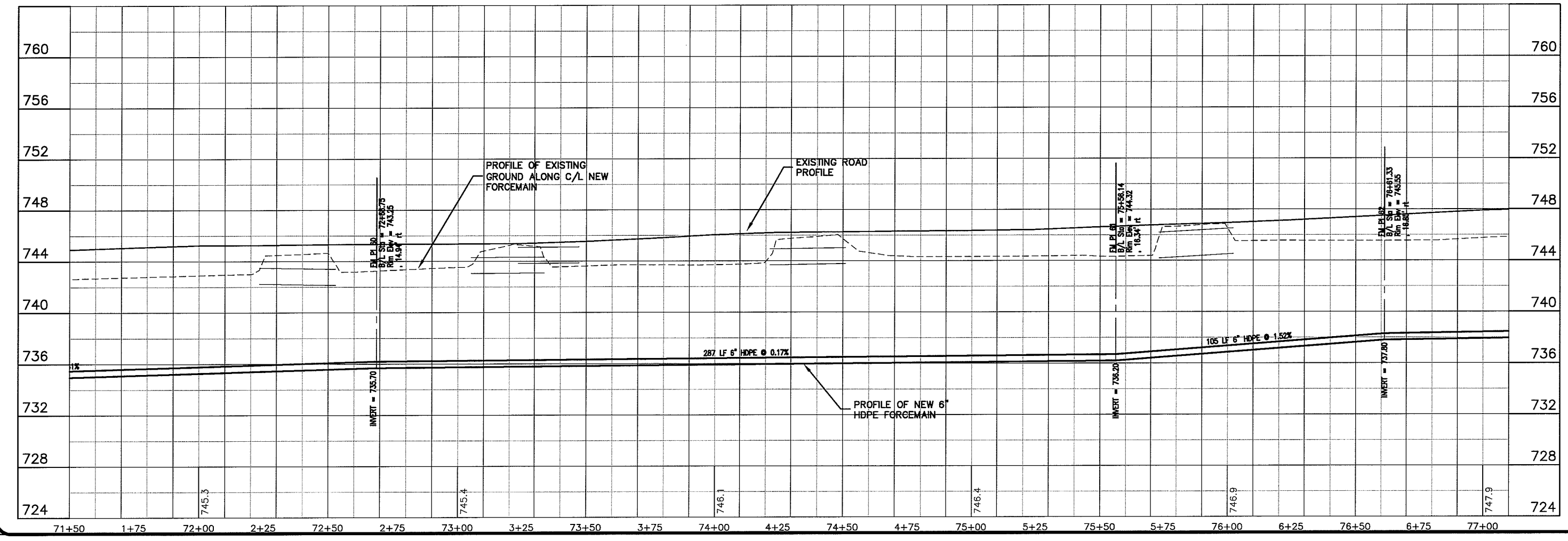
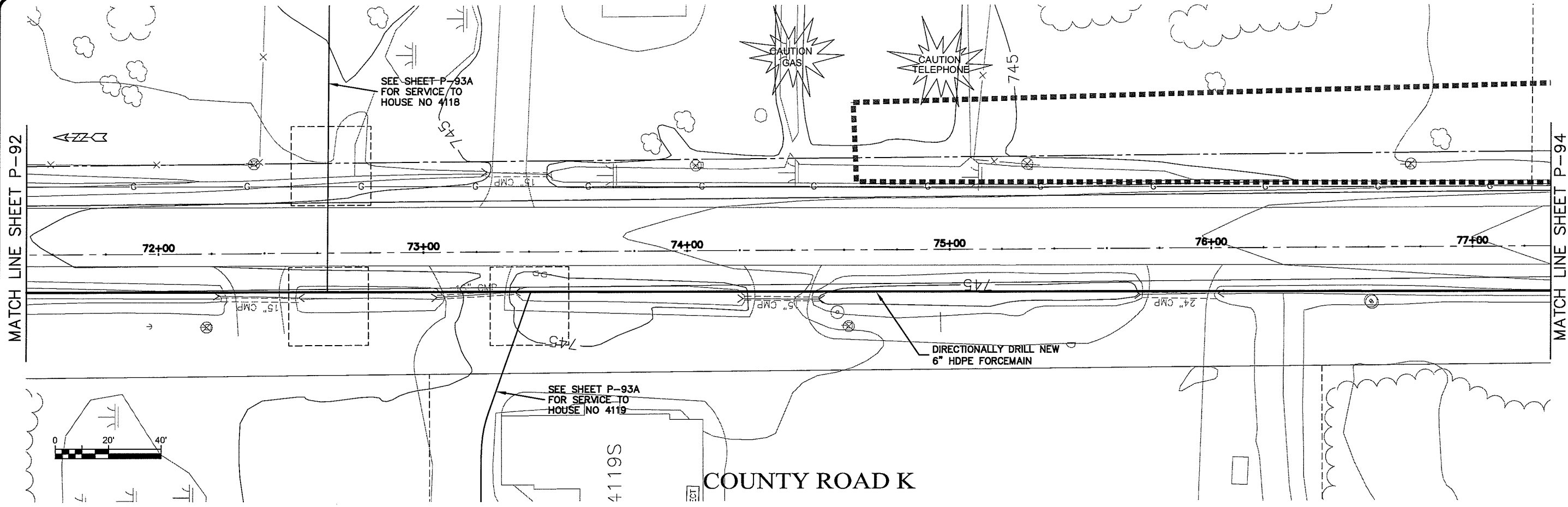
**MSA**  
 PROFESSIONAL SERVICE CENTER

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 • 1-800-777-1380 • Fax: 218-722-4548  
 © MSA PROFESSIONAL SERVICES

PROJECT NO.	626000	DATE	22 Oct 2009	DRAWN BY:	RWM
PERSON				CHECKED BY:	CWS
SEWER PLAN PROFILE <b>PARKLAND SANITARY DISTRICT NO. 1</b> WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN					
FILE NO.	626-001				
SHEET	P-92				

USER NAME: P-93

FILE DATE: 22 Oct 2009 10:56:30am  
FILENAME: K:\design\rcpt14013.dwg



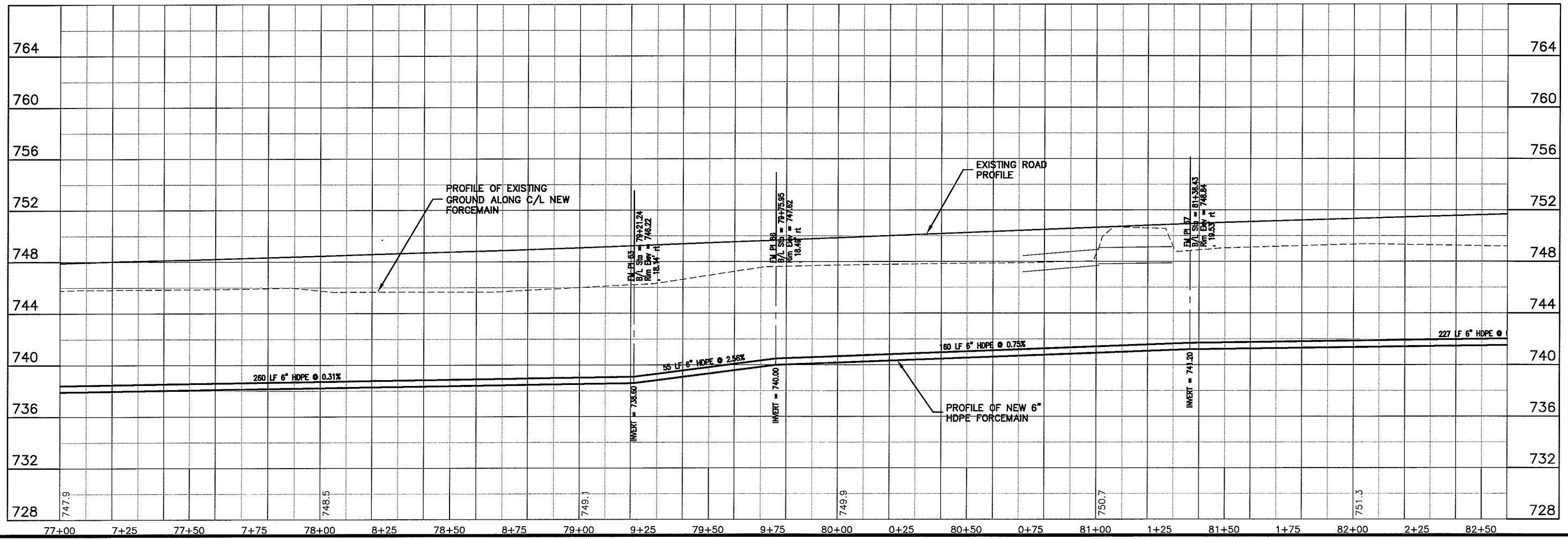
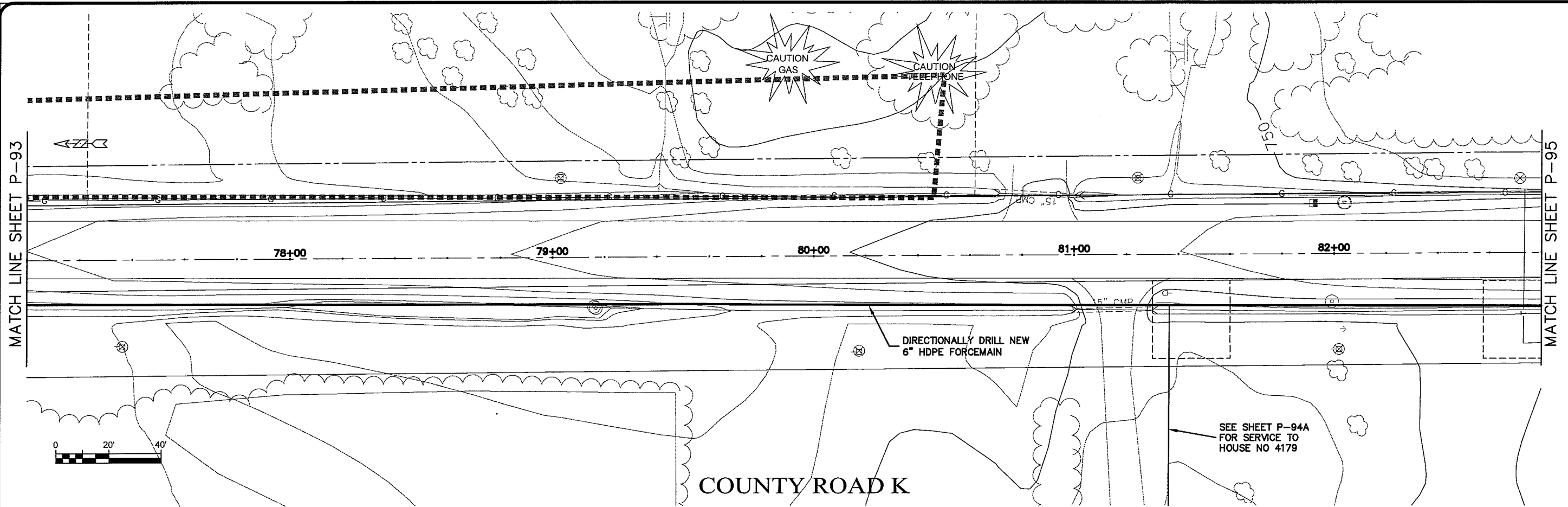
MATCH LINE SHEET P-92

MATCH LINE SHEET P-94

TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-3915 / 1-800-777-1380 / Fax: 218-722-1548  
© MSA PROFESSIONAL SERVICES



PROJECT NO. 626000	DATE 22 Oct 2009	SCALE AS SHOWN
FILE NO. 626-001	DRAWN BY: RWM	CHECKED BY: CWS
SHEET P-93	SEWER PLAN - PROFILE	
PARKLAND SANITARY DISTRICT NO. 1 WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN		



TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-1380 Fax: 218-722-5458  
**MSA**  
 PROFESSIONAL ENGINEERS

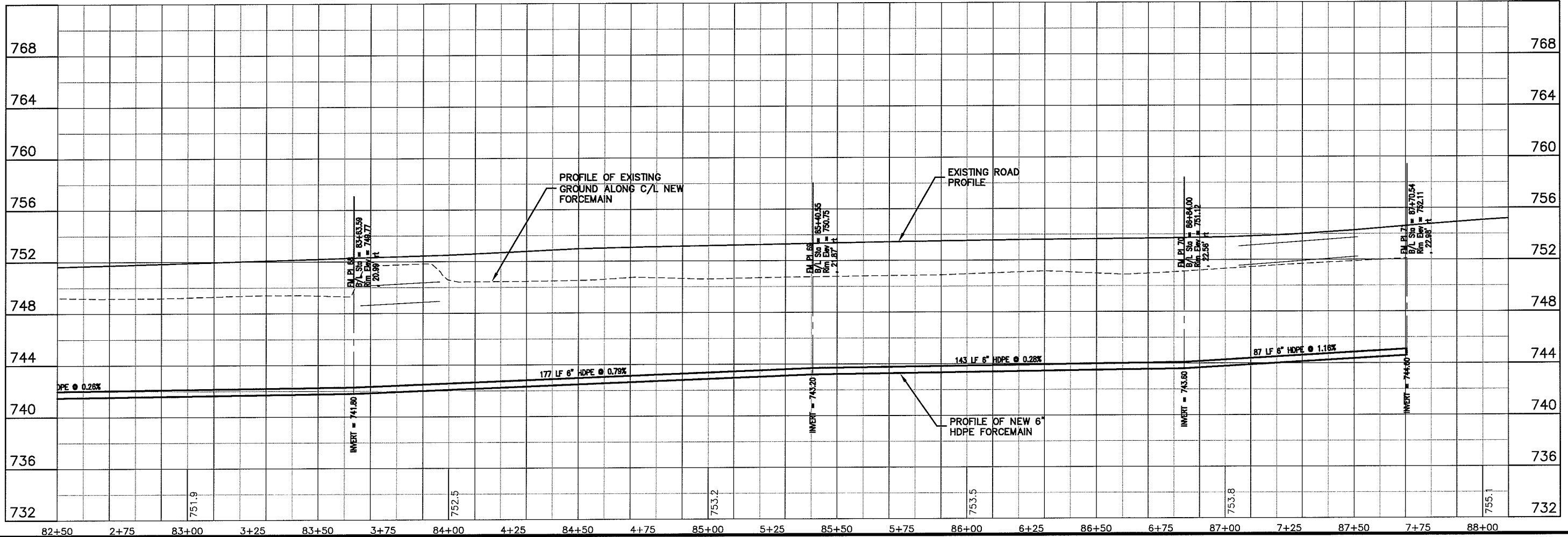
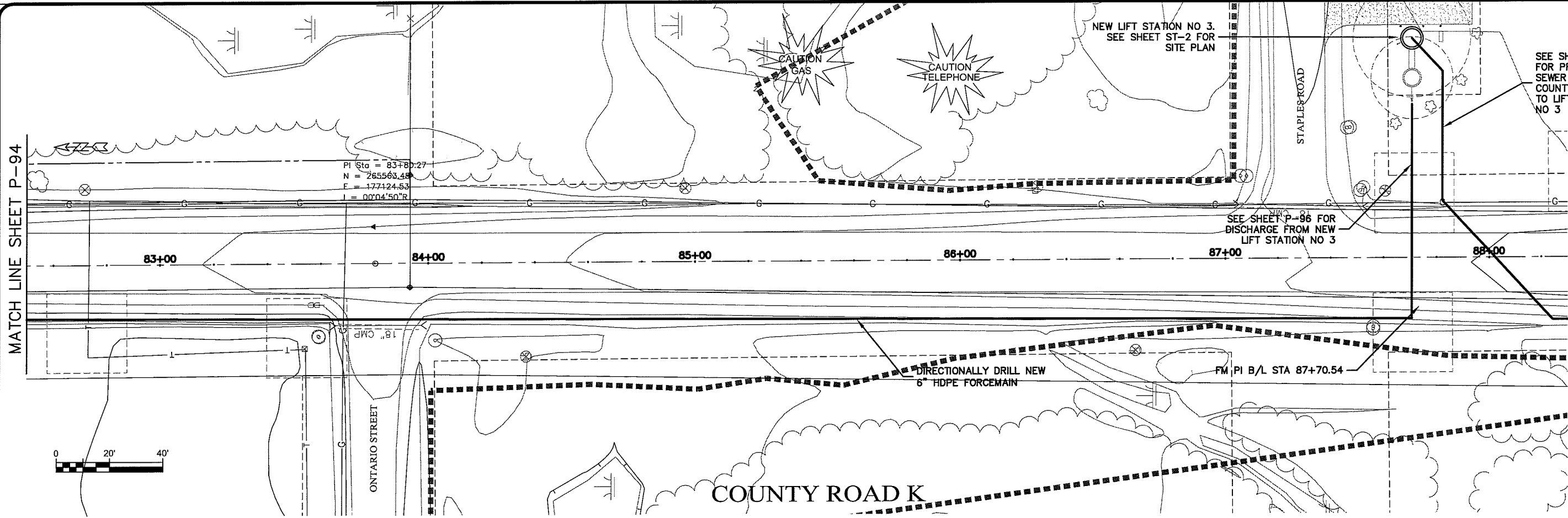
PROJECT NO. 626000  
 FILE NO. 626-001  
 SHEET P-94

DATE: 22 Oct 2009  
 PLOT DATE: 22 Oct 2009  
 SCALE: AS SHOWN

PROJECT: SEWER PLAN - PROFILE  
 DISTRICT: PARKLAND SANITARY DISTRICT NO. 1  
 SYSTEM: WASTEWATER COLLECTION SYSTEM  
 COUNTY: DOUGLAS COUNTY, WISCONSIN

DESIGNED BY: RWM  
 CHECKED BY: CWS

UNOFFICIAL P-95

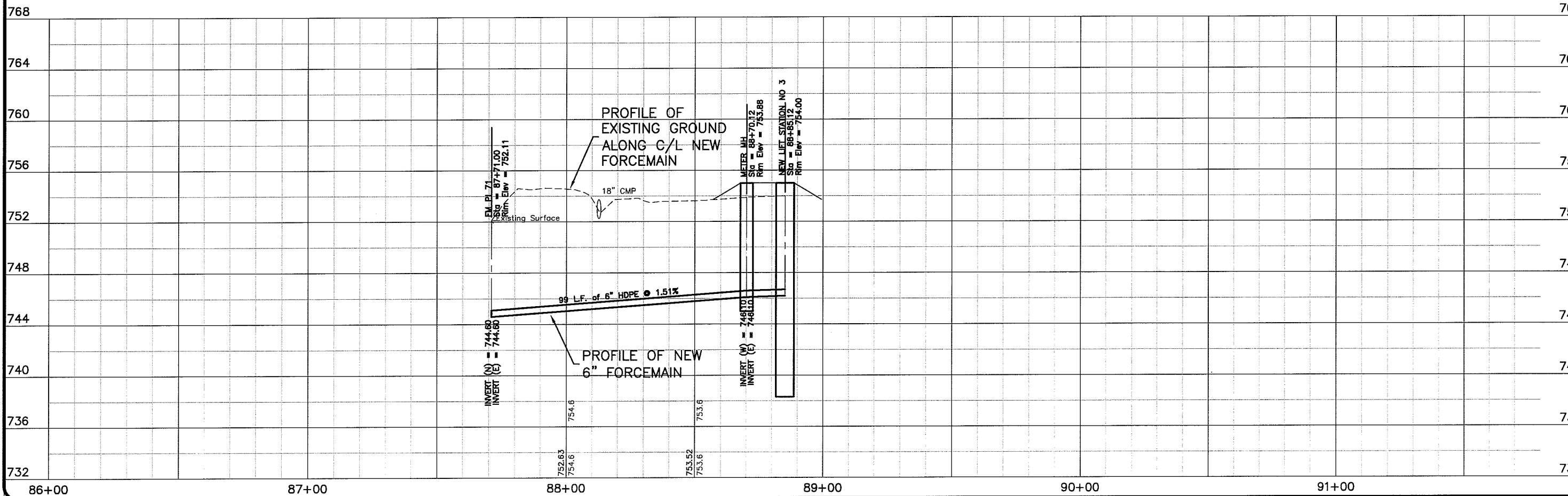
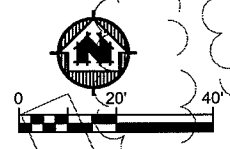
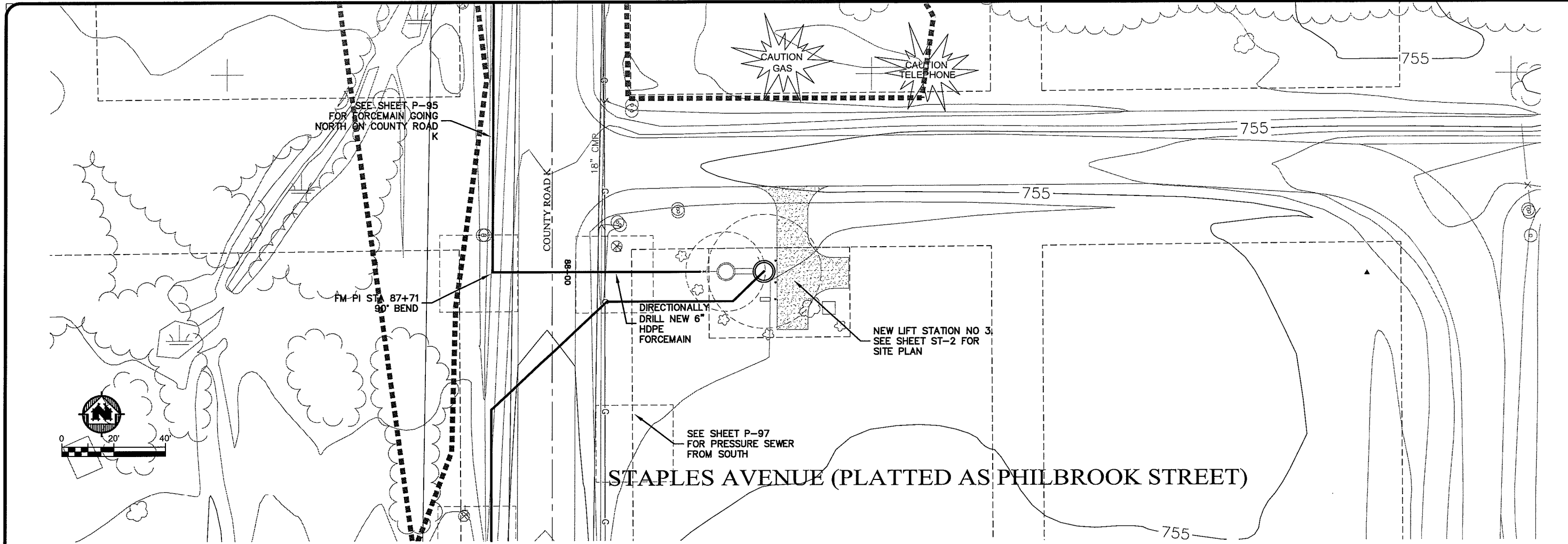


PLN DATE: 22 Oct 2009 10:46am  
PLAN: K:\Design\PCP16013.dwg

TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
300 West First Street, Suite 1500  
218-723-9131 FAX: 218-723-7214-458  
© MSA PROFESSIONAL SERVICES

**MSA**  
PROFESSIONAL SERVICES

PROJECT NO. 626000	DATE	NO.	BY
PLN DATE: 22 Oct 2009			
SCALE AS SHOWN			
PROJECT: SEWER PLAN - PROFILE			
FILE NO. 626-001			
SHEET P-95			
DRAWN BY: RWM			
CHECKED BY: CWS			
PROJECT: PARKLAND SANITARY DISTRICT NO. 1			
WASTEWATER COLLECTION SYSTEM			
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN			



**SEWER PLAN - PROFILE**

**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

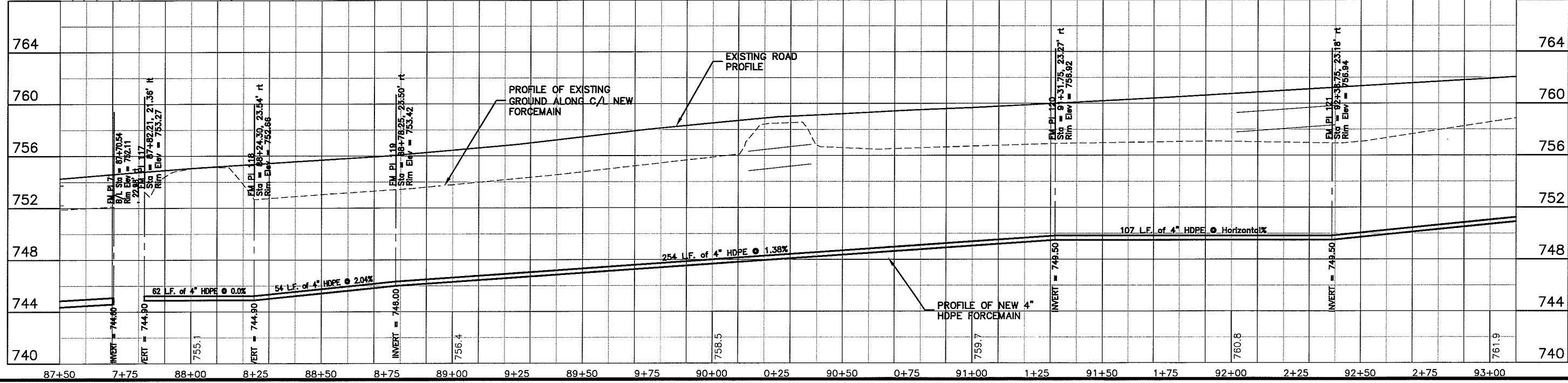
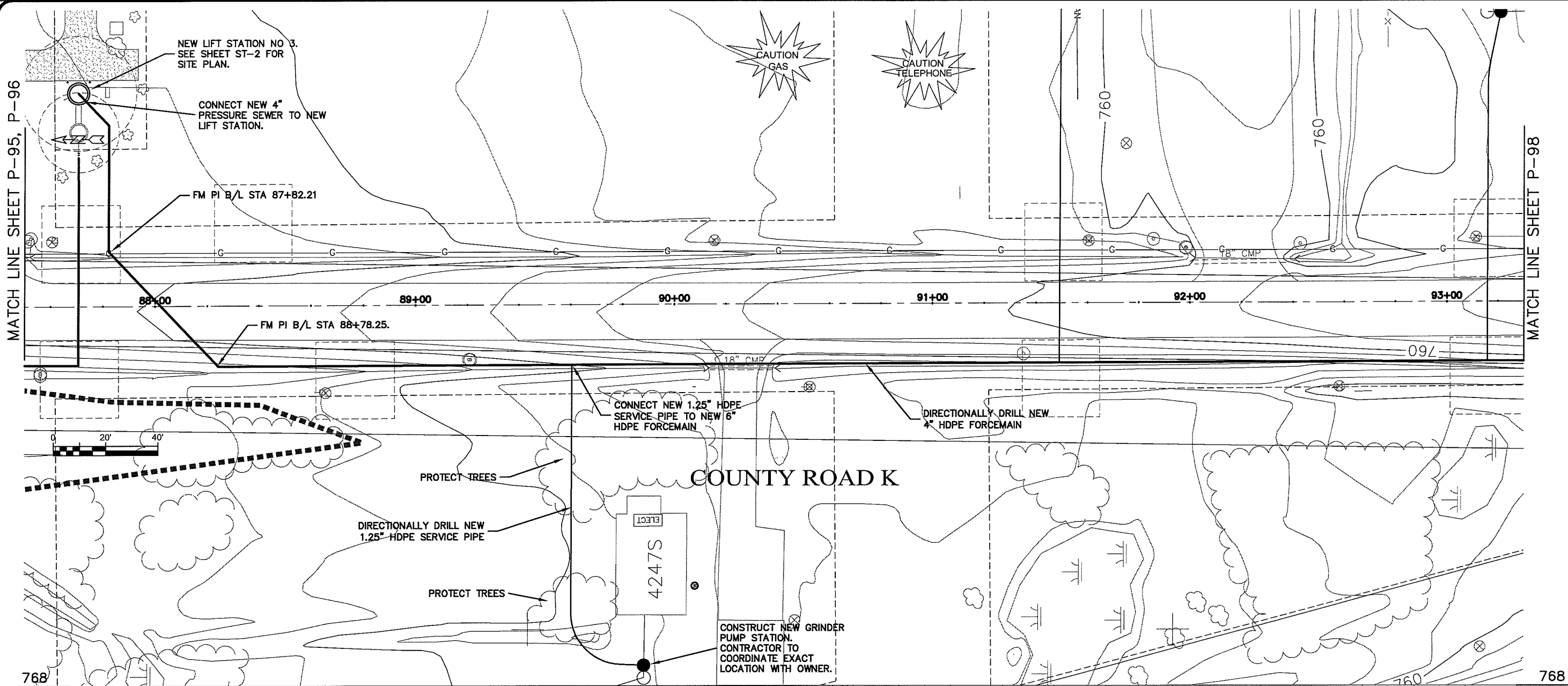
PROJECT NO: 626000  
 PLOT DATE: 22 Oct 2009  
 SCALE: AS SHOWN

FILE NO: 626-001  
 SHEET: P-96

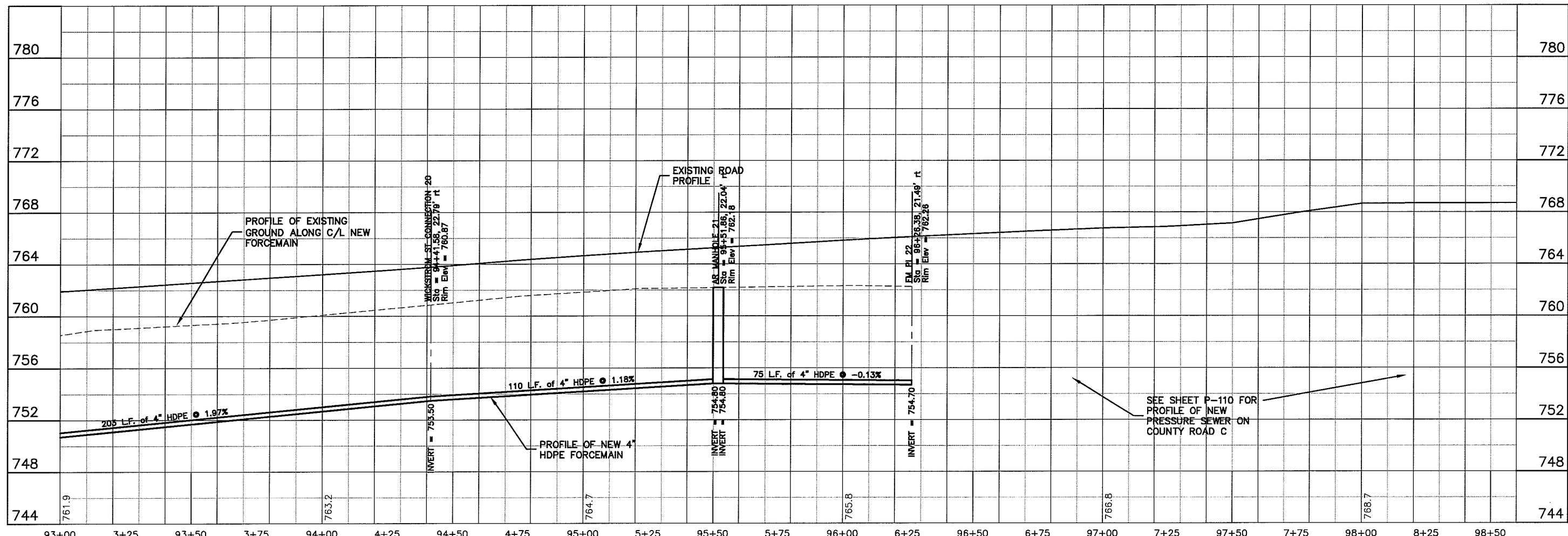
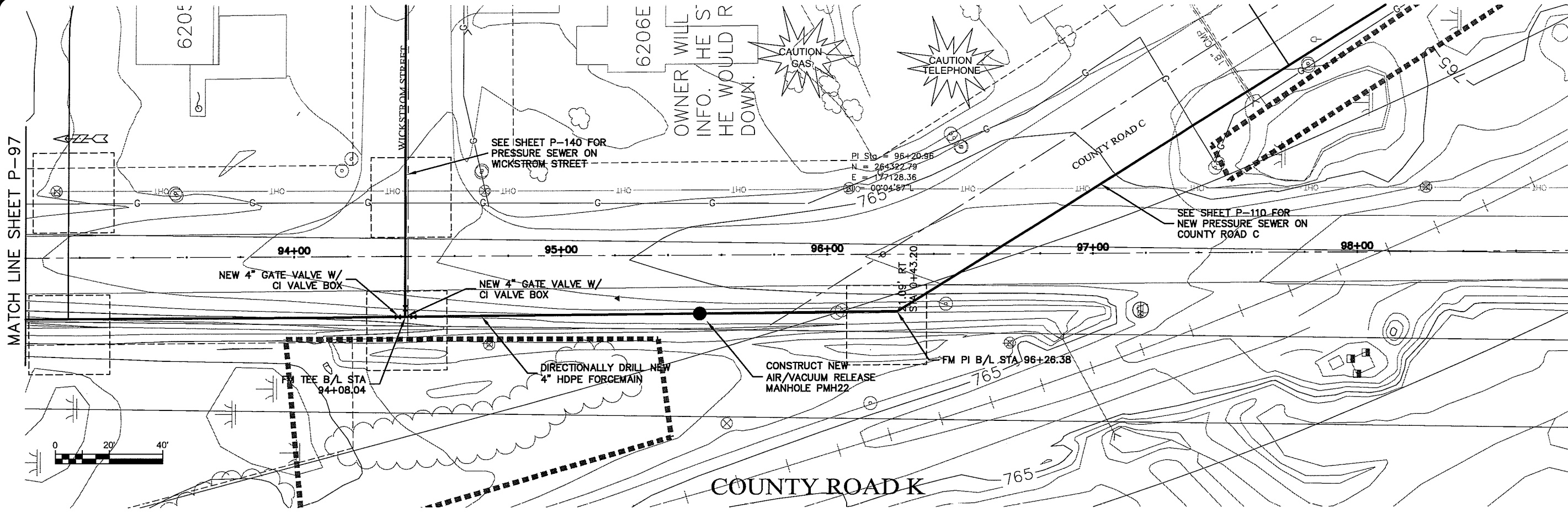
DESIGNED BY: RWM  
 CHECKED BY: CWS

PROJECTED BY: MSA  
 PROFESSIONAL ENGINEER

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-9915, 1-800-777-7380 Fax: 218-722-4548  
 © MSA PROFESSIONAL SERVICES



UNSAT IMAGE P-98



PLT DATE: 22 Oct 2009, PLT TIME: 9:10:10am  
 FILENAME: K:\Design\RCp180\13.dwg

**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street, Duluth, MN 55802  
 218-722-3913 • 1-800-777-7380 Fax: 218-722-5456  
**MSA**  
 PROFESSIONAL SERVICE ENGINEERS

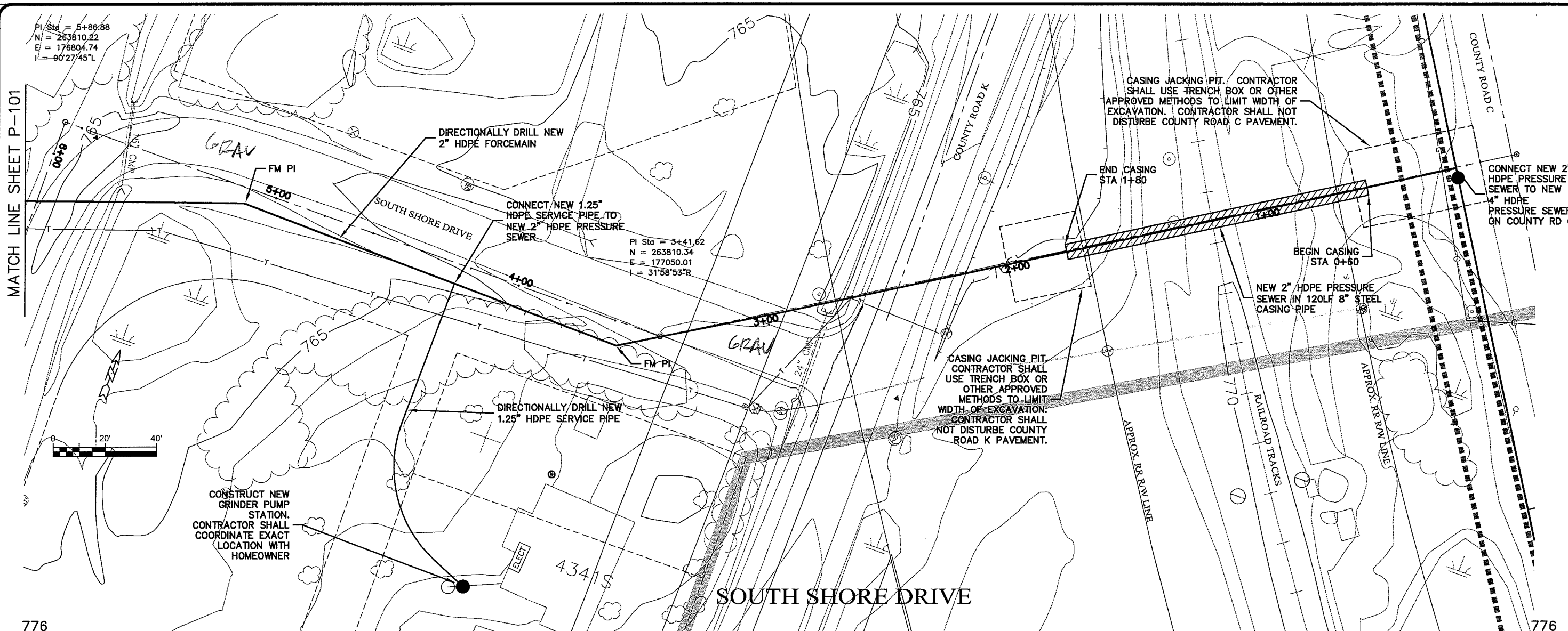
PROJECT NO.: 626000  
 FILE NO.: 626-001  
 SHEET P-98

SEWER PLAN PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

DATE: 22 Oct 2009  
 SCALE: AS SHOWN  
 DRAWN BY: RWM  
 CHECKED BY: CWS

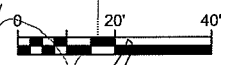


UNBRT NAME Layout1



PI Sta = 5+86.88  
 N = 263810.22  
 E = 176804.74  
 L = 90°27'45\"/>

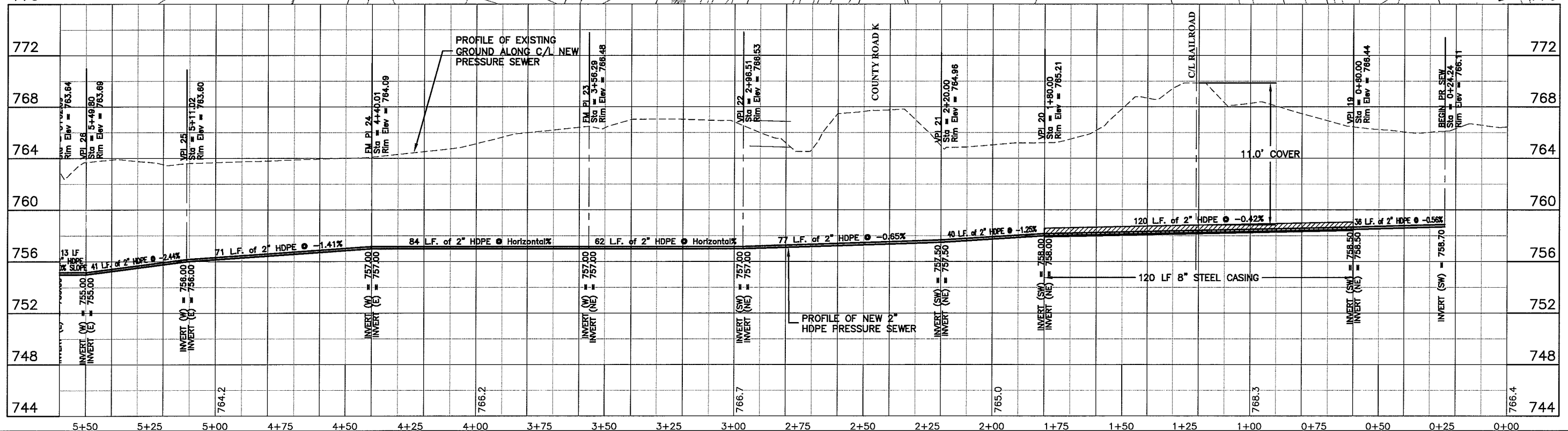
PI Sta = 3+41.62  
 N = 263810.34  
 E = 177050.01  
 L = 31°58'53\"/>



MATCH LINE SHEET P-101

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-723-3915 1-800-777-7380 Fax: 218-722-4548  
 MSA PROFESSIONAL SERVICES

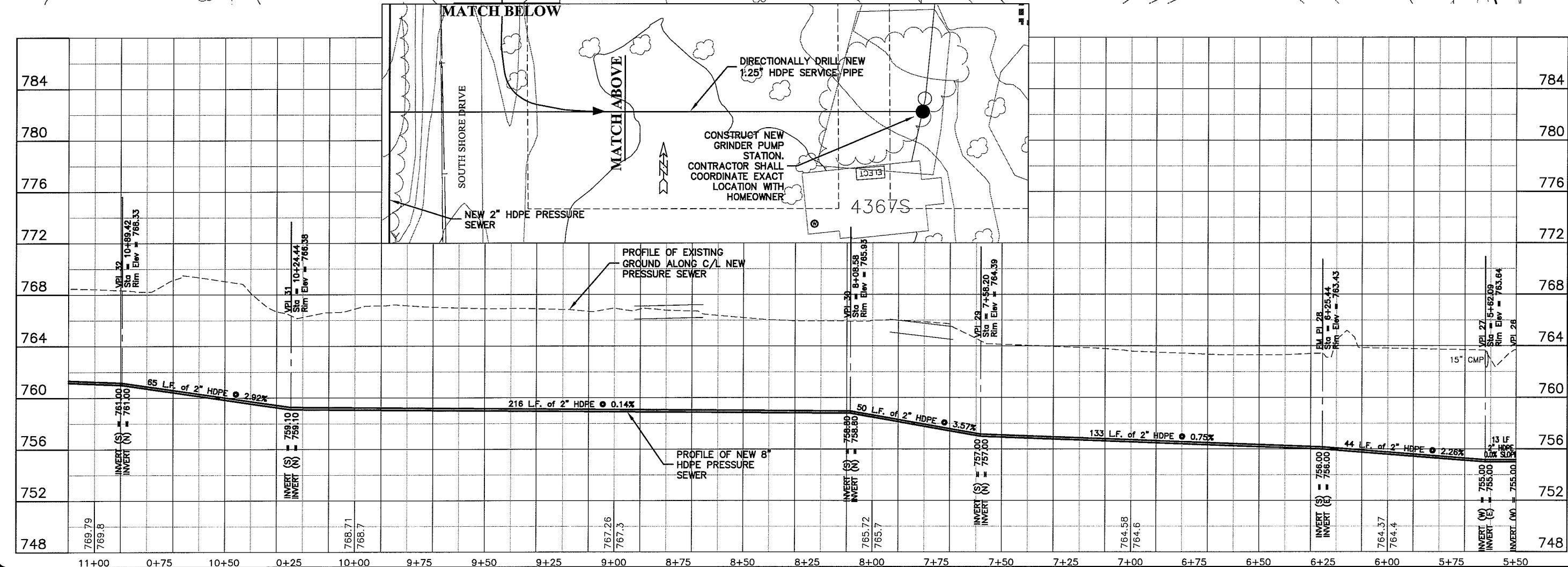
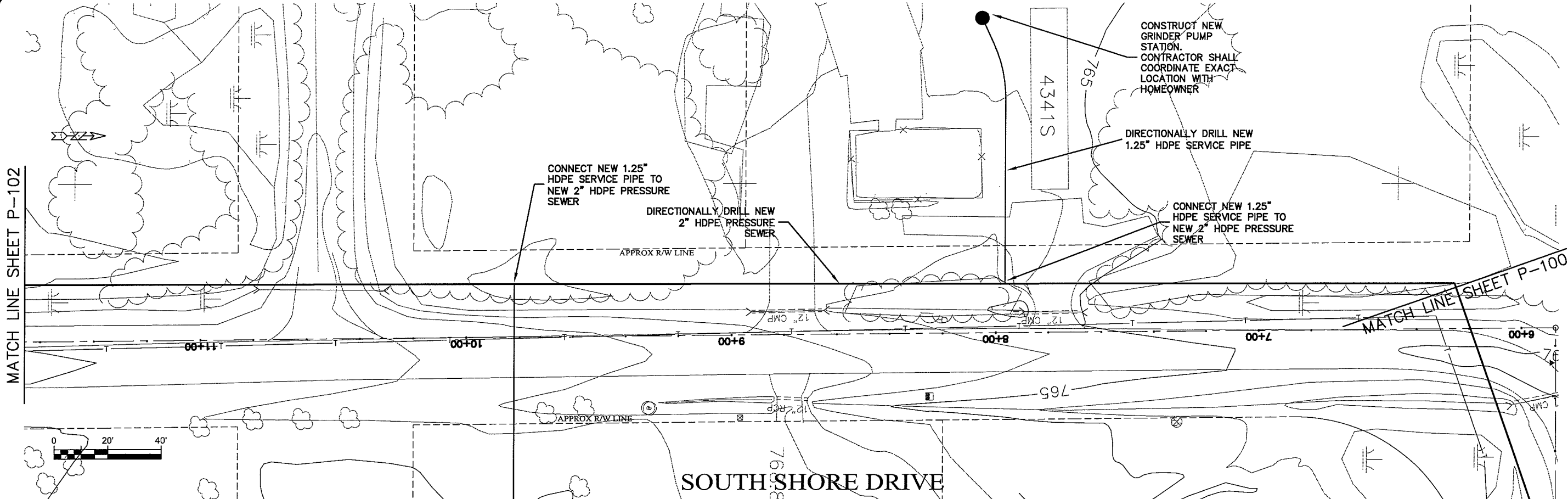
BY: [Signature]  
 DATE: [Blank]  
 PROJECT NO. 626000  
 DRAWN BY: RWM  
 CHECKED BY: CWS



Plot Date: 08 Oct 2009 11:58am  
 File Path: K:\Design\RCp01012.dwg

SEWER PLAN PROFILE  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN  
 PROJECT NO. 626000  
 DATE: 08 Oct 2009  
 SCALE: AS SHOWN  
 SHEET P-100

layout name: Layout1



plot date: 08 Oct 2009 plot time: 12:05pm  
 file path: K:\design\RCp02012.dwg

**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street Duluth, MN 55802  
 218-722-9131 1-800-577-1380 Fax: 218-722-4518  
**MSA** PROFESSIONAL SERVICES

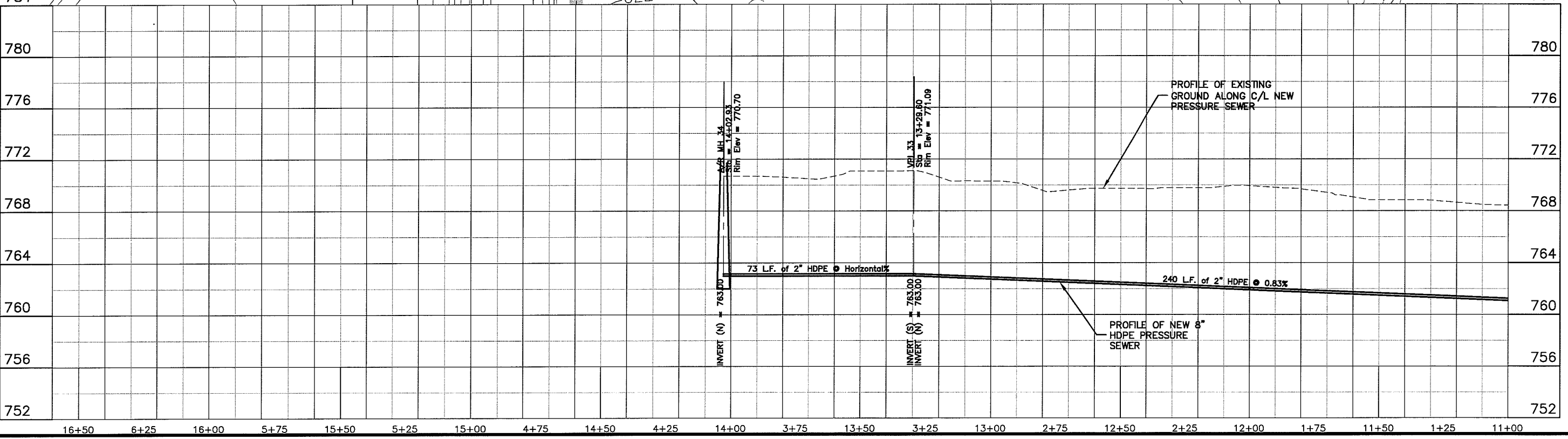
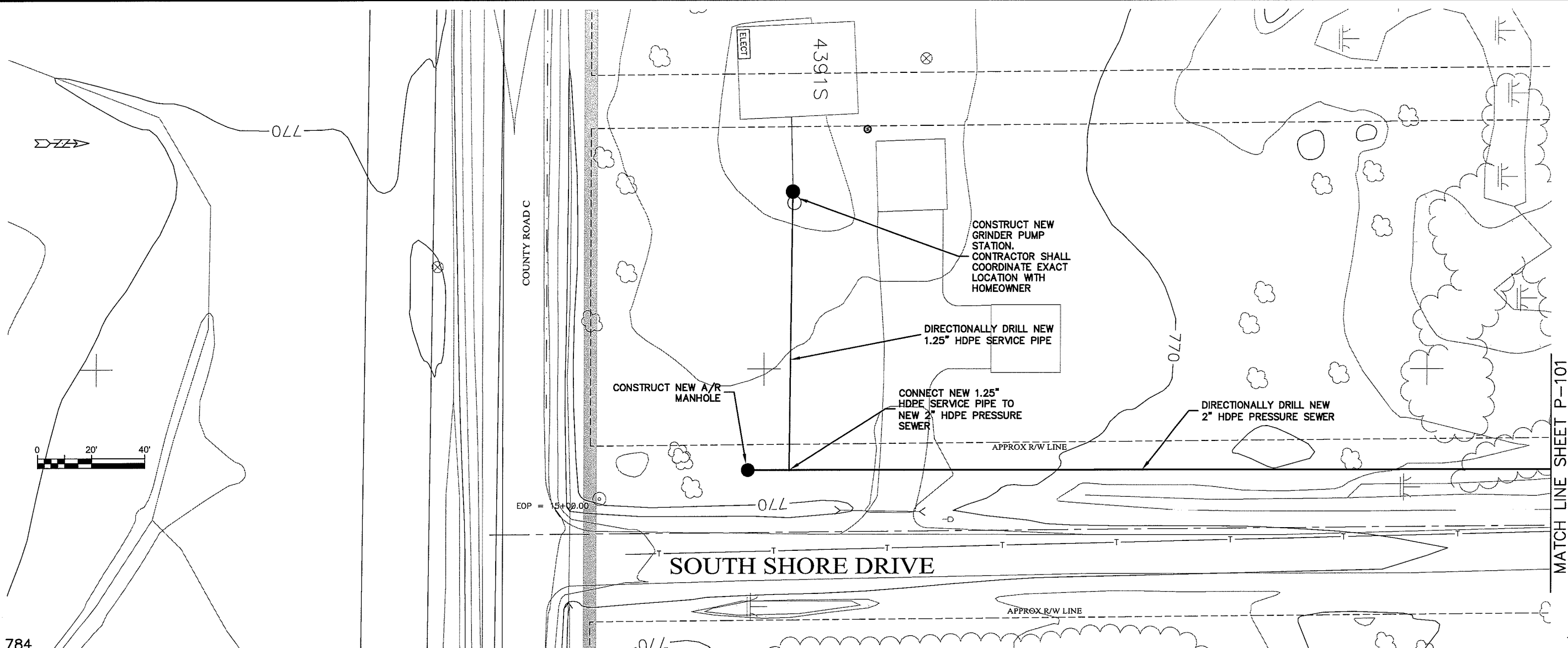
PROJECT NO: 626000  
 PLAN DATE: 08 Oct 2009  
 SCALE: AS SHOWN

**SEWER PLAN - PROFILE**  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO: 626-001  
 SHEET: P-101

USER: rme Layout1

FILE DATE: 08 Oct 2009 12:09pm  
FILENAME: K:\design\RCp03012.dwg



MATCH LINE SHEET P-101

**MSA**  
PROFESSIONAL ENGINEERS

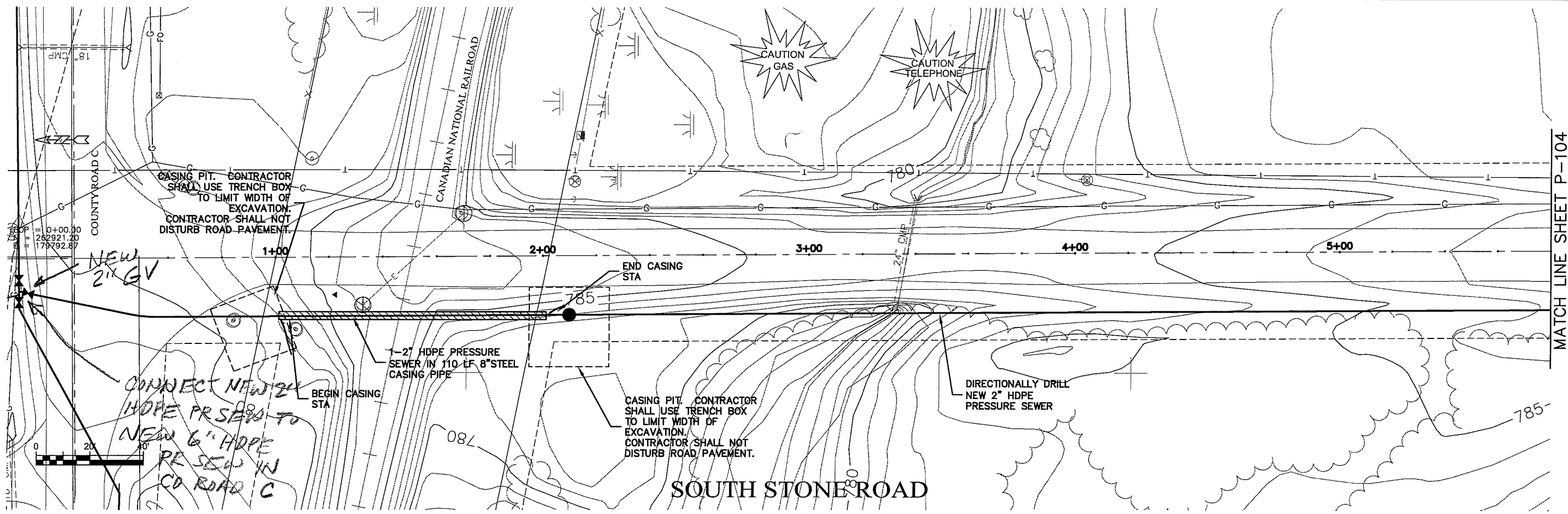
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-723-3915 • 1-800-777-7380 • Fax: 218-722-4548

PROJECT NO. 626000  
FILE NO. 626-001  
SHEET P-102

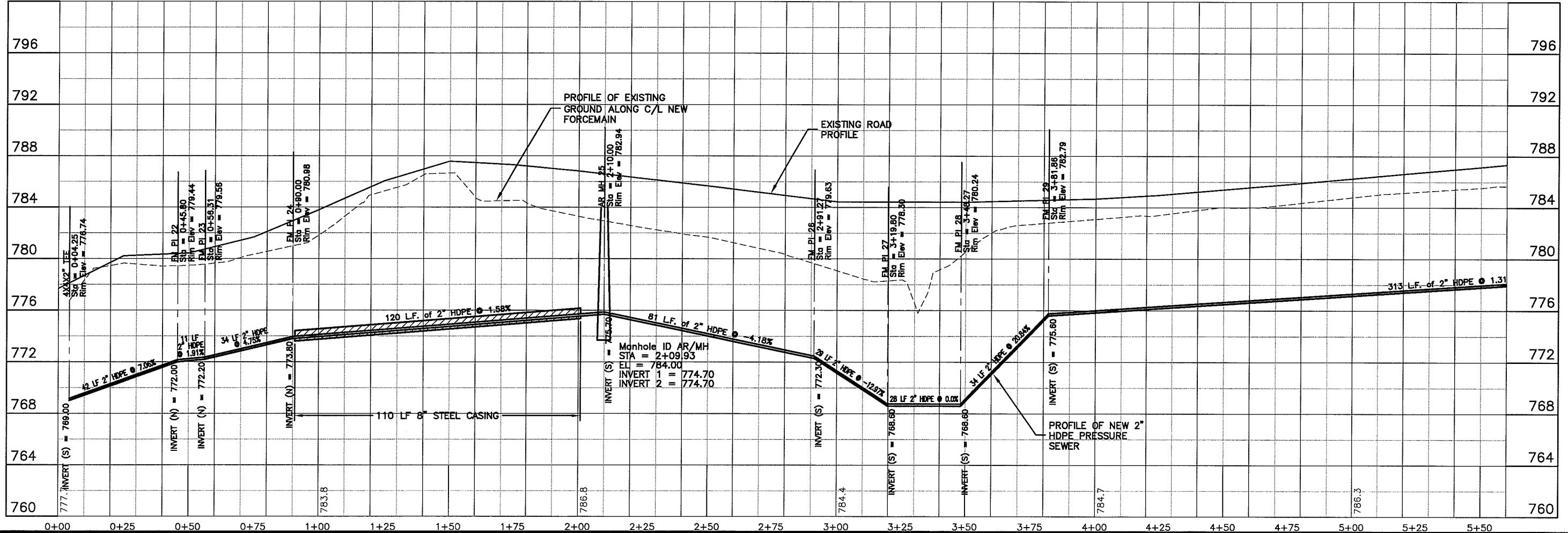
DATE: \_\_\_\_\_  
BY: \_\_\_\_\_  
CHECKED BY: CWS

PROJECT: PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

UNOFF. NAME: P-103



MATCH LINE SHEET P-104



PLT DATE: 08 Oct 2009 PLT TIME: 10:55am  
 FILEPATH: K:\Design\RCp01016.dwg

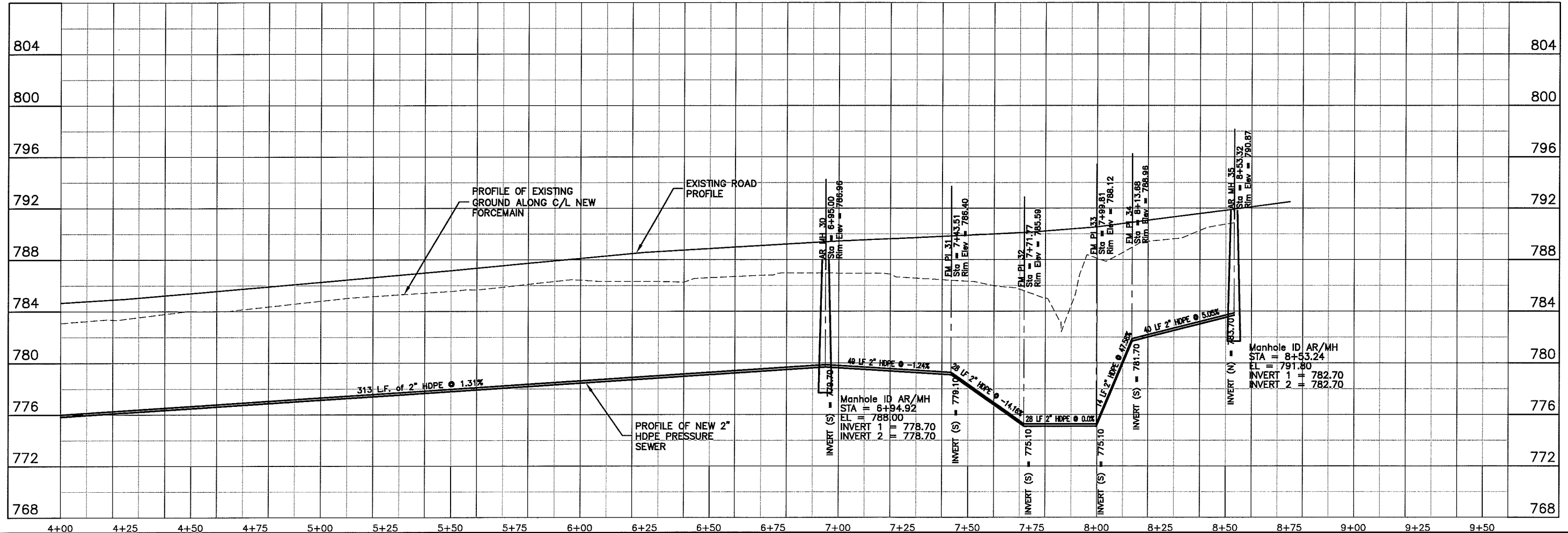
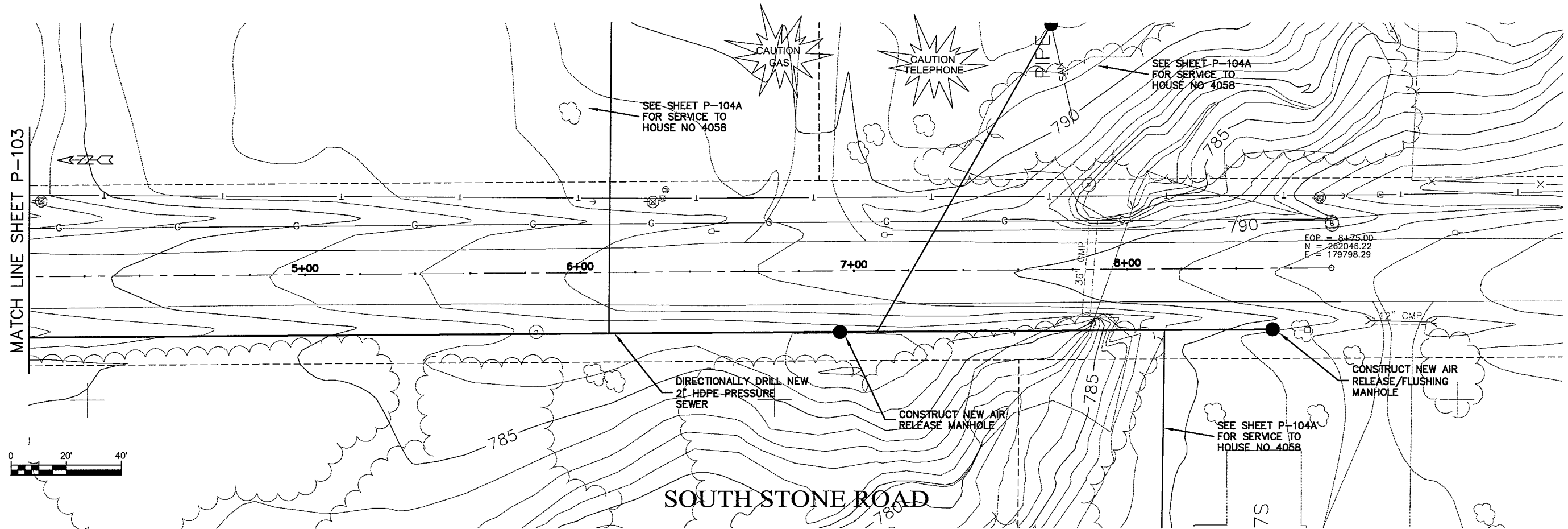
TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4588  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO. 626000  
 SHEET P-103

PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

DATE: Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS

UNBRT NAME P-104



Plot Date: 08 Oct 2009 10:59am  
 File Path: K:\Design\RCp2016.dwg

**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street, Duluth, MN 55802  
 218-722-3913, 1-800-777-7380 Fax: 218-722-4548  
**MSA** PROFESSIONAL SERVICES

---

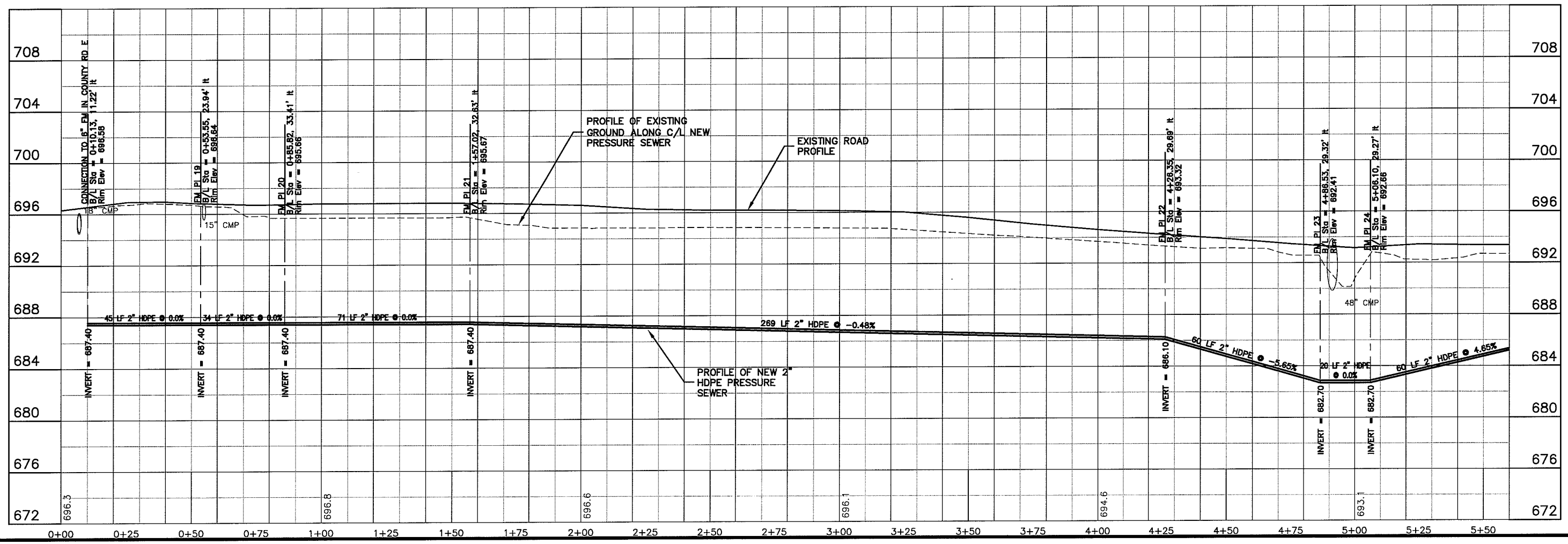
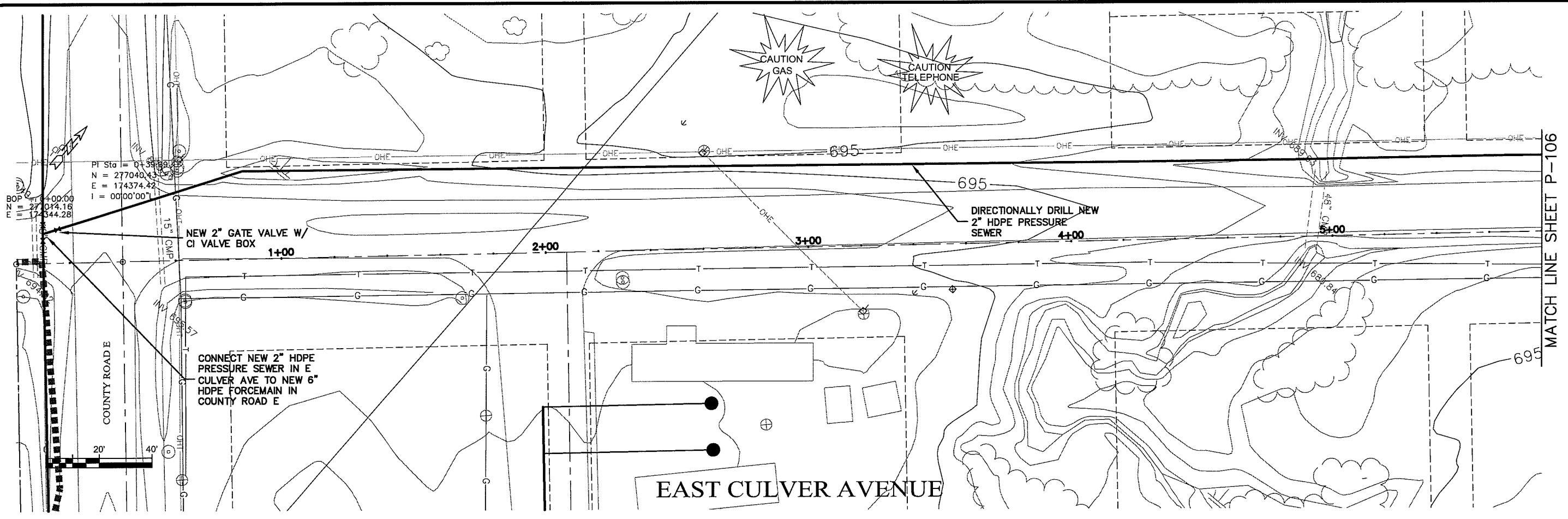
PROJECT NO. 626000  
 DATE: Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS

---

**SEWER PLAN PROFILE**  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

---

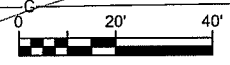
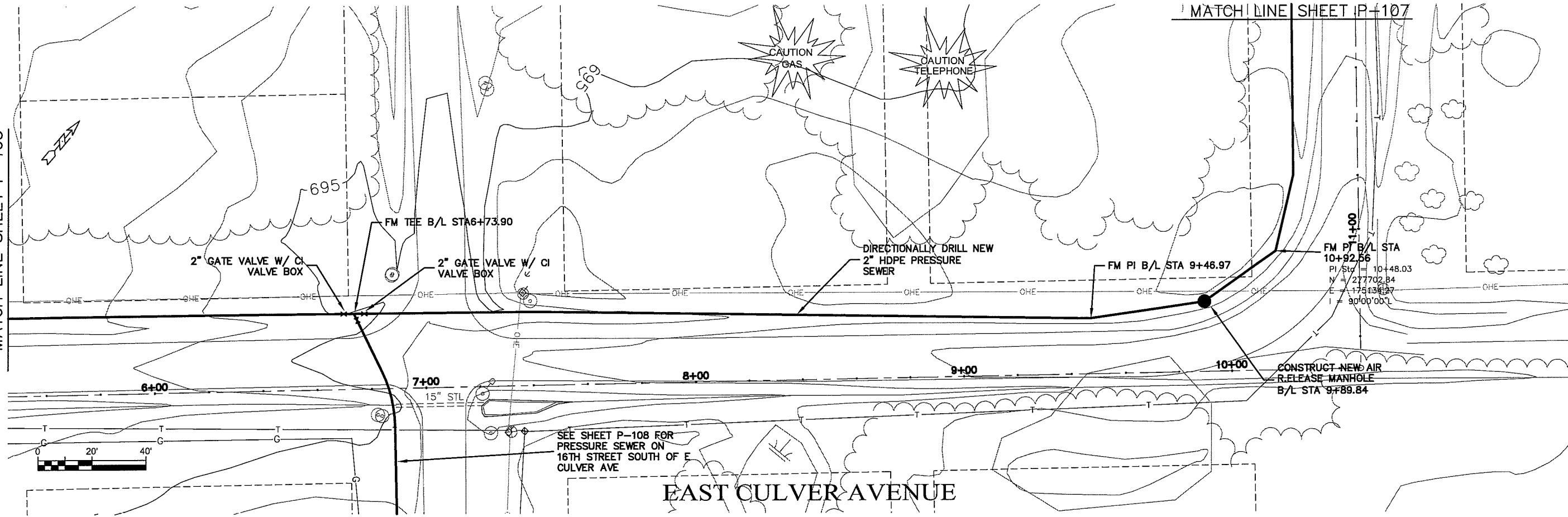
FILE NO. 626-001  
 SHEET P-104



**MSA**  
 PROFESSIONAL SERVICES  
 TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-9115 1-800-777-1360 Fax: 218-722-4548  
 © MSA PROFESSIONAL SERVICES

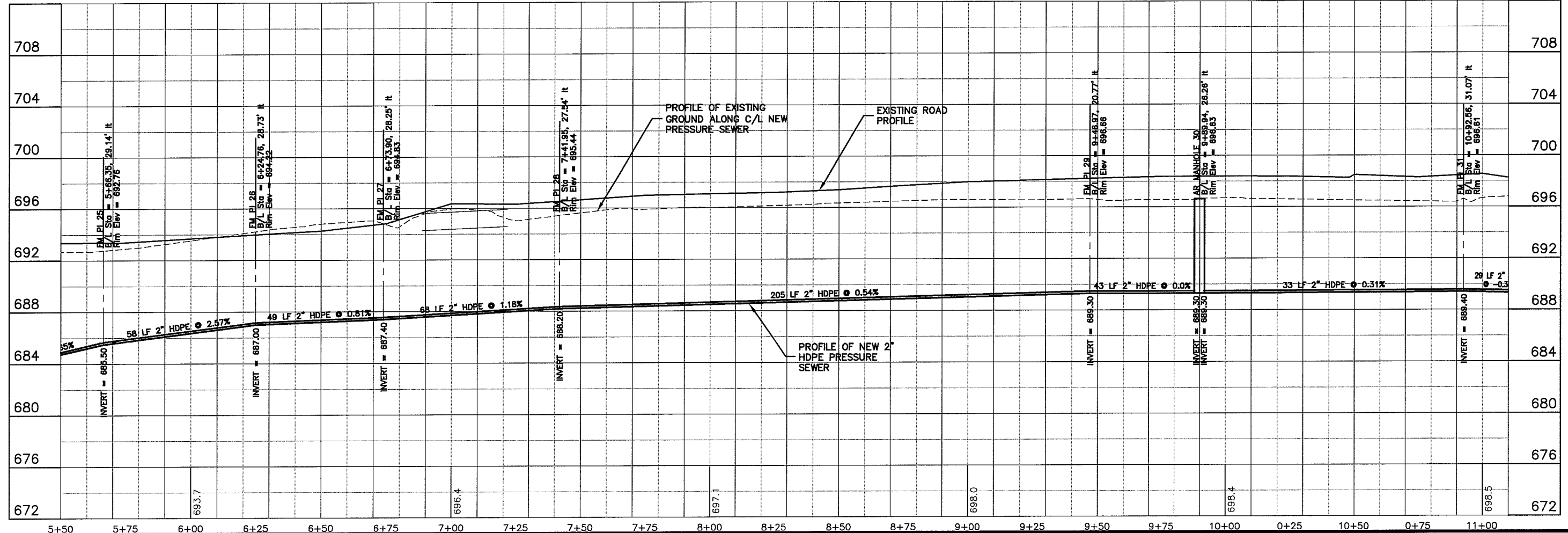
---

PROJECT NO: 626000  
 FILE NO: 626-001  
 SHEET P-105  
 DATE: 23 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 SCALE: AS SHOWN  
 SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN



SEE SHEET P-108 FOR  
PRESSURE SEWER ON  
16TH STREET SOUTH OF E  
CULVER AVE

EAST CULVER AVENUE



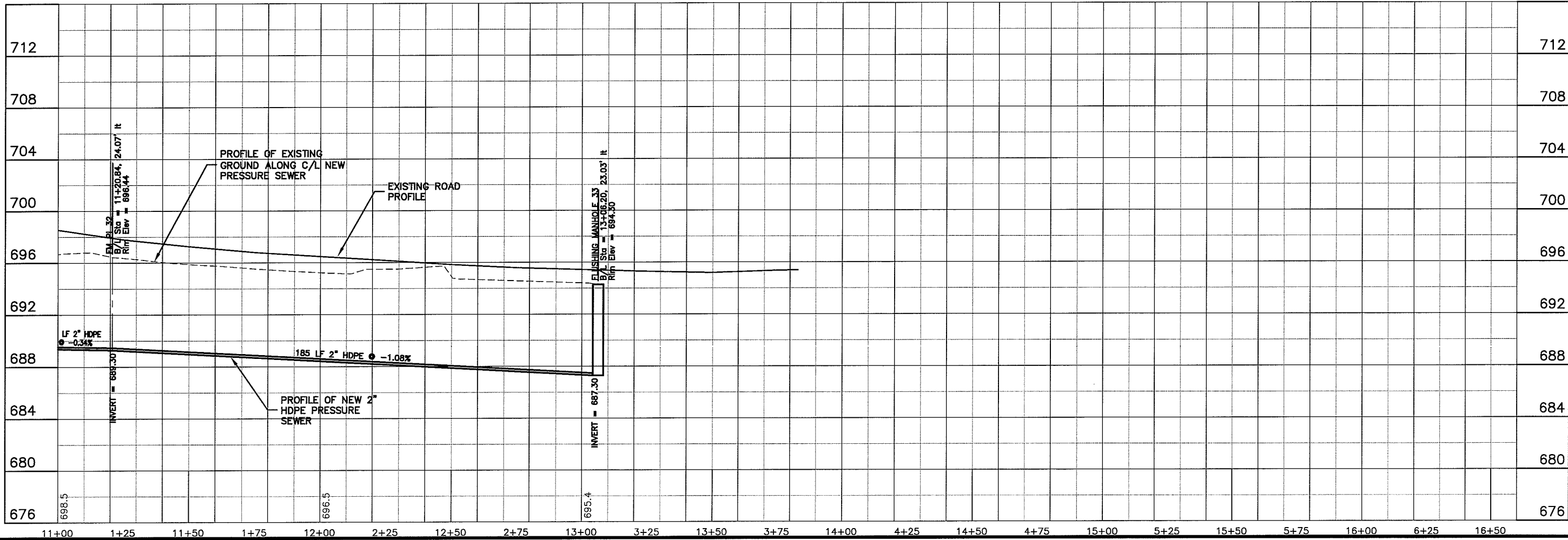
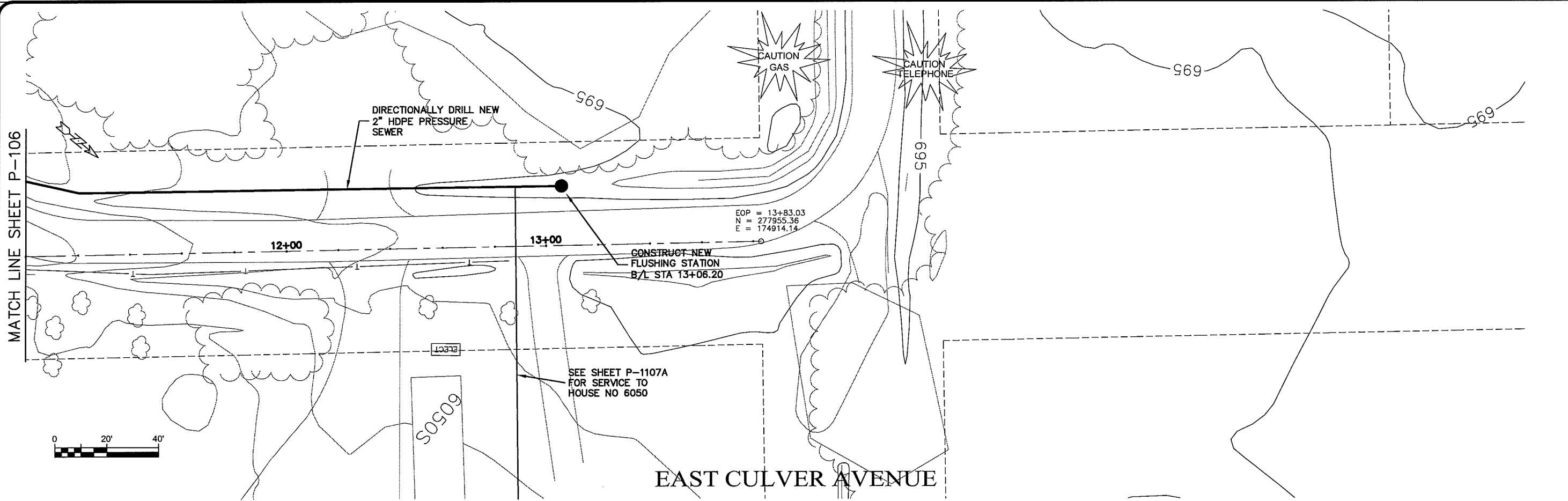
**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
301 West First Street Duluth, MN 55802  
218-722-3915 1-800-777-7360 Fax: 218-722-4248  
© MSA PROFESSIONAL SERVICES

**MSA**  
PROFESSIONAL SERVICES

PROJECT NO: 626000  
PROJECT DATE: 23 Oct 2009  
SCALE: AS SHOWN

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO: 626-001  
SHEET: P-106



**MSA**  
 PROFESSIONAL SERVICES

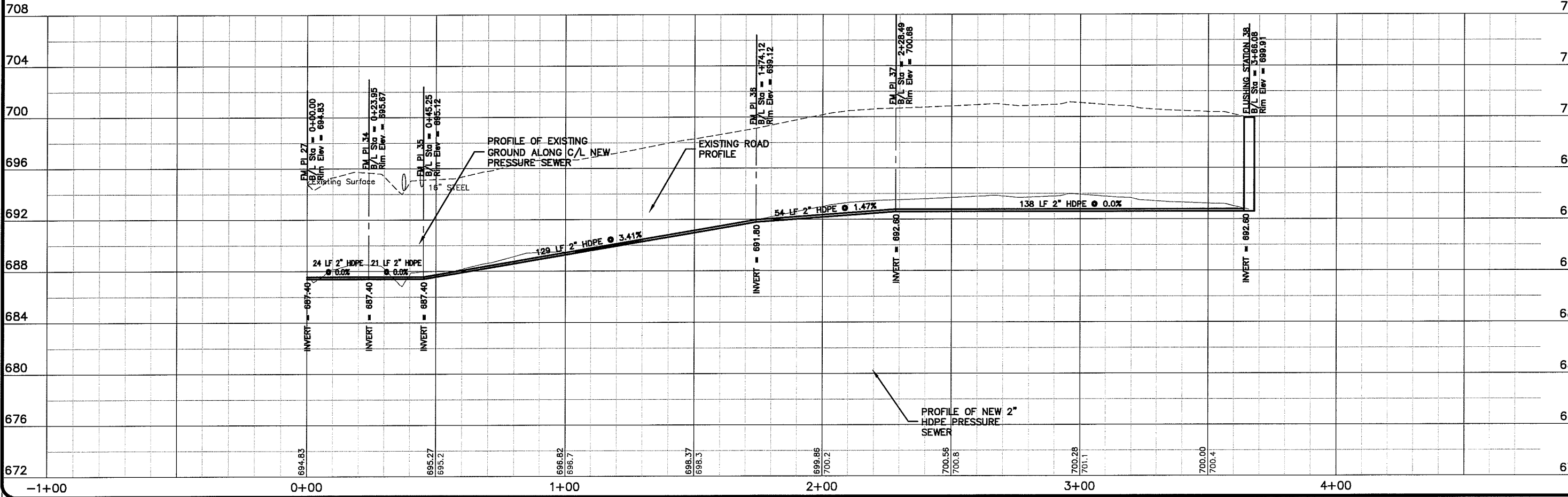
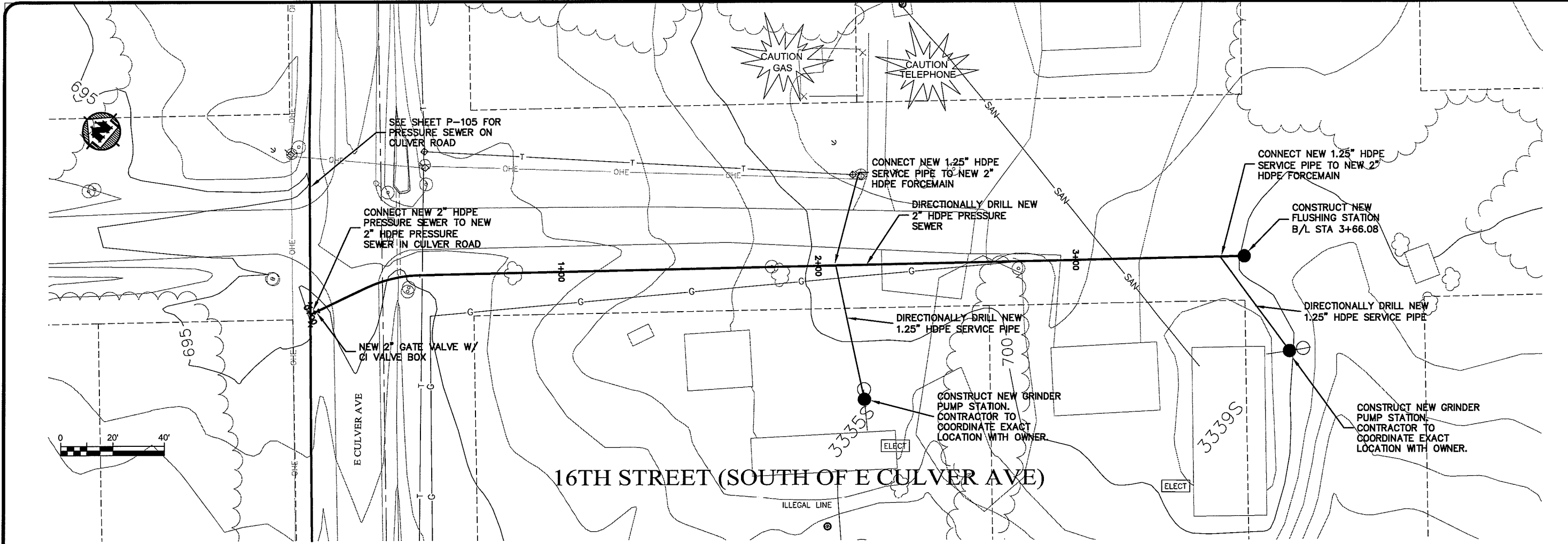
TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-9915 • 800-777-7380 • Fax: 218-722-4548  
 © MSA PROFESSIONAL SERVICES

PROJECT NO. 626000	DATE
FILE NO. 626-001	DATE
SHEET P-107	DATE
PROJECT NO. 626000	DATE
FILE NO. 626-001	DATE
SHEET P-107	DATE

SEWER PLAN-PROFILE  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

SCALE AS SHOWN  
 DRAWN BY: RWM  
 CHECKED BY: CWS





TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-9115 1-800-777-1380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

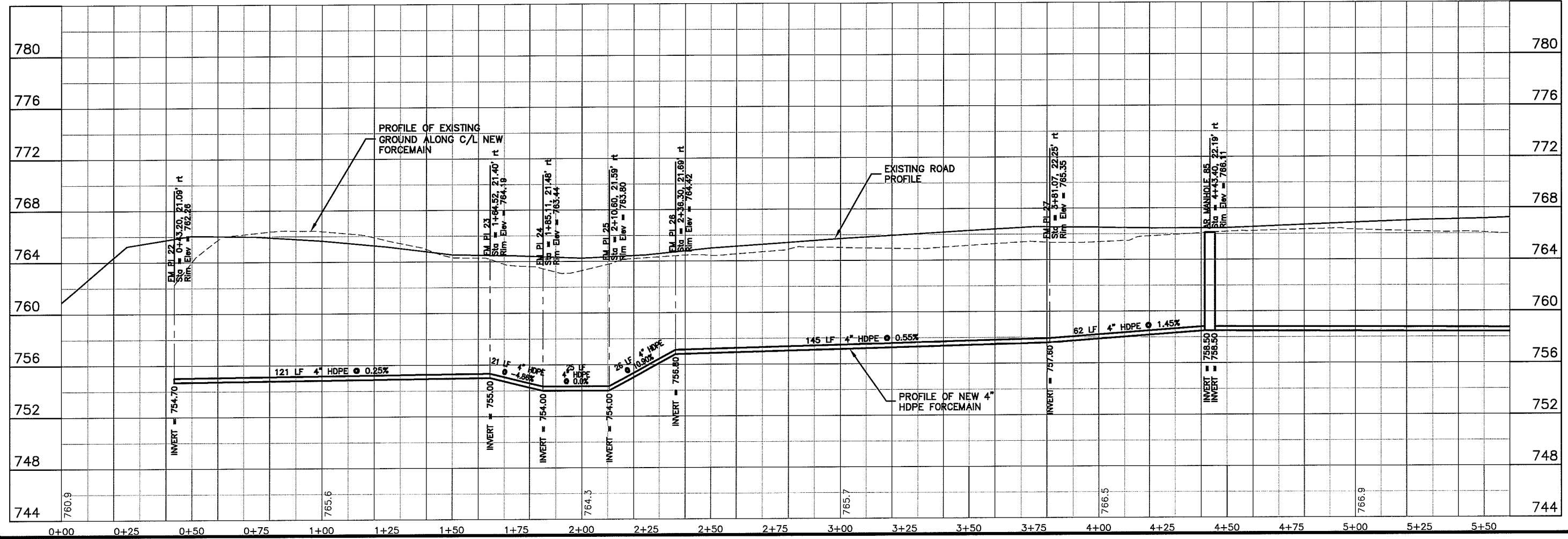
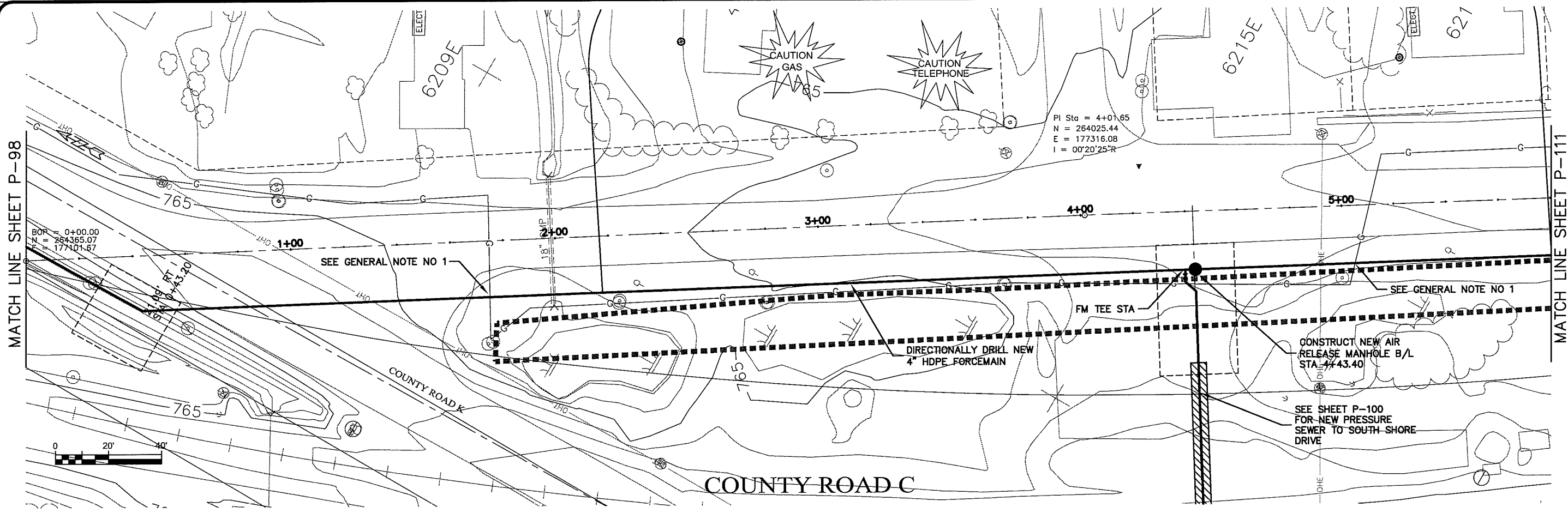
NO.	DATE	REVISION	BY

PROJECT NO: 626000  
 DRAWING: RWM  
 CHECKED BY: CWS  
 PROJECT DATE: 23 Oct 2009  
 SCALE: AS SHOWN

**SEWER PLAN-PROFILE**  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO:  
 626-001  
 SHEET:  
 P-108

UNSAT IMAGE P-110



Plot Date: 22 Oct 2009 Plot Time: 10:20am  
 Path: K:\Design\PCp01014.dwg

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 300 West First Street, Duluth, MN 55802  
 218-722-9915 • 800-777-7300 • Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

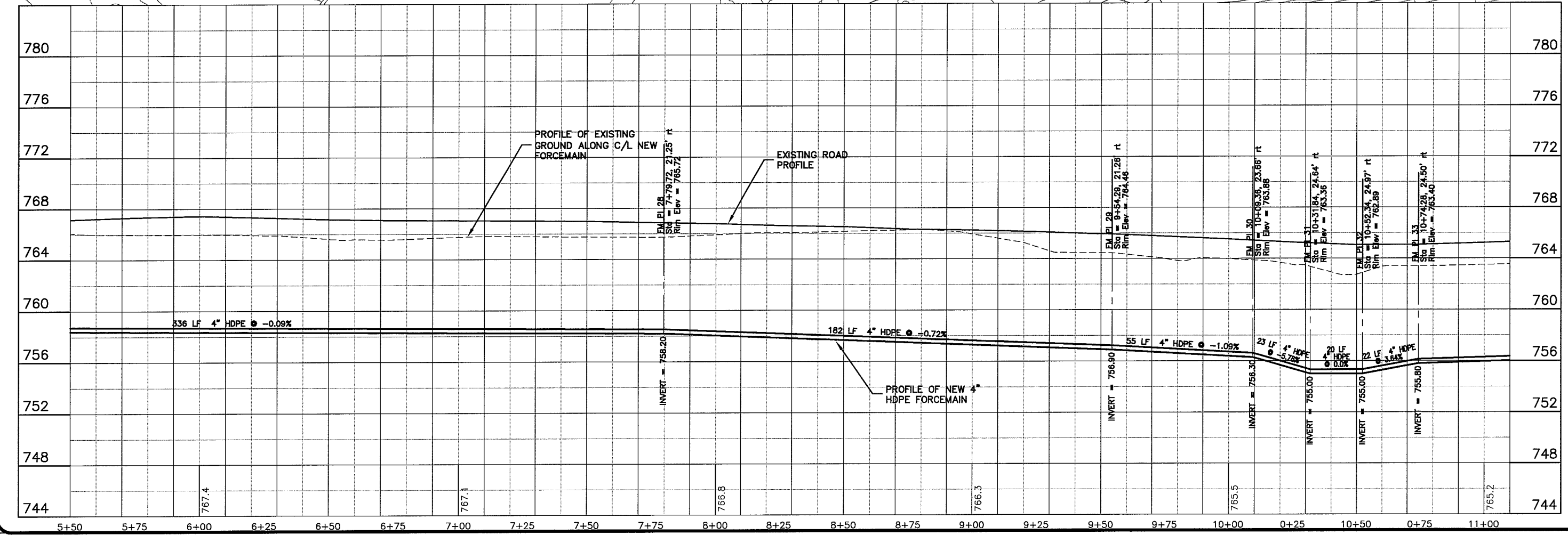
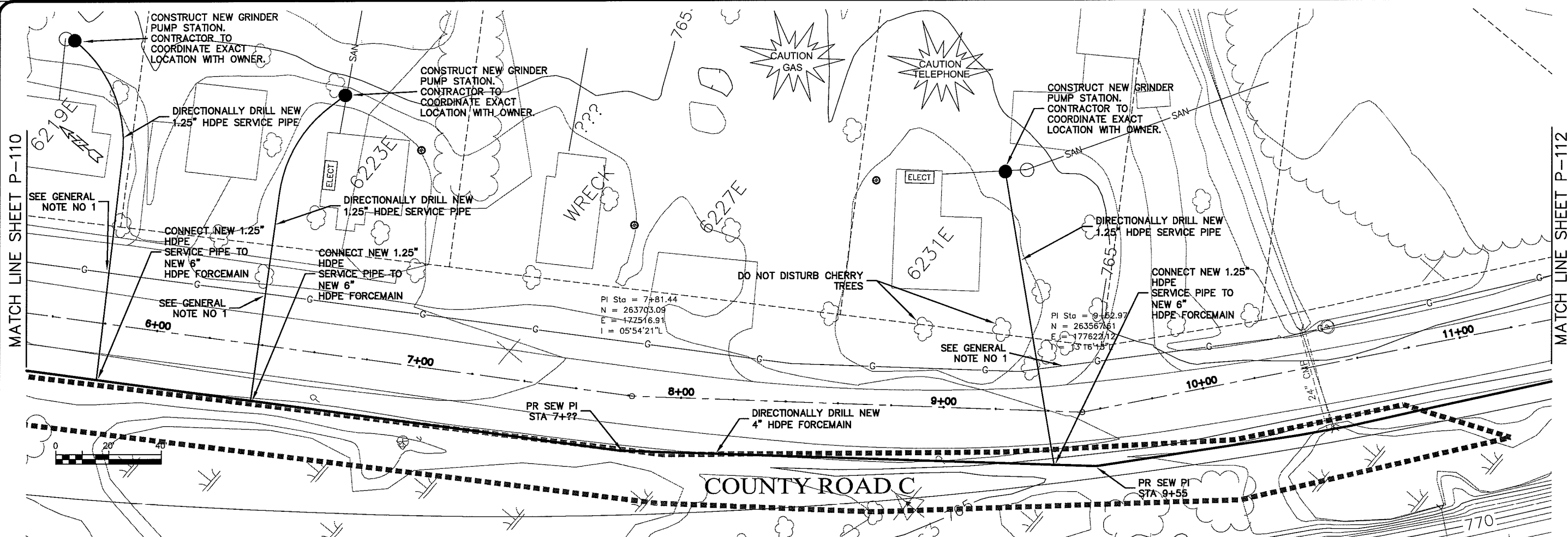
PROJECT: 625000  
 DATE: 22 Oct 2009  
 SCALE: AS SHOWN

PROJECT: PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO: 626-001  
 SHEET: P-110

BY: \_\_\_\_\_  
 CHECKED BY: CWS

LAST NAME P-111



POST NAME: 22 Oct 2009 10:28am  
 P:\design\PCp02014.dwg

MATCH LINE SHEET P-110

MATCH LINE SHEET P-112

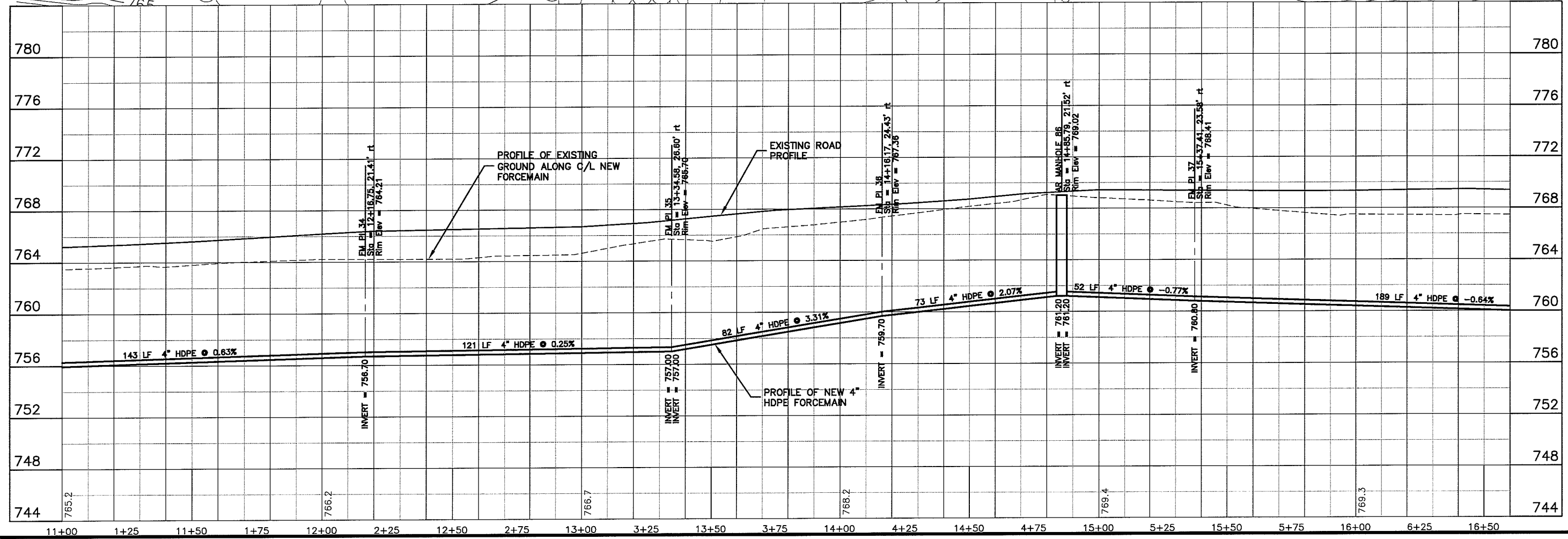
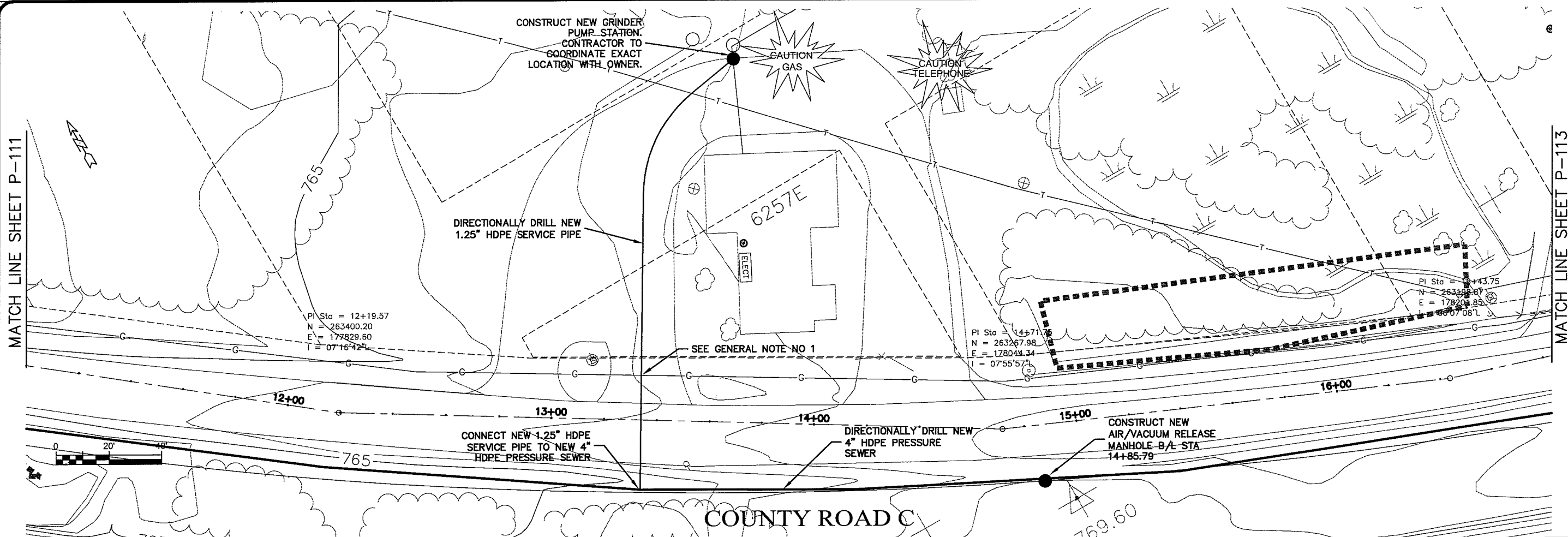
TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915, 1-800-777-7380 Fax: 218-722-4588  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO: 626000  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 DATE: 22 Oct 2009  
 SCALE: AS SHOWN

SEWER PLAN - PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO:  
 626-001  
 SHEET:  
 P-111

UNSAT IMAGE P-112

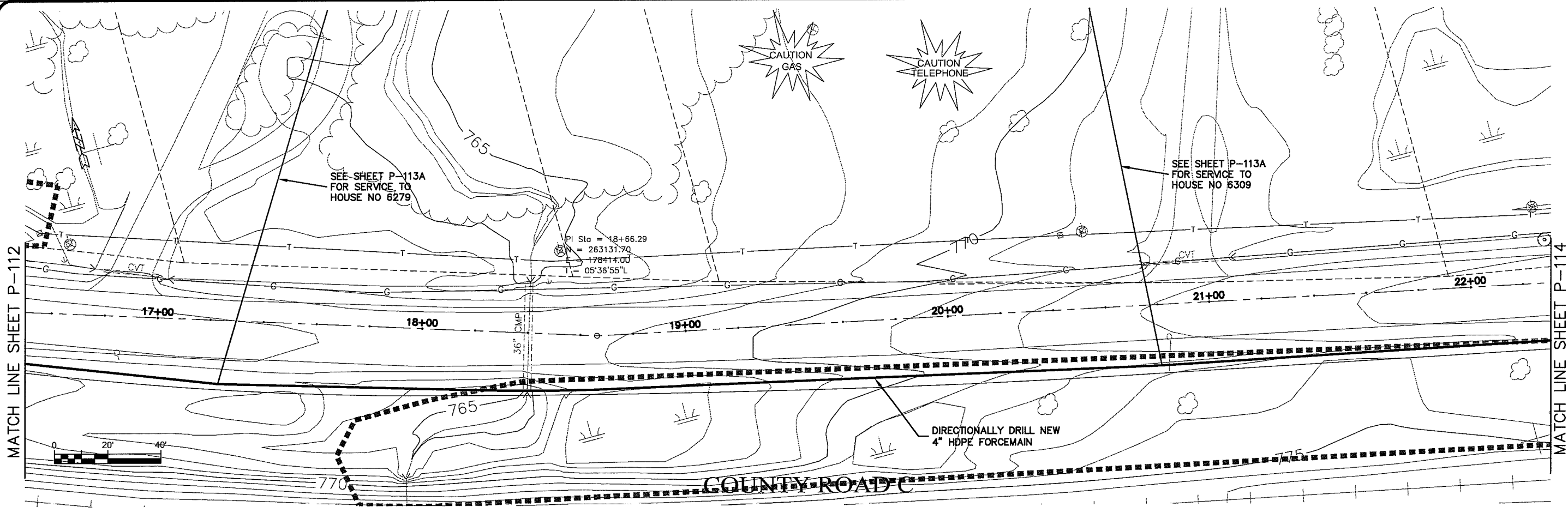


PLN DATE: 22 Oct 2009 10:55:01  
 DRAWN: K:\Design\PC05014.dwg

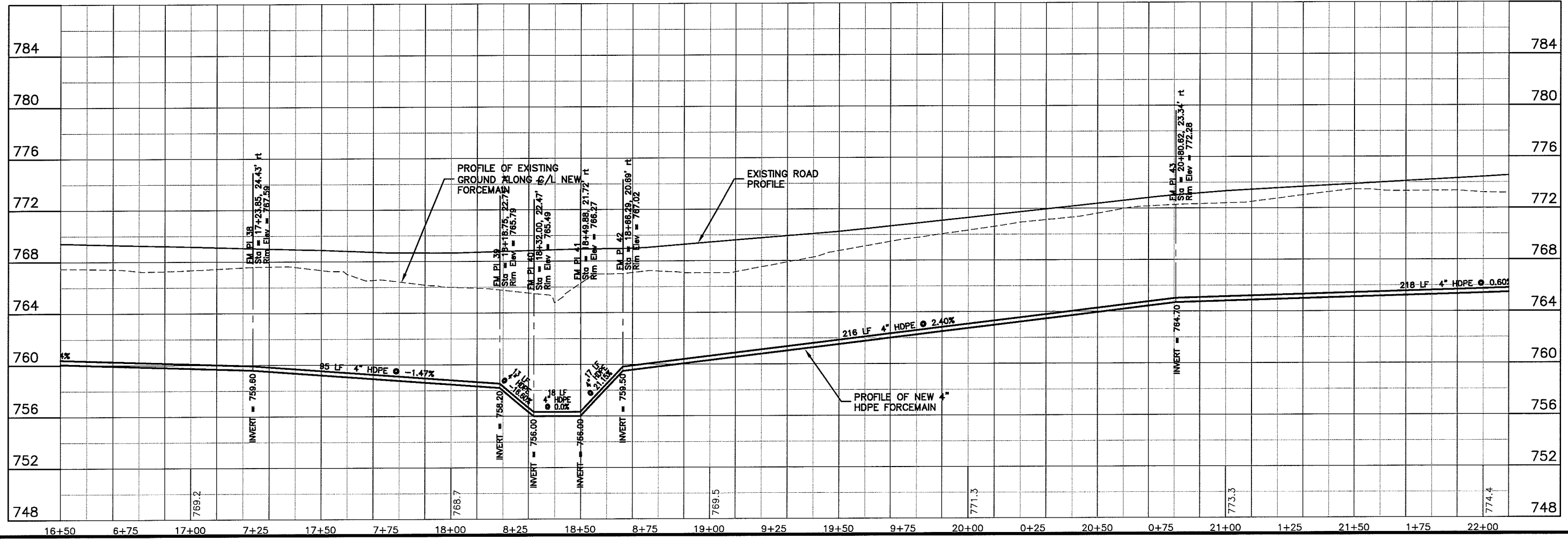
TRANSPORTATION - MUNICIPAL  
 DEVELOPMENT - ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-7300 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO.	625000	DATE	22 Oct 2009	SCALE	AS SHOWN	DRAWN BY	RWM	CHECKED BY	CWS
<b>SEWER PLAN - PROFILE</b>									
<b>PARKLAND SANITARY DISTRICT NO. 1</b>									
WASTEWATER COLLECTION SYSTEM									
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN									
FILE NO.	626-001								
SHEET	P-112								

UNROT IMAGE P-113



FILE NAME: 22 Oct 2009, 8:47 AM 10:31 AM  
 PLANT: K:\design\PC\04014.dwg



**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 300 West First Street, Duluth, MN 55802  
 218-722-3915 • 1-800-777-7380 • Fax: 218-722-4548  
**MSA** PROFESSIONAL SERVICES

---

PROJECT NO. 625000  
 DRAWN BY: RWM  
 CHECKED BY: CWS

---

FILE NO. 626-001  
 SHEET P-113

---

DATE: 22 Oct 2009  
 SCALE: AS SHOWN

---

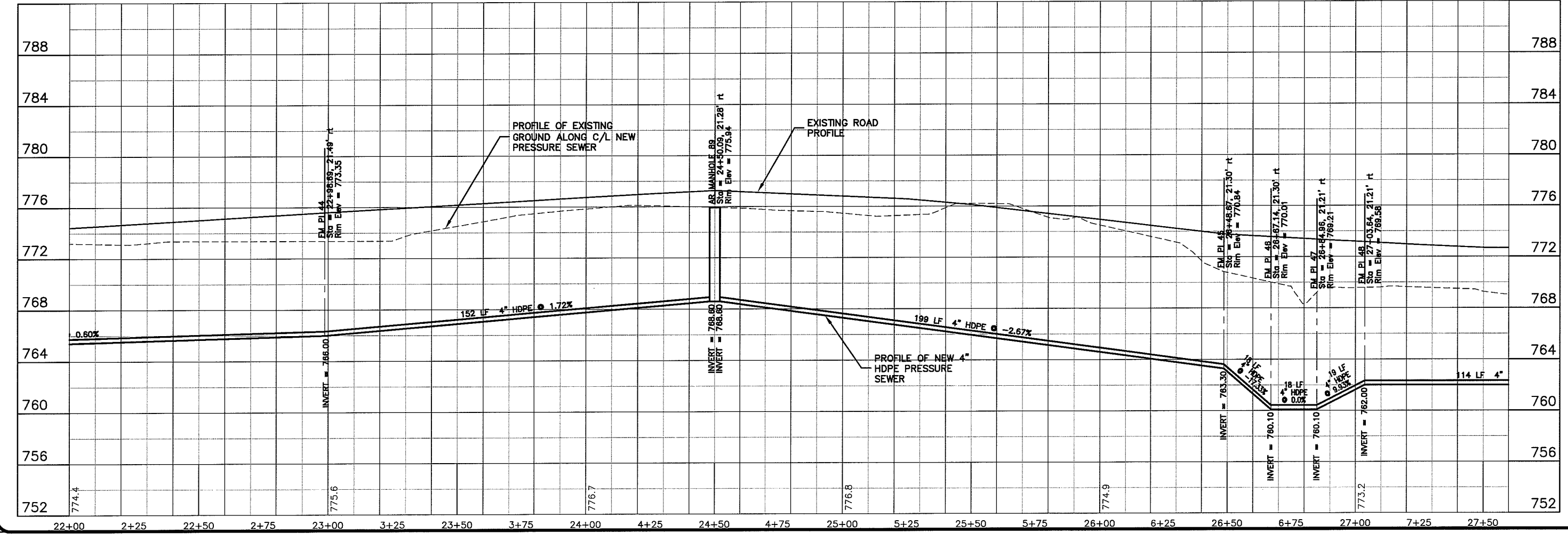
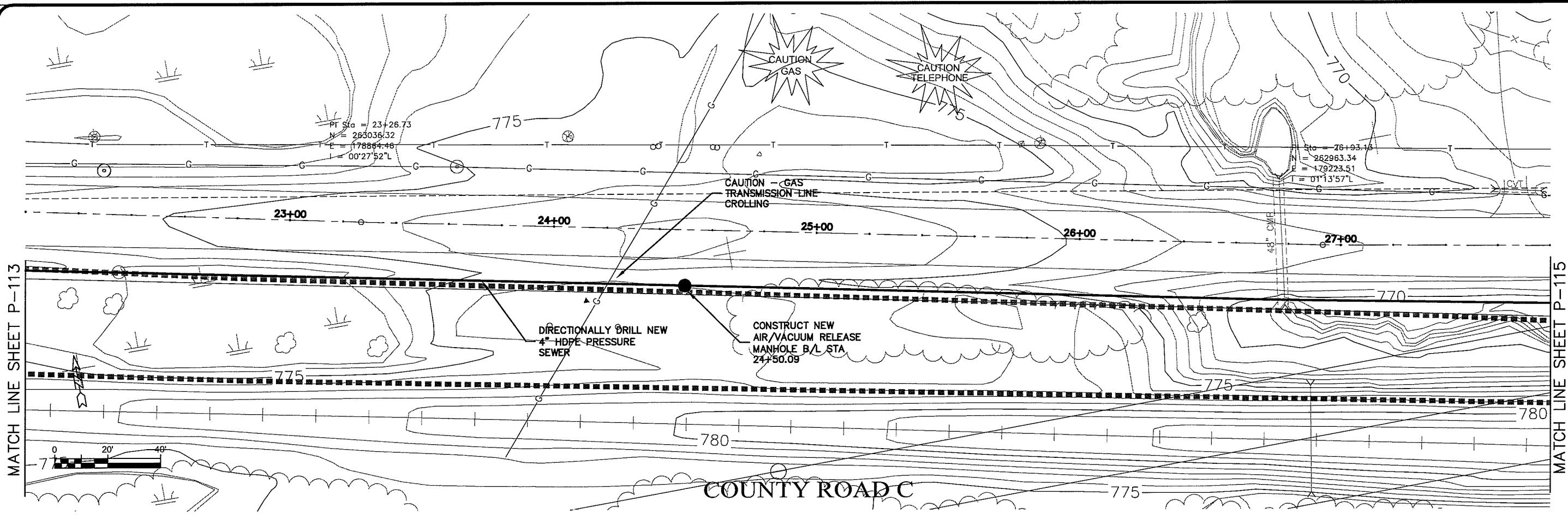
PROJECT: PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

---

BY: \_\_\_\_\_  
 REVISION: \_\_\_\_\_

DATE: 22 Oct 2009 10:58am  
NAME: K:\Design\RCp05014.dwg

PROJECT: 625000  
DRAWING: RWM  
CHECKED BY: CWS



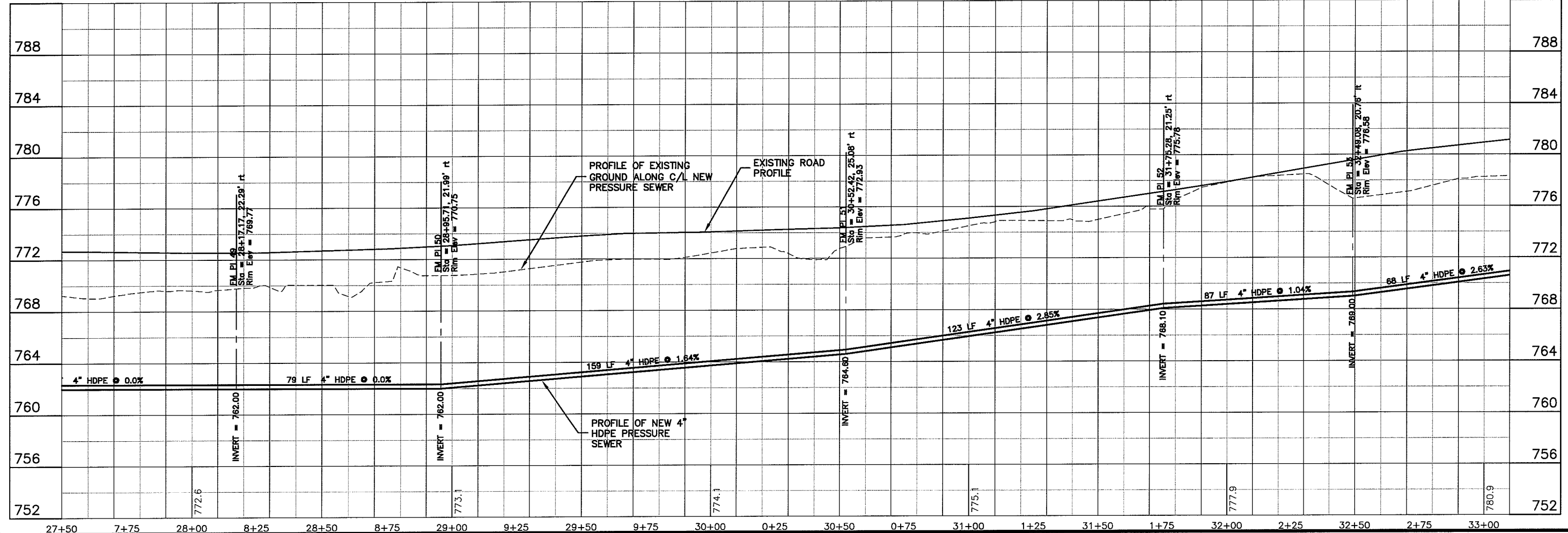
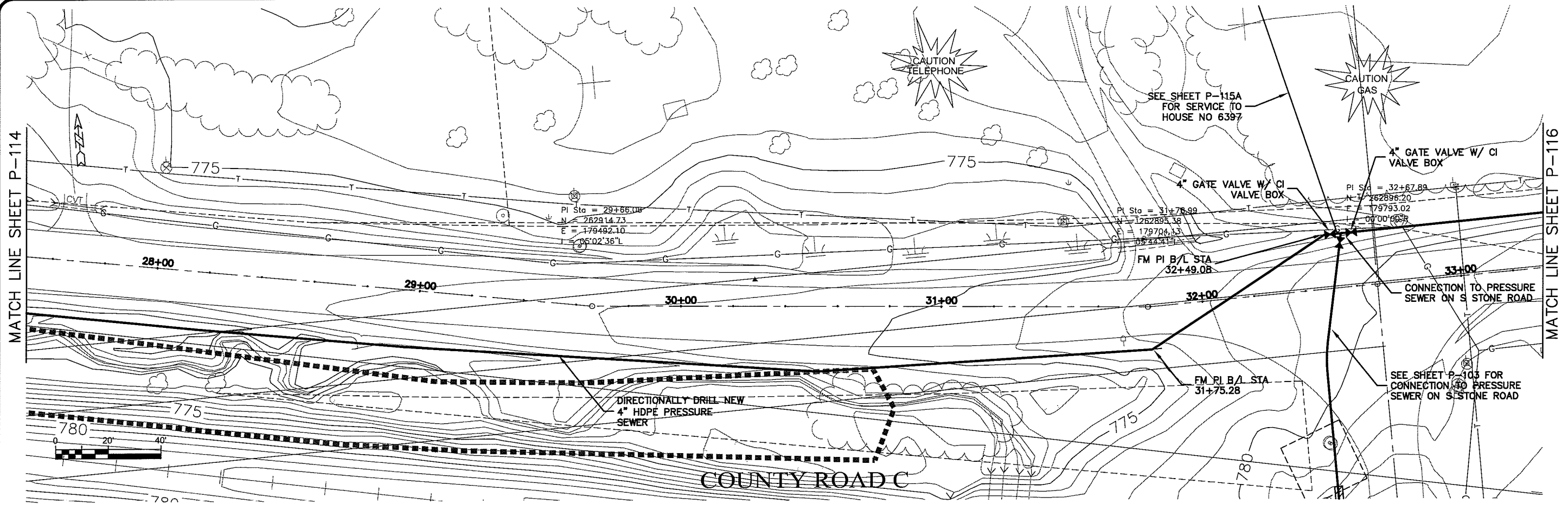
TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street Duluth, MN 55802  
218-722-3915 1-800-777-1300 Fax: 218-722-4548  
MSA  
PROFESSIONAL SERVICES

PROJECT NO: 625000  
DATE: 22 Oct 2009  
SCALE: AS SHOWN  
DRAWING: RWM  
CHECKED BY: CWS

SEWER PLAN-PROFILE  
PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO:  
626-001  
SHEET  
P-114

LAYOUT NAME P-115



Plot Date: 22 Oct 2009 11:05am  
 File Name: K:\design\RCp06014.dwg

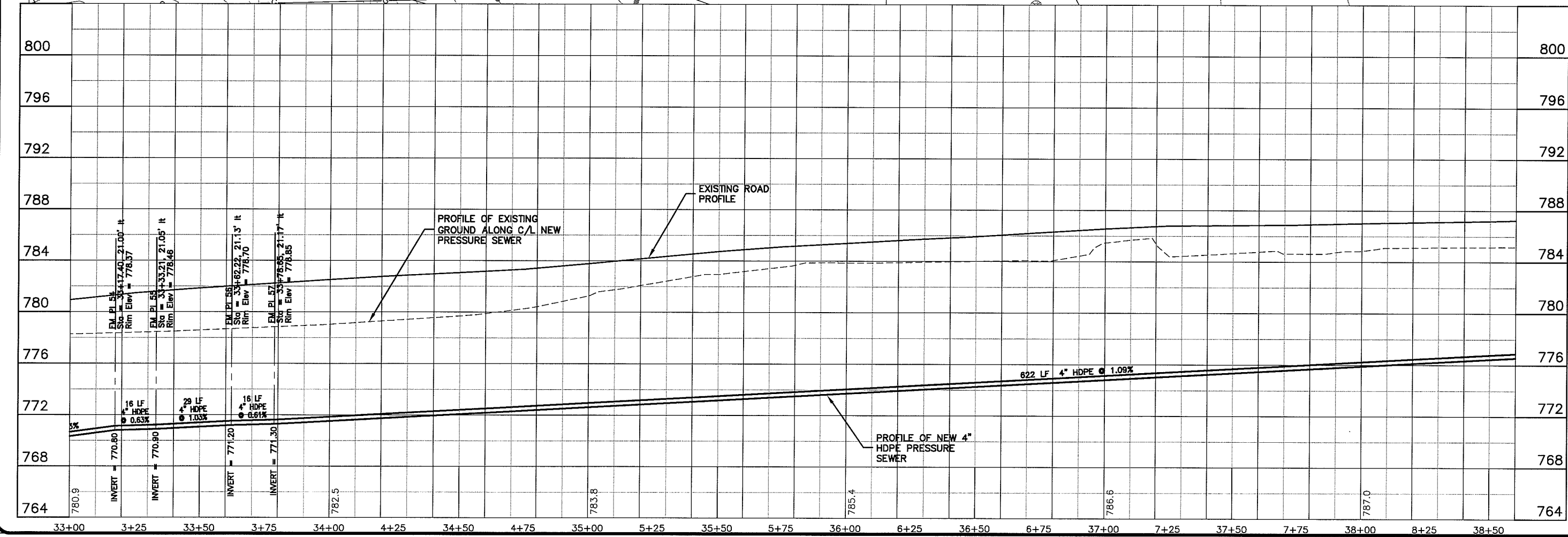
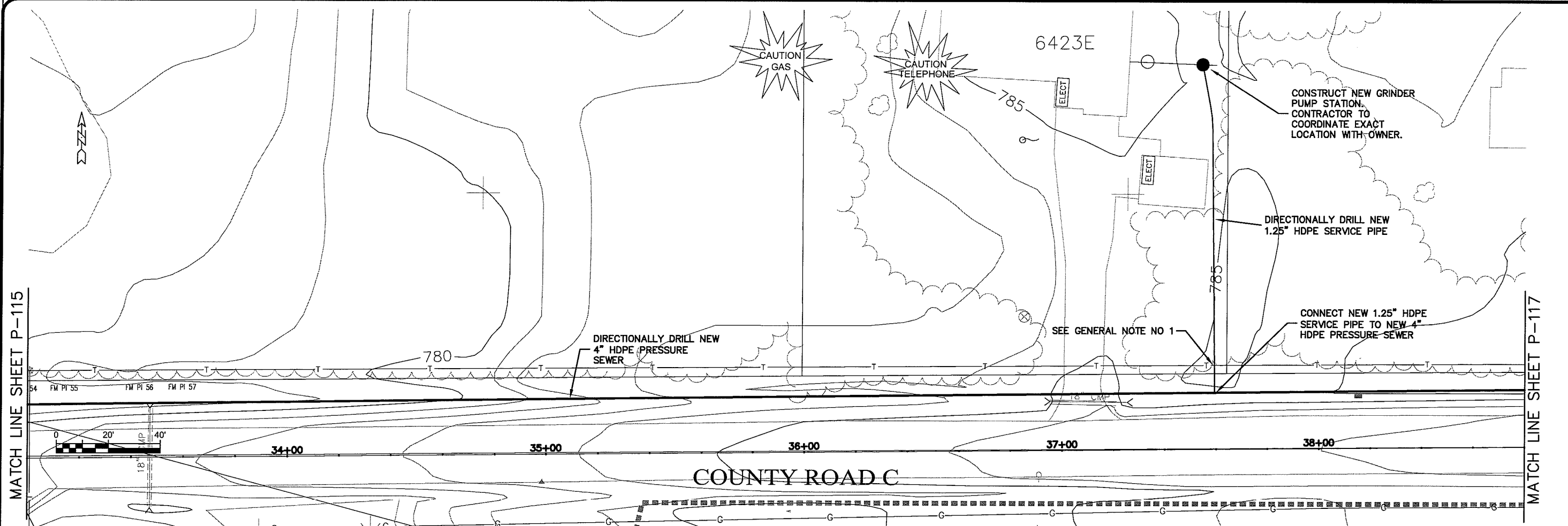
TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-3380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO: 626000  
 FILE NO: 626-001  
 SHEET: P-115  
 PLOT DATE: 22 Oct 2009  
 SCALE: AS SHOWN  
 DRAWN BY: RWM  
 CHECKED BY: CWS

SEWER PLAN - PROFILE  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

MATCH LINE SHEET P-115

MATCH LINE SHEET P-117



**MSA**  
 PROFESSIONAL SERVICES

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street • Duluth, MN 55802  
 218-722-3915 • 1-800-777-7300 • Fax: 218-722-4548

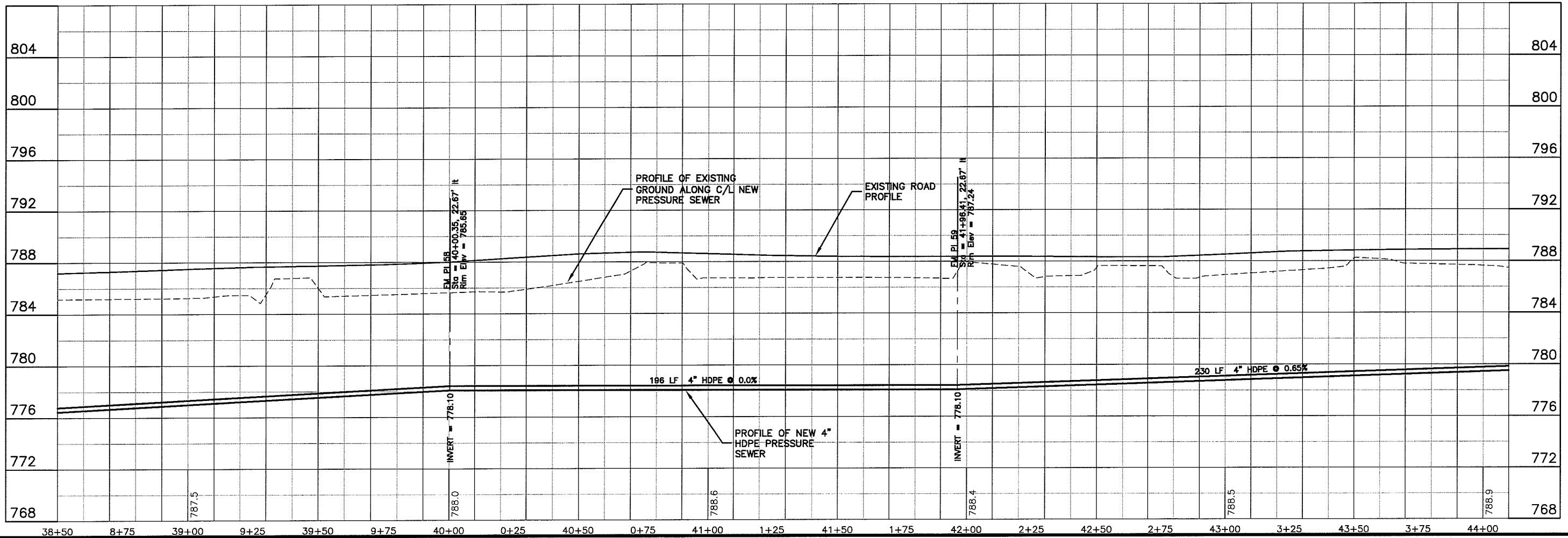
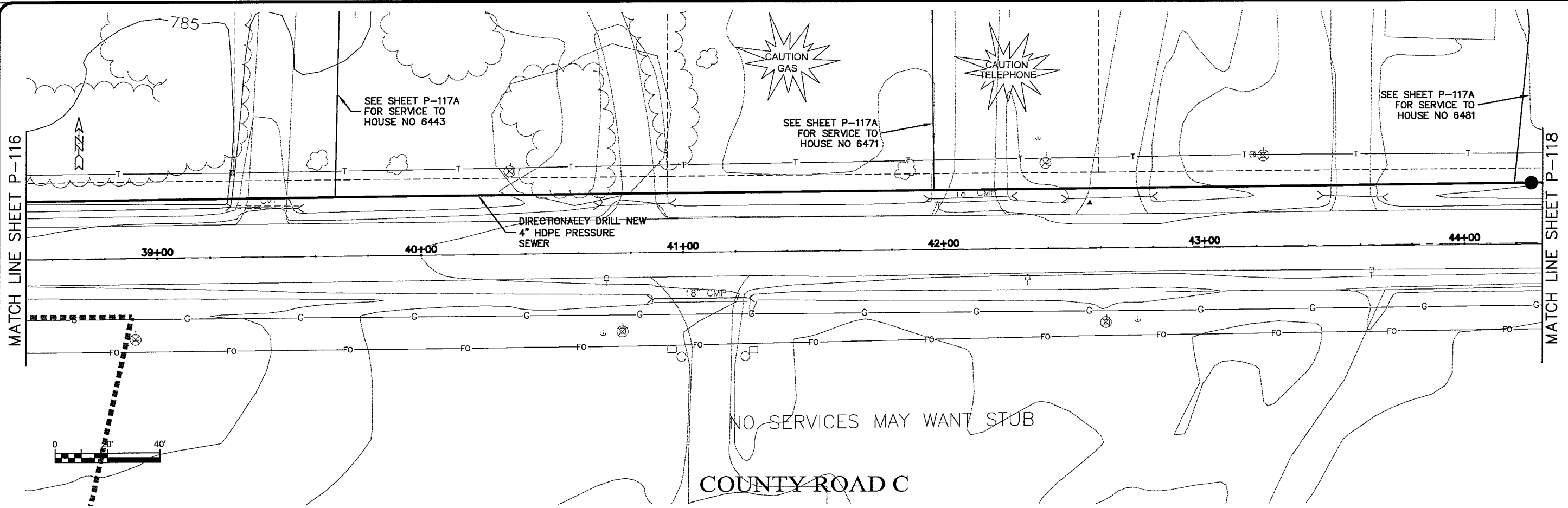
PROJECT NO.	626000
DATE	22 Oct 2009
SCALE	AS SHOWN
DRAWN BY	RWM
CHECKED BY	CWS

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
 SHEET P-116



LAYOUT NAME P-117



Plot Date: 22 Oct 2009 Plot Time: 11:12am  
Path: K:\design\rcp08014.dwg

**MSA**  
PROFESSIONAL SERVICES

TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street Duluth, MN 55802  
218-722-3915 1-800-777-7300 Fax: 218-722-4548

PROJECT NO. 625000  
FILE NO. 626-001  
SHEET P-117

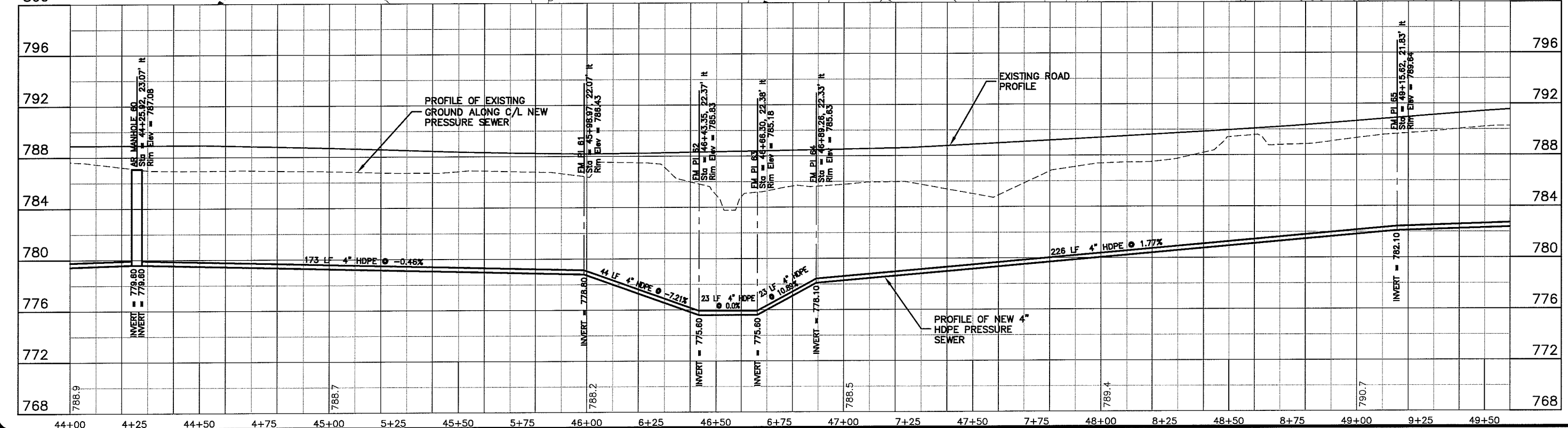
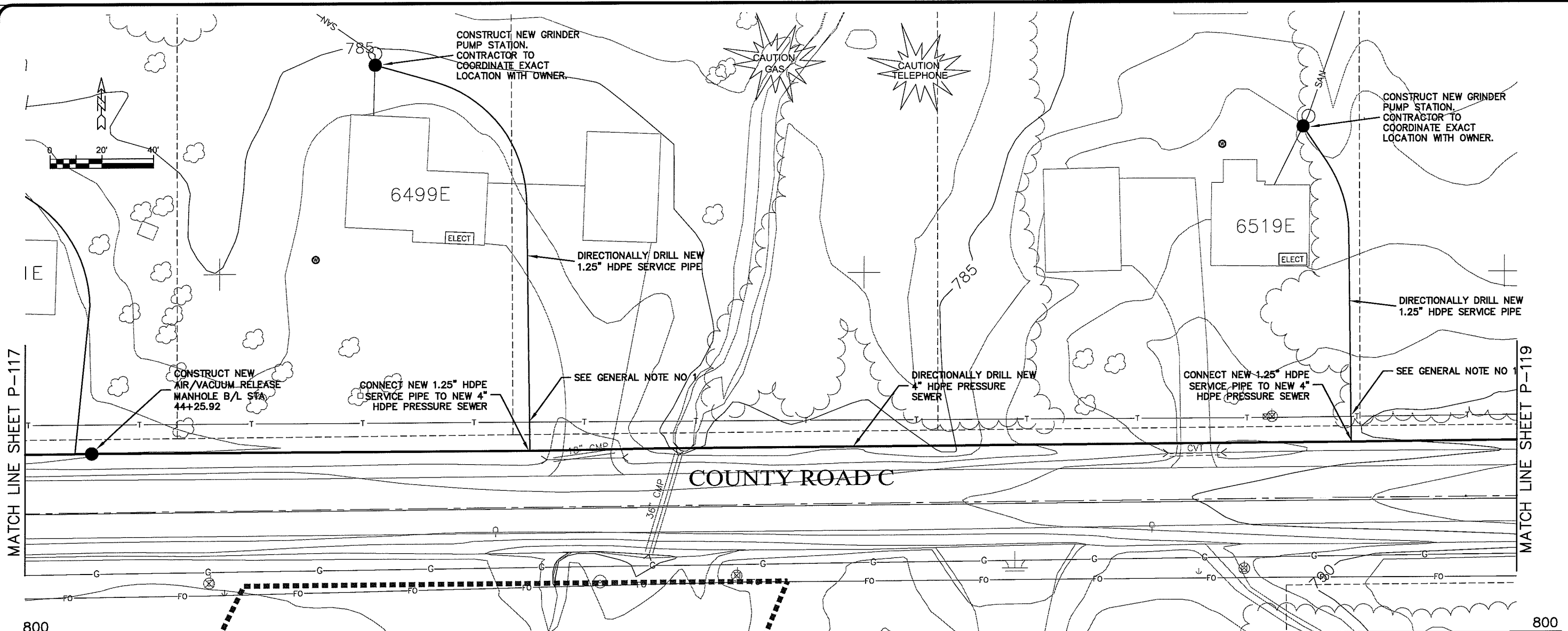
DATE: 22 Oct 2009  
SCALE: AS SHOWN

DESIGNED BY: RWM  
DRAWN BY: RWM  
CHECKED BY: CWS

SEWER PLAN - PROFILE  
PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

UNSAT NAME P-118

FILE NAME: 22 Oct 2009 sat name: 11:17am  
DRAWING: K:\design\RCp09014.dwg



TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street Duluth, MN 55802  
218-722-3915 1-800-777-7380 Fax: 218-722-4548

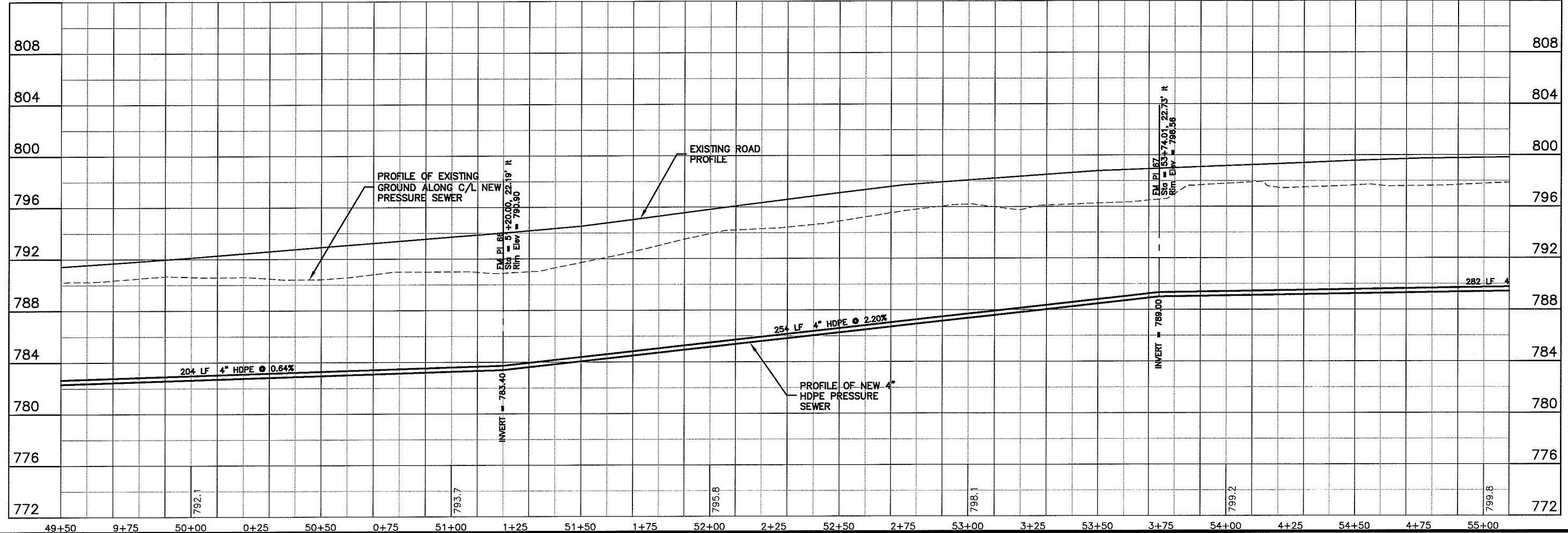
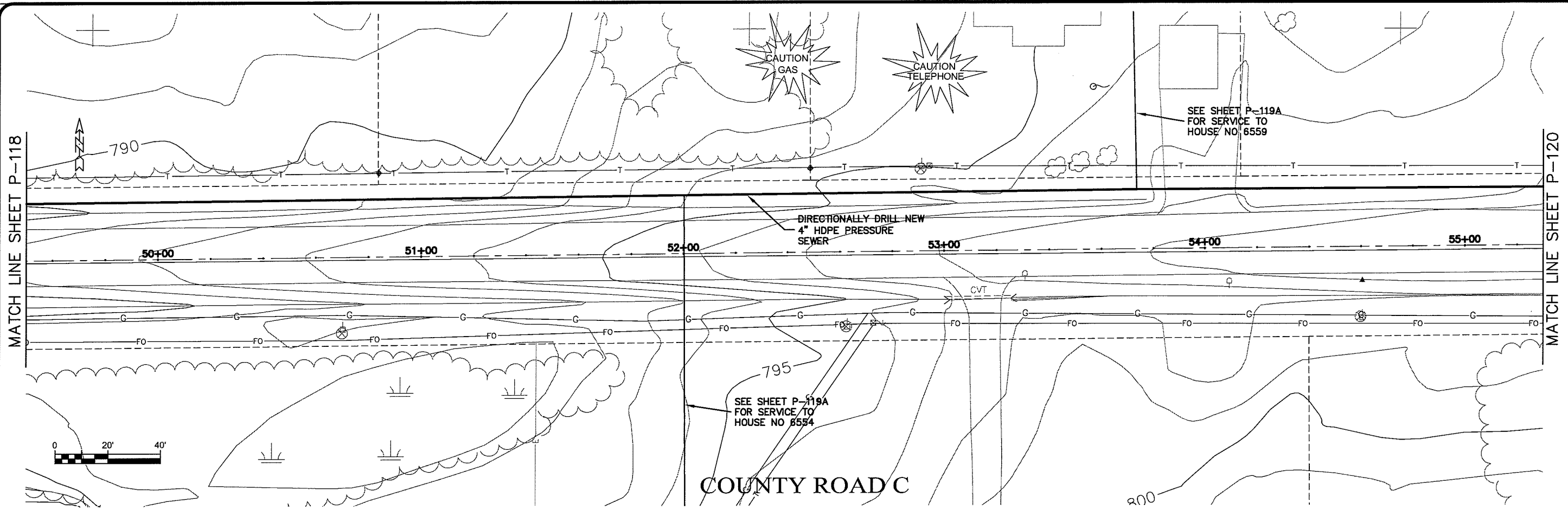
**MSA**  
PROFESSIONAL SERVICES

PROJECT NO:	626000
DATE:	22 Oct 2009
SCALE:	AS SHOWN
DRAWN BY:	RWM
CHECKED BY:	CWS

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO:  
626-001  
SHEET  
P-118

LAYOUT NAME P-119



PLOT DATE: 22 Oct 2009 10:11:21am  
 USER: K:\design\rcp10014.dwg

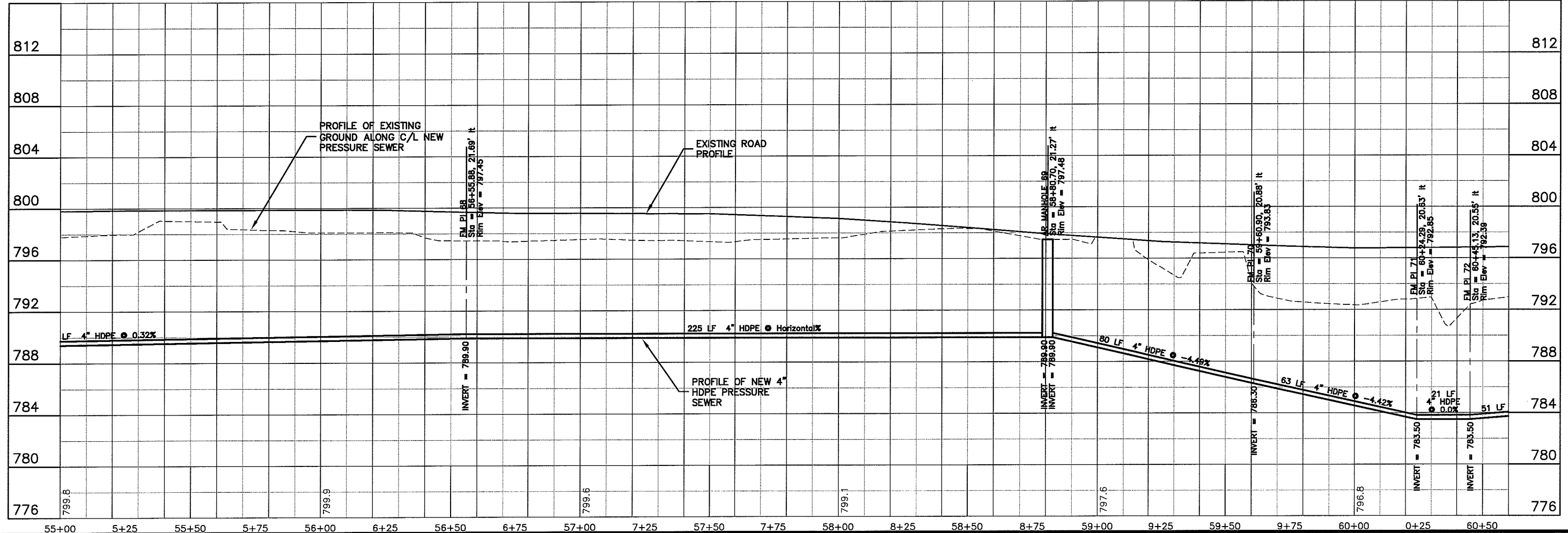
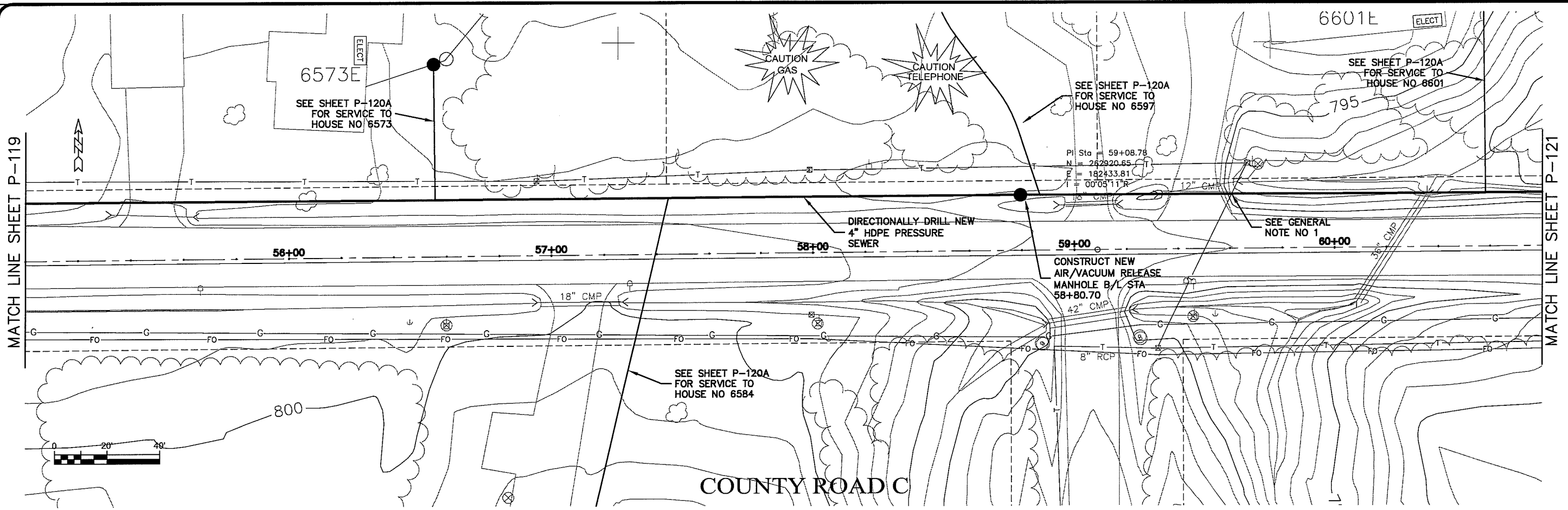
TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-1380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO: 626000  
 PLOT DATE: 22 Oct 2009  
 SCALE: AS SHOWN

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO: 626-001  
 SHEET: P-119

NO. DATE BY  
 REVISION  
 F.B.I. DRAWN BY: RWM CHECKED BY: CWS



TRANSPORTATION - MUNICIPAL  
 DEVELOPMENT - ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-1380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO: 626000  
 FILE NO: 626-001  
 SHEET: P-120

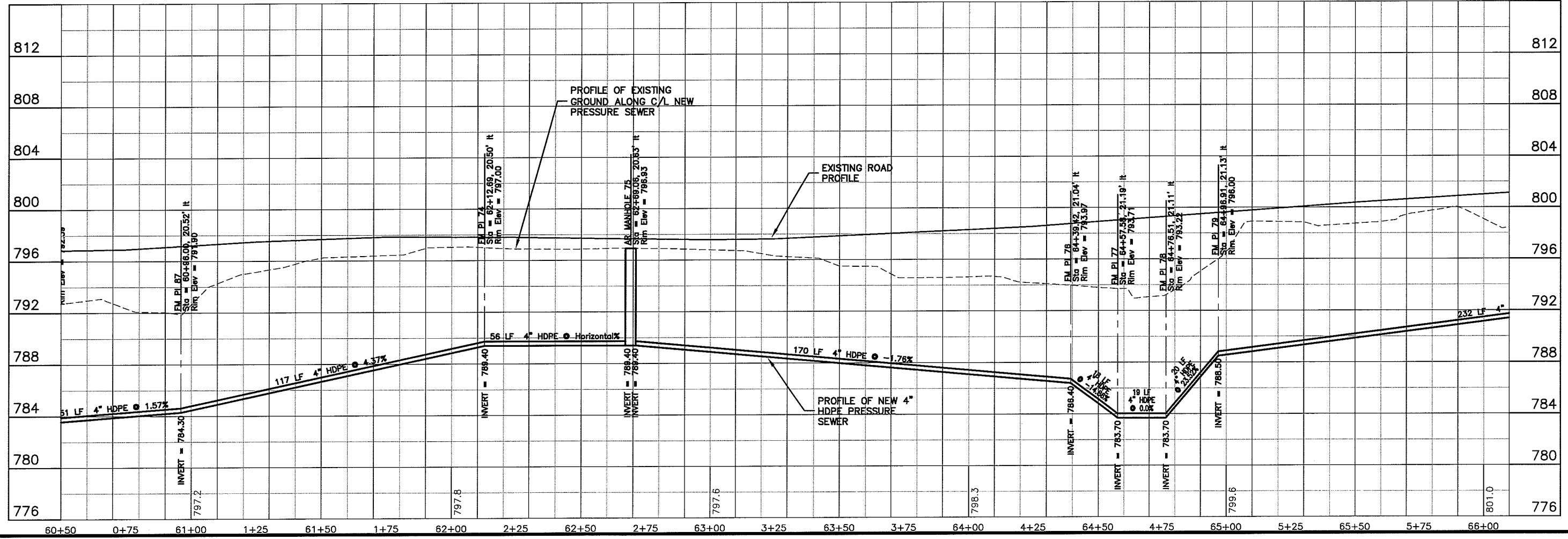
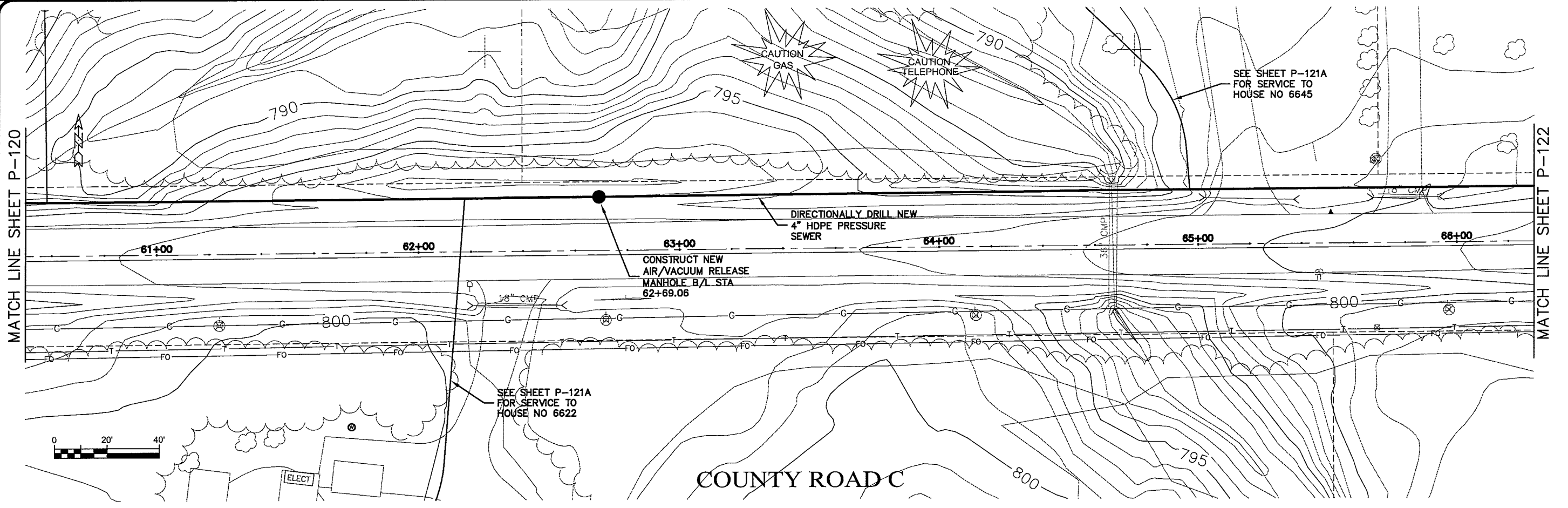
DATE: 22 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS

SCALE: AS SHOWN

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

DATE: 10/22/08

FILE NO: 626-001  
SHEET: P-121



TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-9915 • 800-777-7300 • Fax: 218-722-4548  
© MSA PROFESSIONAL SERVICES

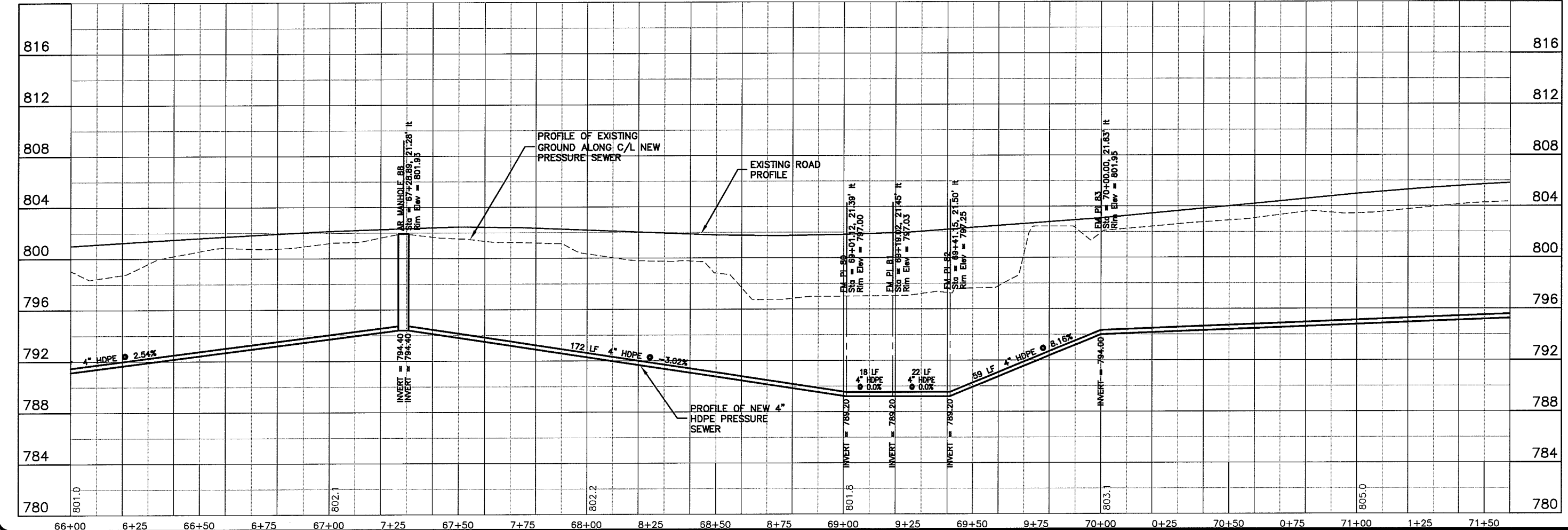
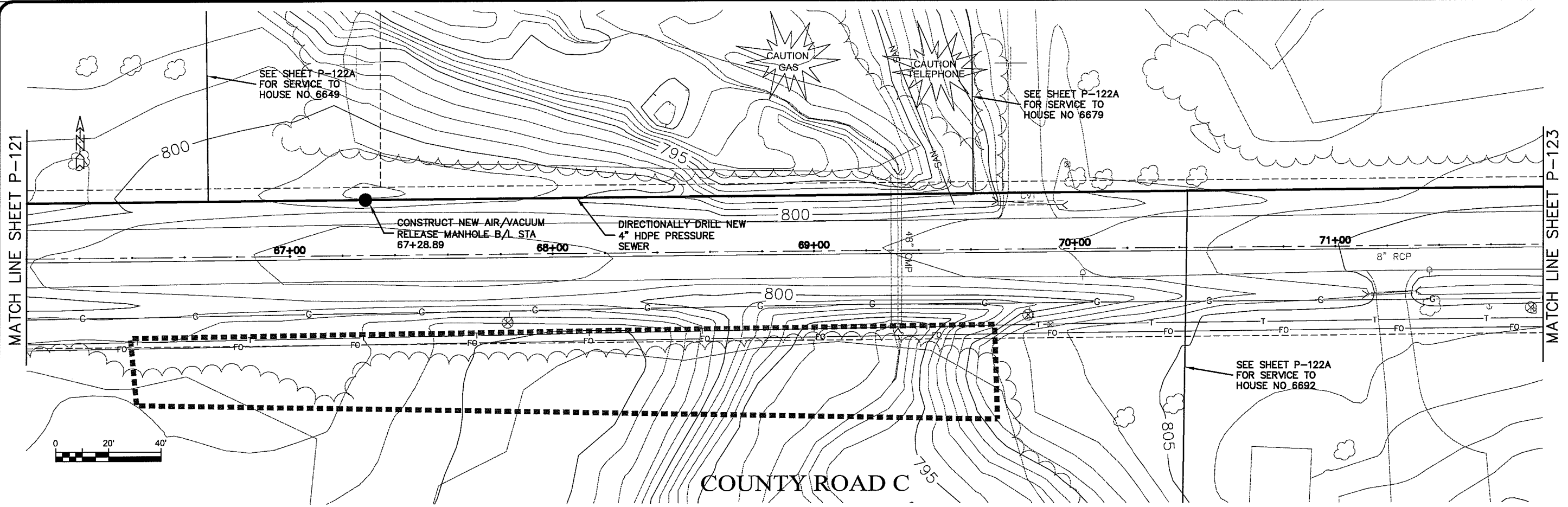
**MSA**  
PROFESSIONAL SERVICES

PROJECT NO. 626000	DATE	BY	REVISION	NO.	DATE
FILE NO. 626-001	PROJECT DATE: 22 Oct 2008	DRAWN BY: RWM	DESIGNED BY: RWM	NO.	DATE
SHEET P-121	SCALE: AS SHOWN	CHECKED BY: CWS	DATE	NO.	DATE

**SEWER PLAN-PROFILE**  
**PARKLAND SANITARY DISTRICT NO. 1**  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

DATE: 10/22/09

PROJECT: 625000  
 DRAWN BY: RWM  
 CHECKED BY: CWS



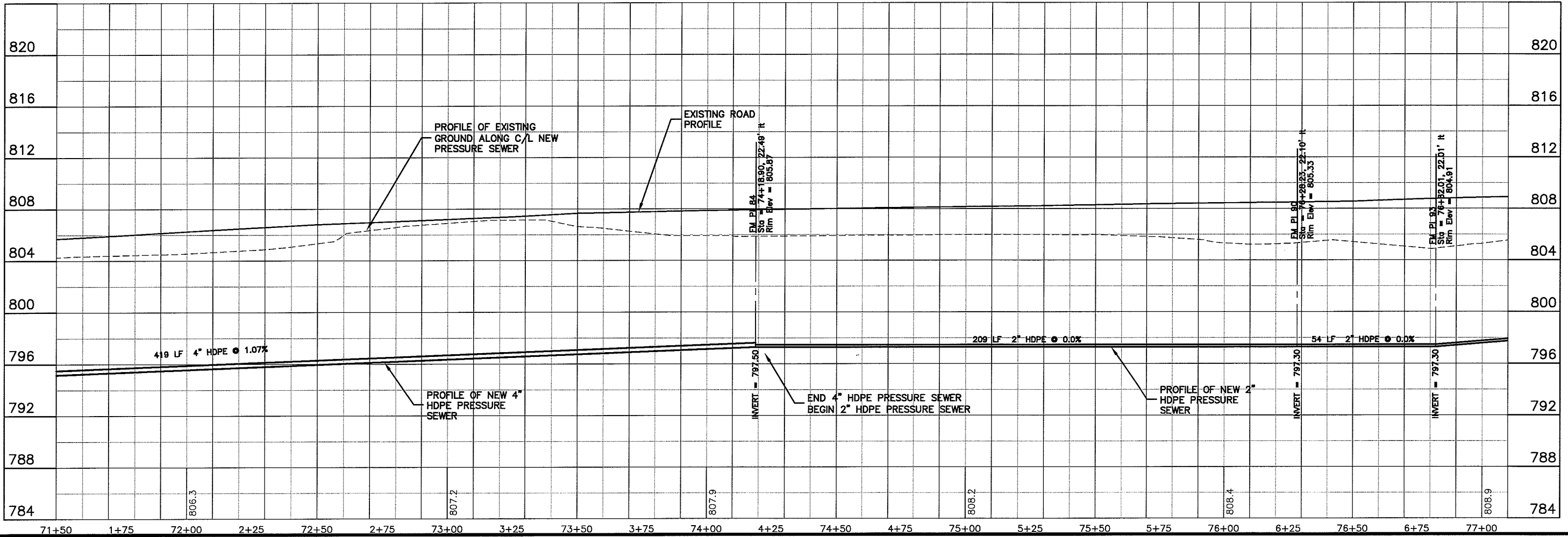
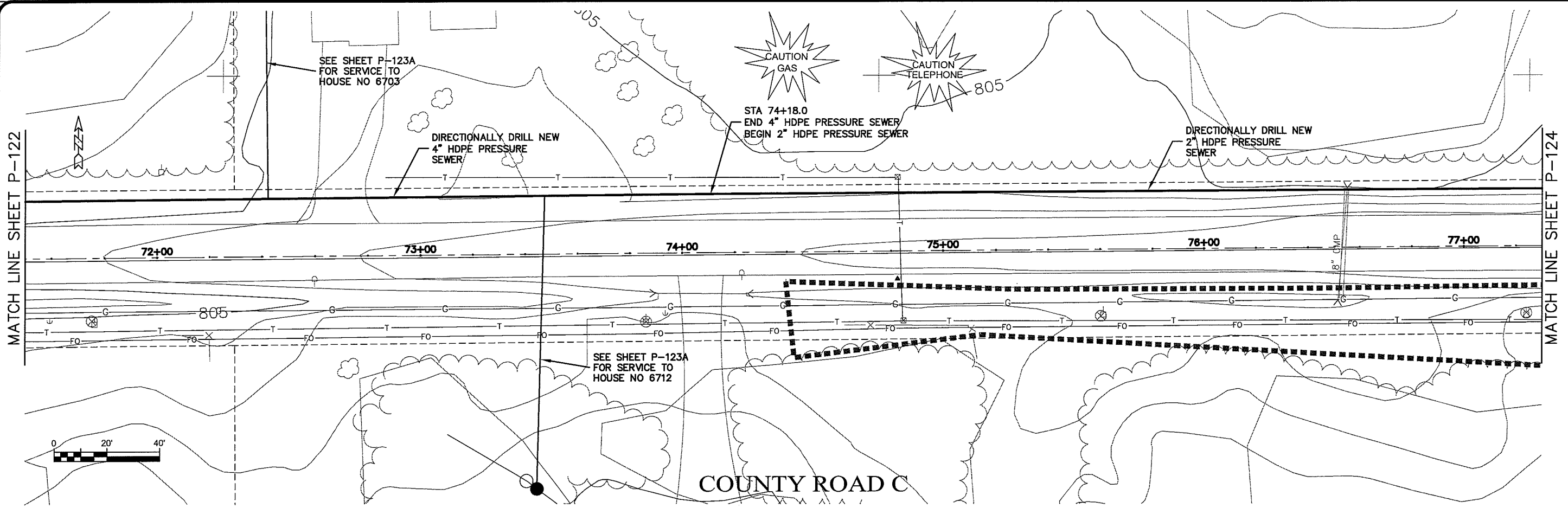
**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street Duluth, MN 55802  
 218-722-9315 1-800-777-7380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

NO.	DATE	REVISION

PROJECT: 625000  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 DATE: 22 Oct 2009  
 SCALE: AS SHOWN

**SEWER PLAN-PROFILE**  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO: 626-001  
 SHEET: P-122



**TRANSPORTATION - MUNICIPAL DEVELOPMENT - ENVIRONMENTAL**  
 300 West First Street Duluth, MN 55802  
 218-722-9315 1-800-777-7300 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

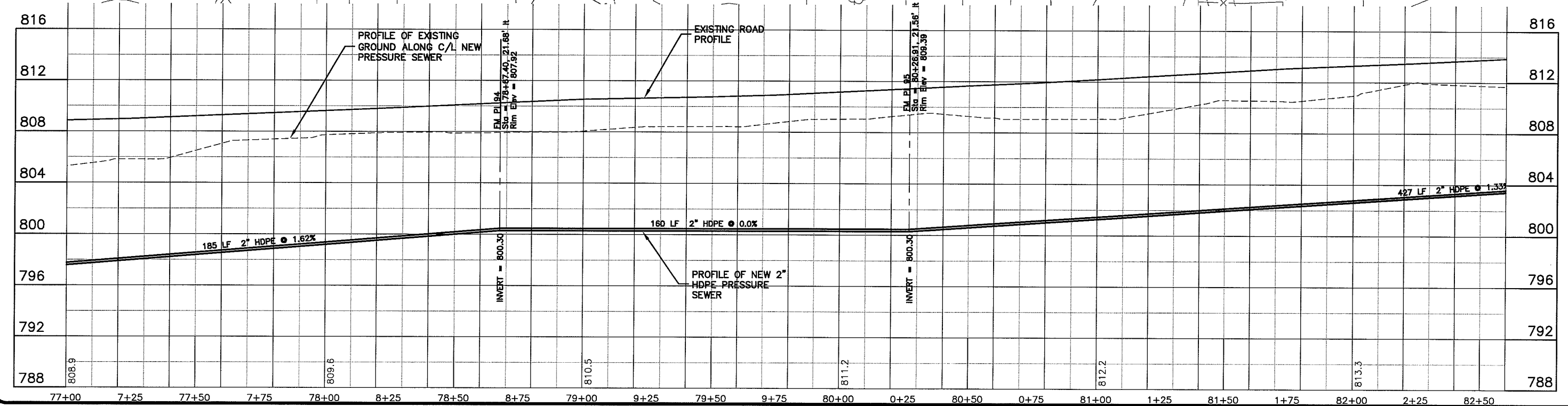
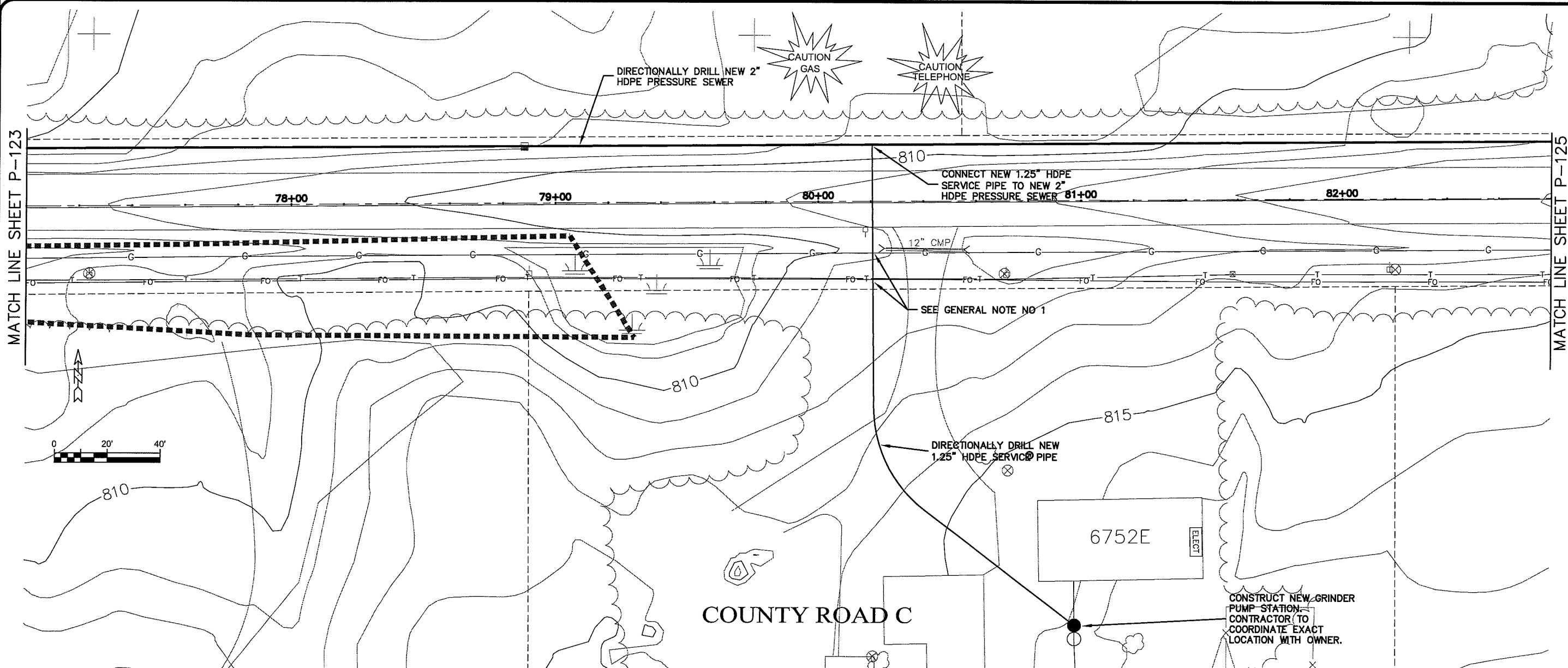
PROJECT NO. 626000  
 DATE 22 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS

SEWER PLAN - PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
 SHEET P-123

WORK SHEET P-124

PLOT DATE 22 Oct 2009 PLOT TIME 12:09pm  
FILENAME K:\design\RCp15014.dwg



MATCH LINE SHEET P-123

MATCH LINE SHEET P-125

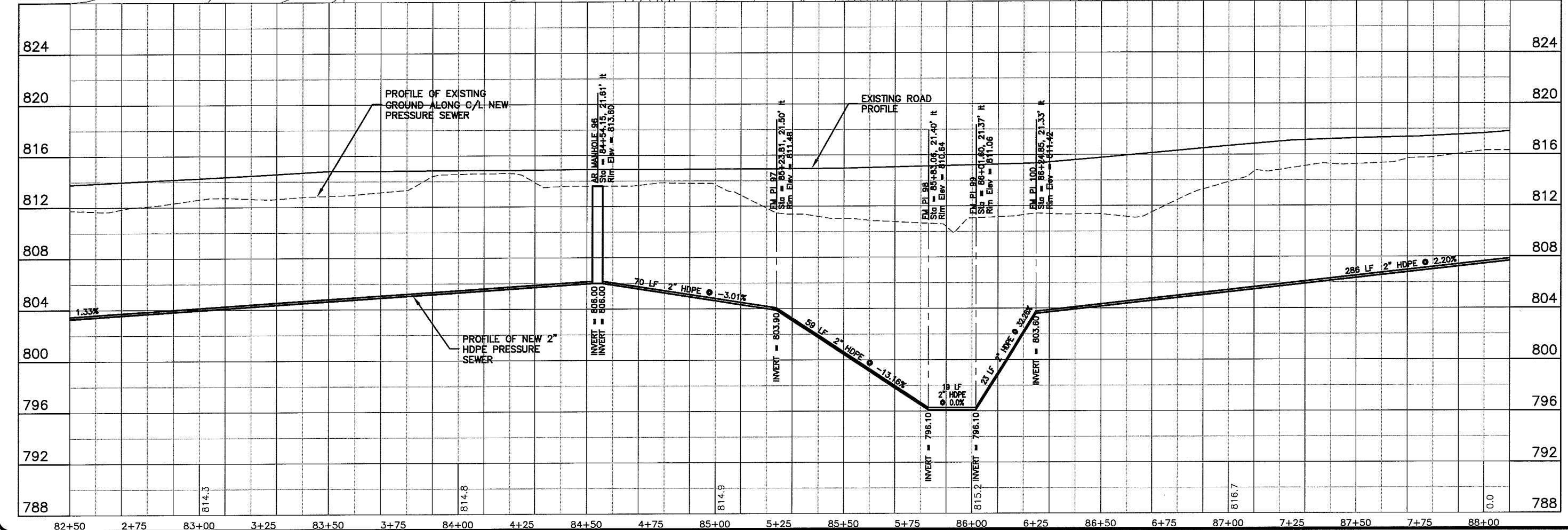
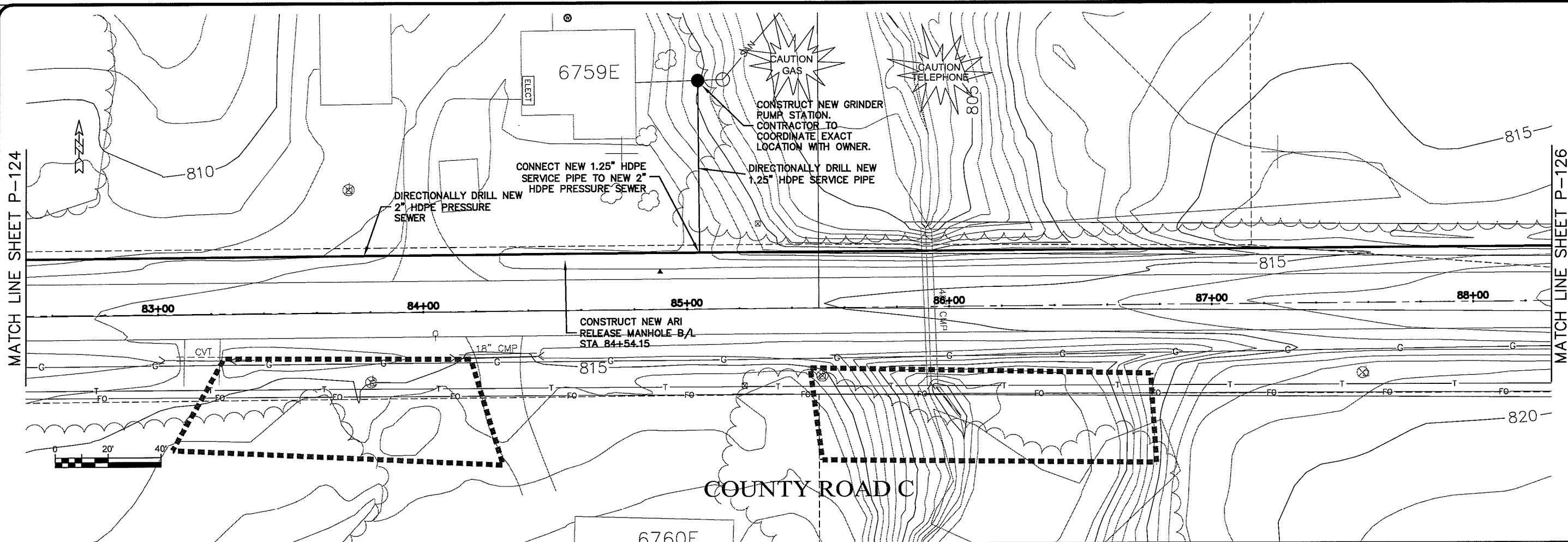
TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-3915 1-800-777-7380 Fax: 218-722-4548  
© MSA PROFESSIONAL SERVICES



PROJECT NO. 626000	DATE 22 Oct 2009	SCALE AS SHOWN
SEWER PLAN - PROFILE	PARKLAND SANITARY DISTRICT NO. 1 WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN	FILE NO. 626-001
BY	DATE	SHEET P-124
REVISION	NO.	
F.S.I.	DRAWN BY: RWM	CHECKED BY: CWS



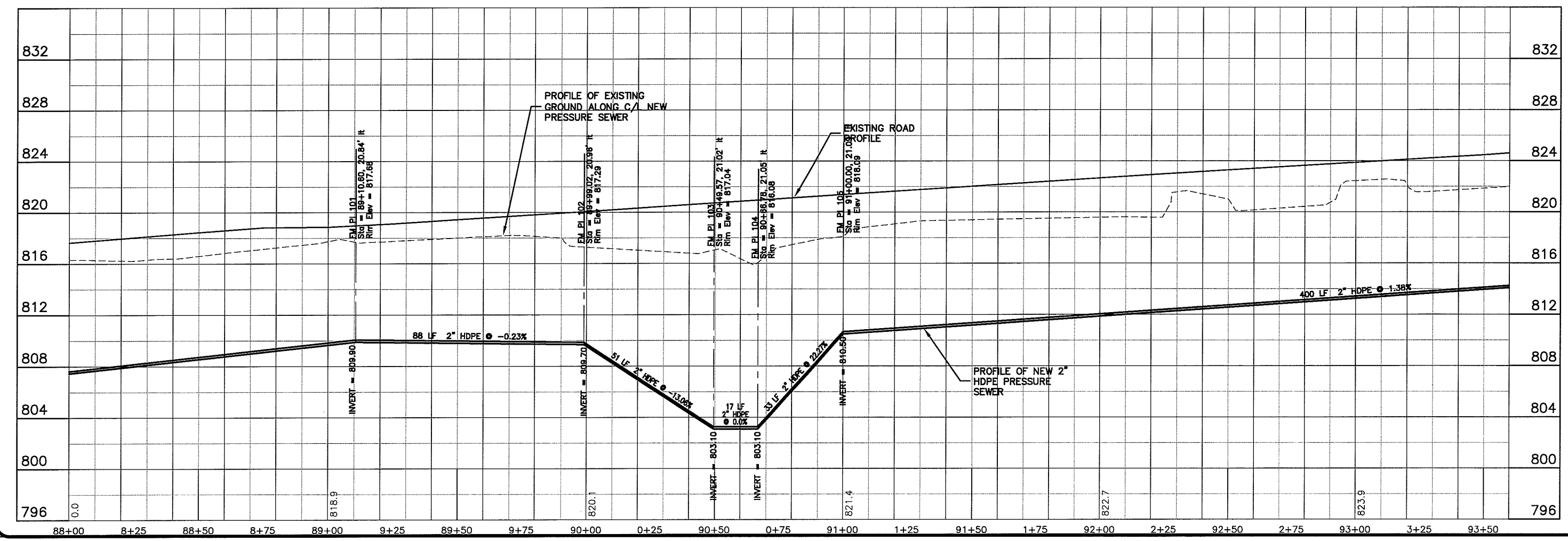
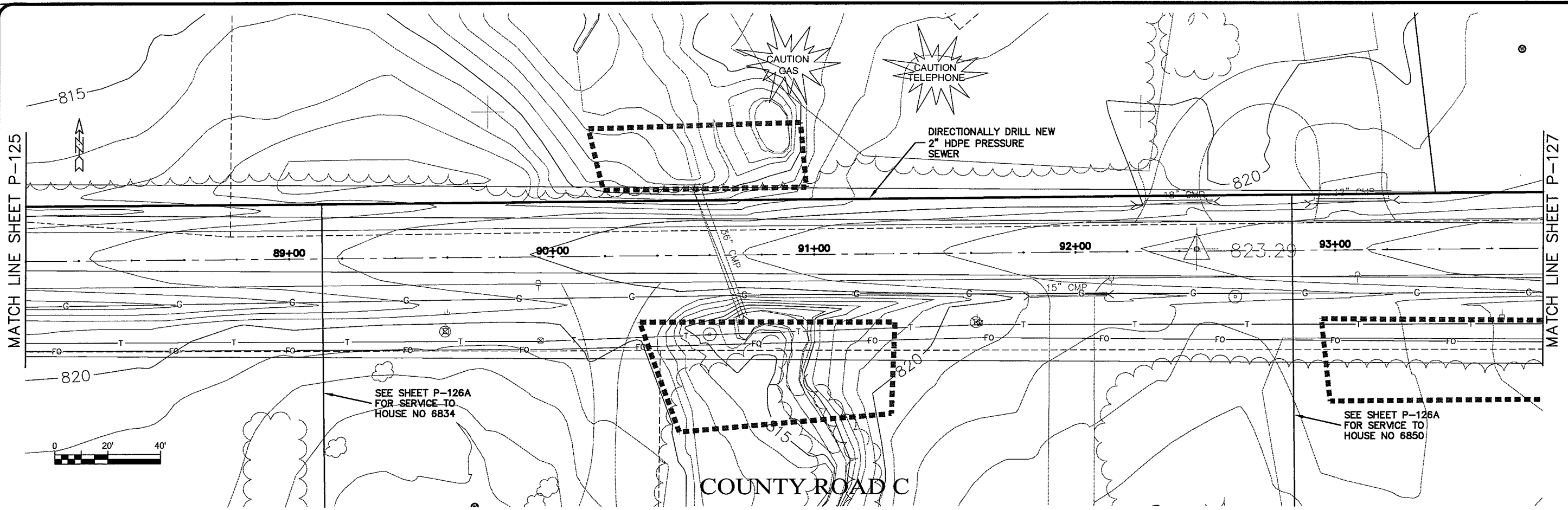
LAYOUT NAME P-125



PLOT DATE: 22 Oct 2009 12:16pm  
 PLOT BY: K:\design\rcp\10014.dwg

PROJECT NO: 628000  
 PLOT DATE: 22 Oct 2009  
 SCALE: AS SHOWN  
 PROJECT: PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN  
 SHEET P-125  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 PROJECT: TRANSPORTATION - MUNICIPAL  
 DEVELOPMENT - ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-3360 Fax: 218-722-4548  
 MSA PROFESSIONAL SERVICES

UNBUILT MAP P-126

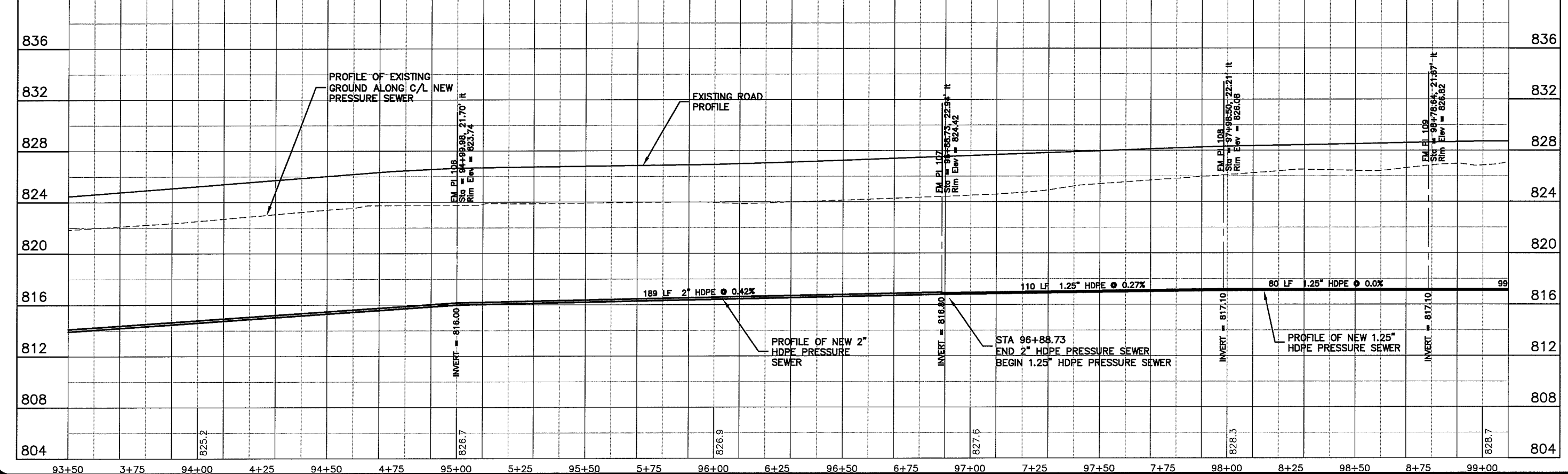
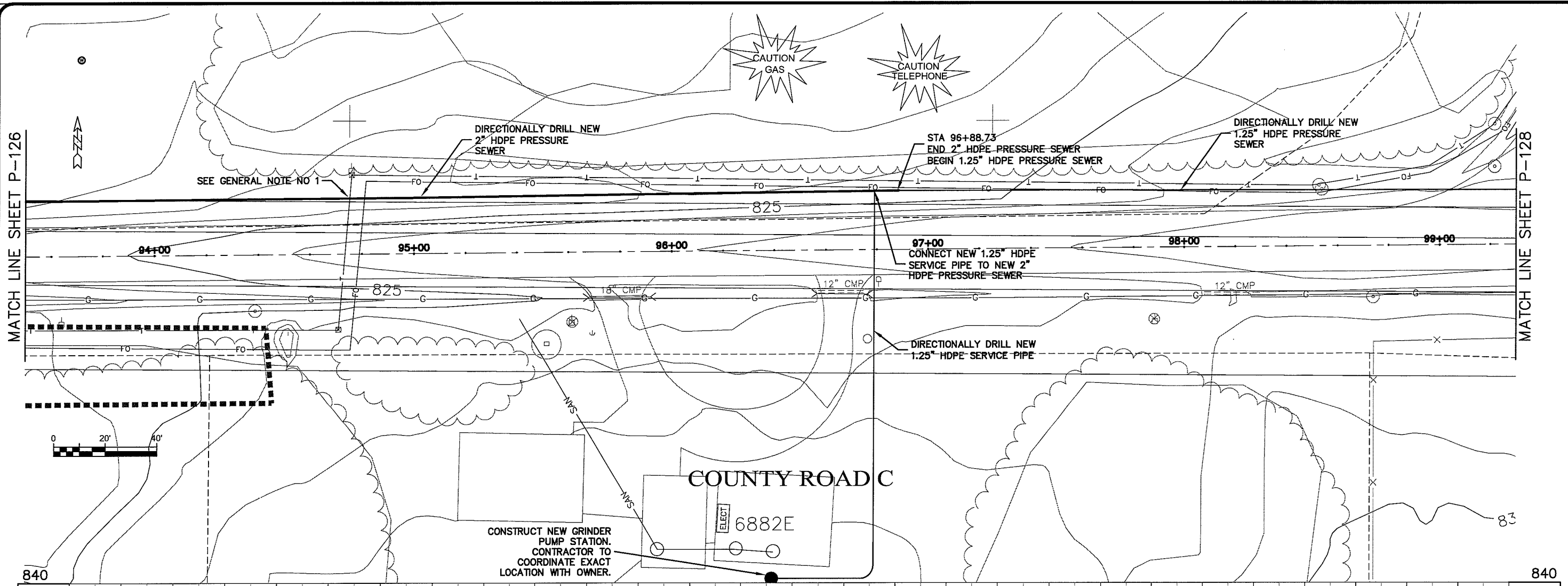


PLT DATE: 22 Oct 2009 12:19pm  
 FILENAME: K:\design\RCp17014.dwg

**MSA**  
 TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4588  
 PROFESSIONAL SERVICES

PROJECT NO: 626000  
 SHEET: P-126  
 DATE: 22 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 SCALE: AS SHOWN

SEWER PLAN-PROFILE  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN



**MSA**  
 PROFESSIONAL SERVICES

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 300 West First Street, Duluth, MN 55802  
 218-722-9913 1-800-777-7300 Fax: 218-722-4588

PROJECT NO: 626000  
 SHEET: P-127

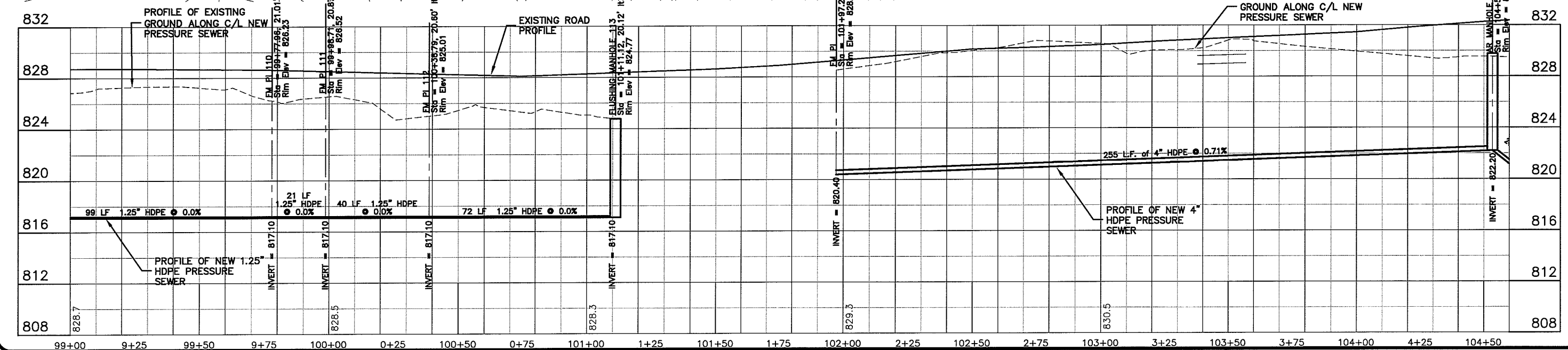
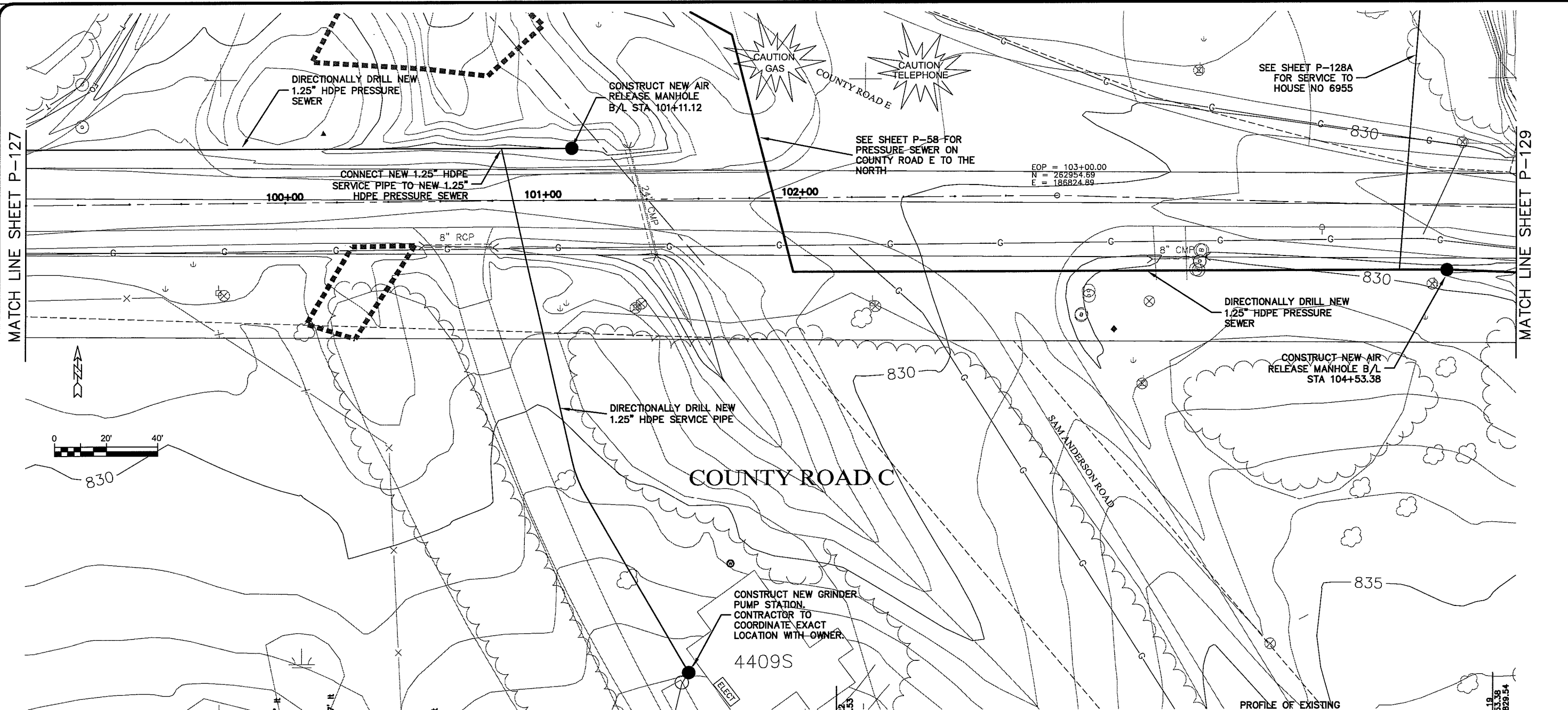
DATE: 22 Oct 2009  
 SCALE: AS SHOWN

DESIGNED BY: RWM  
 CHECKED BY: CWS

SEWER PLAN-PROFILE  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

LAUNCH NAME: P-128

PLT DATE: 22 Oct 2009 10:21:13pm  
FILE: K:\Design\RCp19014.dwg



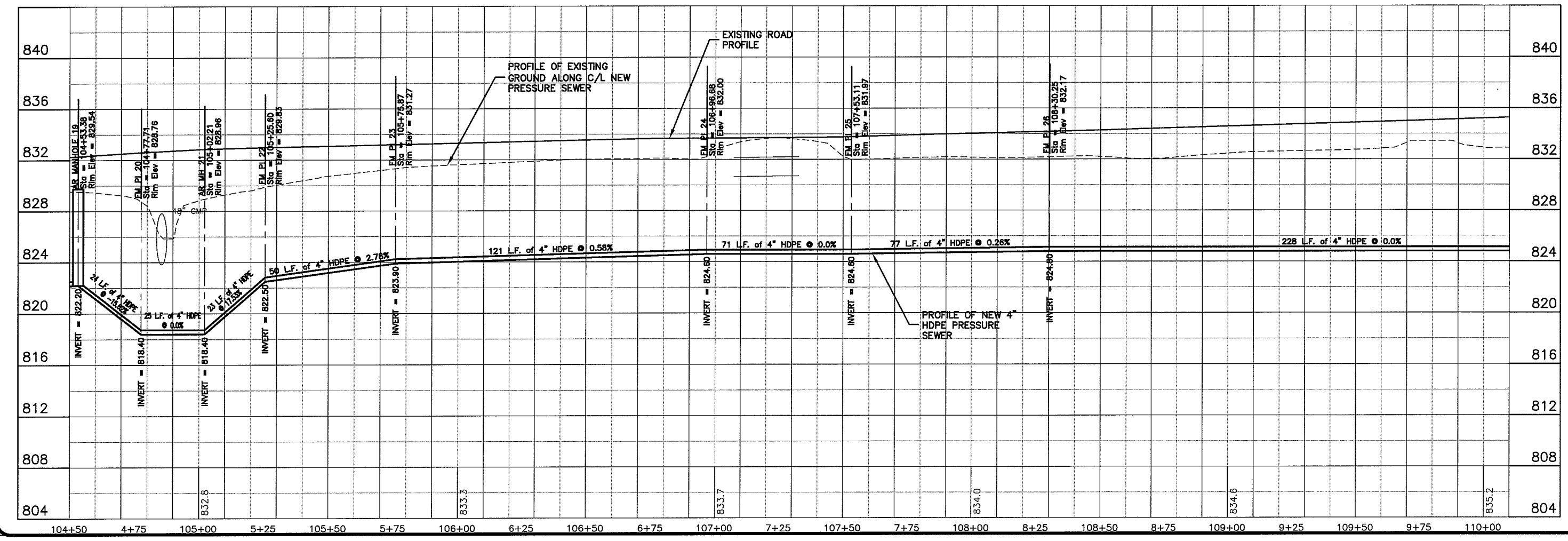
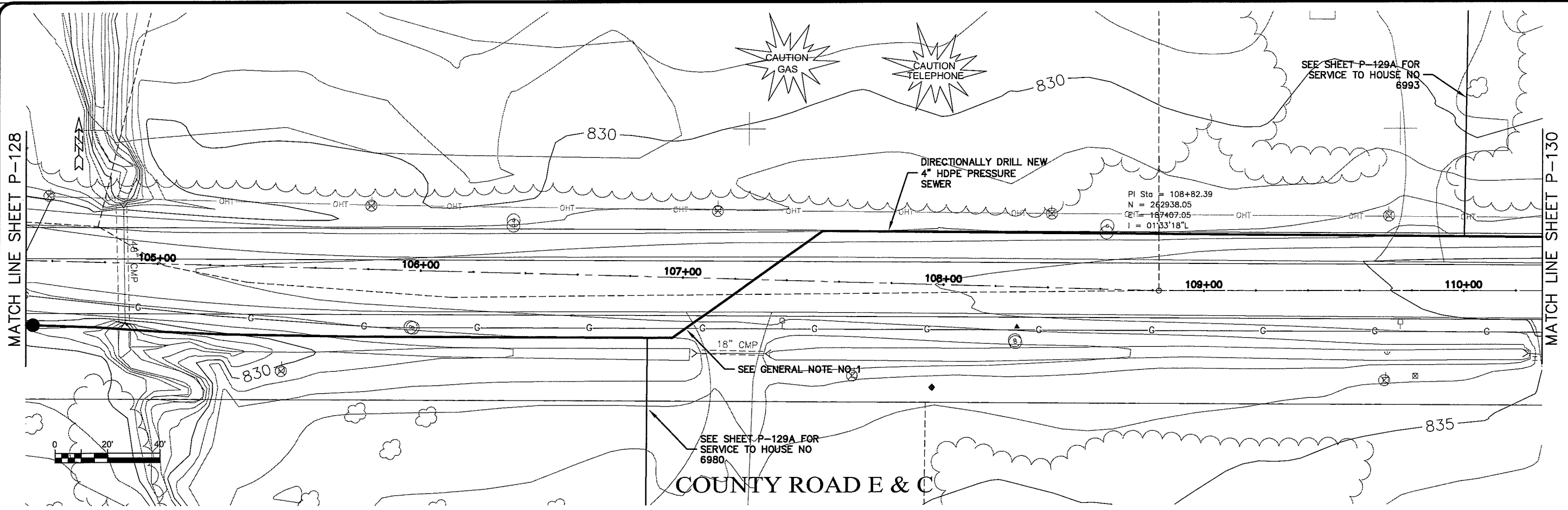
**MSA**  
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street Duluth, MN 55802  
218-722-9115 1-800-777-7380 Fax: 218-722-4548  
PROFESSIONAL ENGINEERS

PROJECT NO: 625000  
PLT DATE: 22 Oct 2009  
SCALE: AS SHOWN

**PARKLAND SANITARY DISTRICT NO. 1**  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

SEWER PLAN - PROFILE

FILE NO: 626-001  
SHEET: P-128



**MSA**  
 PROFESSIONAL SERVICES

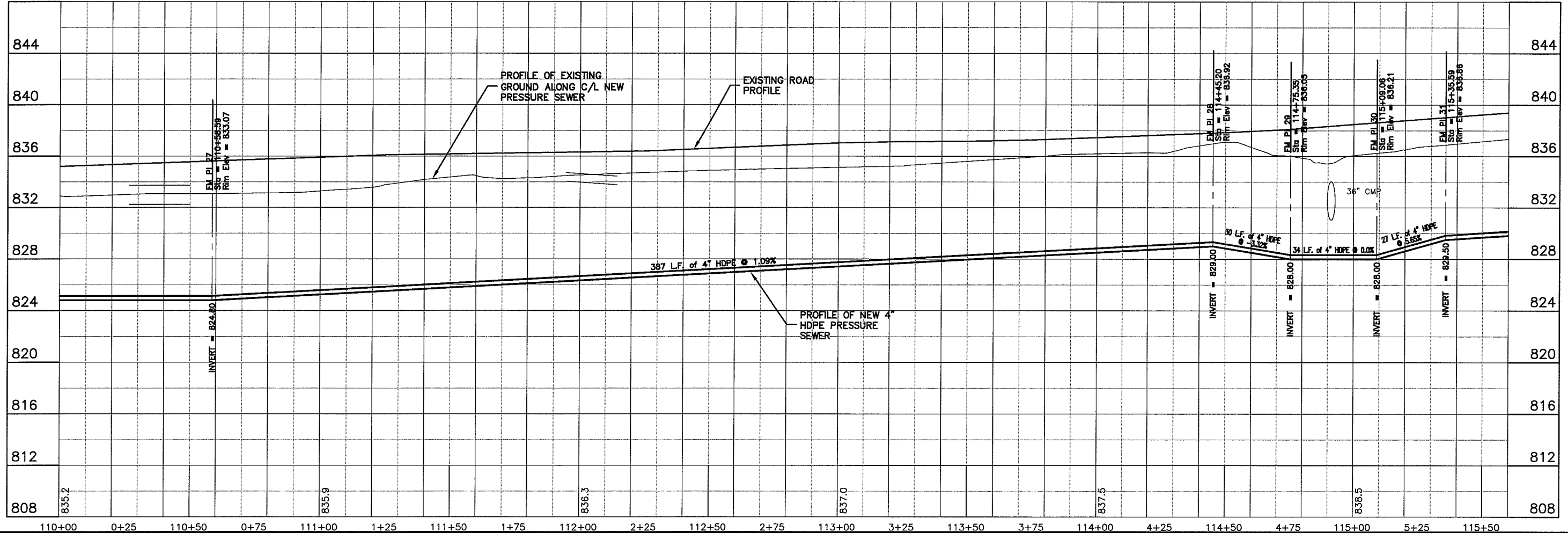
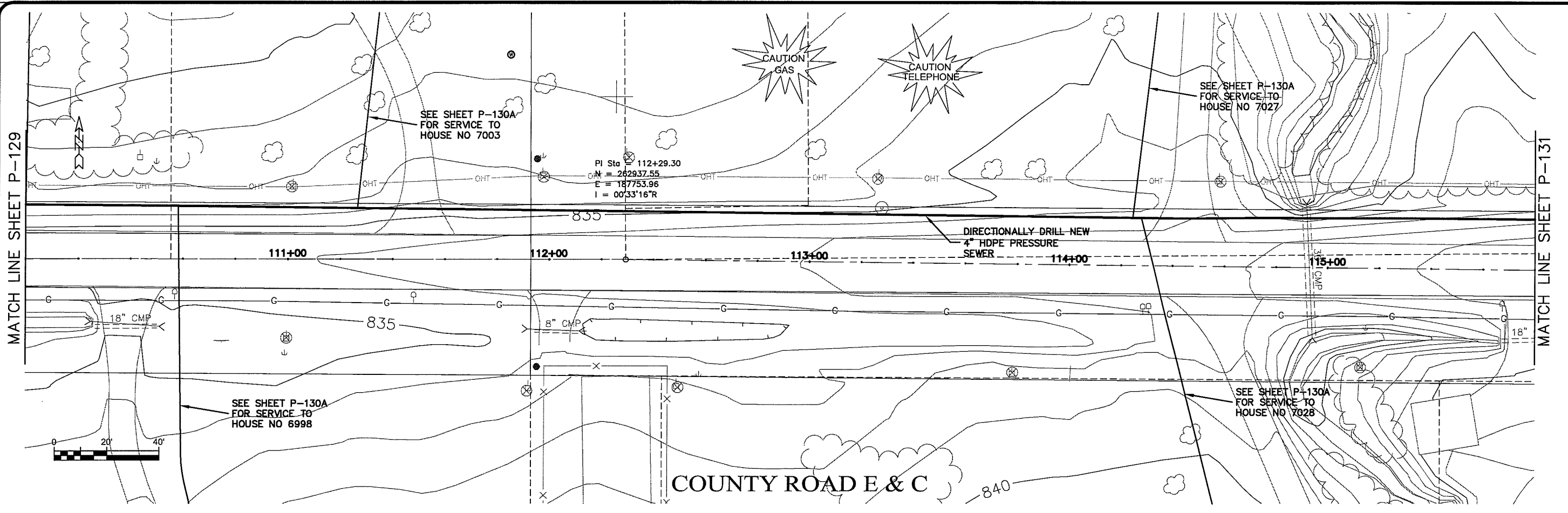
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548

PROJECT NO: 026000  
 PLOT DATE: 22 Oct 2009  
 SCALE: AS SHOWN

SEWER PLAN - PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO: 626-001  
 SHEET: P-129

UNIFORM NAME: P-130



PLT DATE: 22 Oct 2009 1:29 pm  
 FILEPATH: K:\design\RCp21014.dwg

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

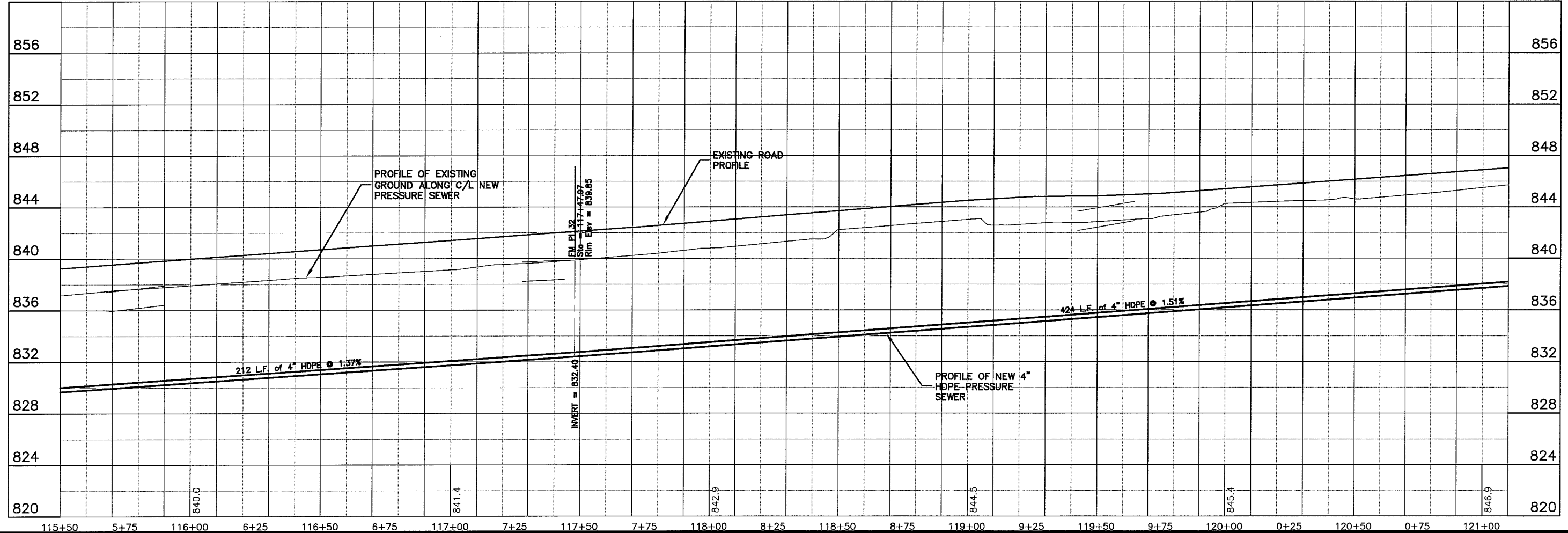
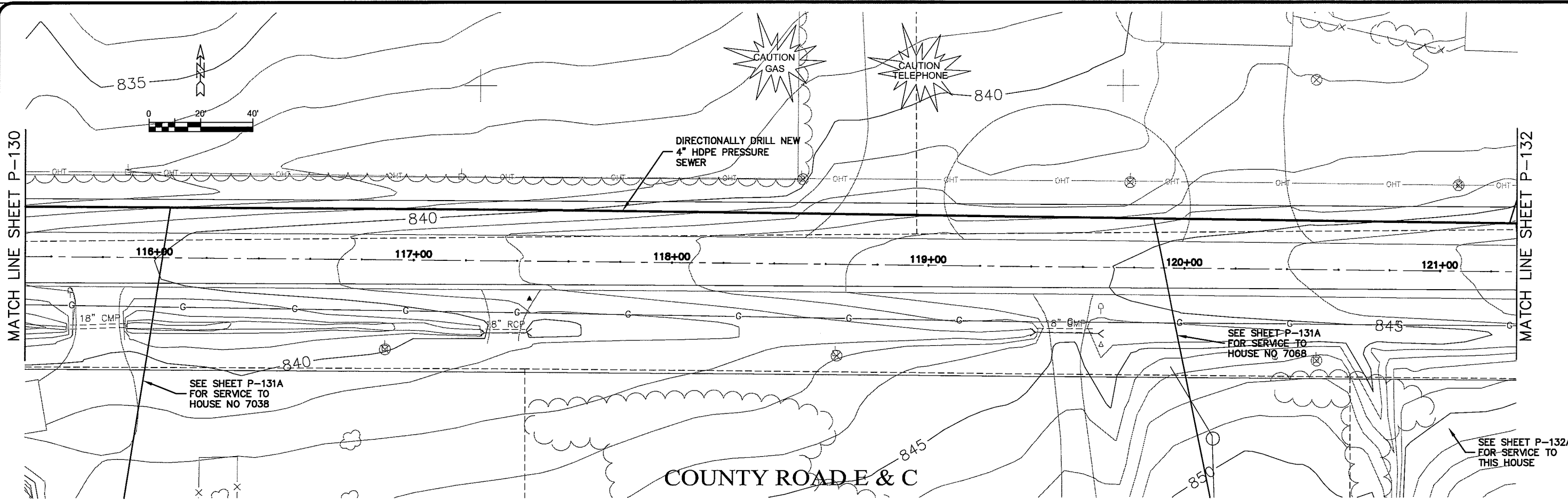
PROJECT NO. 626000  
 DATE: 22 Oct 2009  
 SCALE: AS SHOWN

SEWER PLAN PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
 SHEET P-130

BY: \_\_\_\_\_  
 CHECKED BY: CWIS

UNOFF. NAME: P-131



Plot Date: 22 Oct 2009 1:35pm  
 File Name: K:\design\RCp22014.dwg

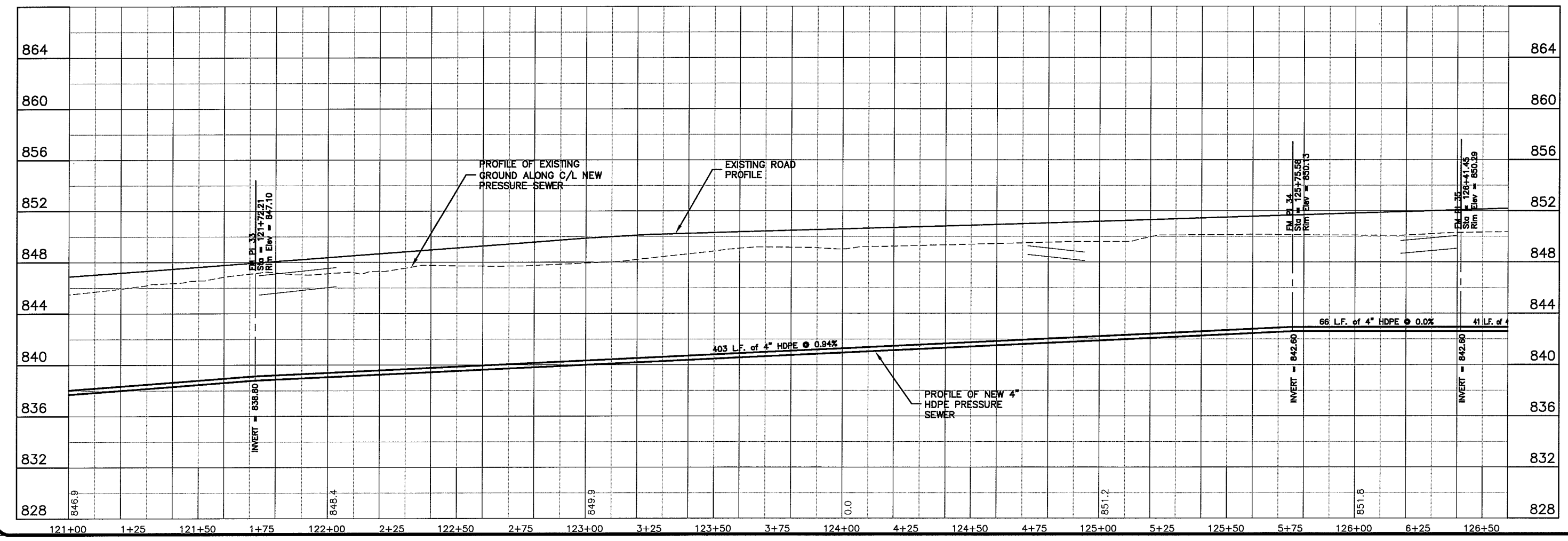
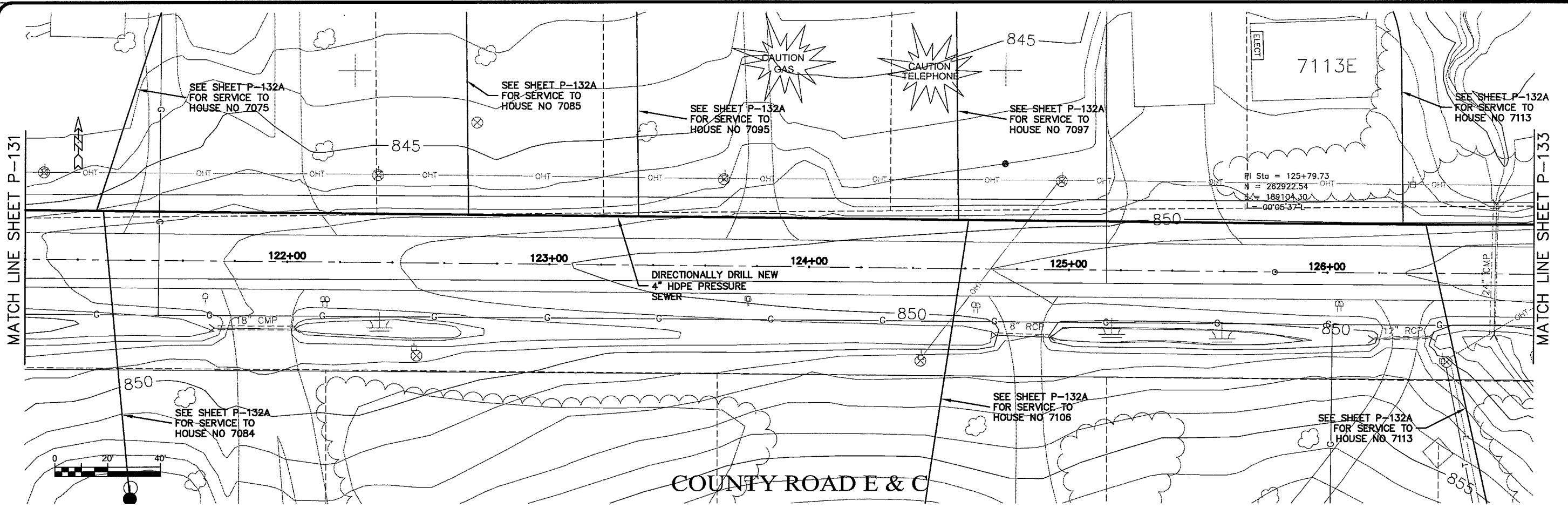
TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO. 625000  
 FILE NO. 626-001  
 SHEET P-131

SEWER PLAN-PROFILE  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

DATE: 22 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 SCALE: AS SHOWN

EXPORT NAME: P-132



Plot Date: 22 Oct 2009 8:02:23pm  
 File Path: K:\design\RCp23014.dwg

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 • 1-800-777-7380 • Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

---

PROJECT NO. 628000  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 DATE: 22 Oct 2009  
 SCALE: AS SHOWN

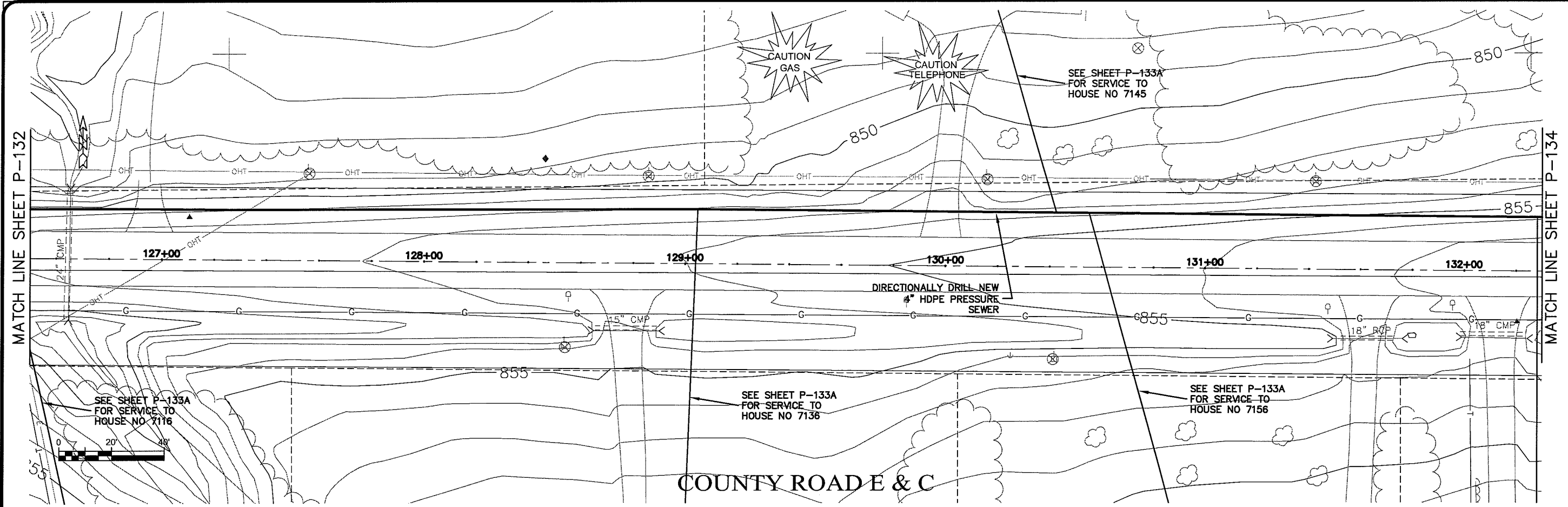
---

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

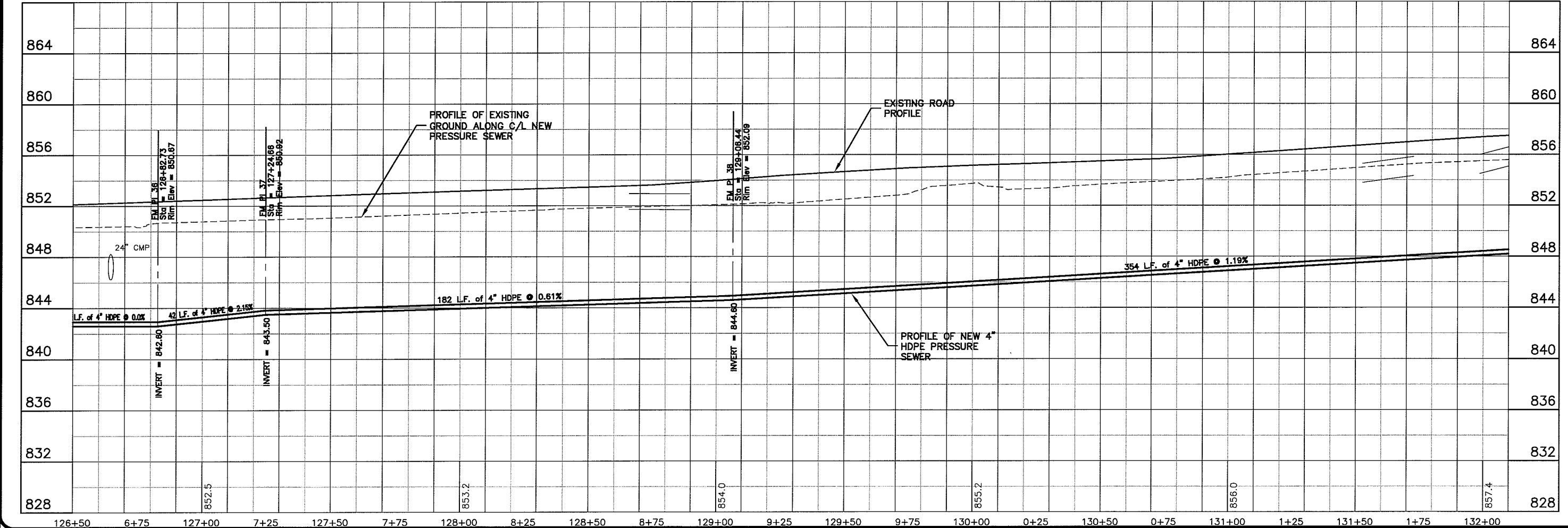
---

FILE NO. 626-001  
 SHEET P-132





COUNTY ROAD E & C



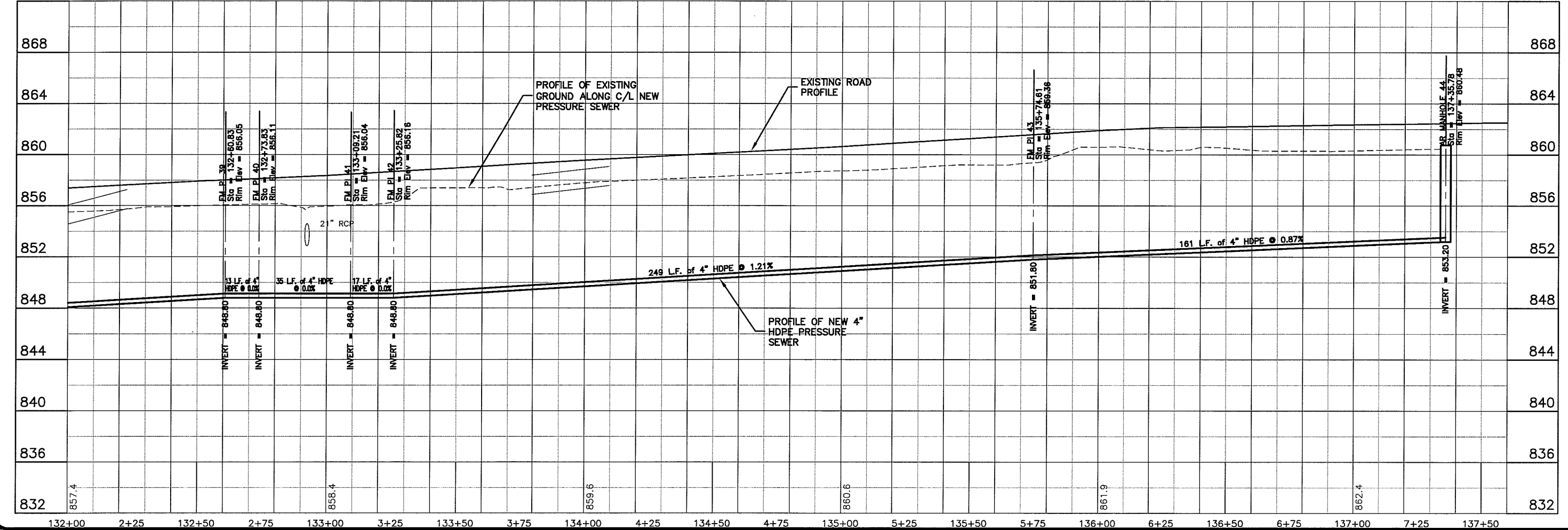
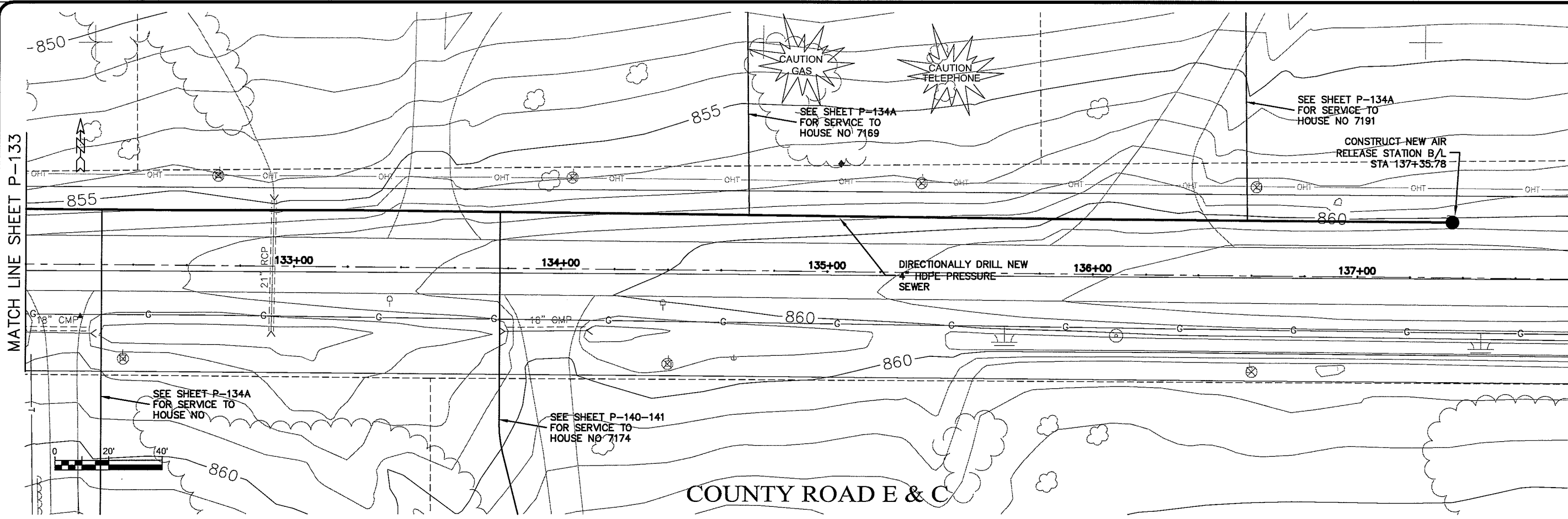
TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-9313 • 1-800-777-7300 • Fax: 218-722-4588  
**MSA**  
 PROFESSIONAL SERVICES

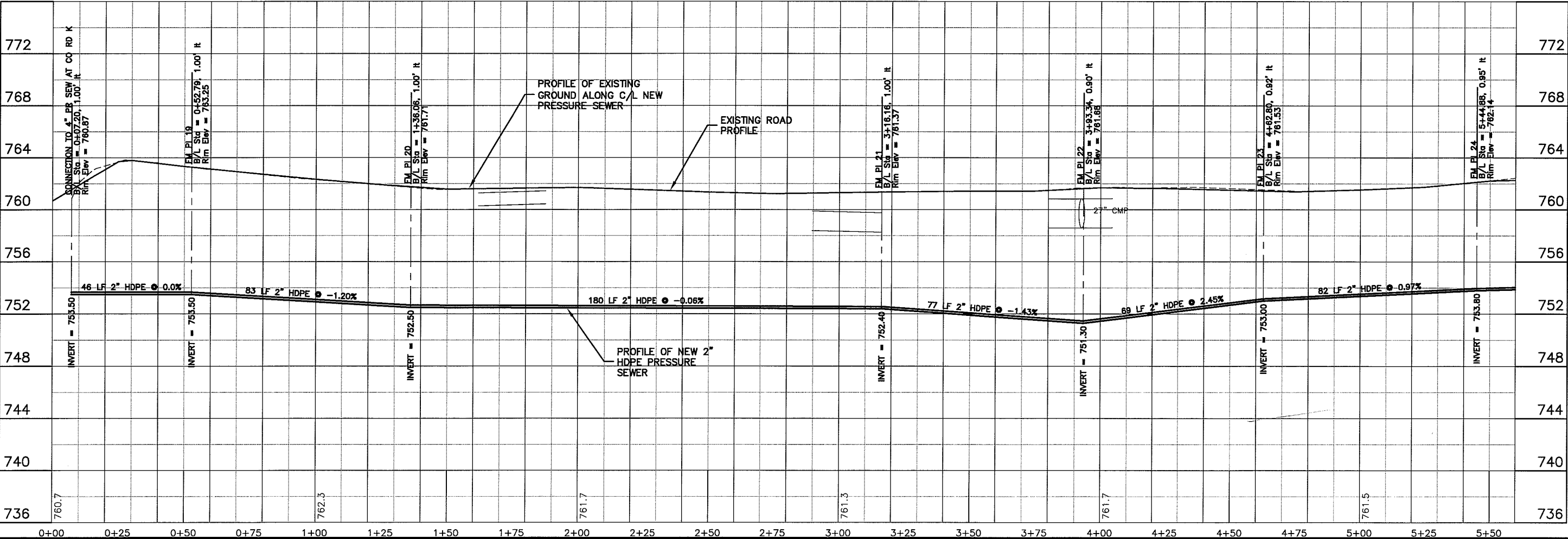
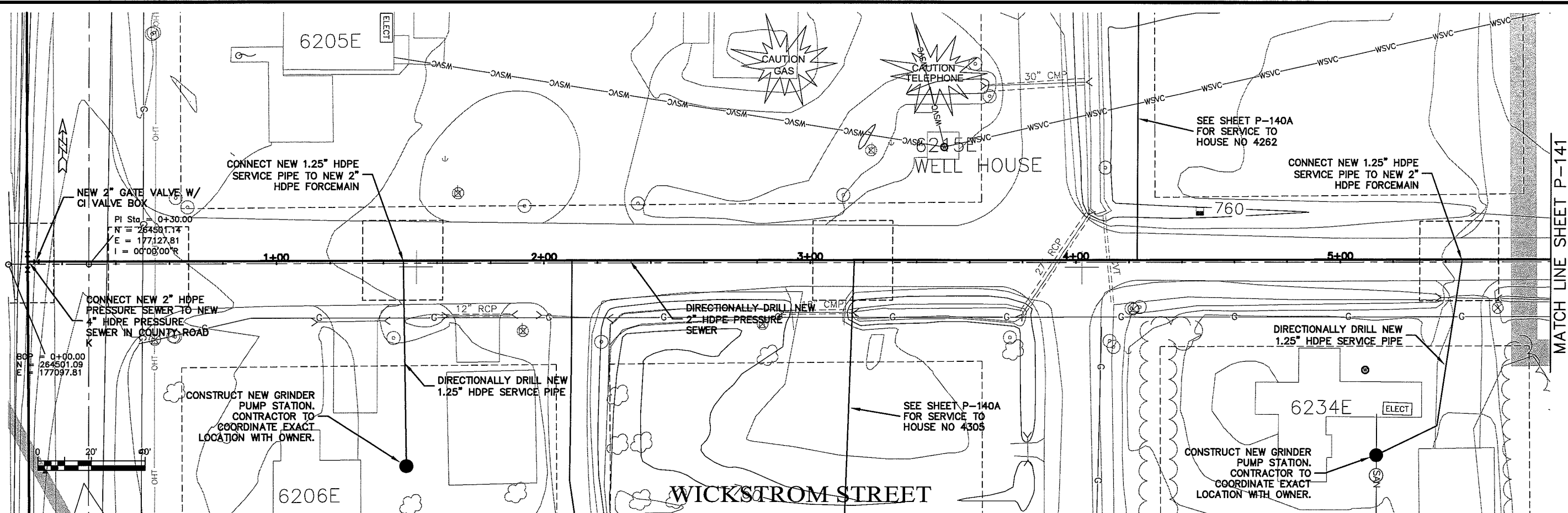
PROJECT NO.	626000
DATE	22 Oct 2009
SCALE	AS SHOWN
DESIGNED BY	RWM
DRAWN BY	CWS
CHECKED BY	CWS

SEWER PLAN - PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO.  
 626-001

SHEET  
 P-133





TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-3913 1-800-777-7380 Fax: 218-722-4588  
© MSA PROFESSIONAL SERVICES

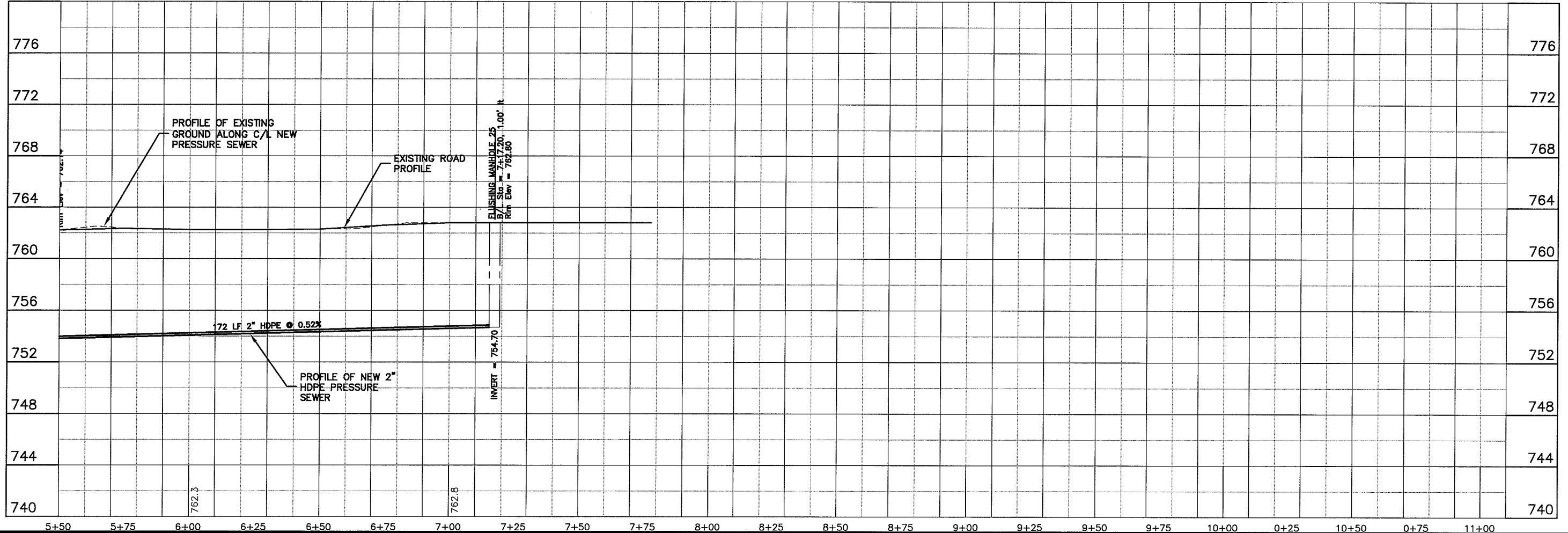
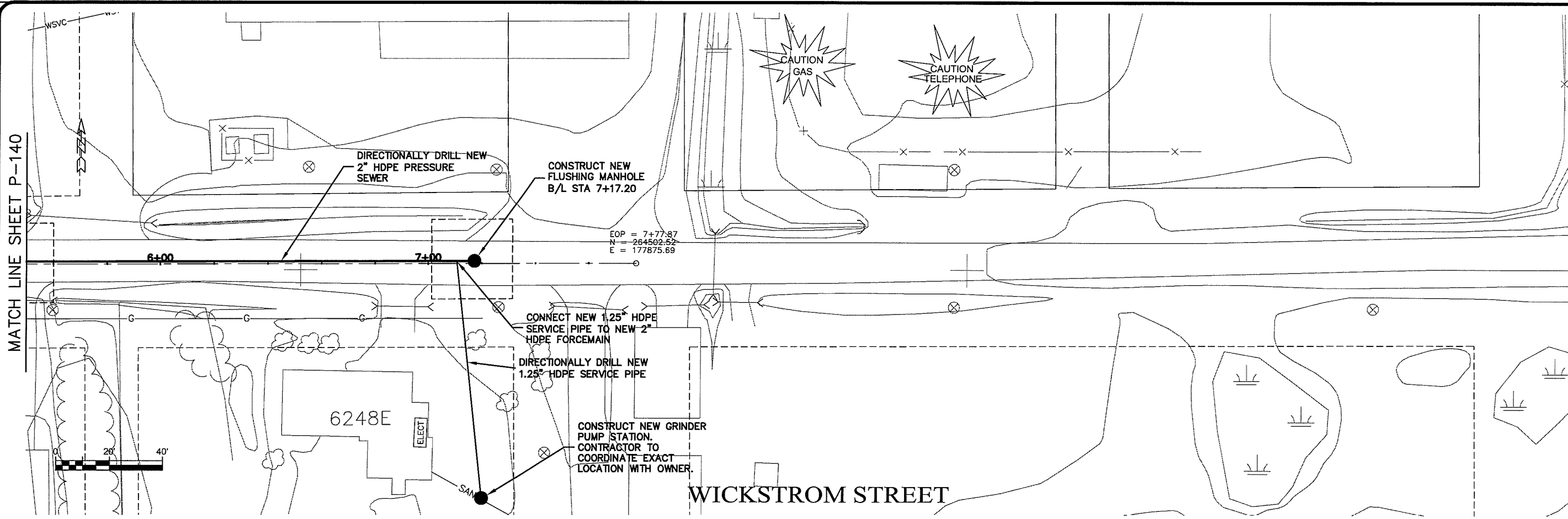
**MSA**  
PROFESSIONAL SERVICES

PROJECT NO. 626000  
DATE 20 Oct 2009  
SCALE AS SHOWN

SEWER PLAN-PROFILE  
PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
SHEET P-140

DRAWN BY: RWM  
CHECKED BY: CWS



**MSA**  
PROFESSIONAL ENGINEERS

TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-3915 1-800-777-7380 Fax: 218-722-4586

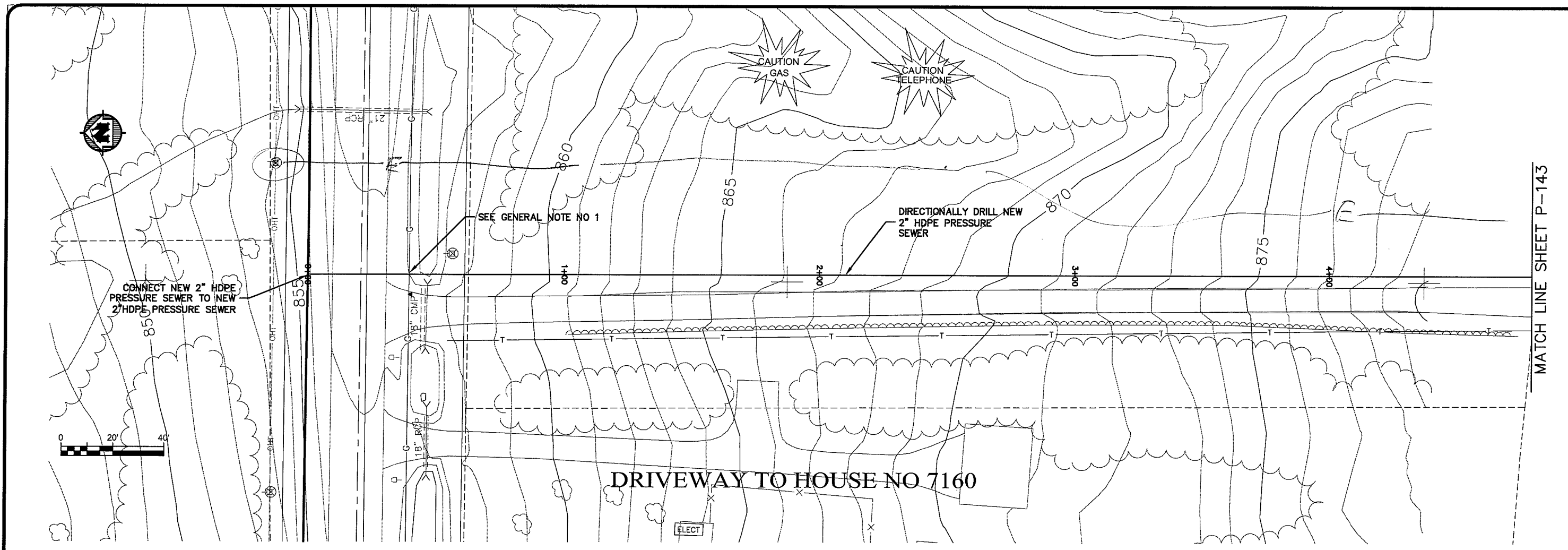
PROJECT NO. 526000  
DATE: 20 Oct 2009  
SCALE: AS SHOWN

SEWER PLAN PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

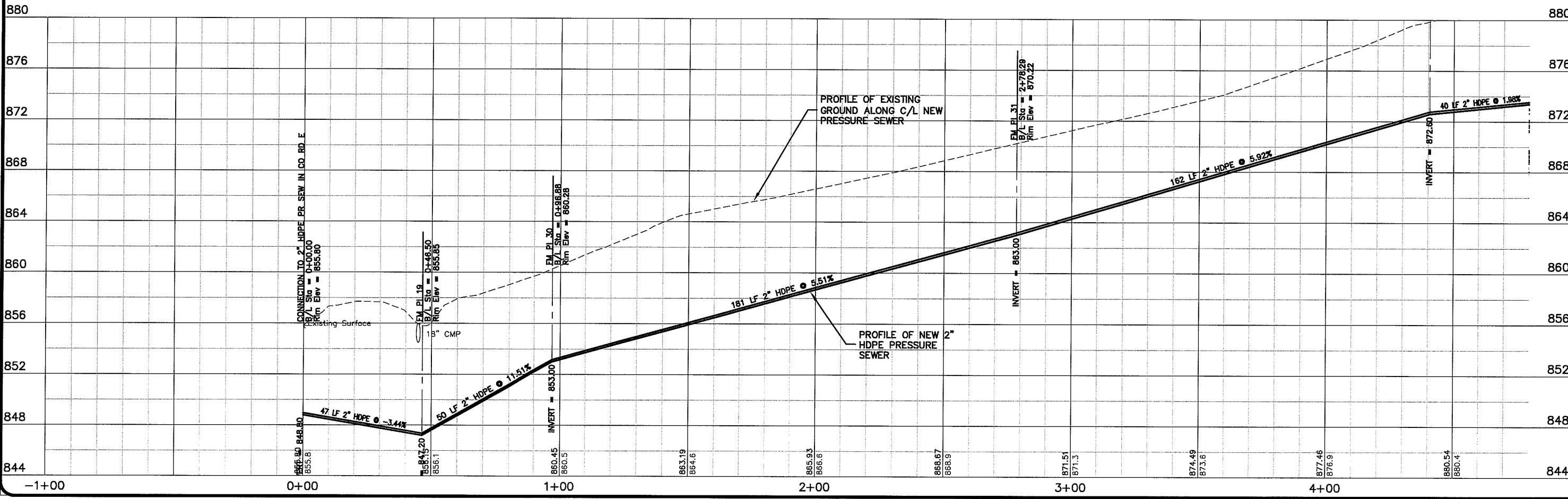
FILE NO. 626-001  
SHEET P-141

BY: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REGION: \_\_\_\_\_  
DRAWN BY: RWM  
CHECKED BY: CWS

Layout Name Layout1

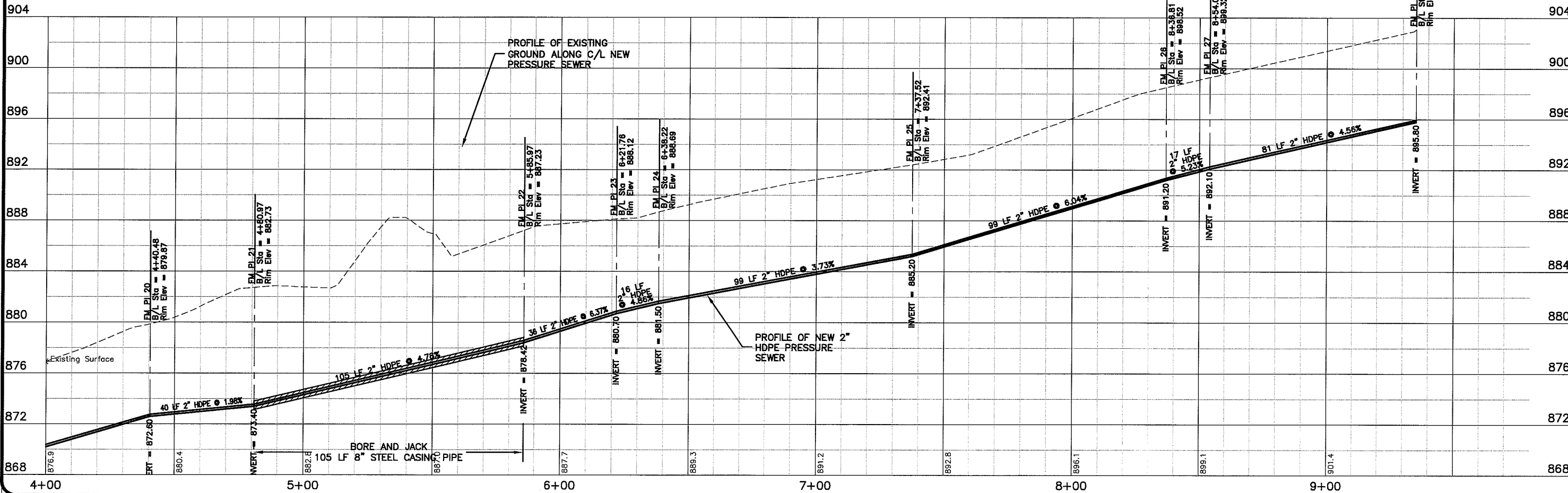
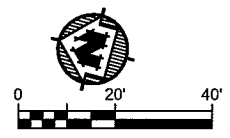
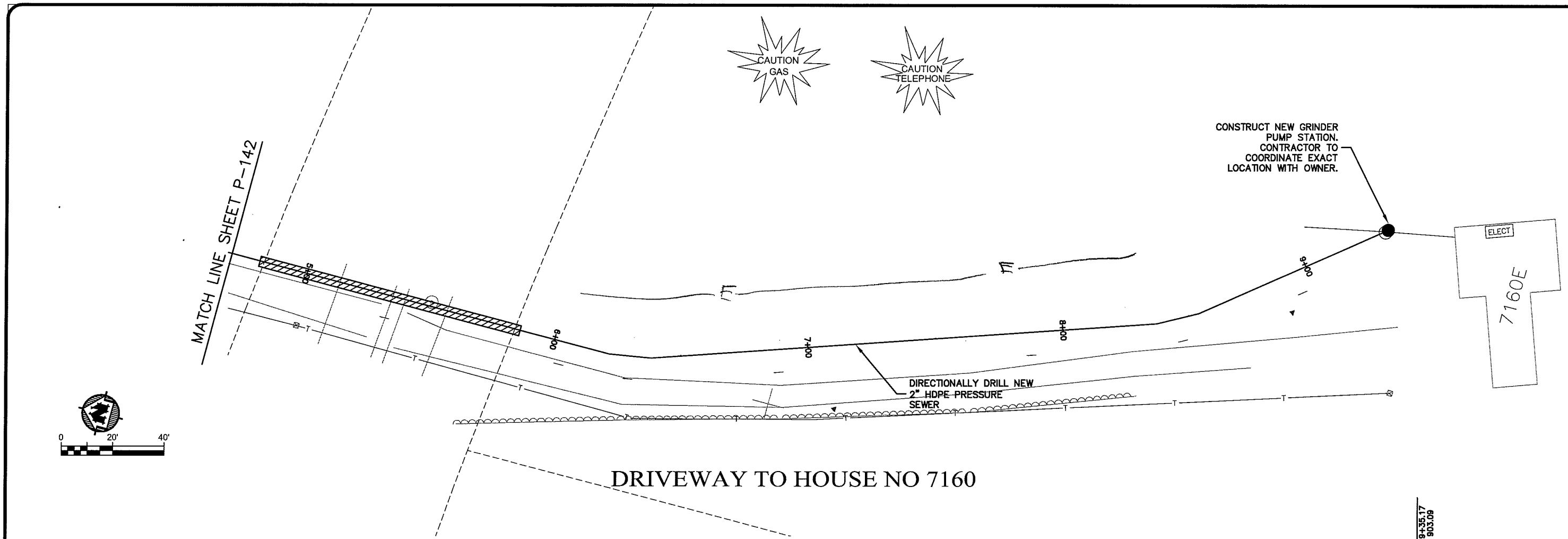


MATCH LINE SHEET P-143



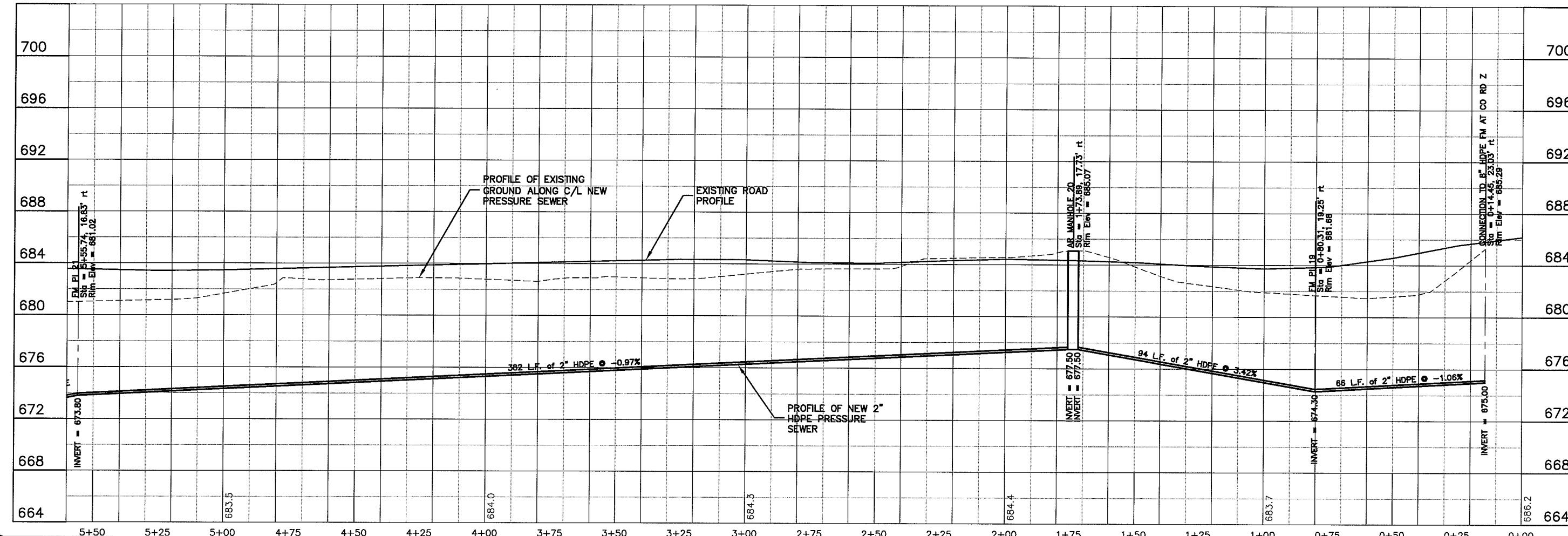
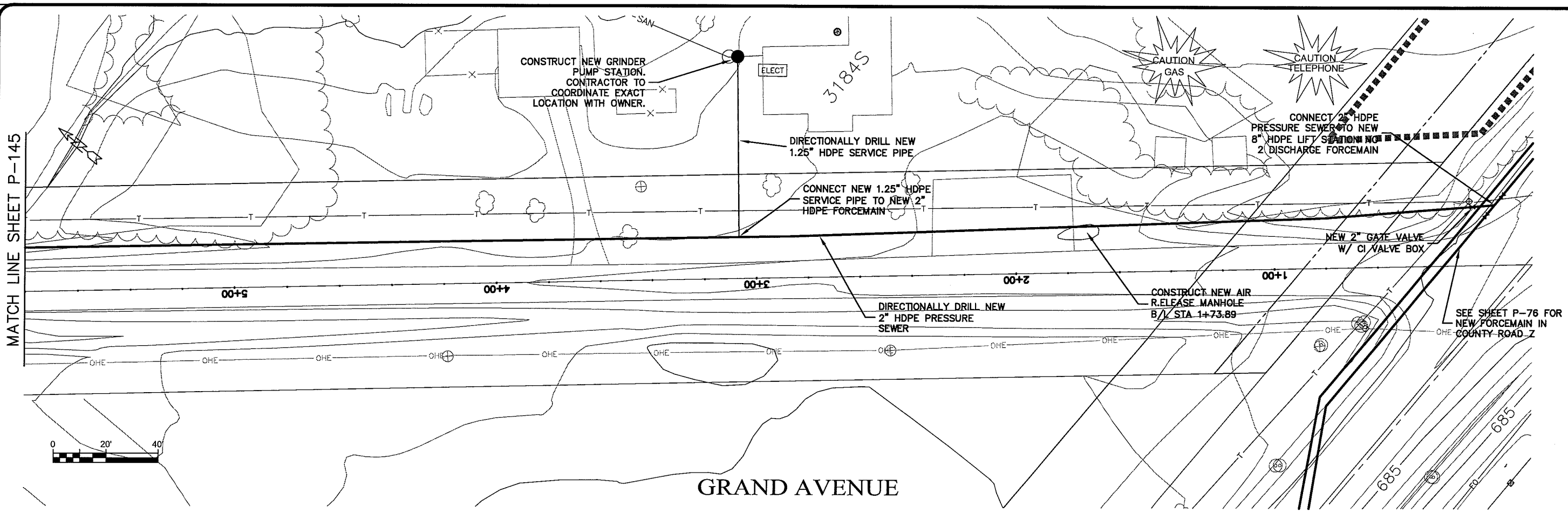
Plot Date: 20 Oct 2009 Plot Time: 10:55am  
File Path: K:\Design\SS010122.dwg

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL 301 West First Street Duluth, MN 55802 218-722-9115 1-800-777-7300 Fax: 218-722-4548 G USA PROFESSIONAL SERVICES	
<b>MSA</b> PROFESSIONAL ENGINEERS	
PROJECT NO. 626000	DATE 20 Oct 2009
SCALE AS SHOWN	DESIGNED BY: RWM
CHECKED BY: CWS	DATE
NO.	BY
SEWER PLAN-PROFILE	
PARKLAND SANITARY DISTRICT NO. 1	
WASTEWATER COLLECTION SYSTEM	
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN	
FILE NO. 626-001	SHEET P-142



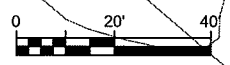
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL 301 West First Street Duluth, MN 55802 218-722-3915 1-800-777-7380 Fax: 218-722-4548	
<b>MSA</b> PROFESSIONAL SERVICES	
PROJECT NO. 626000	FILE NO. 626-001
PLOT DATE: 20 Oct 2009	SHEET P-143
SCALE: AS SHOWN	
DRAWN BY: RWM	
CHECKED BY: CWS	
DATE	
NO.	
REVISION	
SEWER PLAN-PROFILE	
PARKLAND SANITARY DISTRICT NO. 1	
WASTEWATER COLLECTION SYSTEM	
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN	

UNSAT WME Layout1



PLOT DATE: 20 Oct 2009 10:53:30am  
FILENAME: K:\Design\RCp01017.dwg

MATCH LINE SHEET P-145

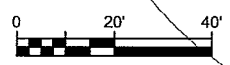
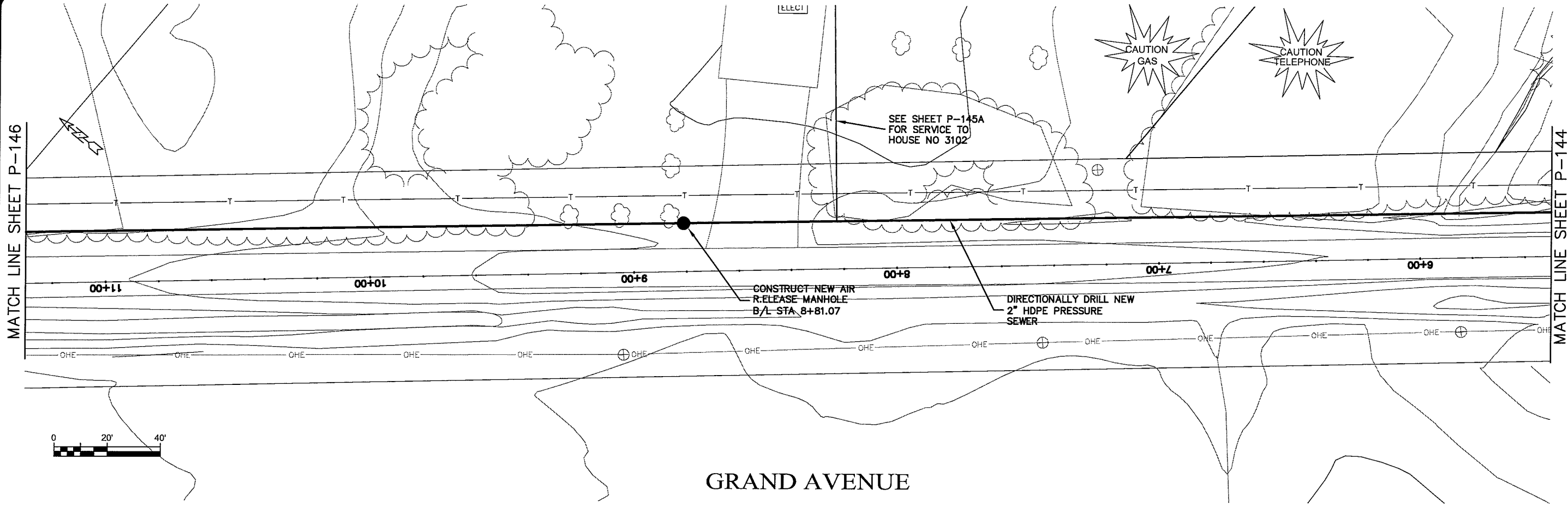


TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-3913 • 1-800-777-7380 Fax: 218-722-4448  
© 2008 PROFESSIONAL SERVICES

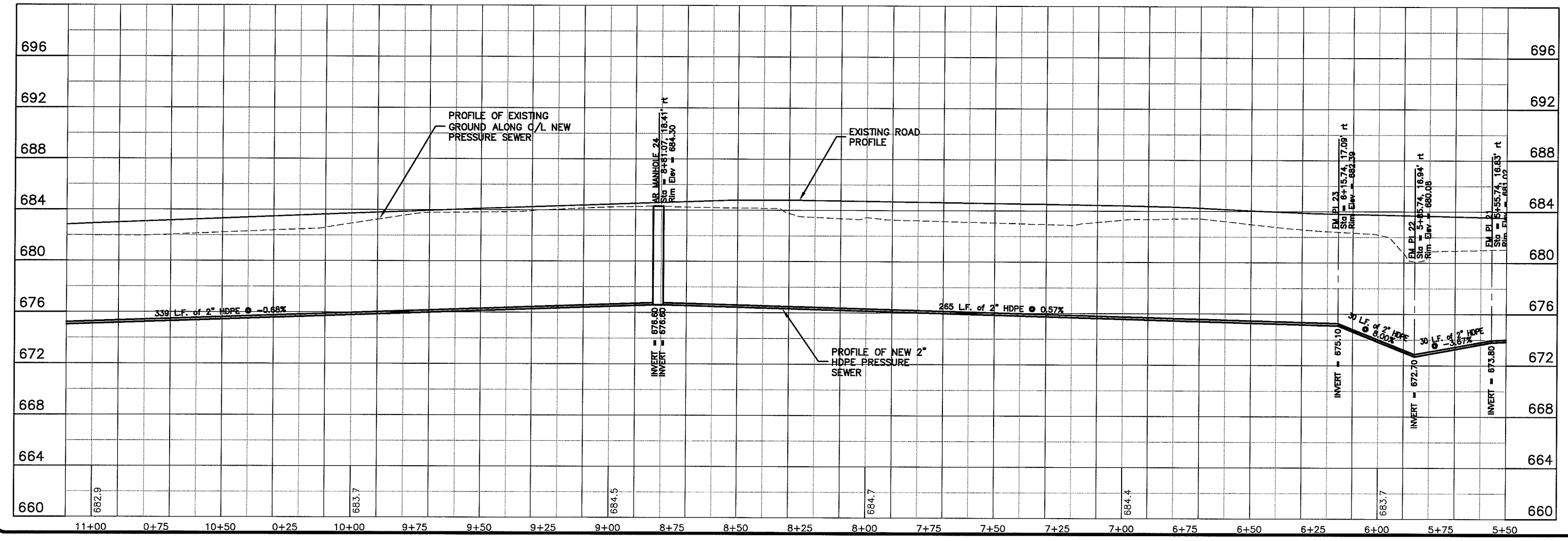


PROJECT NO:	6286000	DATE:	20 Oct 2009
SCALE:	AS SHOWN	CHECKED BY:	CWS
DRAWN BY:	RWM	DATE:	
CHECKED BY:	CWS	DATE:	
PROJECT:	SEWER PLAN - PROFILE		
PROJECT:	PARKLAND SANITARY DISTRICT NO. 1		
PROJECT:	WASTEWATER COLLECTION SYSTEM		
PROJECT:	PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN		
FILE NO:	626-001	SHEET:	P-144

WORK NAME: P-145



GRAND AVENUE



PLOT DATE: 20 Oct 2009 PLOT TIME: 3:24pm  
 FILENAME: K:\Design\RCp02017.dwg

**MSA**  
 TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548  
 PROFESSIONAL SERVICES

PROJECT NO. 626000  
 PLOT DATE: 20 Oct 2009  
 SCALE: AS SHOWN

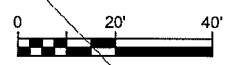
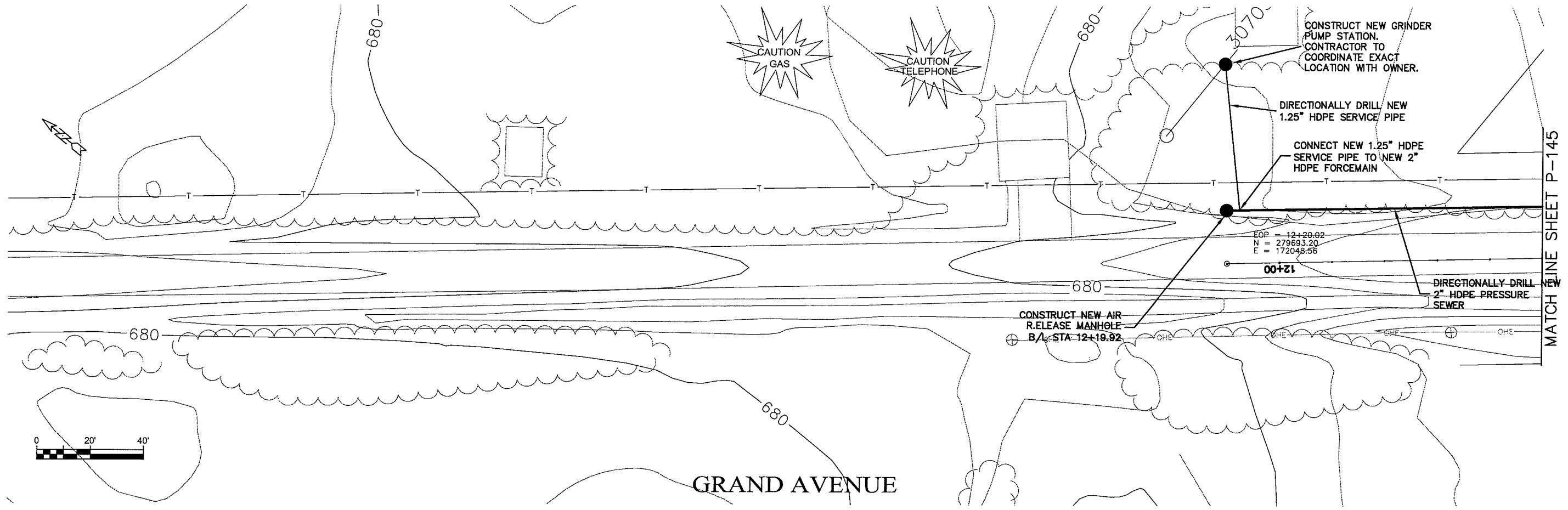
SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

NO. \_\_\_\_\_ DATE \_\_\_\_\_  
 BY \_\_\_\_\_  
 CHECKED BY: CWB  
 DRAWN BY: RWM

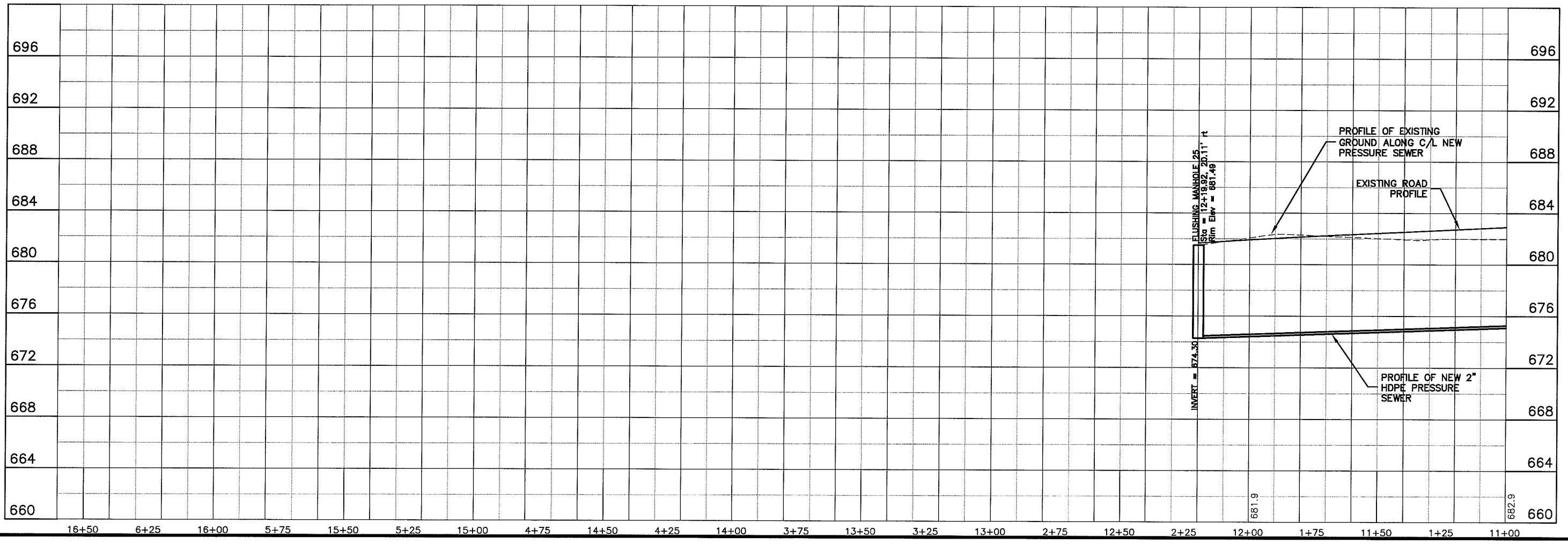
FILE NO. 626-001  
 SHEET P-145



UNSAT NAME Layout1



MATCH LINE SHEET P-145

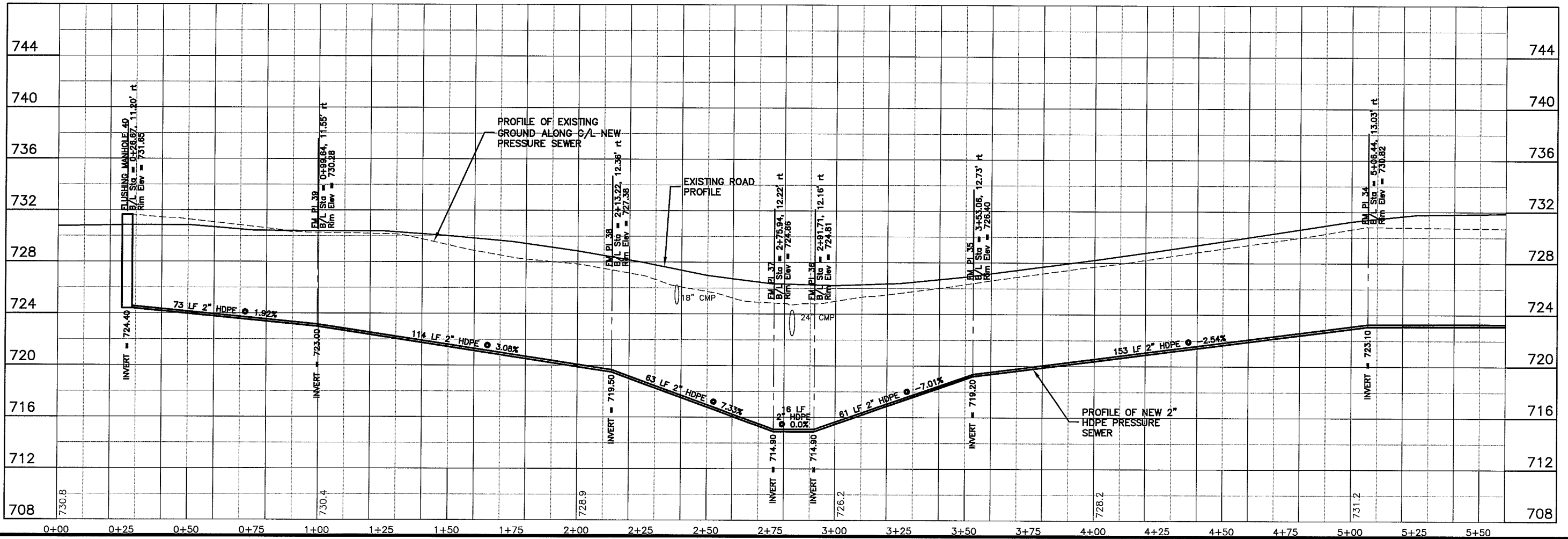
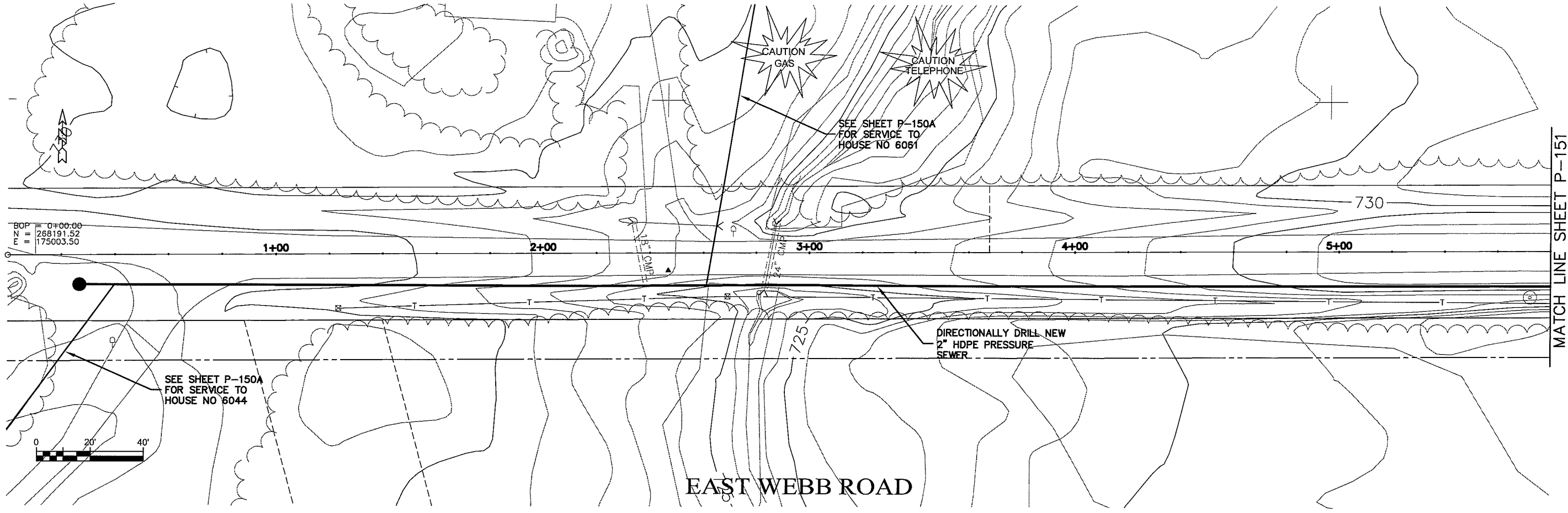


PLOT DATE: 20 Oct 2009 PLOT TIME: 3:26pm  
FILEPATH: K:\Design\RCp03017.dwg

**MSA**  
 PROFESSIONAL SERVICES  
 TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-1380 Fax: 218-722-4548  
 © MSA PROFESSIONAL SERVICES

PROJECT NO. 628000	DATE
FILE NO.	NO.
DRAWN BY: RW/M	DATE
CHECKED BY: CWS	
PROJECT DATE: 20 Oct 2009	
SCALE AS SHOWN	
SEWER PLAN-PROFILE	
<b>PARKLAND SANITARY DISTRICT NO. 1</b>	
WASTEWATER COLLECTION SYSTEM	
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN	
FILE NO. 626-001	
SHEET P-146	

UNIT: MAP P-150

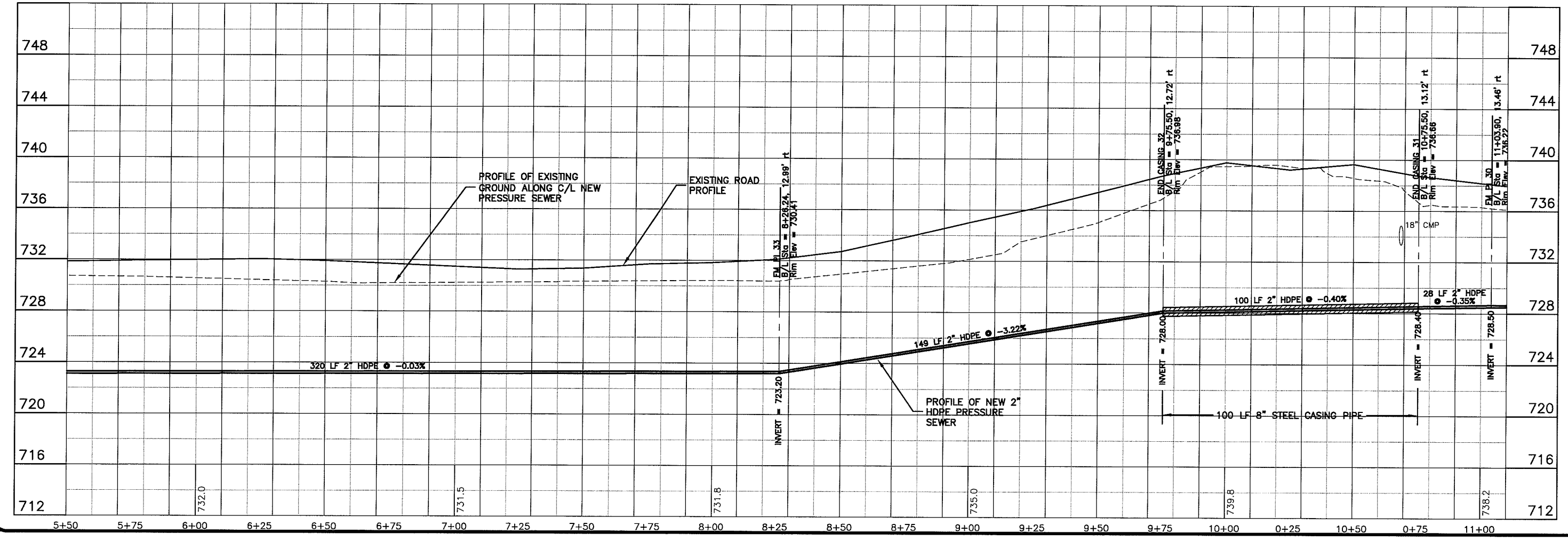
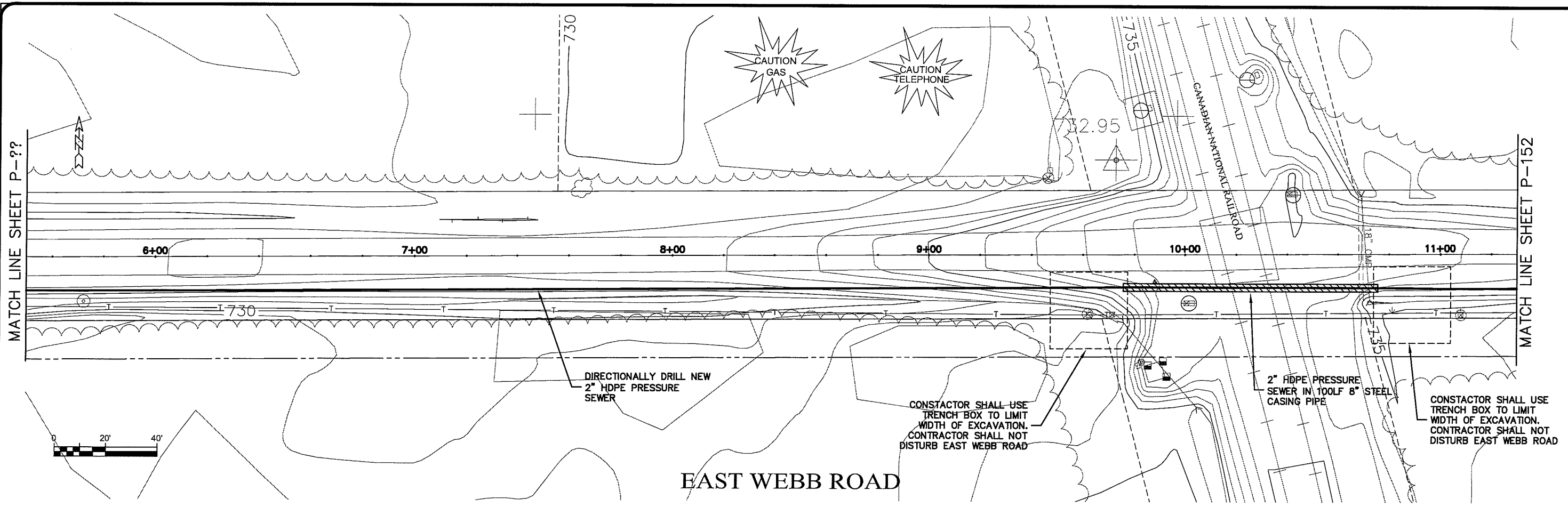


PLOT DATE: 21 Oct 2009 PLOT TIME: 2:46pm  
FILEPATH: K:\Design\RCp01022.dwg

**MSA**  
PROFESSIONAL ENGINEERS

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-9915 1-800-777-7380 Fax: 218-722-4548

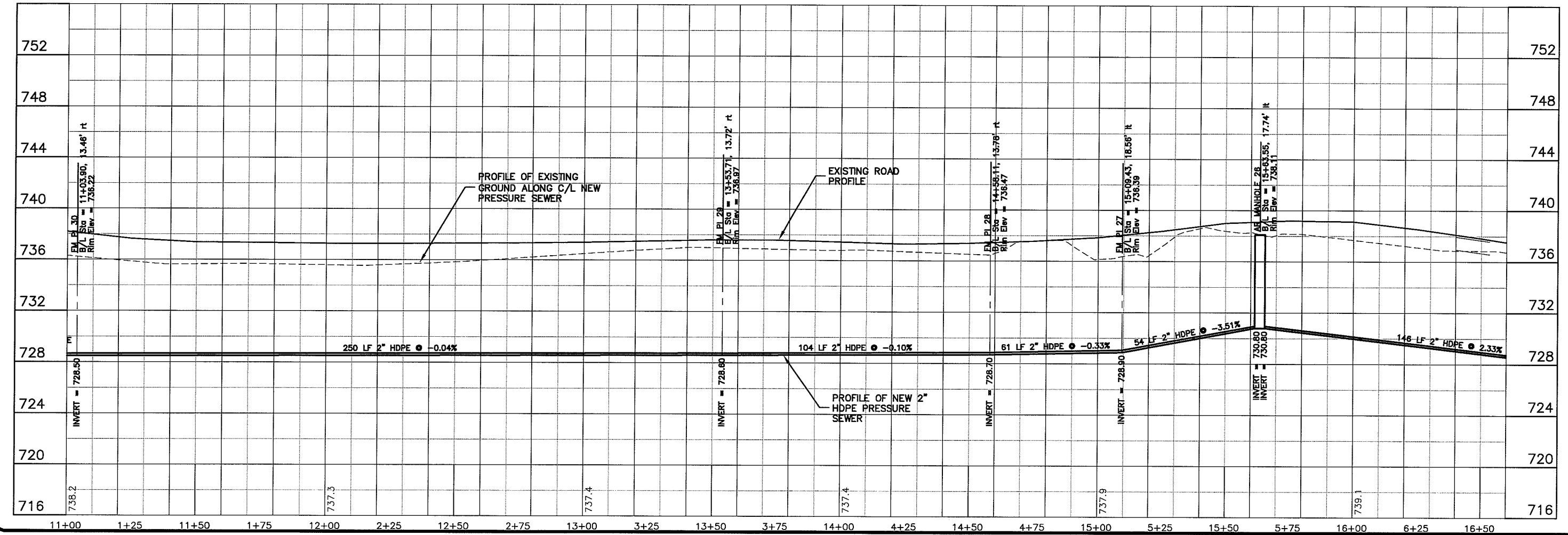
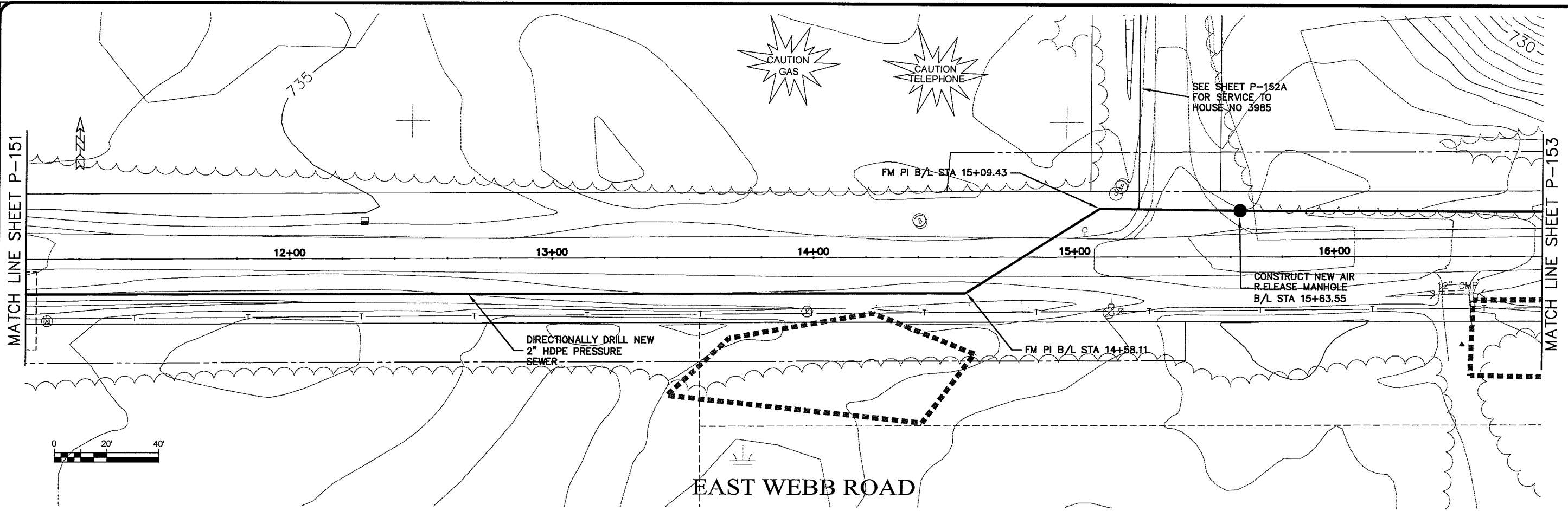
PROJECT NO.	626000
DATE	21 Oct 2009
SCALE	AS SHOWN
FILE NO.	P-150
PROJECT NAME	PARKLAND SANITARY DISTRICT NO. 1 WASTEWATER COLLECTION SYSTEM
LOCATION	PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN
DESIGNED BY	CWS
CHECKED BY	RWM
DATE	
NO.	
BY	



**MSA**  
PROFESSIONAL SERVICES

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
301 West First Street Duluth, MN 55802  
218-722-3915 1-800-777-7390 Fax: 218-722-4548  
© MSA PROFESSIONAL SERVICES

UNIT NAME: P-152



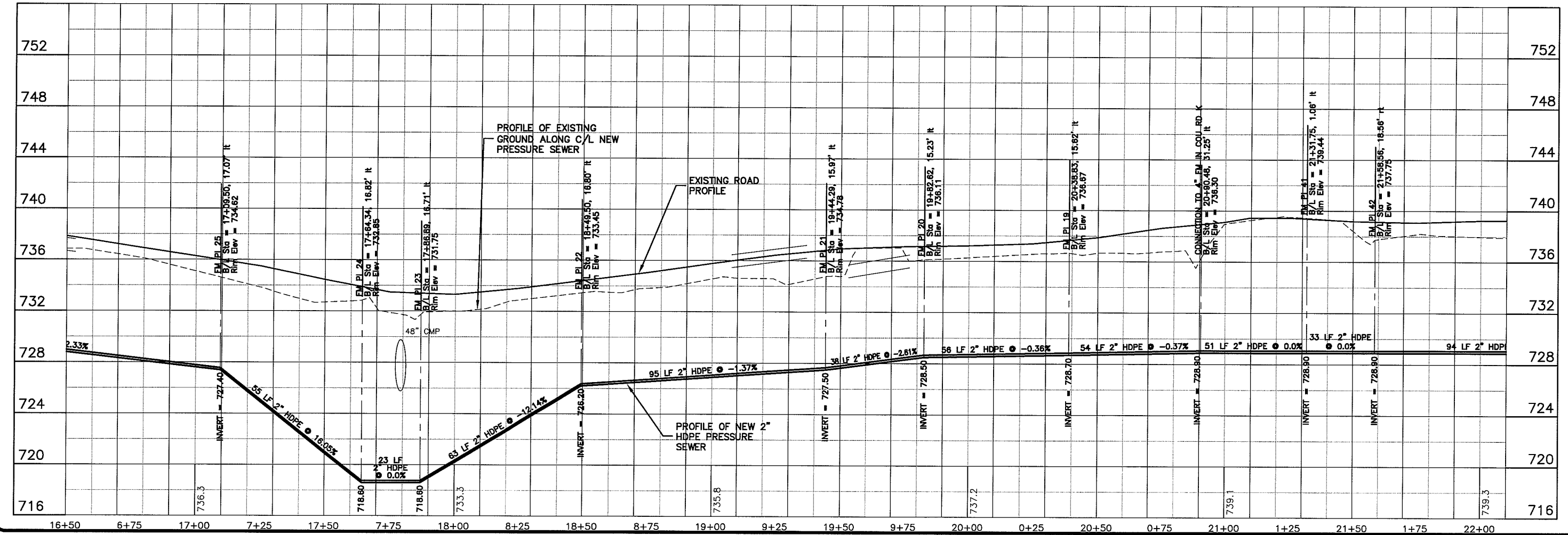
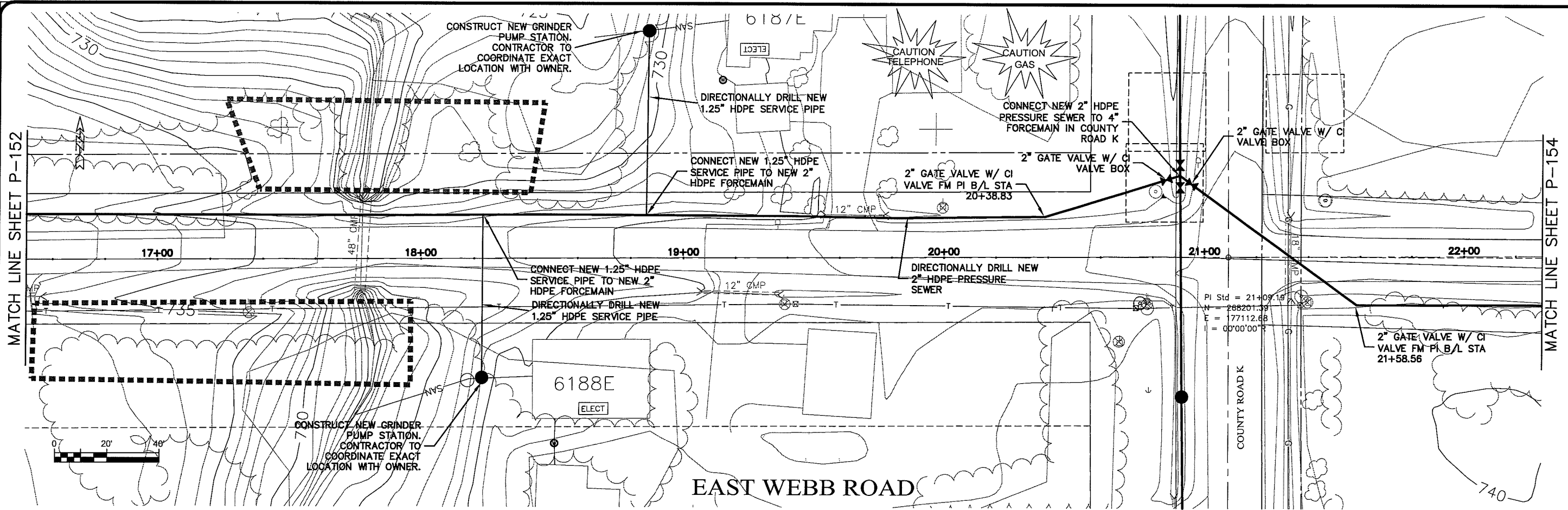
Plot Date: 21 Oct 2009 Plot Time: 3:14pm  
 File Path: K:\Design\RCp03022.dwg

**MSA**  
 TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-2380 Fax: 218-722-4548  
 © MSA PROFESSIONAL SERVICES

PROJECT NO. 626000  
 SHEET P-152  
 DATE: 21 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 SCALE: AS SHOWN

SEWER PLAN-PROFILE  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

UNBID NAME: P-153

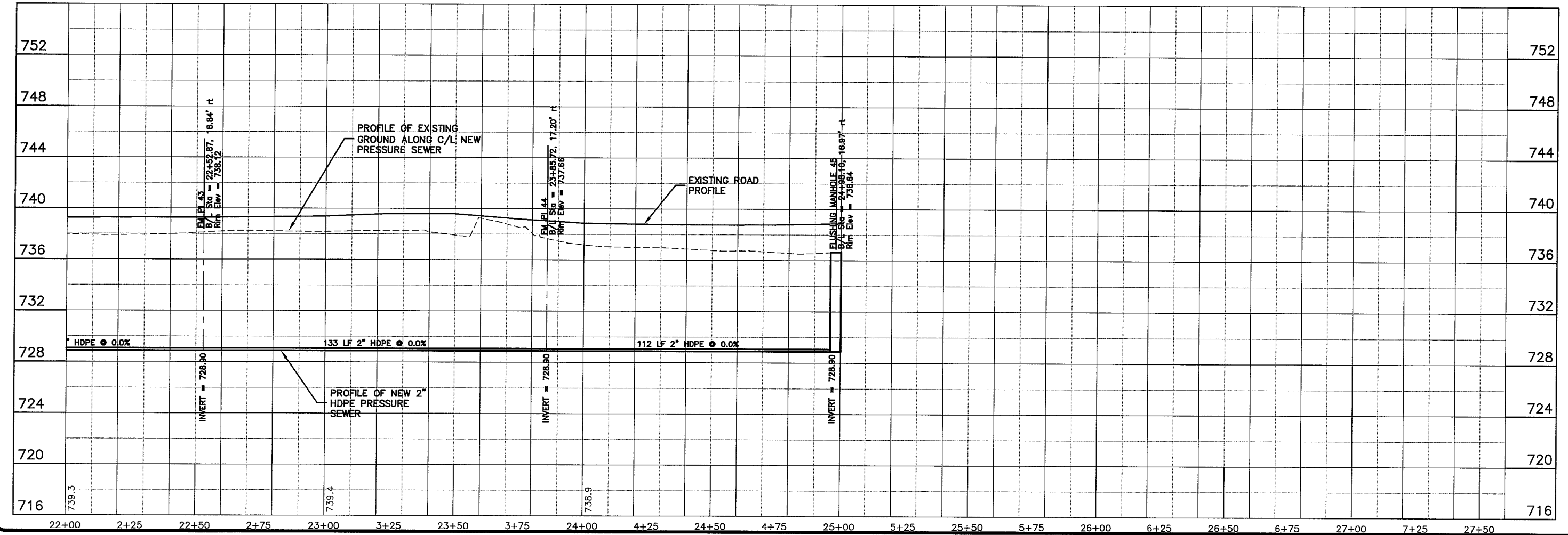
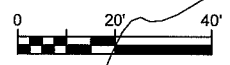
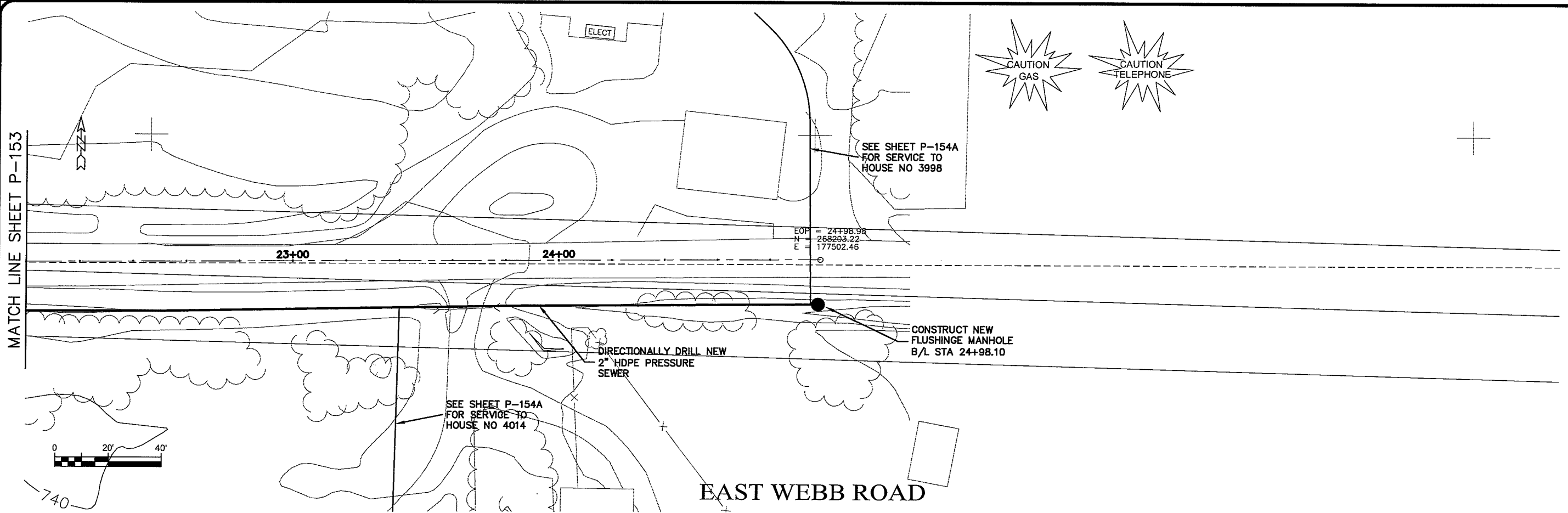


PLT DATE: 21 Oct 2009 10:25:25pm  
 FILENAME: K:\Design\RCp04022.dwg

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

---

PROJECT NO: 626000  
 SHEET: P-153



**MSA**  
 PROFESSIONAL SERVICES

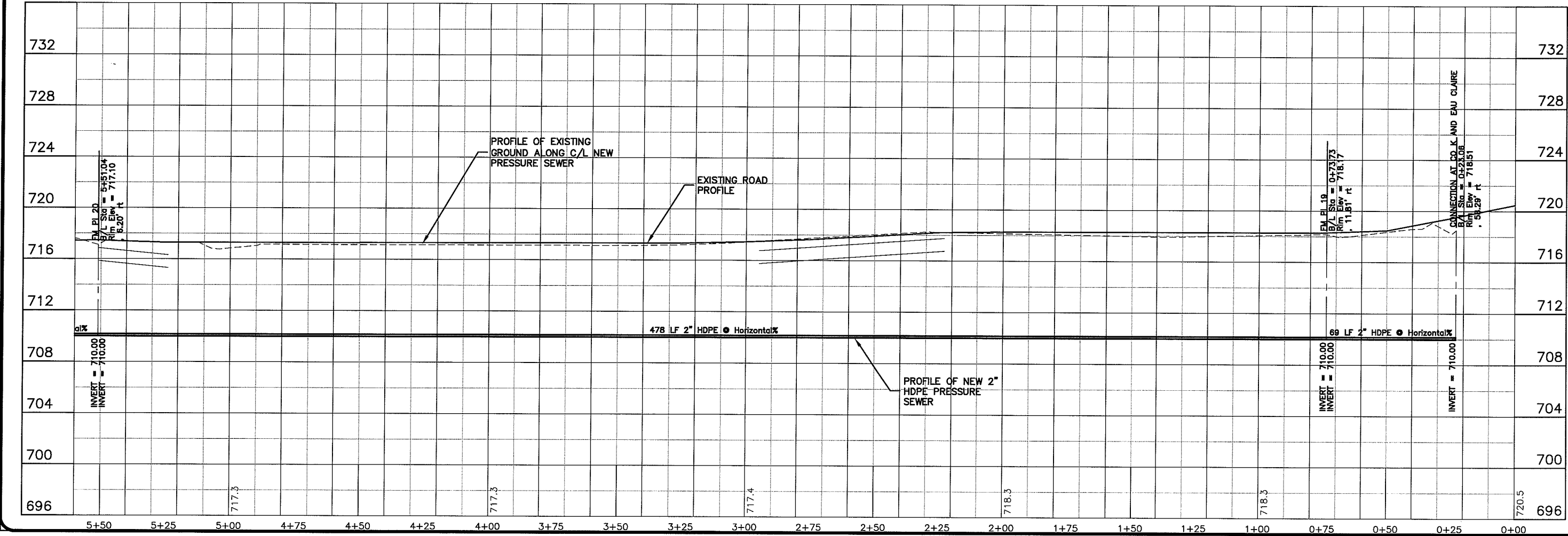
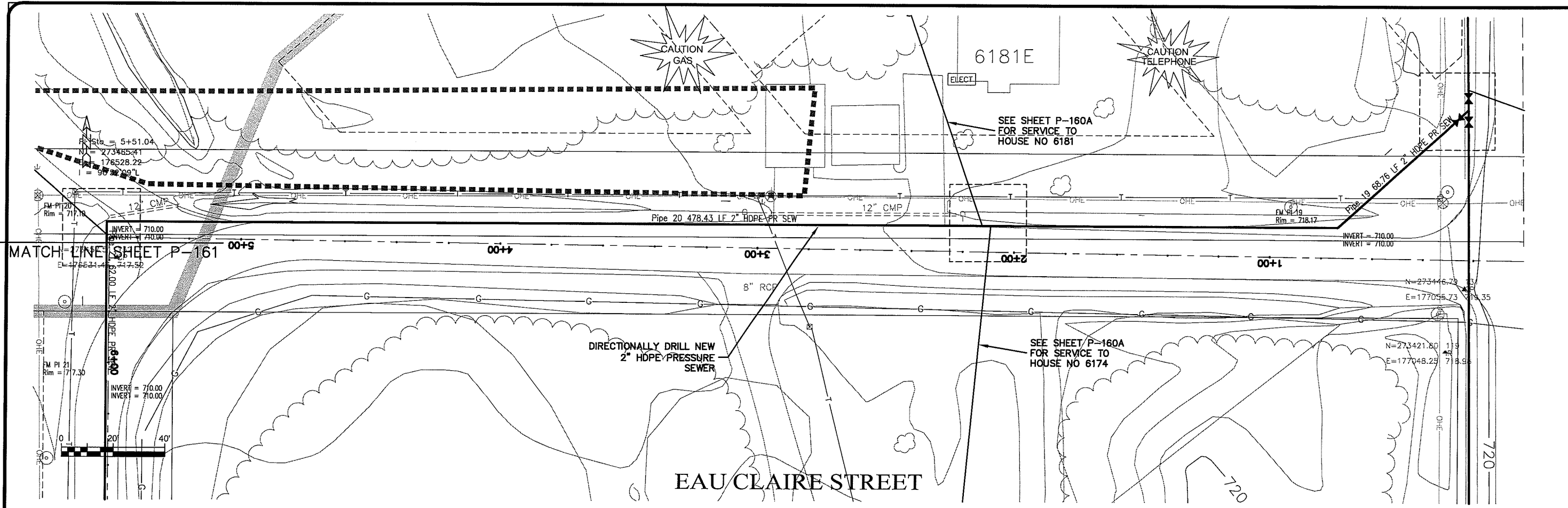
TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548  
 © MSA PROFESSIONAL SERVICES

PROJECT NO. 628000	DATE
FILE NO.	NO.
DRAWN BY: RWM	DATE
CHECKED BY: CWS	NO.
PROJECT DATE: 21 Oct 2009	DATE
SCALE: AS SHOWN	NO.

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
 SHEET P-154

UNITS: INCHES P-160

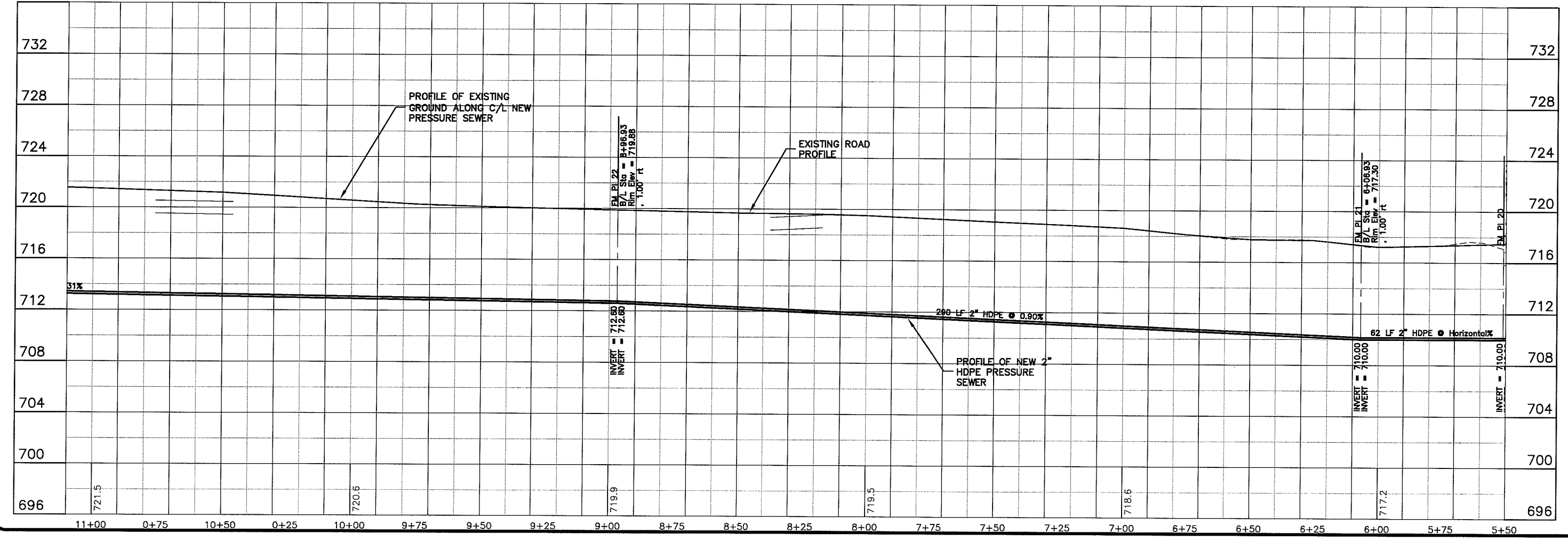
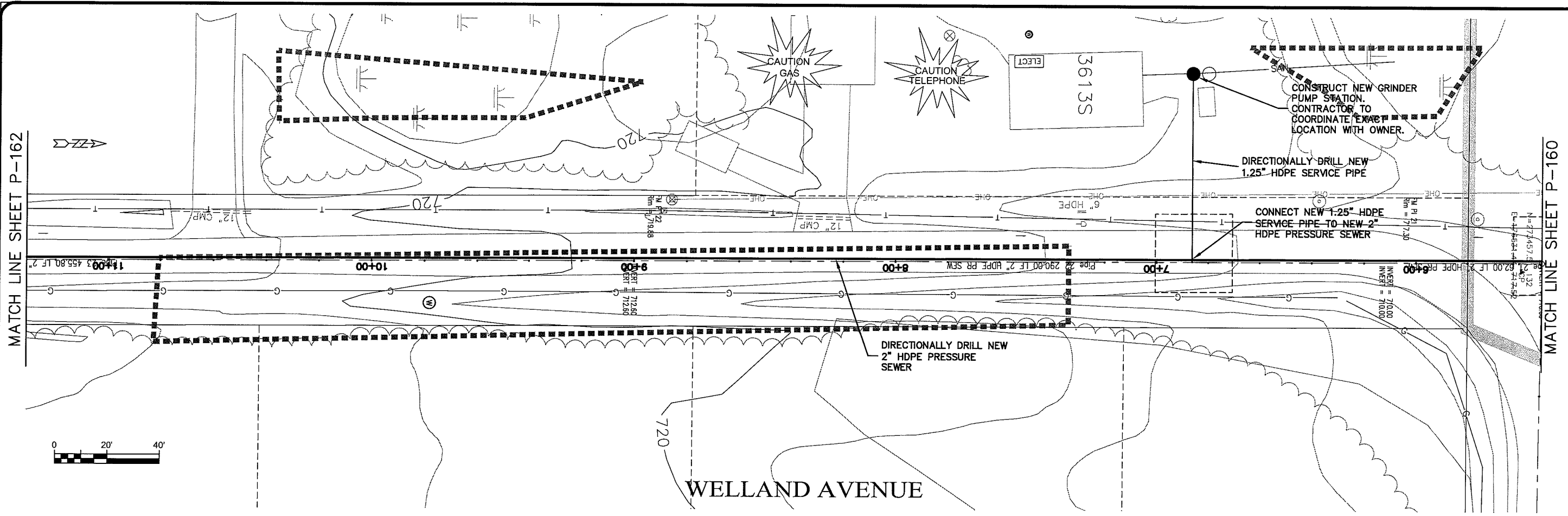


PLOT DATE: 13 Oct 2009 PLOT TIME: 4:02:02 PM  
 FILENAME: K:\Design\RCp01019.dwg

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3913 Fax: 218-722-4448  
**MSA**  
 PROFESSIONAL SERVICES

NO.	DATE	BY	REVISION
PROJECT NO. 626000	PROJECT DATE: 13 Oct 2009	DESIGNER: RWM	CHECKED BY: CWS
<b>SEWER PLAN - PROFILE</b> <b>PARKLAND SANITARY DISTRICT NO. 1</b> WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN			
FILE NO. 626-001	SHEET P-160		

LAUNCH NAME: P-161



PLOT DATE: 13 Oct 2009 PLOT TIME: 2:40pm  
 FILEPATH: K:\Design\RCp02019.dwg

**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548

**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO: 626000  
 PROJECT DATE: 13 Oct 2009  
 SCALE: AS SHOWN

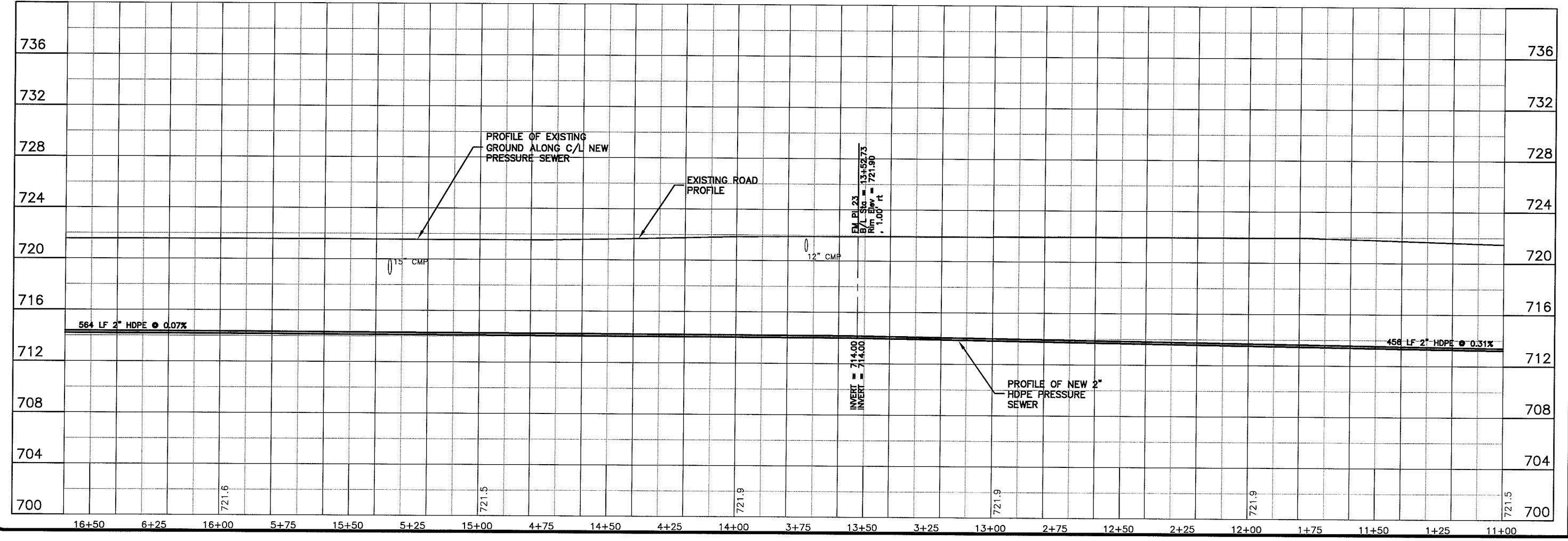
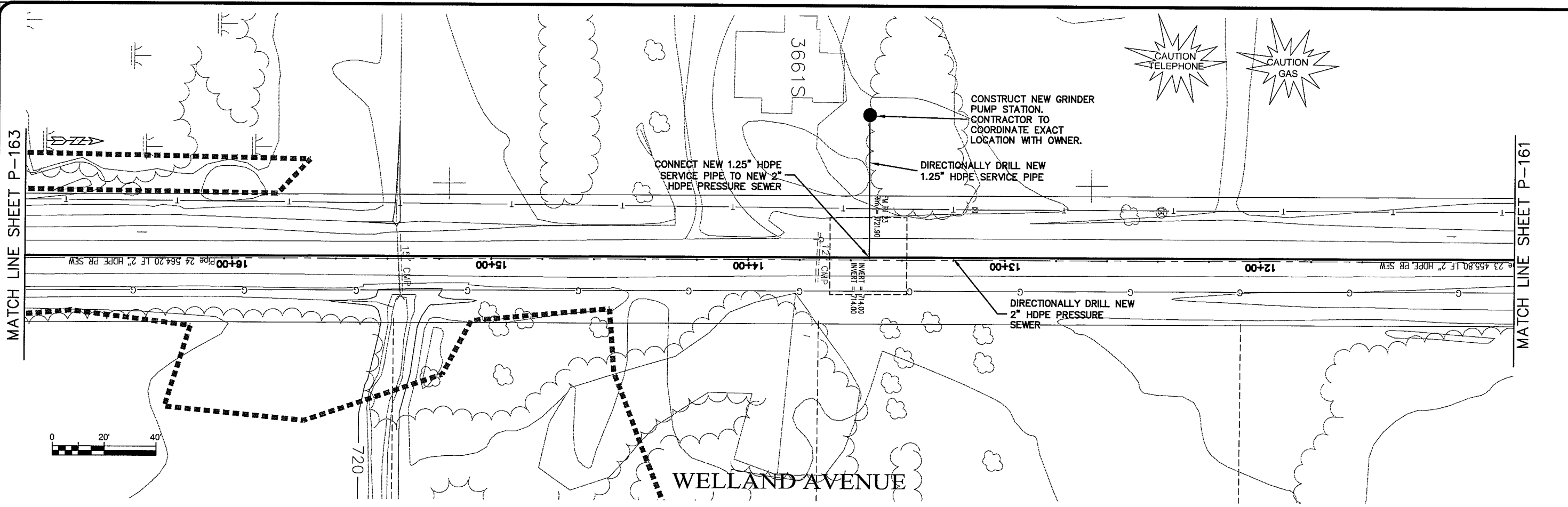
SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

NO. DATE  
 BY  
 DRAWN BY: RWM  
 CHECKED BY: CWS

FILE NO: 626-001  
 SHEET: P-161



UNOFF. NAME: P-162



Plot Date: 14 Oct 2009 Plot Time: 6:06:07m  
 File Path: K:\Design\RCp03019.dwg

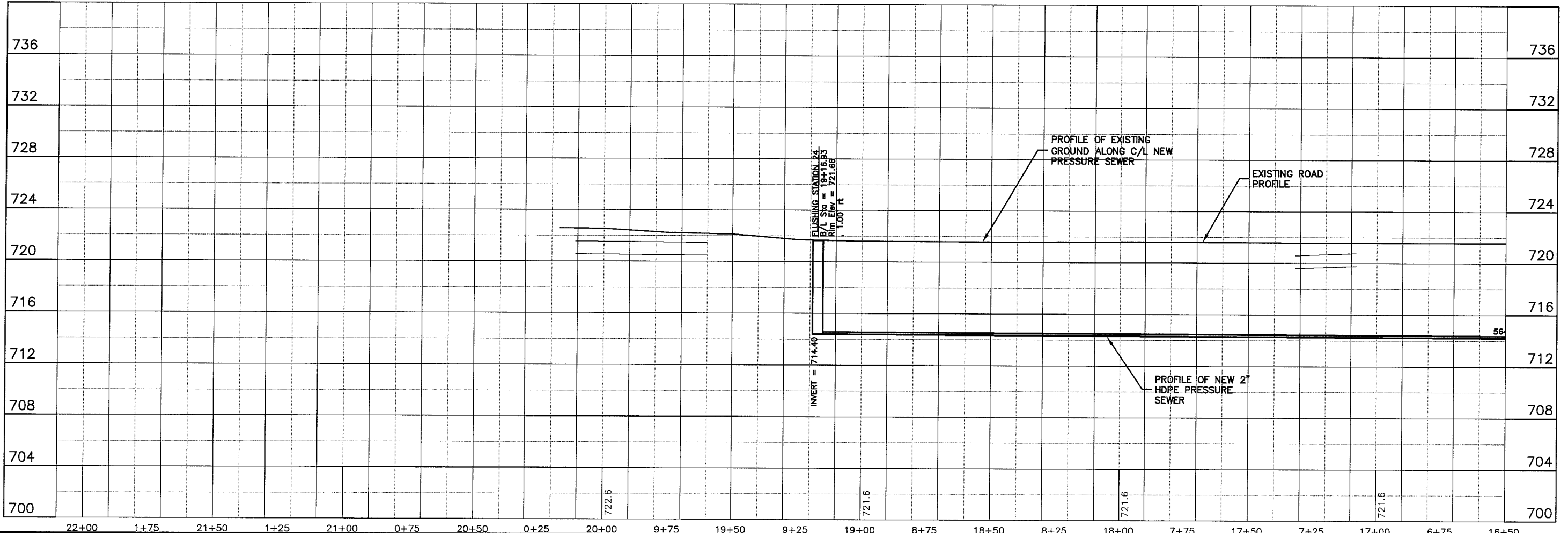
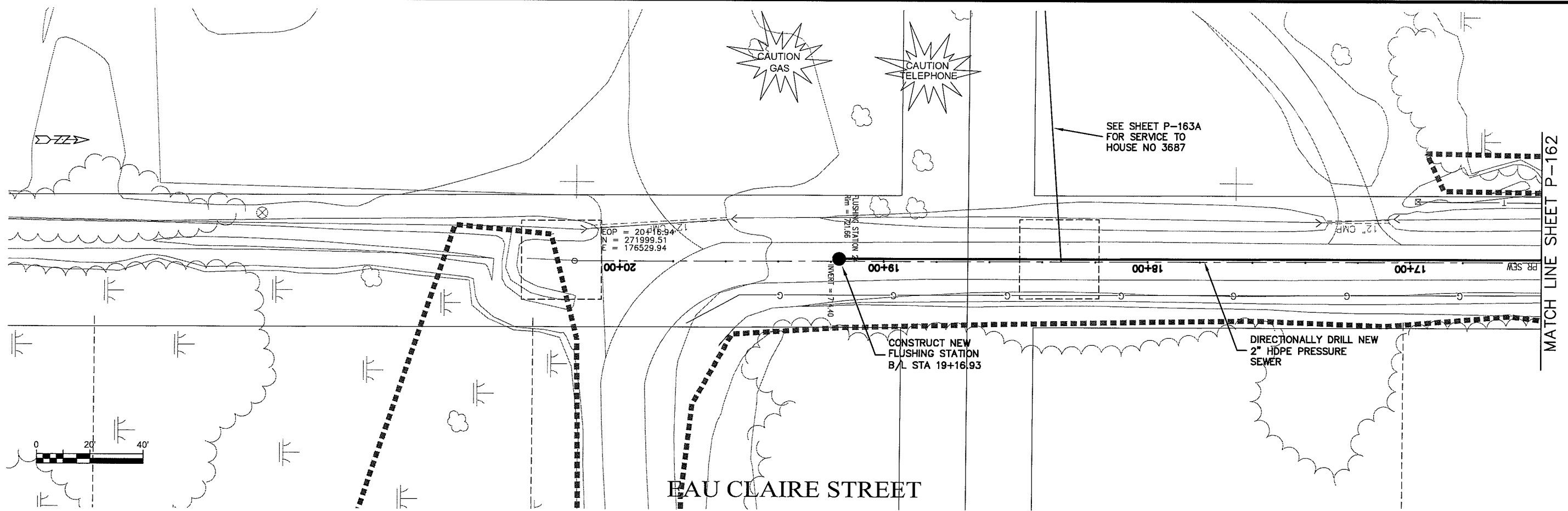
**MSA**  
 PROFESSIONAL SERVICES

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-9115 1-800-777-7380 Fax: 218-722-4548  
 © MSA PROFESSIONAL SERVICES

PROJECT NO. 626000	DATE 14 Oct 2009
SCALE AS SHOWN	CHECKED BY: CWS
DRAWN BY: RWM	

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
 SHEET P-162



**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street Duluth, MN 55802  
 218-722-9915 1-800-777-7380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

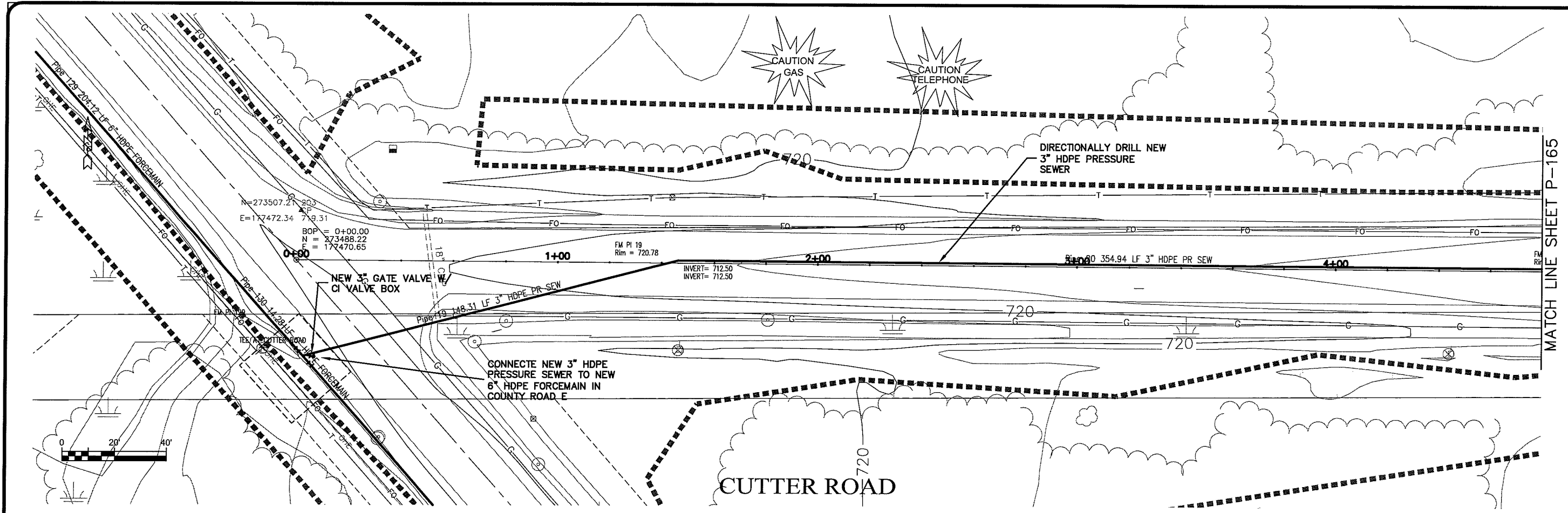
PROJECT NO: 626000  
 PLAN DATE: 14 Oct 2009  
 SCALE: AS SHOWN

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

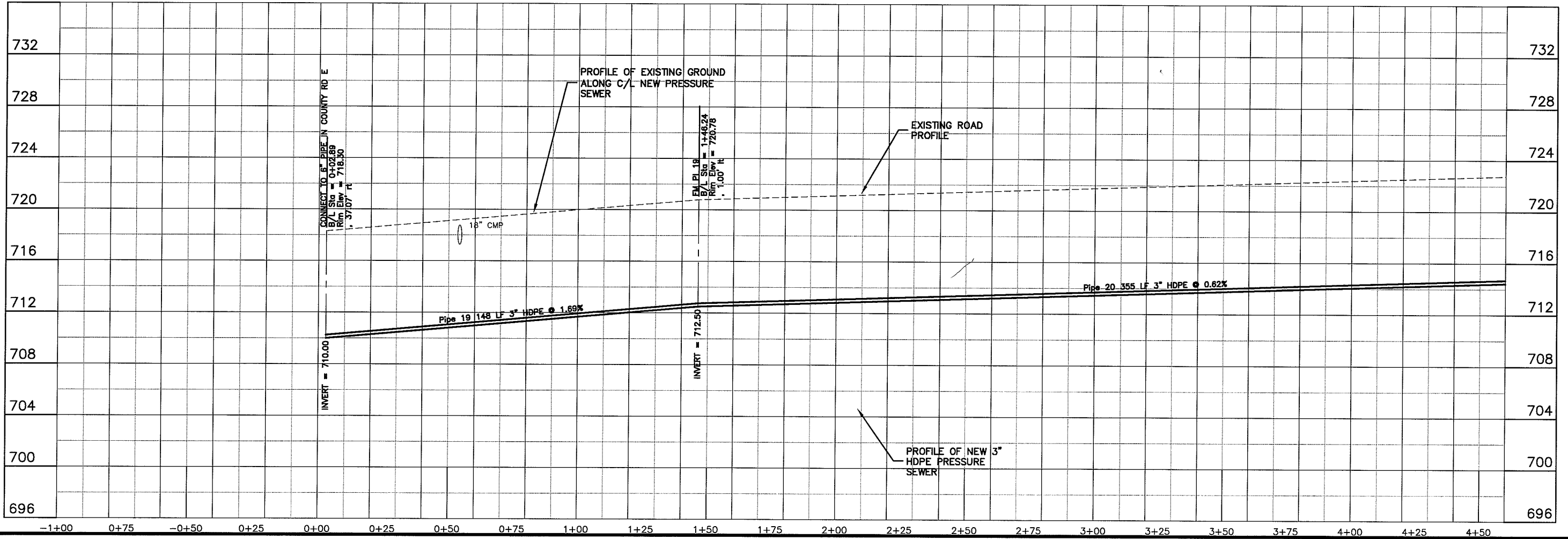
FILE NO: 626-001  
 SHEET: P-163

BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 REVISION: \_\_\_\_\_  
 DRAWN BY: RWM  
 CHECKED BY: CWS

UNNOT NAME Layout1



MATCH LINE SHEET P-165



Plot Date: 14 Oct 2009 Plot Time: 1:56pm  
 File Path: K:\Design\RCp01027.dwg

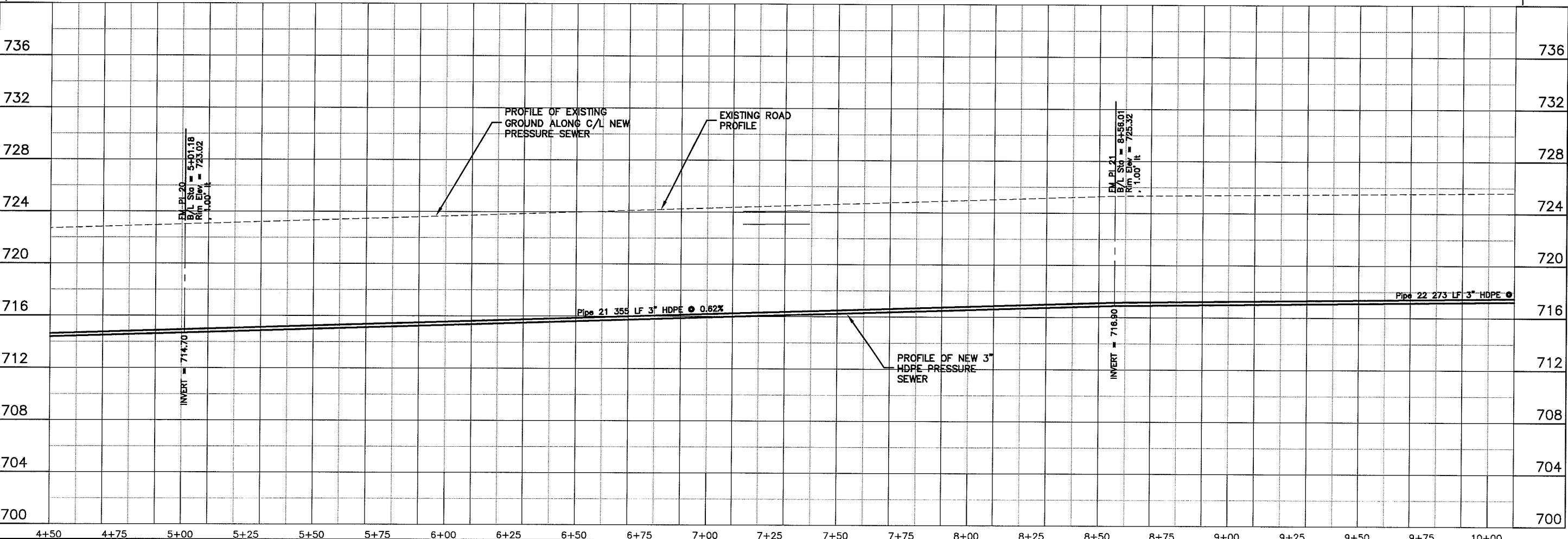
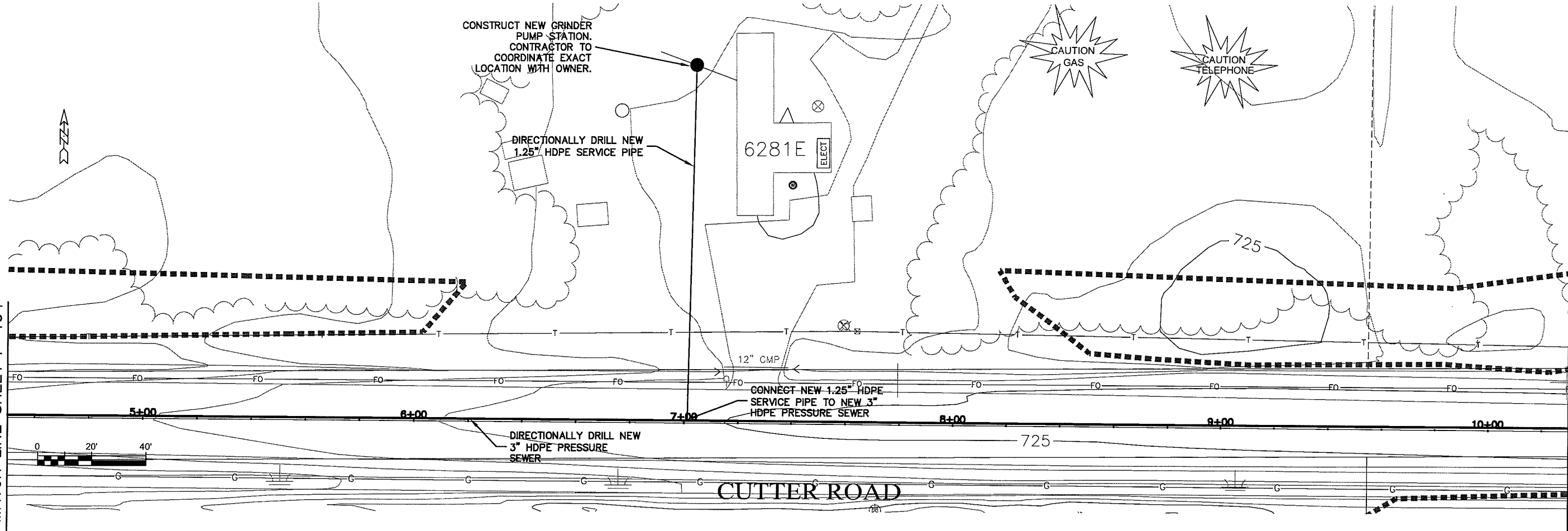
TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-9113 1-800-777-7380 Fax: 218-722-4448  
 © USA PROFESSIONAL SERVICES



PROJECT NO. 626000	DATE 14 Oct 2009	SCALE AS SHOWN
FILE NO. 626-001	DRAWN BY: RWM	CHECKED BY: CWS
SEWER PLAN-PROFILE		
PARKLAND SANITARY DISTRICT NO. 1		
WASTEWATER COLLECTION SYSTEM		
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN		
SHEET P-164		

MATCH LINE SHEET P-164

MATCH LINE SHEET P-166



**MSA**  
 PROFESSIONAL SERVICES

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548  
 © MSA PROFESSIONAL SERVICES

PROJECT NO: 626000  
 FILE: PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

DATE: 14 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CMS

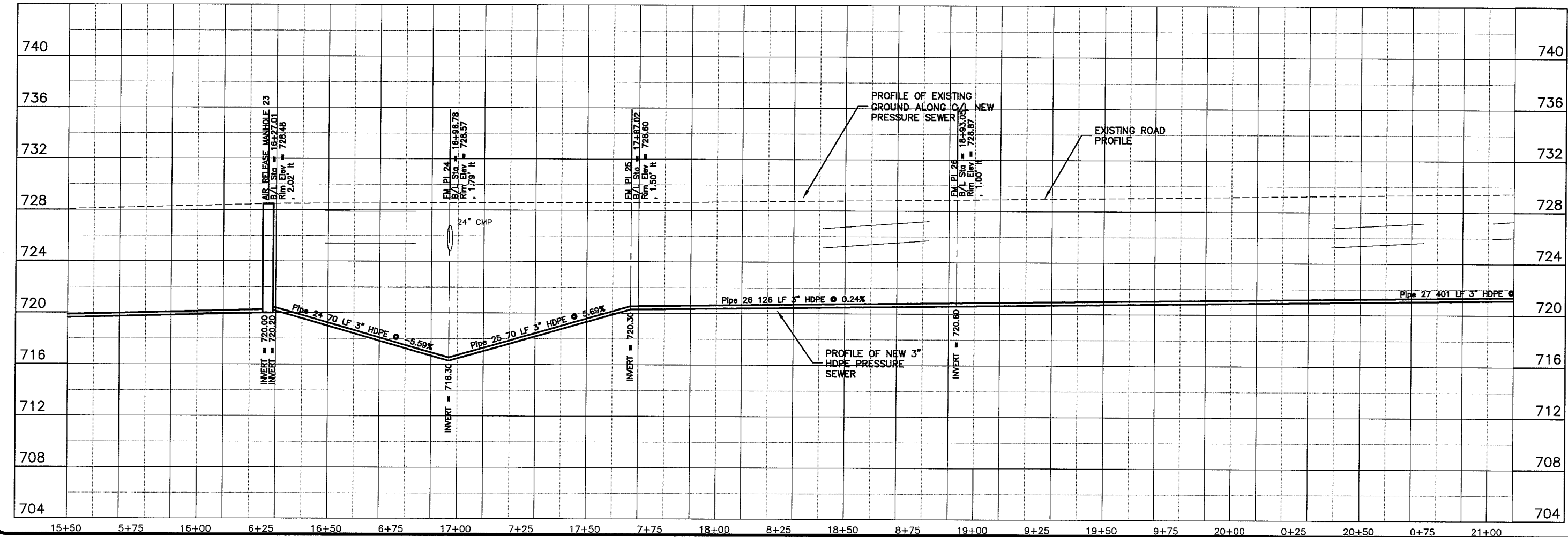
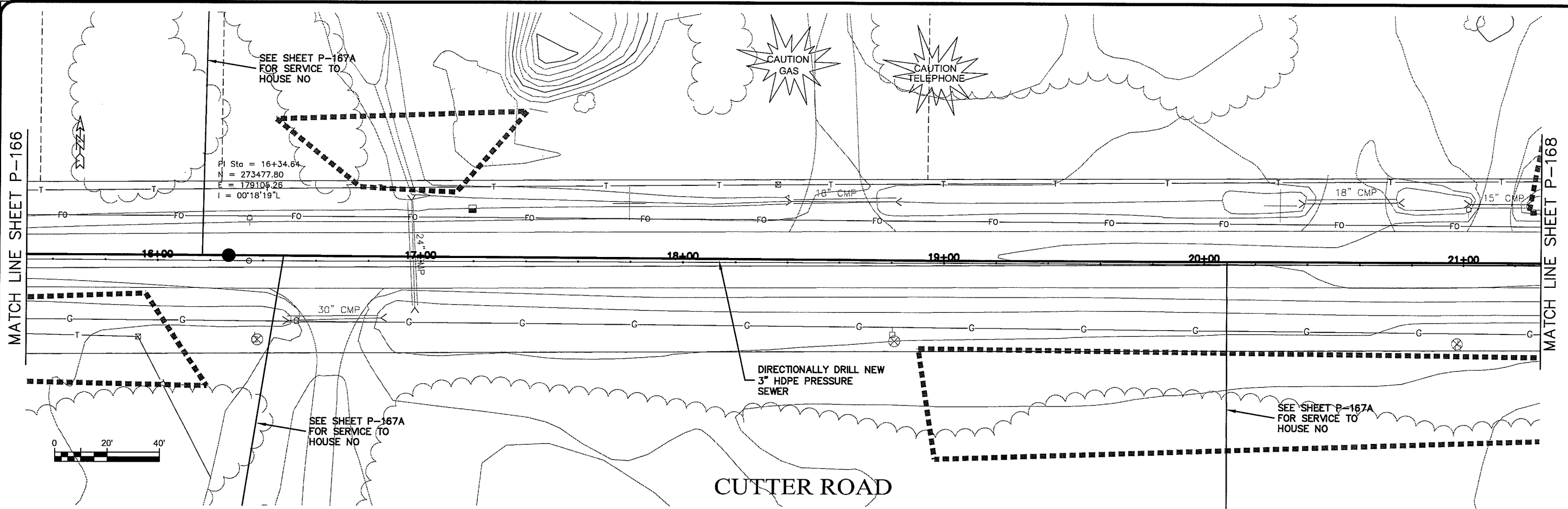
SCALE: AS SHOWN

SEWER PLAN-PROFILE

626-001  
 SHEET P-165



EXPORT NAME: P-167



PLOT DATE: 14 Oct 2009 PLOT TIME: 3:32pm  
FILEPATH: K:\Design\RCp04027.dwg

TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
300 West First Street, Duluth, MN 55802  
218-722-9115 1-800-777-7390 Fax: 218-722-4448

**MSA**  
PROFESSIONAL SERVICES

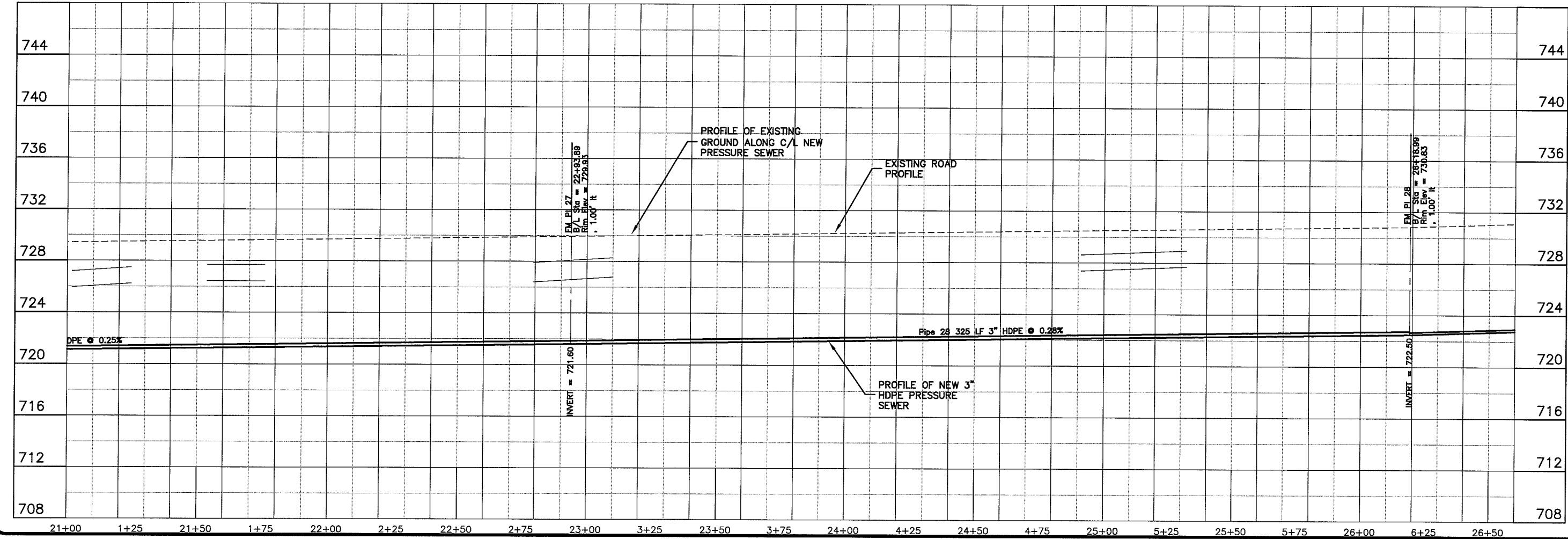
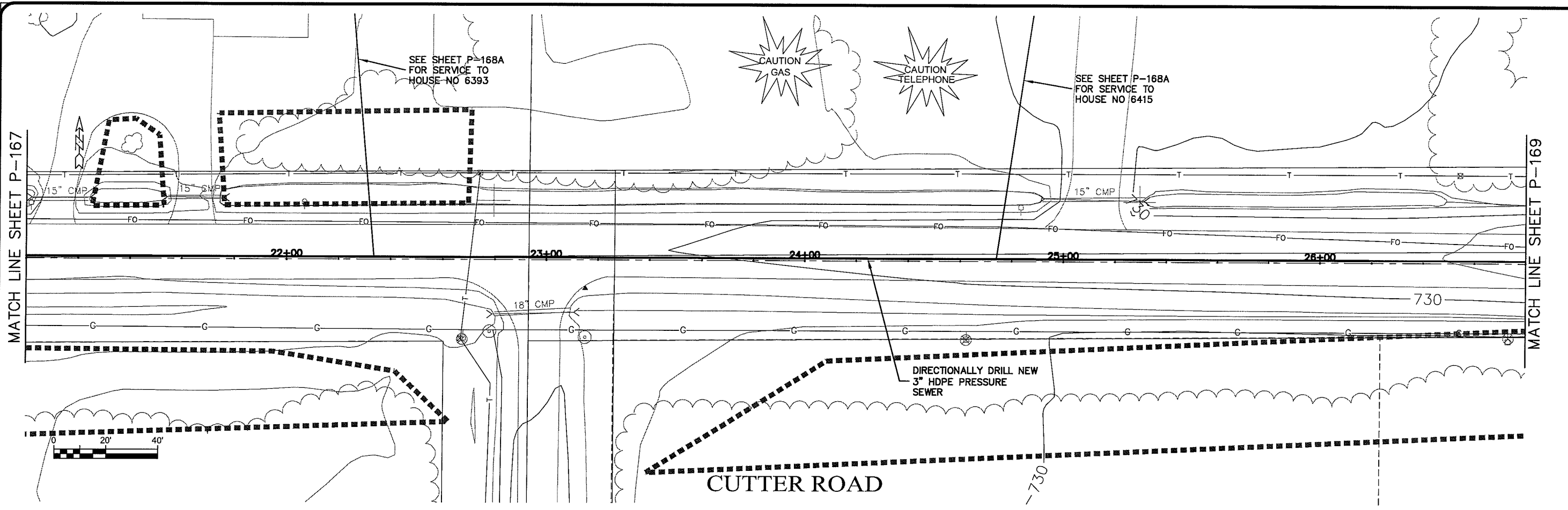
PROJECT NO: 626000  
PLOT DATE: 14 Oct 2009  
SCALE: AS SHOWN

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO: 626-001  
SHEET: P-167

DATE: 14 Oct 2009 10:46:46 AM

FILEPATH: K:\Design\RCp05027.dwg



TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 300 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4488  
**MSA**  
 PROFESSIONAL SERVICES

---

PROJECT NO. 626000  
 PLAN DATE 14 Oct 2009  
 SCALE AS SHOWN

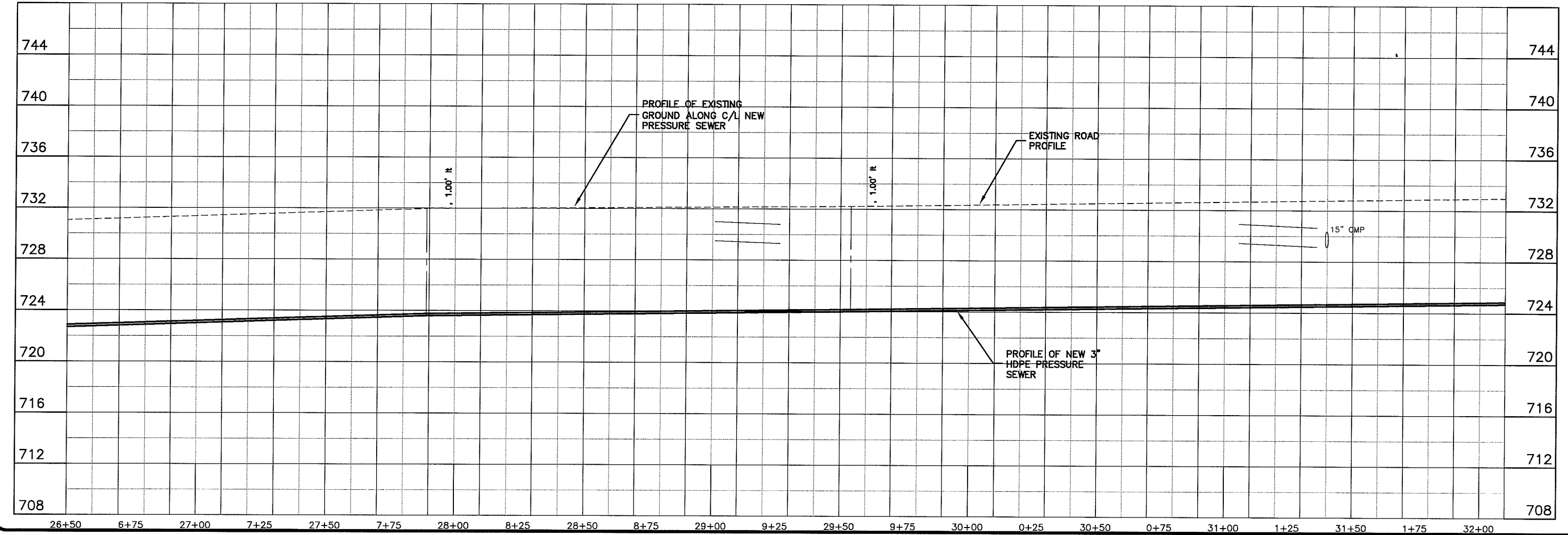
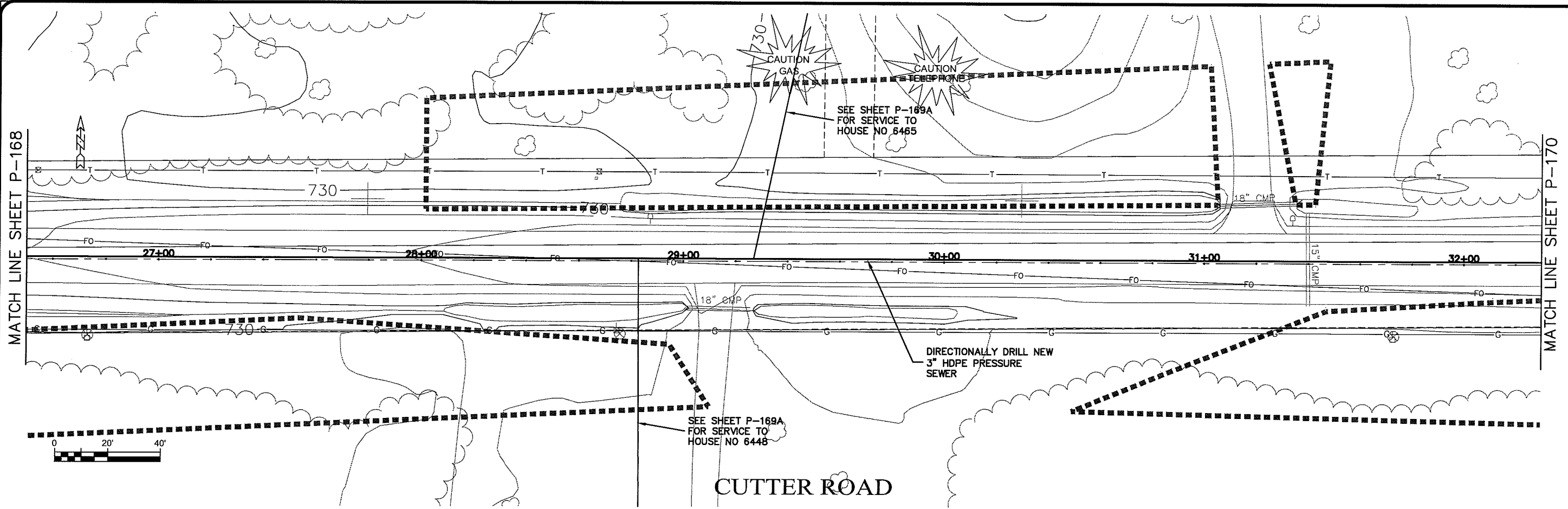
---

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

---

FILE NO. 626-001  
 SHEET P-168

EXPORT NAME: P-169



PLOT DATE: 14 Oct 2009 PLOT TIME: 4:04pm  
 FILENAME: K:\Design\RCp06027.dwg

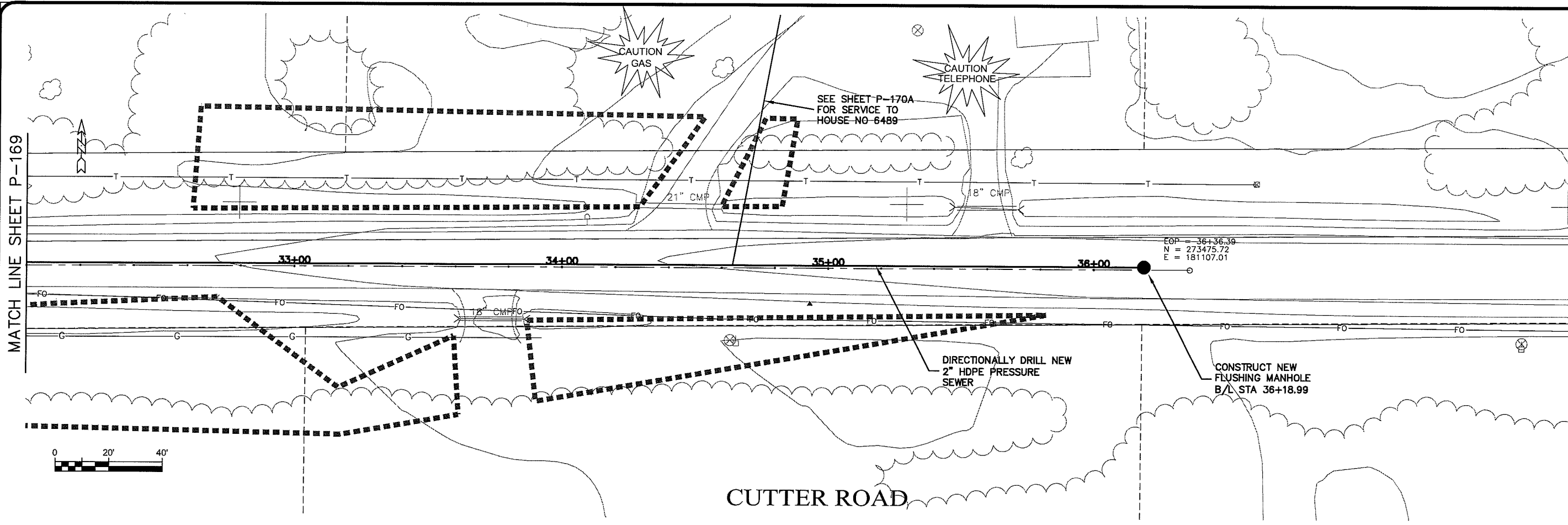
TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548  
 MSA PROFESSIONAL SERVICES



PROJECT NO. 628000	DATE
PLOT DATE 14 Oct 2009	NO.
SCALE AS SHOWN	REVISION
DRAWN BY: RWM	CHECKED BY: CWS
SEWER PLAN-PROFILE	
PARKLAND SANITARY DISTRICT NO. 1	
WASTEWATER COLLECTION SYSTEM	
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN	
FILE NO. 626-001	
SHEET P-169	

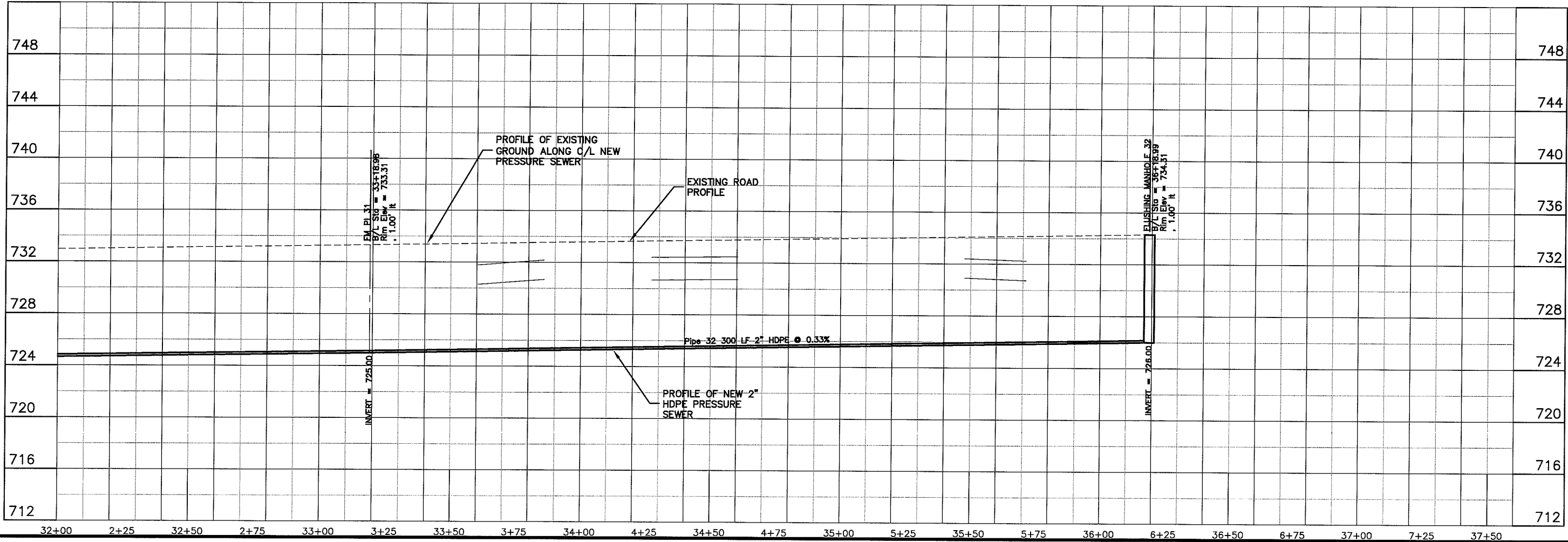


LAYOUT NAME: P-170



EOP = 36+36.39  
 N = 273475.72  
 E = 181107.01

CUTTER ROAD



PLT DATE: 15 Oct 2009 PLT TIME: 6:52am  
 FILEPATH: K:\Design\RCp07027.dwg

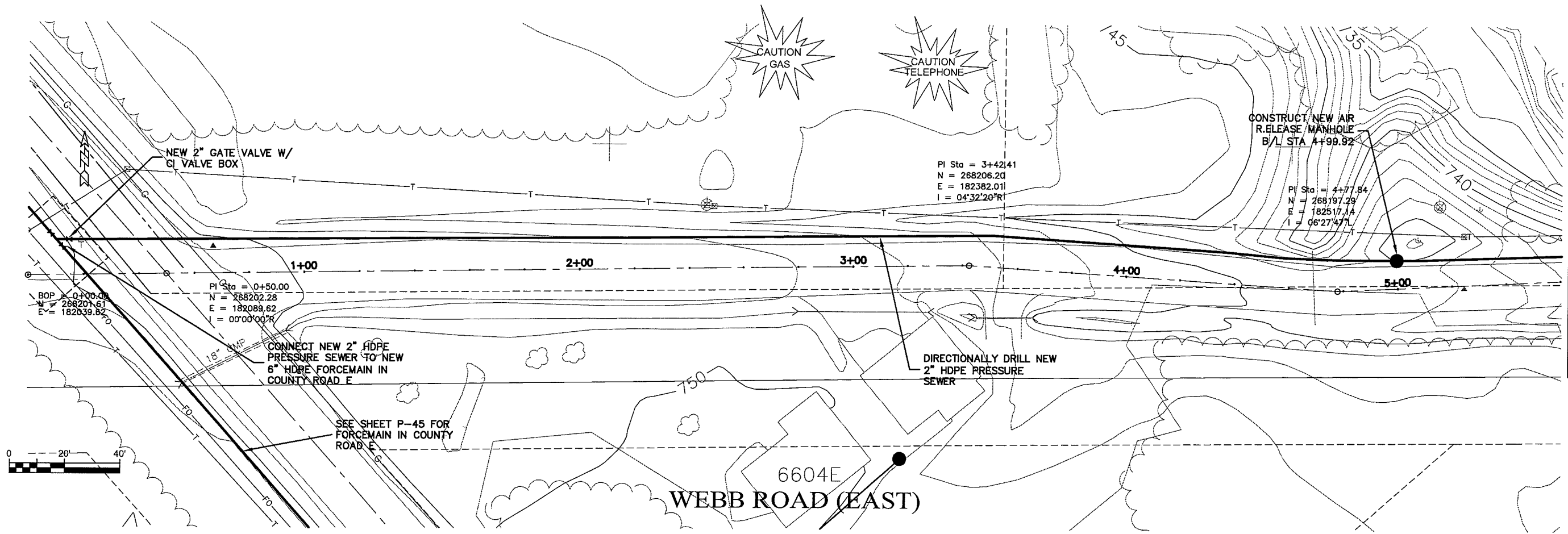
**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street Duluth, MN 55802  
 218-722-9315 1-800-777-7380 Fax: 218-722-4488  
**MSA** PROFESSIONAL SERVICES

PROJECT NO: 626000  
 PLOT DATE: 15 Oct 2009  
 SCALE: AS SHOWN

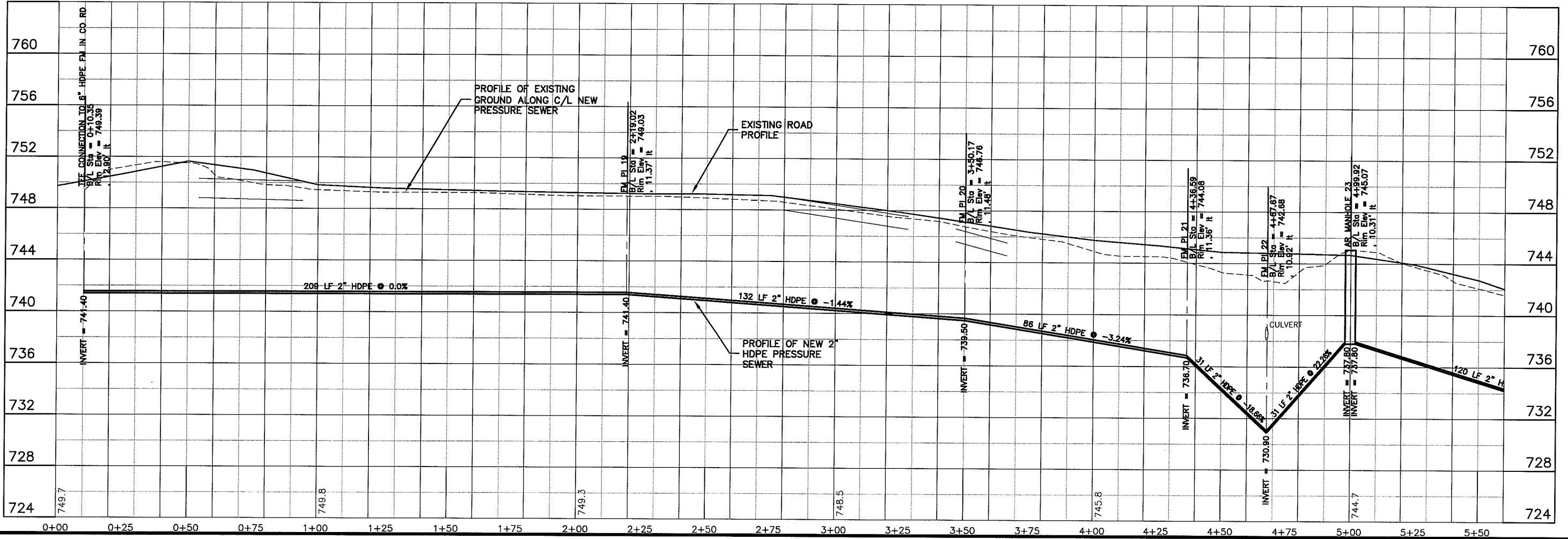
SEWER PLAN - PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

DATE: \_\_\_\_\_  
 NO.: \_\_\_\_\_  
 REVISION: \_\_\_\_\_  
 BY: \_\_\_\_\_  
 CHECKED BY: RWM  
 CHECKED BY: CWS

FILE NO: 626-001  
 SHEET: P-170



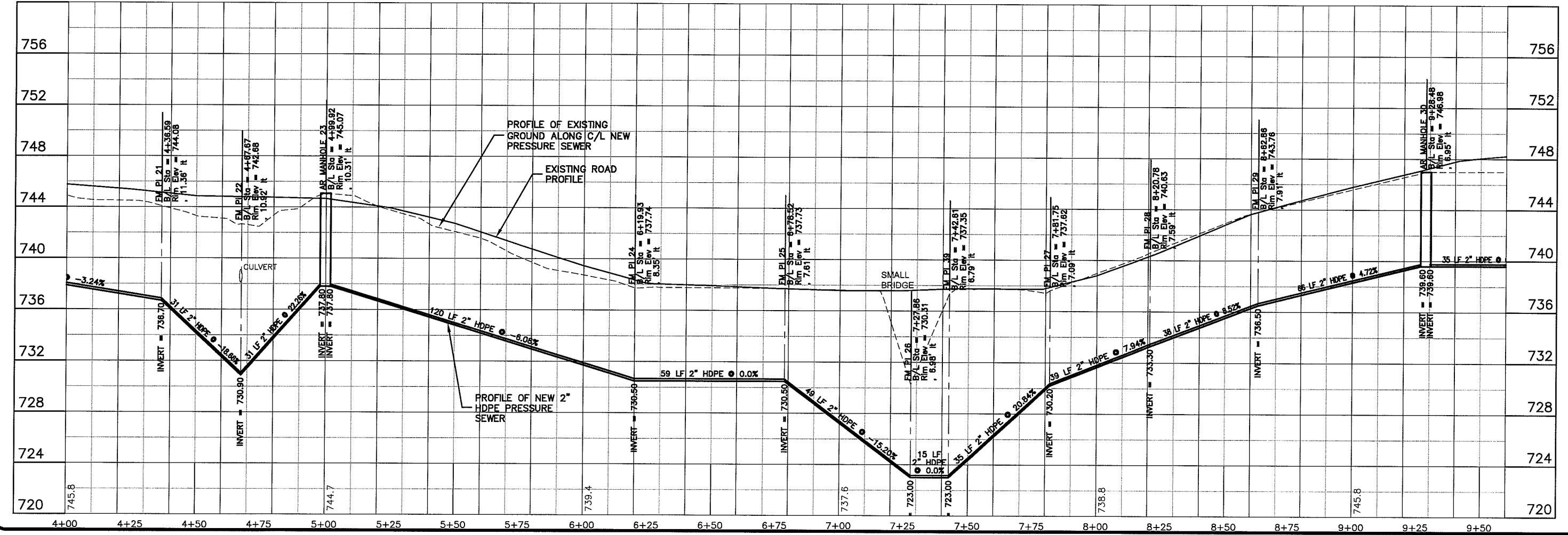
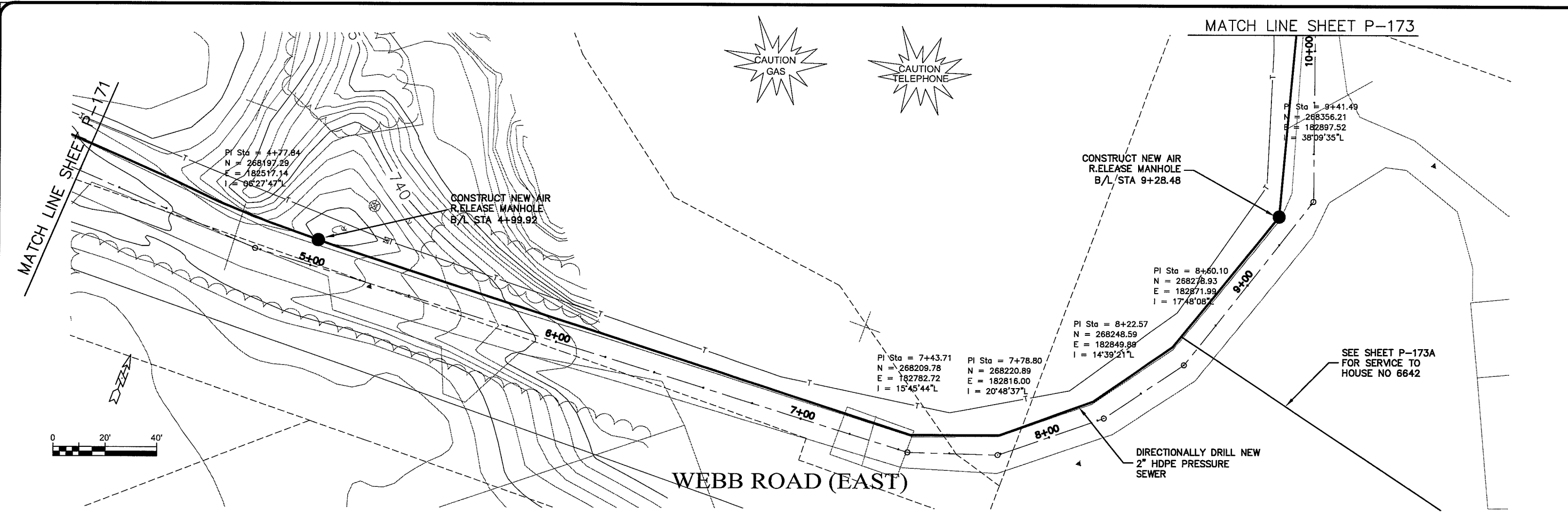
MATCH LINE SHEET P-172



**MSA**  
PROFESSIONAL SERVICES

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548

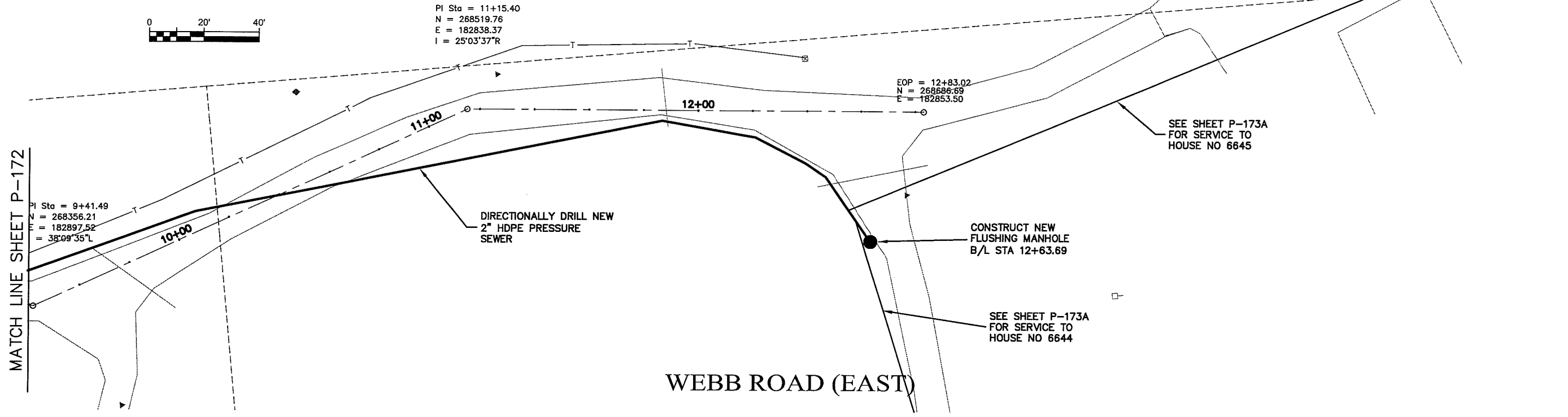
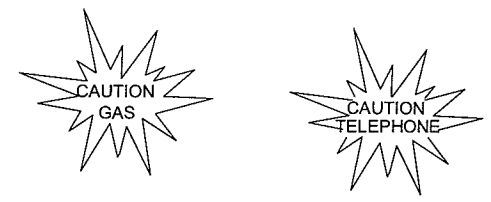
NO.	DATE	PROJECT NO. 626000	PROJECT DATE 17 Oct 2009	SCALE AS SHOWN
BY	REVISION	DRAWN BY: RWM CHECKED BY: CWS		
SEWER PLAN - PROFILE				
<b>PARKLAND SANITARY DISTRICT NO. 1</b>				
WASTEWATER COLLECTION SYSTEM				
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN				
FILE NO.	SHEET			
626-001	P-171			



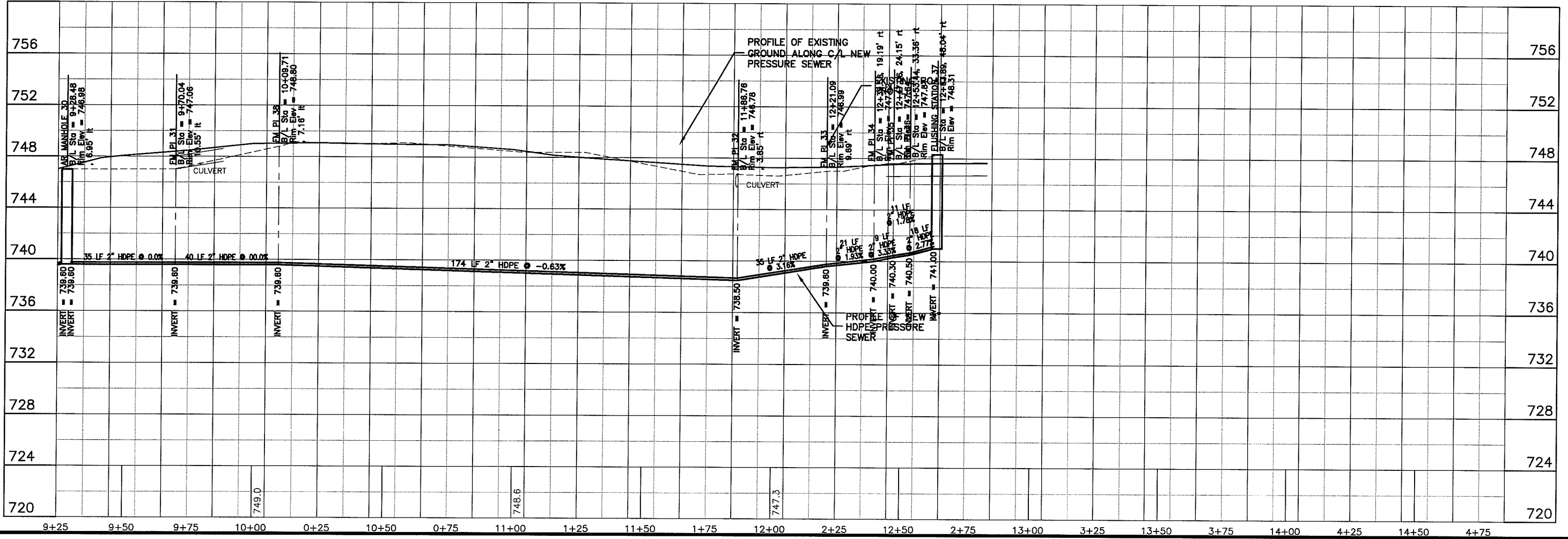
**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street, Duluth, MN 55802  
 218-722-9113 • 1-800-777-7380 • Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO: 626000  
 SHEET: P-172  
 DATE: 17 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 SCALE: AS SHOWN  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

UNOFF. NAME P-173



WEBB ROAD (EAST)



Plot Date: 17 Oct 2009 Plot Time: 11:48am  
 File Path: K:\Design\RCp03021.dwg

**TRANSPORTATION - MUNICIPAL DEVELOPMENT - ENVIRONMENTAL**  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-2380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

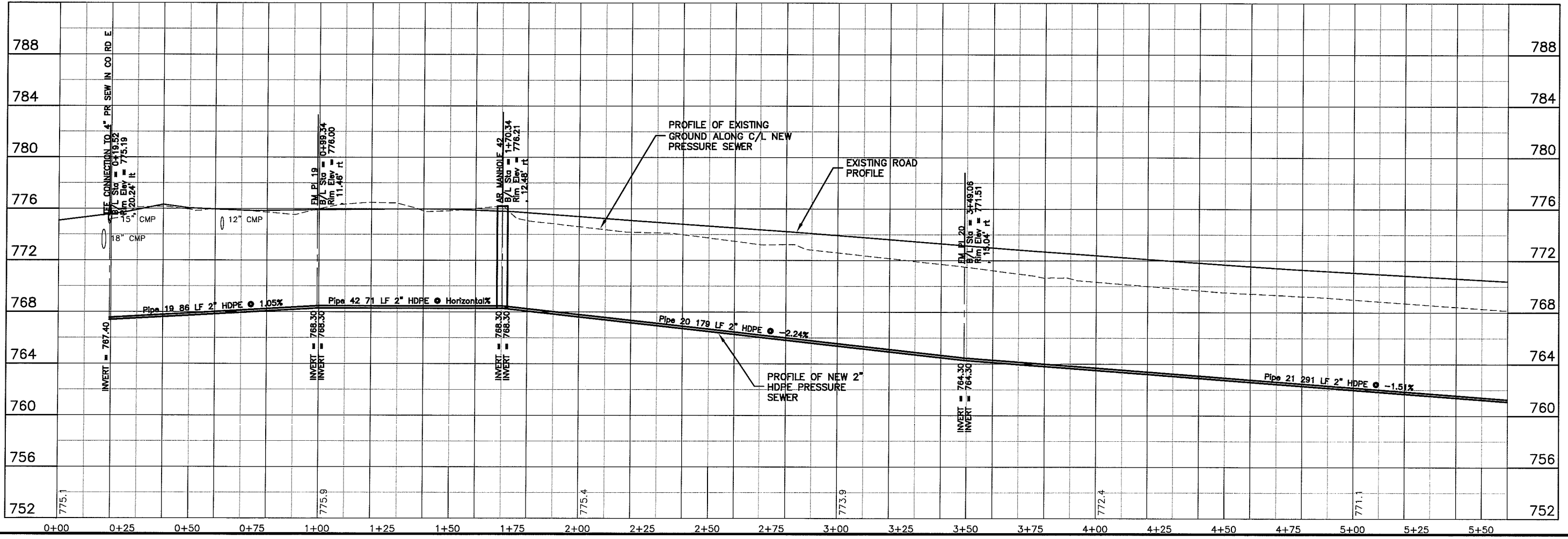
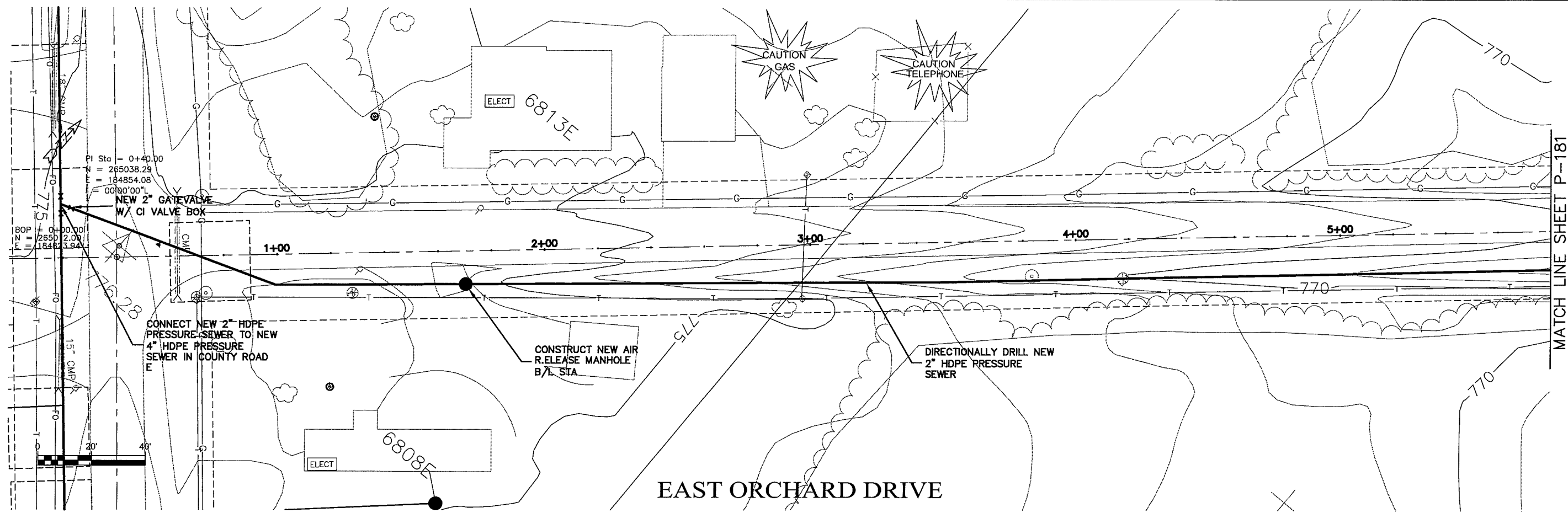
PROJECT NO. 626000  
 PLAN DATE: 17 Oct 2009  
 SCALE AS SHOWN

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
 SHEET P-173

NO. DATE REGION  
 F.B.I. DRAWN BY: RWM  
 CHECKED BY: CWS

user name Layout1



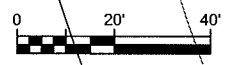
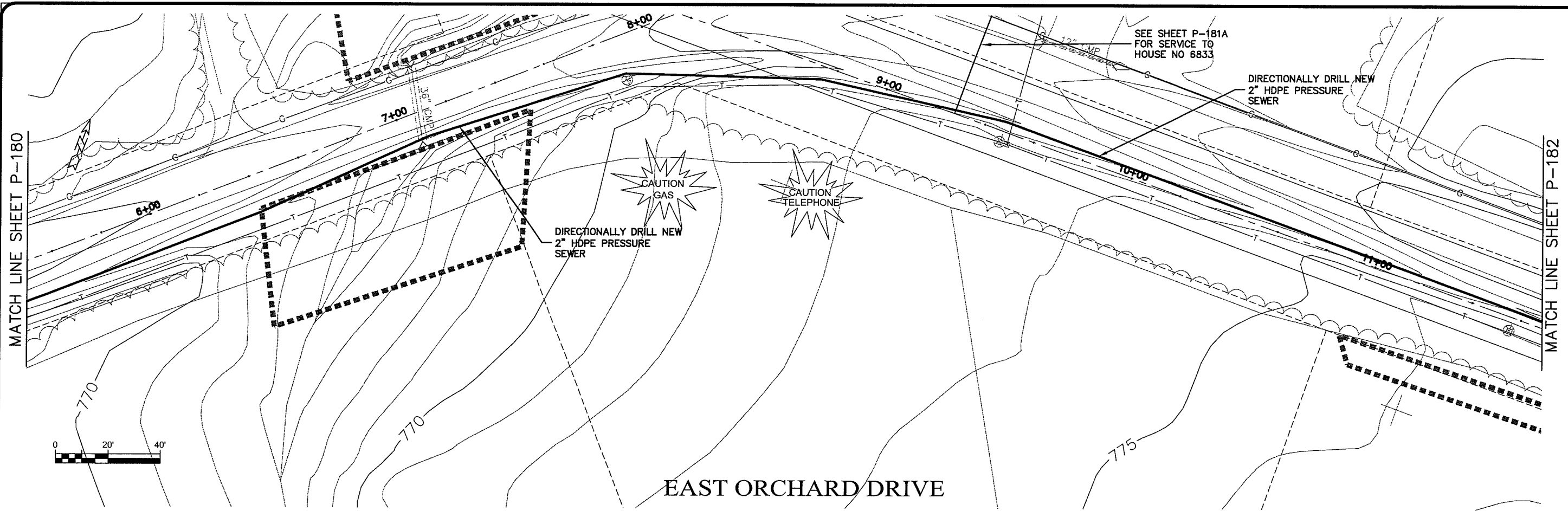
MATCH LINE SHEET P-181

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 300 West First Street, Duluth, MN 55802  
 218-722-3915 • 800-777-7380 • Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

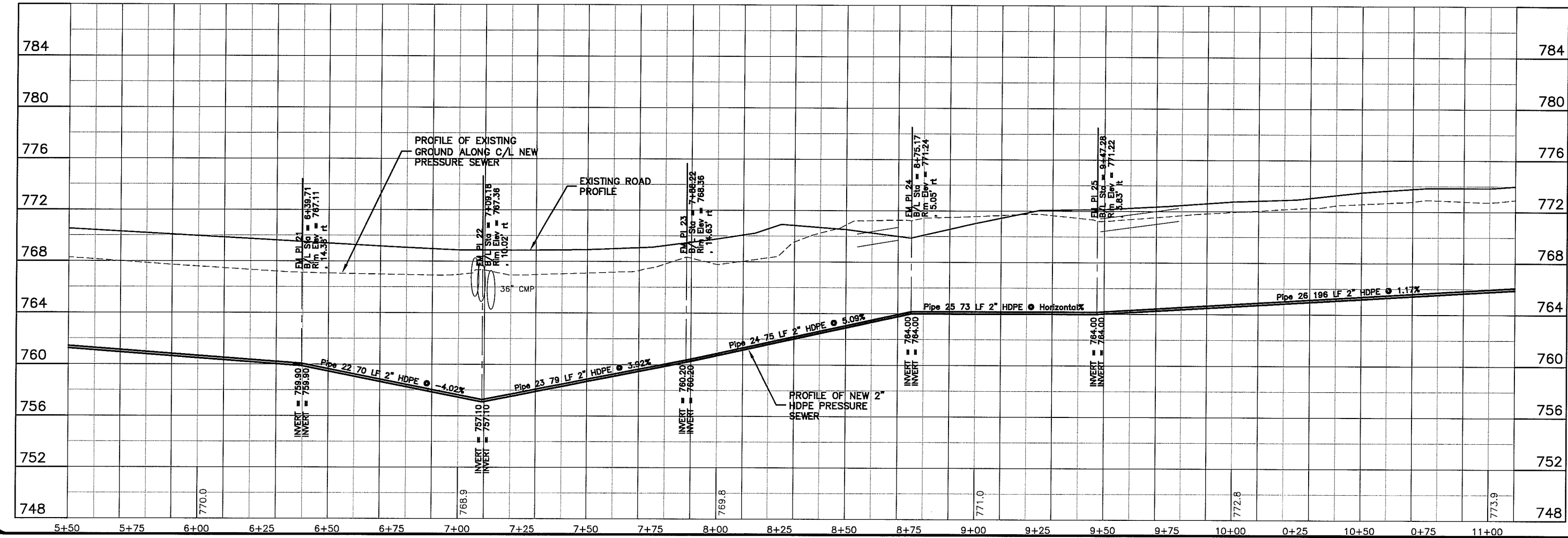
PROJECT NO.	626000
DATE	15 Oct 2009
SCALE	AS SHOWN
PROJECT NAME	SEWER PLAN-PROFILE
DISTRICT	PARKLAND SANITARY DISTRICT NO. 1
SYSTEM	WASTEWATER COLLECTION SYSTEM
TOWNSHIP	PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN
FILE NO.	626-001
SHEET	P-180

Plot Date: 15 Oct 2009 Plot Time: 11:31:07  
 File Path: K:\Design\RCp01023.dwg

LAND: NAME: P-181



EAST ORCHARD DRIVE

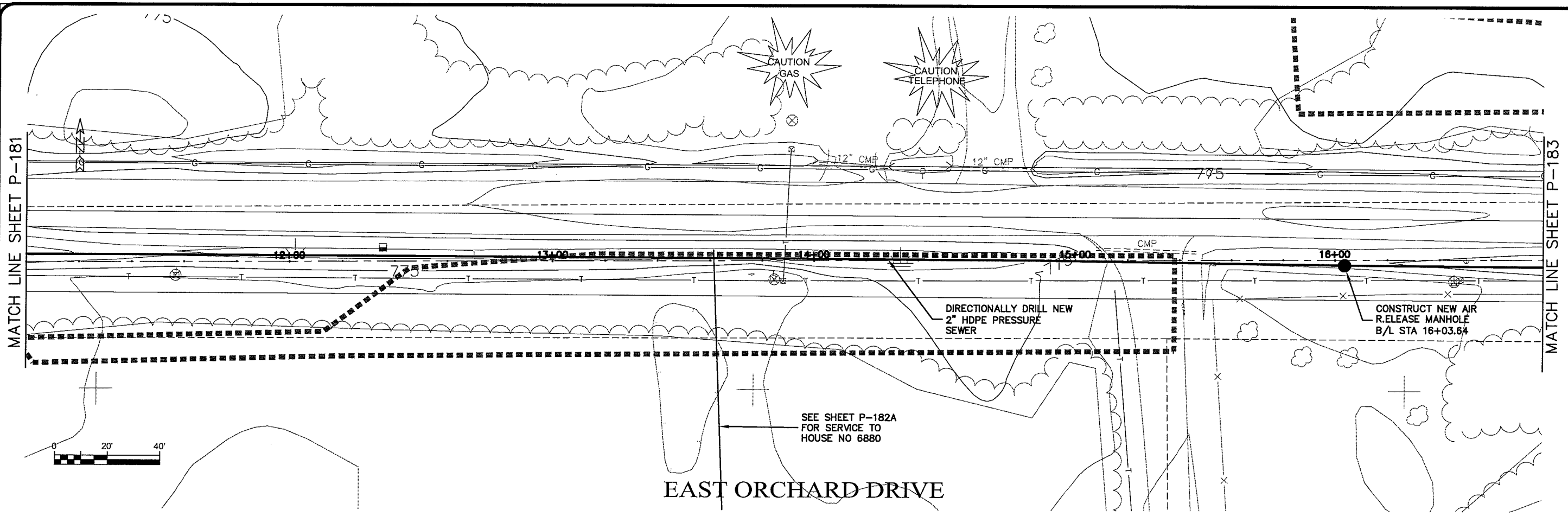


Plot Date: 15 Oct 2009 Plot Time: 11:43am  
 File Path: K:\Design\RCp02023.dwg

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO. 626000  
 SHEET P-181  
 DATE: 15 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 SCALE: AS SHOWN  
 PROJECT: SEWER PLAN-PROFILE  
 DISTRICT: PARKLAND SANITARY DISTRICT NO. 1  
 SYSTEM: WASTEWATER COLLECTION SYSTEM  
 LOCATION: PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

LAUNCH NAME: P-182

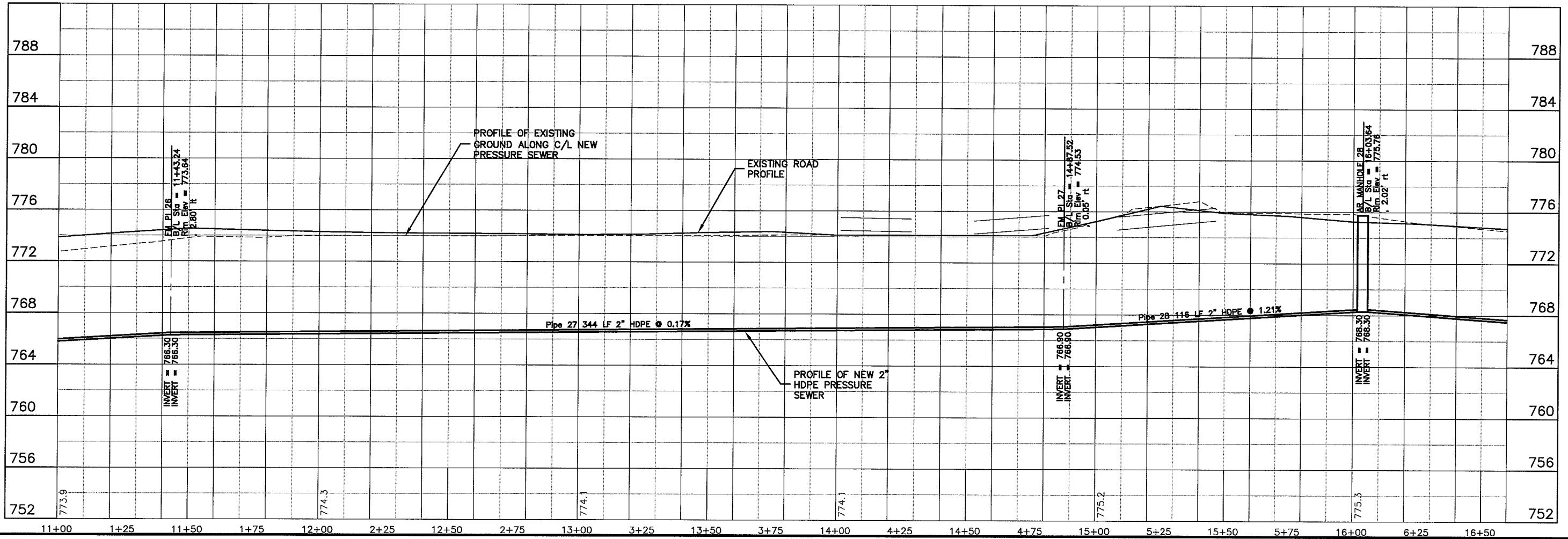


EAST ORCHARD DRIVE

SEE SHEET P-182A  
FOR SERVICE TO  
HOUSE NO 6880

DIRECTIONALLY DRILL NEW  
2" HDPE PRESSURE  
SEWER

CONSTRUCT NEW AIR  
RELEASE MANHOLE  
B/L STA 16+03.64



PLT DATE: 15 Oct 2009 12:18pm  
FILEPATH: K:\Design\RCp03023.dwg

**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
301 West First Street, Duluth, MN 55802  
218-722-3915 1-800-777-7380 Fax: 218-722-4548  
© USA PROFESSIONAL SERVICES

**MSA**  
PROFESSIONAL SERVICES

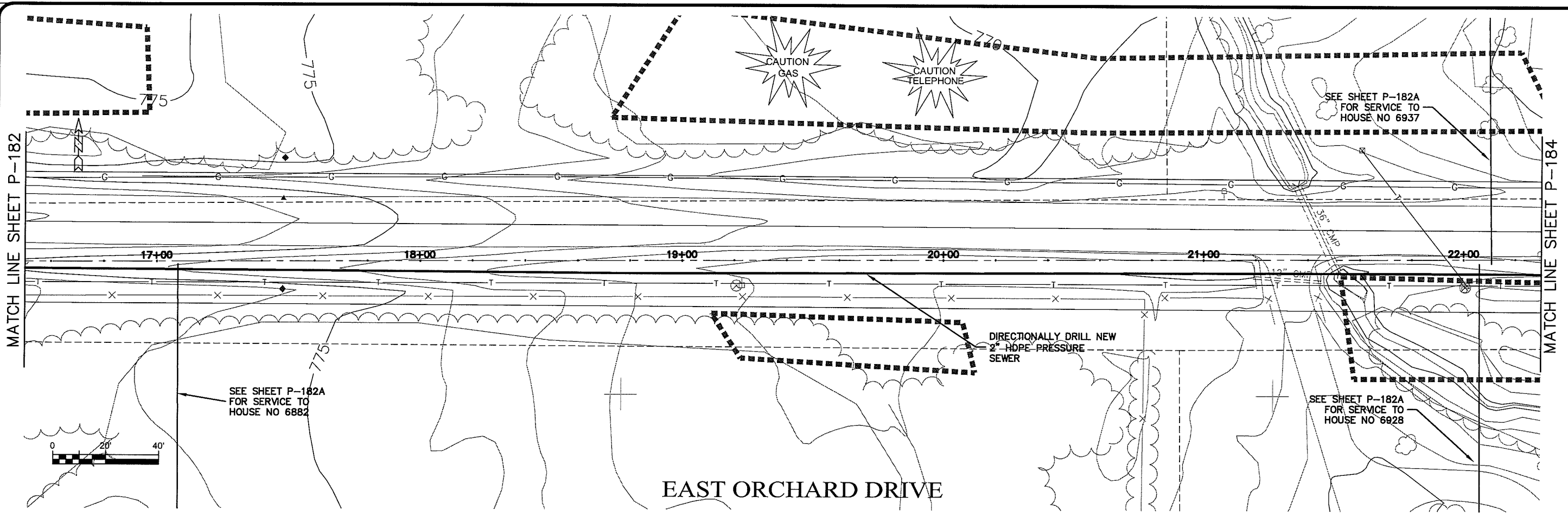
PROJECT NO.: 626000  
FILE NO.: 626-001  
SHEET: P-182

DATE: 15 Oct 2009  
DRAWN BY: RWM  
CHECKED BY: CWS

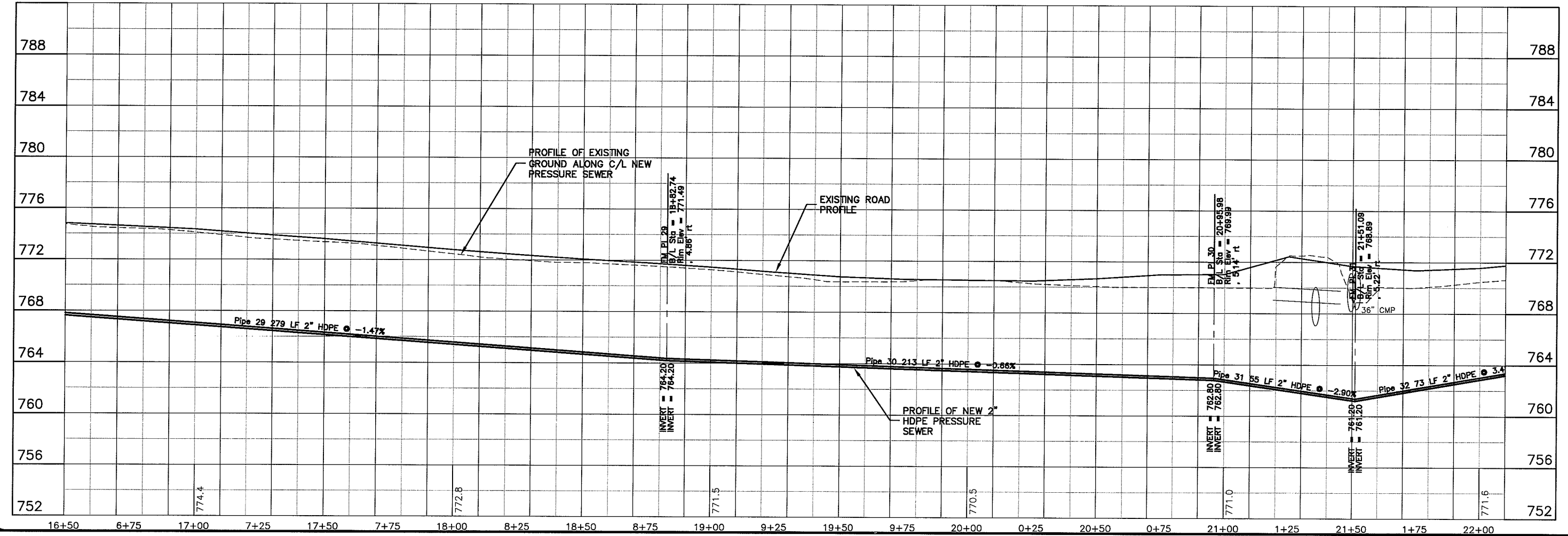
SCALE: AS SHOWN

SEWER PLAN - PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

LAYOUT IMAGE P-183



EAST ORCHARD DRIVE



Plot Date: 15 Oct 2009 Plot Time: 1:45pm  
 File Path: K:\Design\RCp04023.dwg

**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548  
**MSA** PROFESSIONAL SERVICES

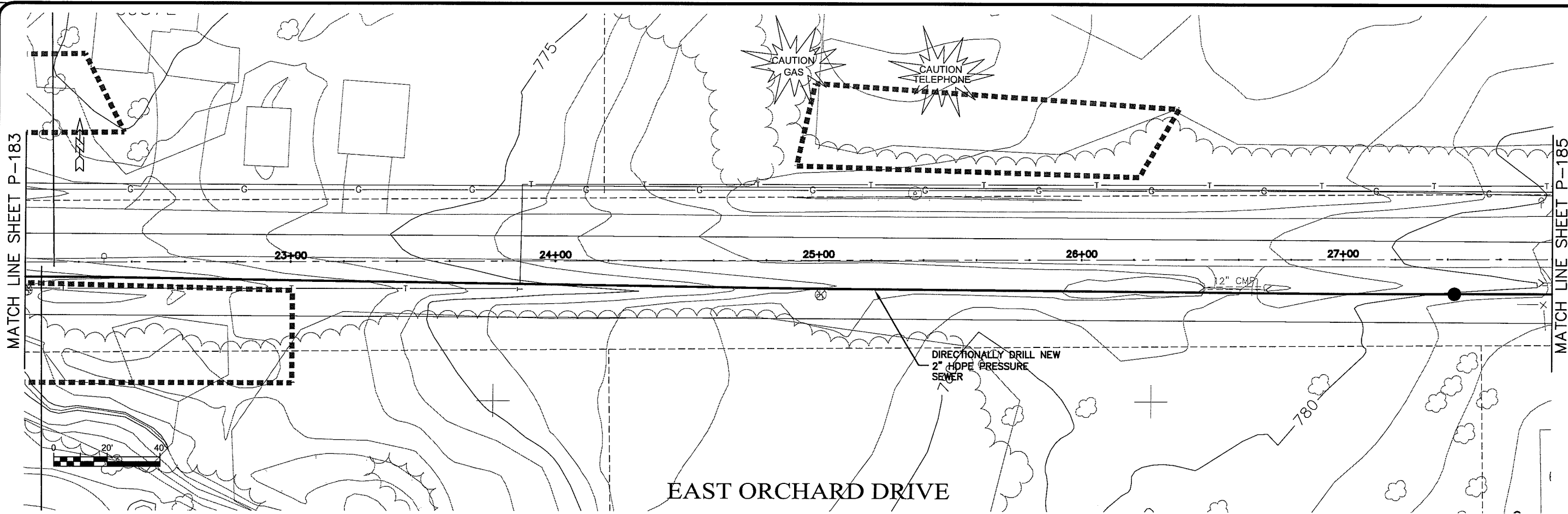
PROJECT NO.: 626000  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 SCALE: AS SHOWN  
 DATE: 15 Oct 2009

**SEWER PLAN PROFILE**  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

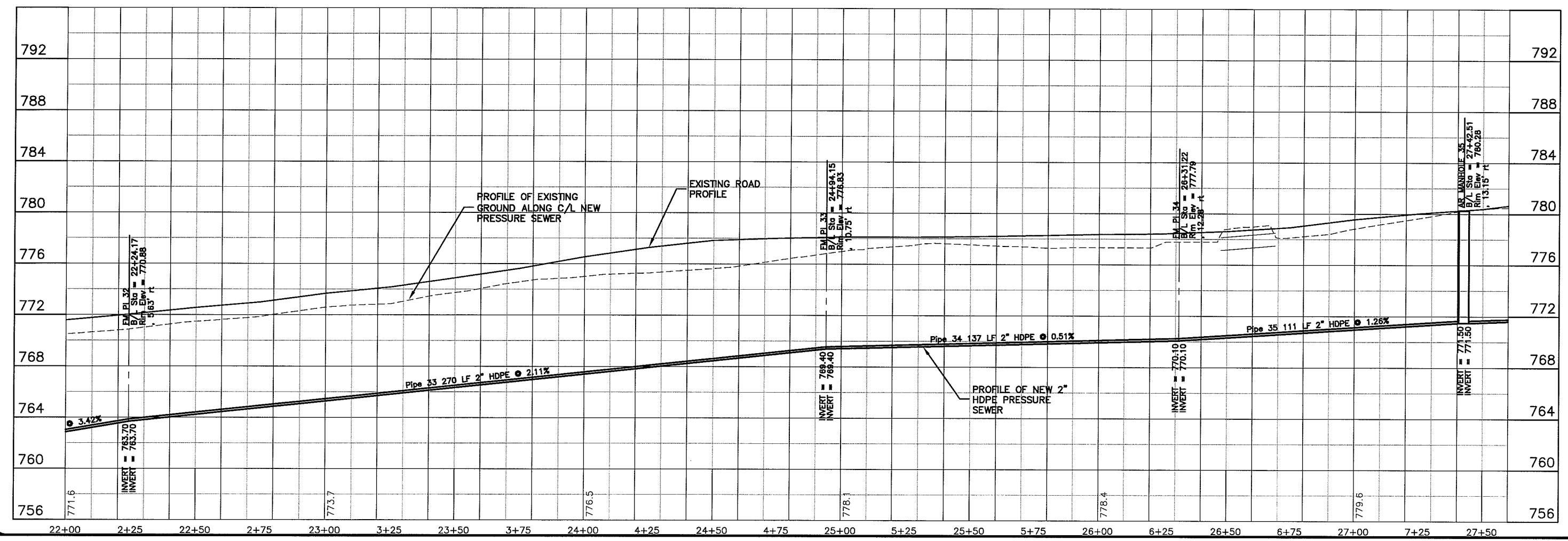
FILE NO.: 626-001  
 SHEET: P-183



USER NAME: P-184



EAST ORCHARD DRIVE



Plot Date: 15 Oct 2009 Plot Time: 1:49pm  
 File Path: K:\Design\RCp05023.dwg

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-9915, 1-800-777-7380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

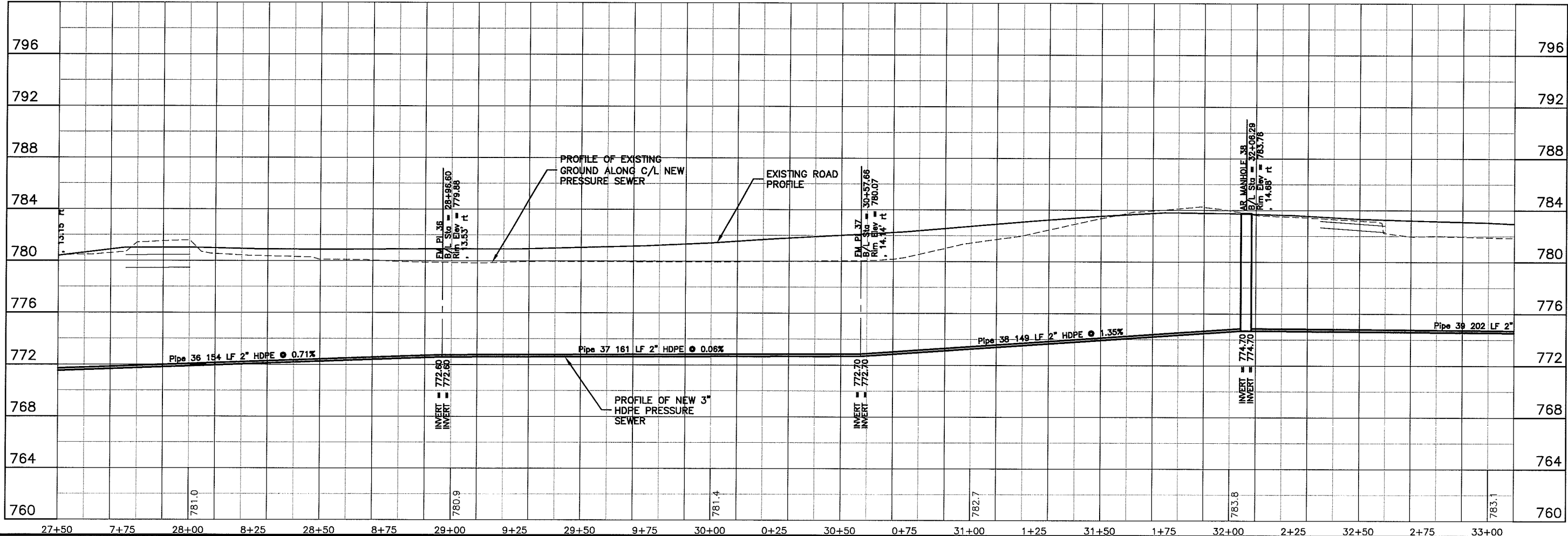
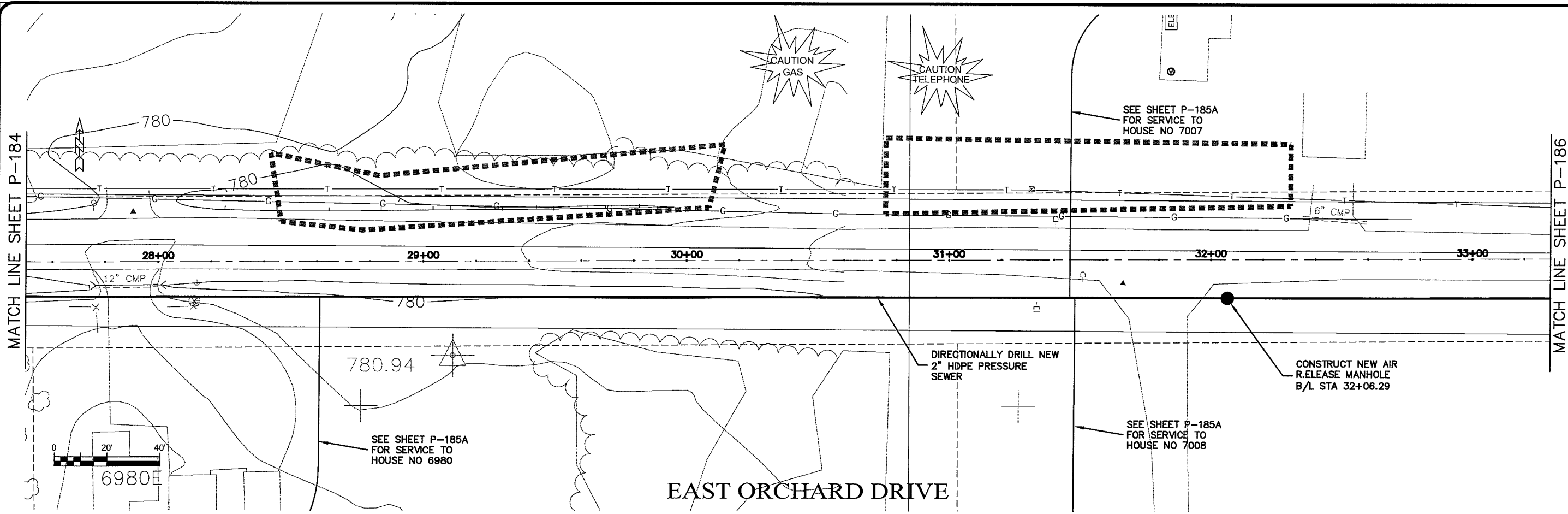
PROJECT NO. 626000  
 PLAN DATE: 15 Oct 2009  
 SCALE AS SHOWN

SEWER PLAN - PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
 SHEET P-184

BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 REVISION: \_\_\_\_\_  
 F.B.: \_\_\_\_\_  
 DRAWN BY: RWM  
 CHECKED BY: CWS

UNIVERSITY P-185



PLT DATE: 04 Nov 2009 10:44:00am  
 FILENAME: K:\Design\RCp06023.dwg

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915, 1-800-777-7380, Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

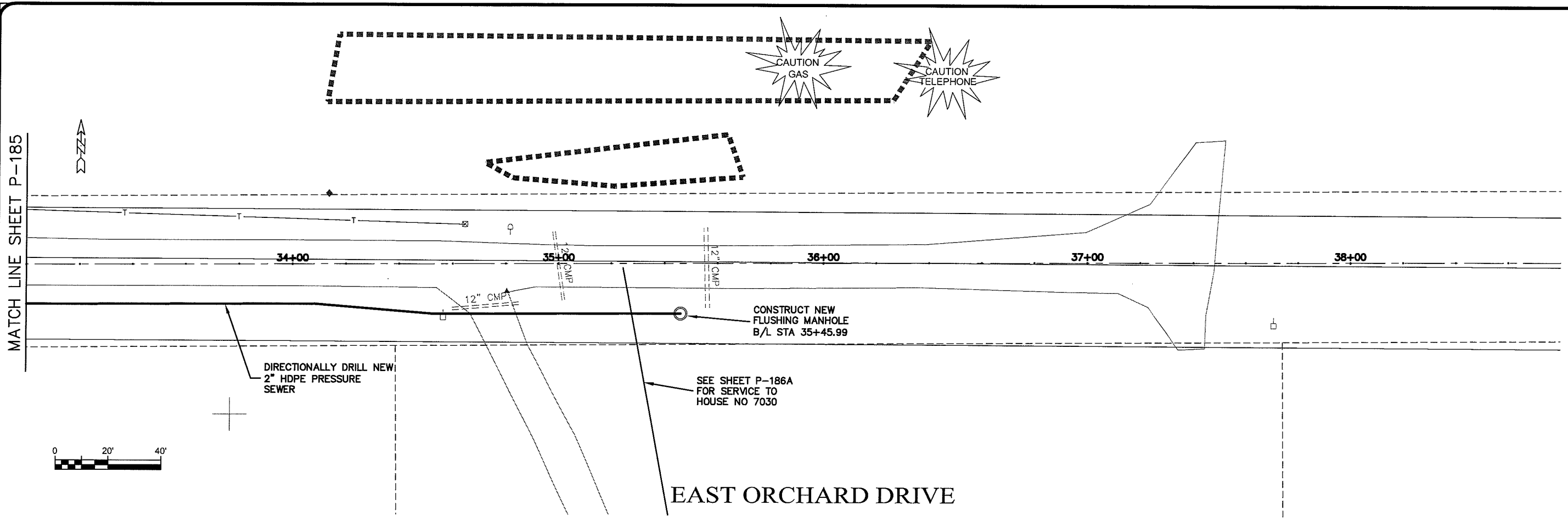
PROJECT NO.	628000
DATE	Nov 2009
SCALE	AS SHOWN
DRAWN BY	RWM
CHECKED BY	CWS

SEWER PLAN - PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

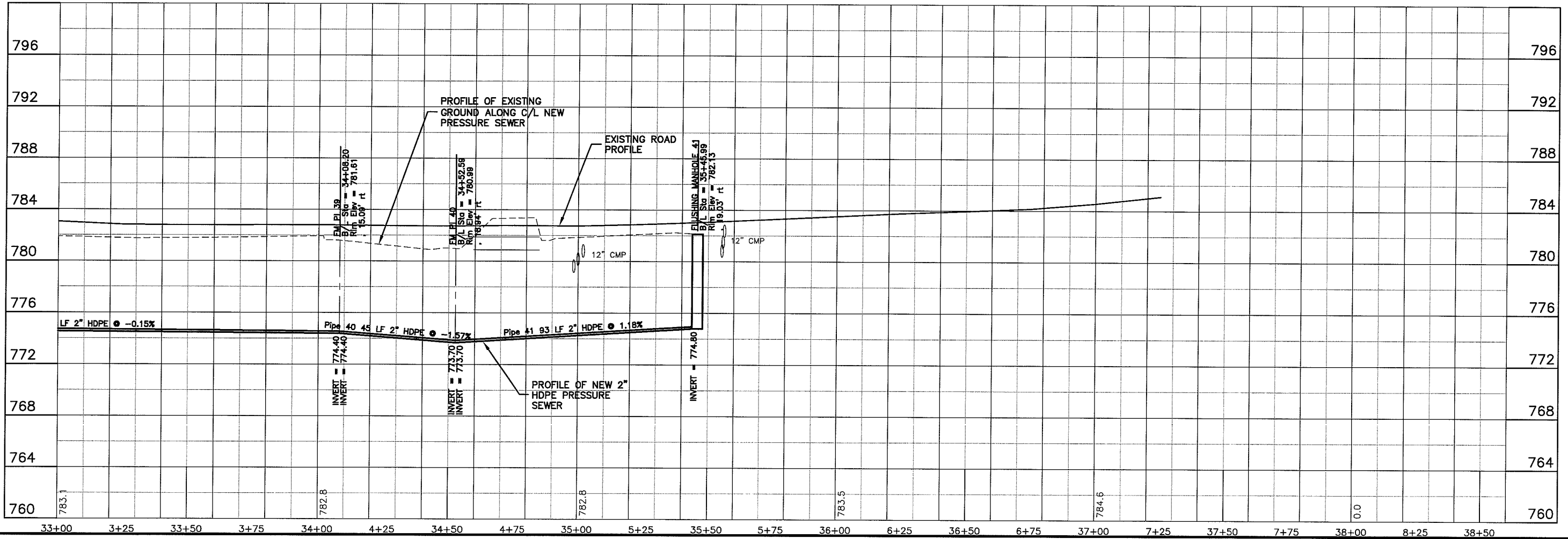
FILE NO. 626-001  
 SHEET P-185

LAYOUT NAME P-186

MATCH LINE SHEET P-185



EAST ORCHARD DRIVE



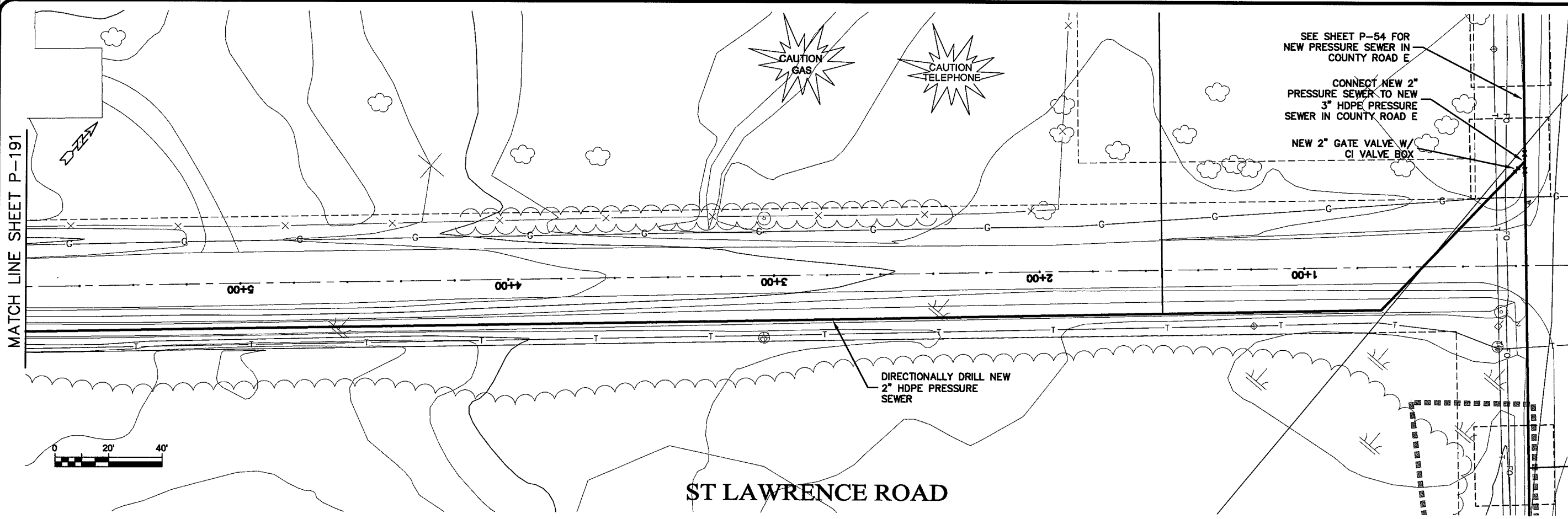
TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-3915 1-800-777-7380 Fax: 218-722-4548  
© MSA PROFESSIONAL SERVICES



PROJECT NO.	626000
DATE	15 Oct 2009
SCALE	AS SHOWN
DRAWN BY	RWM
CHECKED BY	CWS
PROJECT TITLE	SEWER PLAN-PROFILE
DISTRICT	PARKLAND SANITARY DISTRICT NO. 1
SYSTEM	WASTEWATER COLLECTION SYSTEM
LOCATION	PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN
FILE NO.	626-001
SHEET	P-186

Plot Date: 15 Oct 2009 Plot Time: 2:33pm  
File Path: K:\Design\RCp07023.dwg

UNSAT WARE Layout1

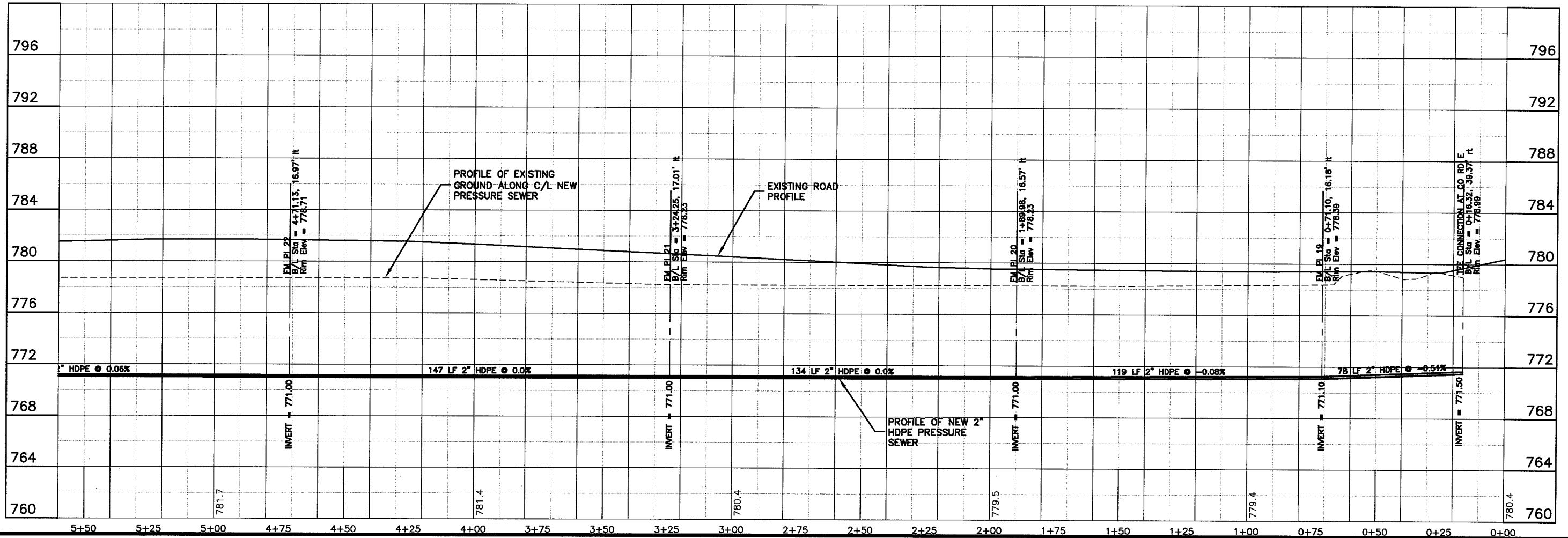
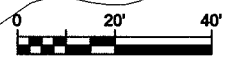


SEE SHEET P-54 FOR  
NEW PRESSURE SEWER IN  
COUNTY ROAD E

CONNECT NEW 2"  
PRESSURE SEWER TO NEW  
3" HDPE PRESSURE  
SEWER IN COUNTY ROAD E

NEW 2" GATE VALVE W/  
CI VALVE BOX

**ST LAWRENCE ROAD**



PLT DATE: 18 Oct 2009 PLT TIME: 9:47am  
FILENAME: K:\Design\RCp01024.dwg

**MSA**  
PROFESSIONAL SERVICES

TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-3915 1-800-777-7980 Fax: 218-722-6548

PROJECT NO: 626000  
DATE: 18 Oct 2009  
SCALE: AS SHOWN

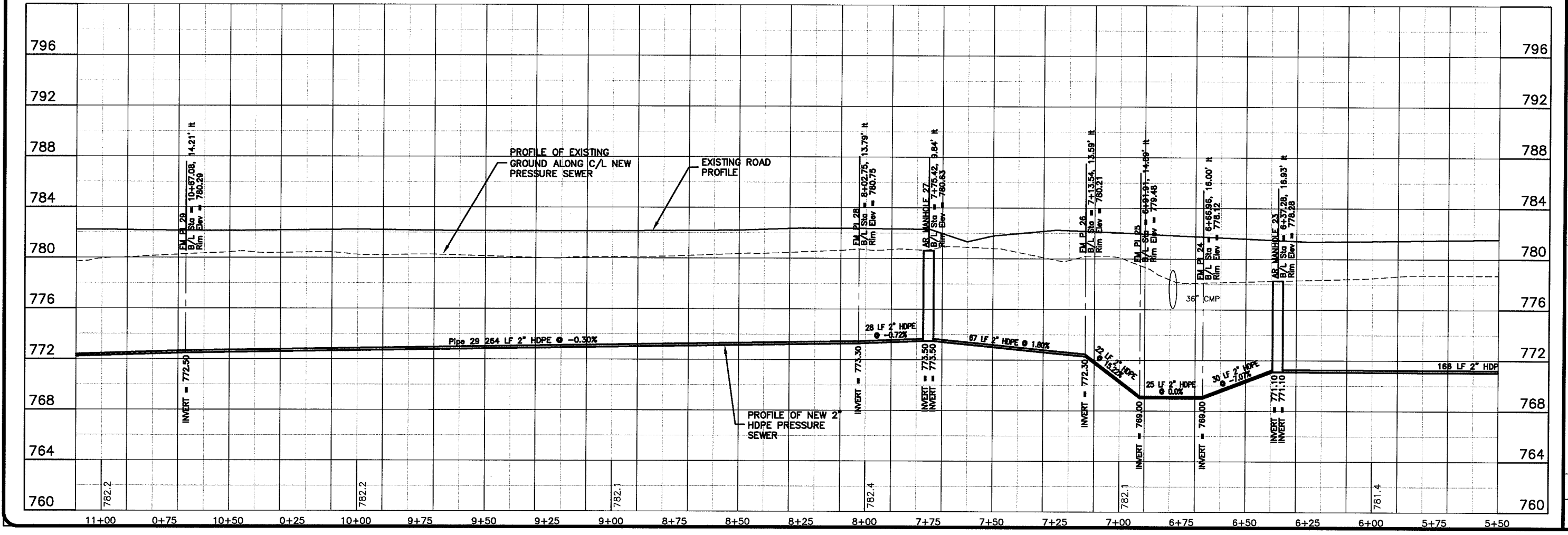
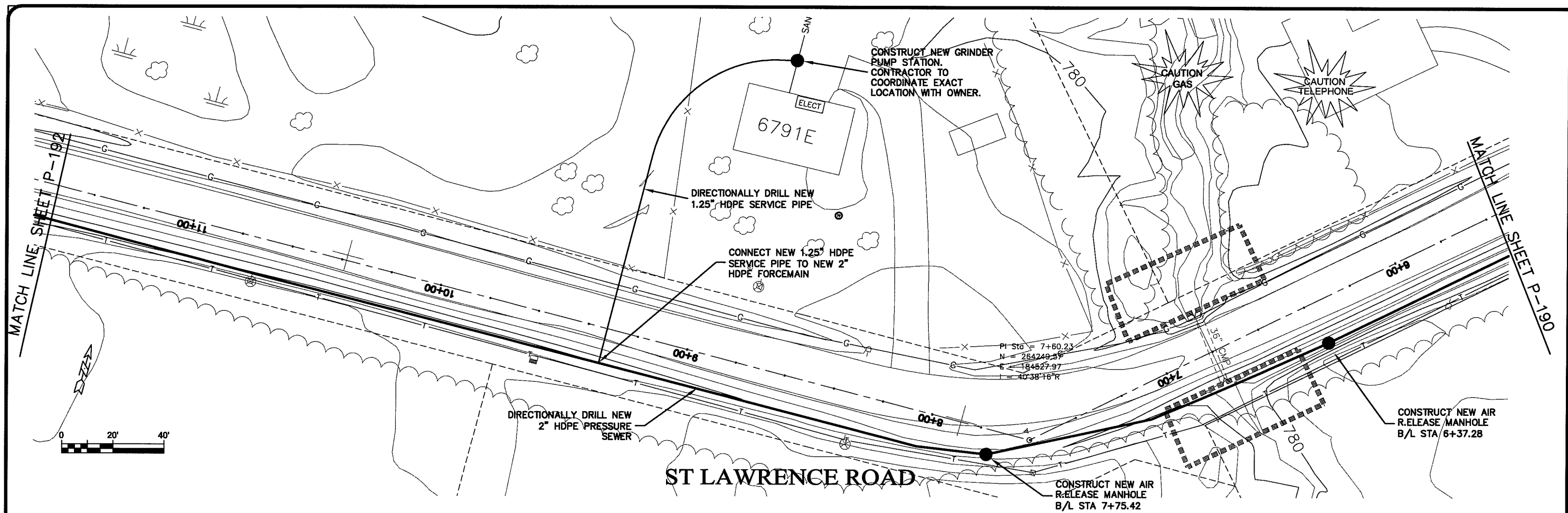
SEWER PLAN PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO: 626-001  
SHEET: P-190

BY: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REVISION: \_\_\_\_\_  
DRAWN BY: RWM  
CHECKED BY: CWS

USER NAME: Layout1

PLT DATE: 18 Oct 2009 9:55am  
 PLOT FILE: K:\Design\RCp02024.dwg



TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-7580 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO: 626000  
 DATE: 18 Oct 2009  
 SCALE: AS SHOWN

SEWER PLAN PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

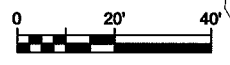
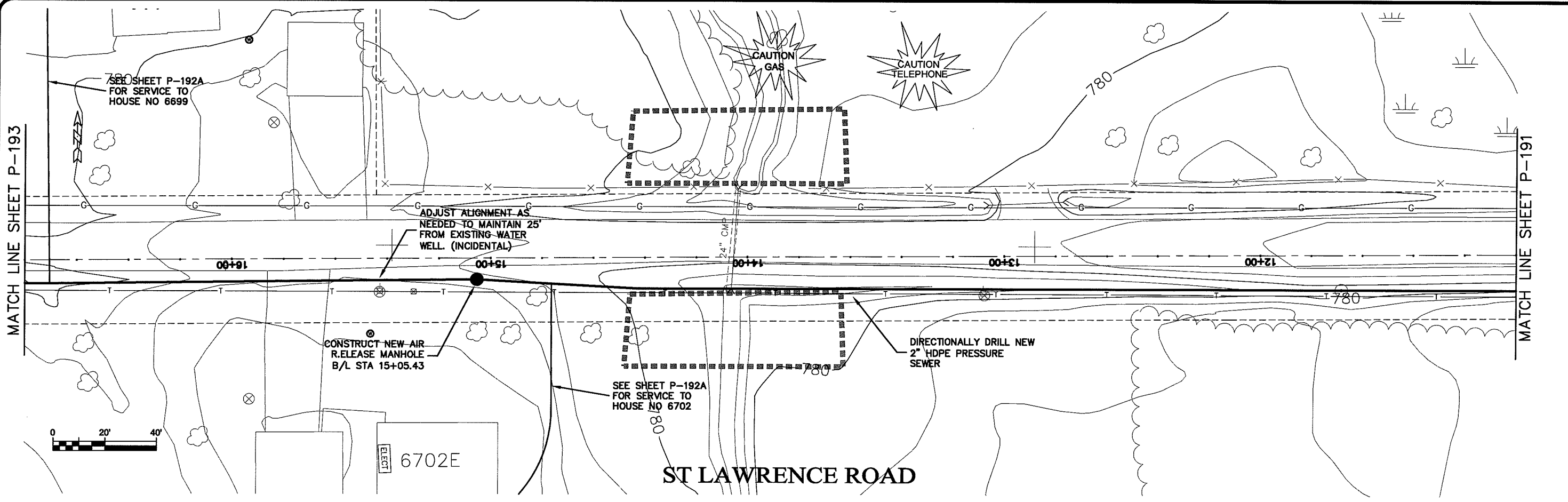
FILE NO: 626-001  
 SHEET: P-191

BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 NO: \_\_\_\_\_  
 REVISION: \_\_\_\_\_  
 F.B.: \_\_\_\_\_  
 DRAWN BY: RWM  
 CHECKED BY: CWS

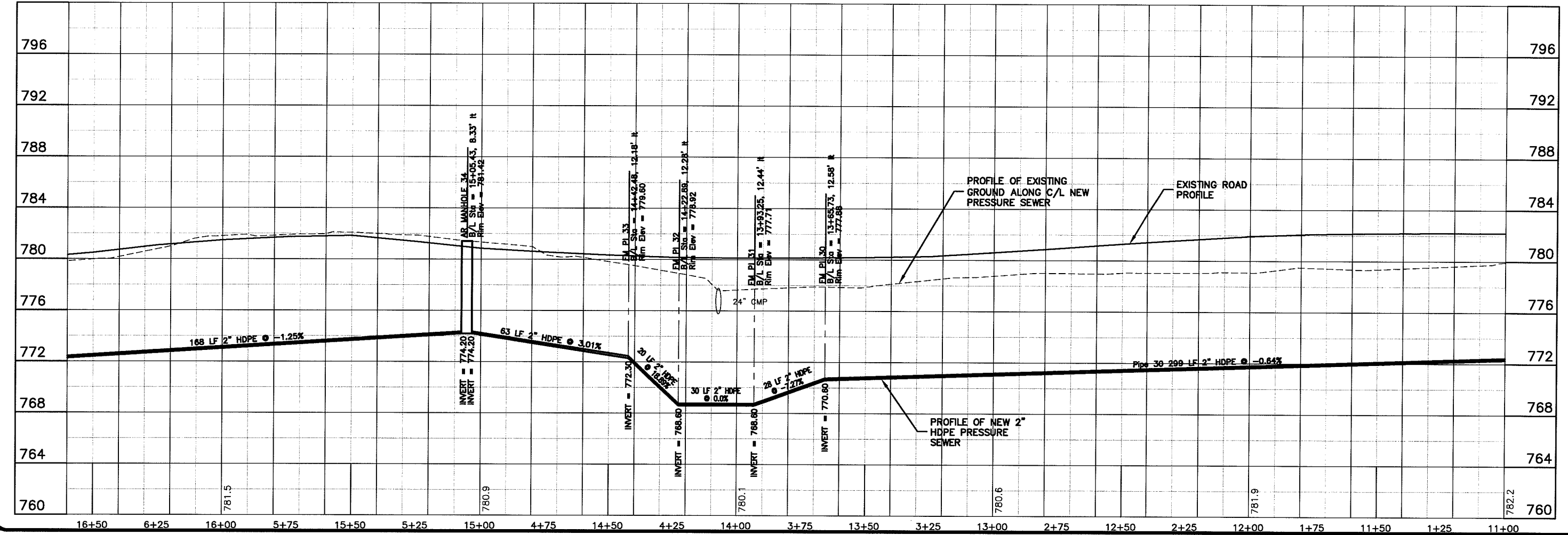
LAYOUT NAME P-192

MATCH LINE SHEET P-193

MATCH LINE SHEET P-191



PLT DATE: 18 Oct 2009 PLT TIME: 10:06:00  
 FILEPATH: K:\Design\RC\p3024.dwg



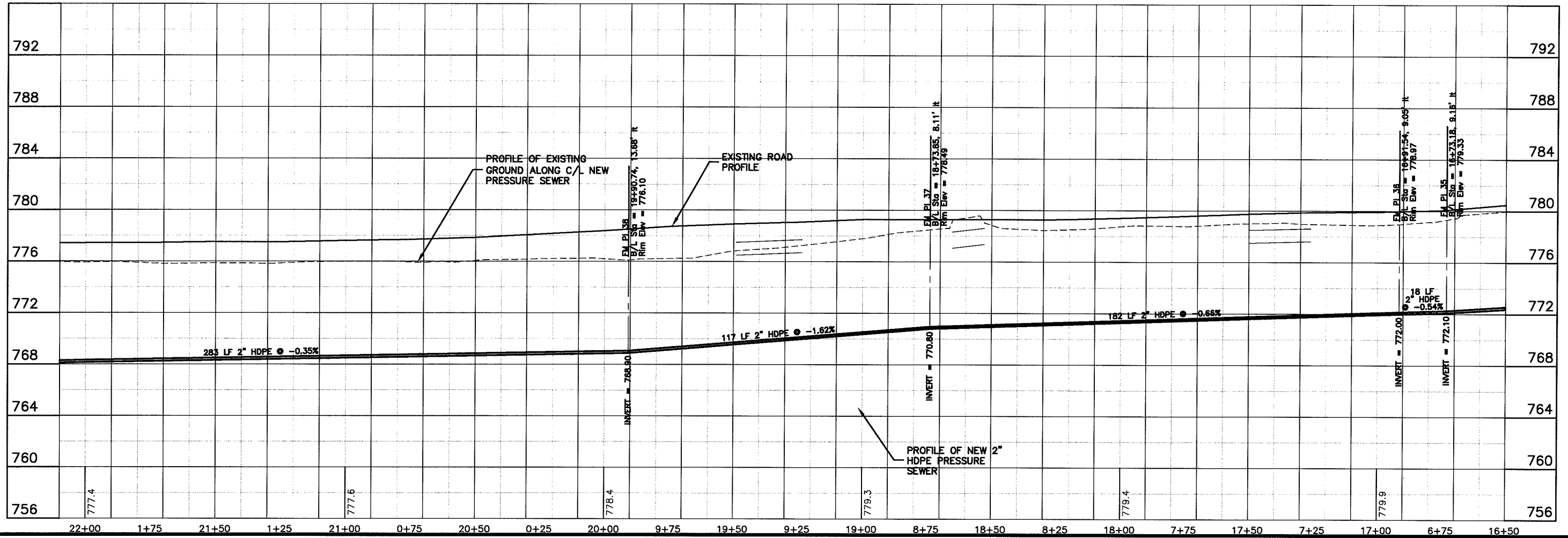
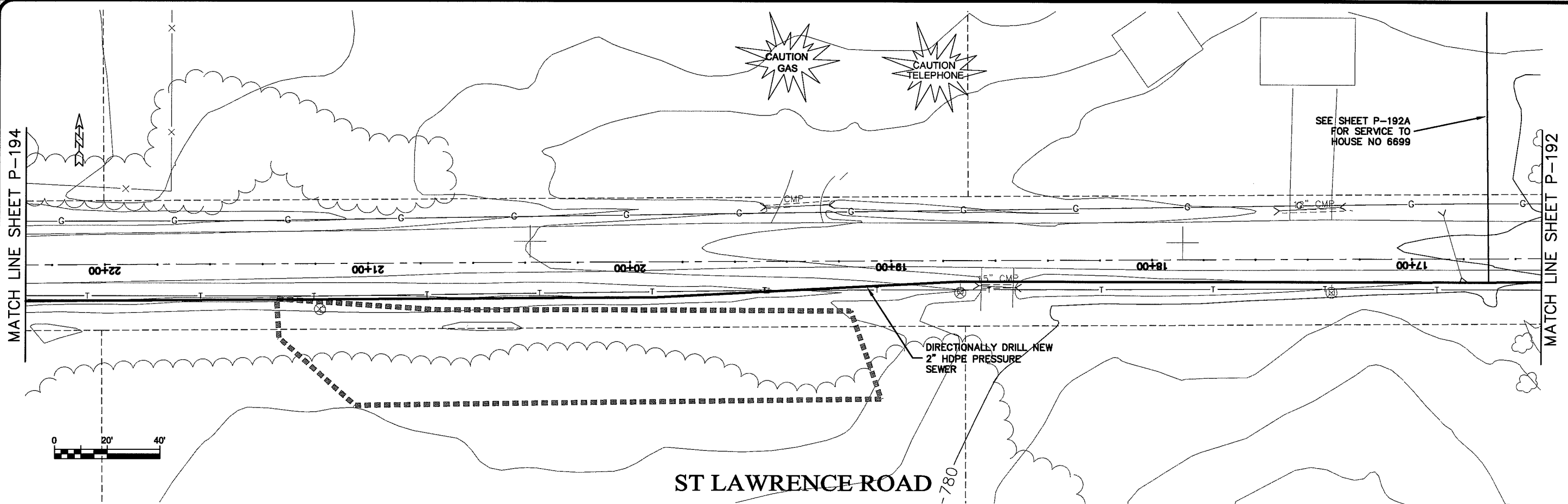
**MSA**  
 PROFESSIONAL SERVICES

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-9115, 1-800-777-7880 Fax: 218-722-4548  
 © MSA PROFESSIONAL SERVICES

PROJECT NO.	626000
DATE	18 Oct 2009
SCALE	AS SHOWN
DRAWN BY	RWM
CHECKED BY	CWS

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
 SHEET P-192



TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-3915 1-800-777-7380 Fax: 218-722-4548  
© MSA PROFESSIONAL SERVICES

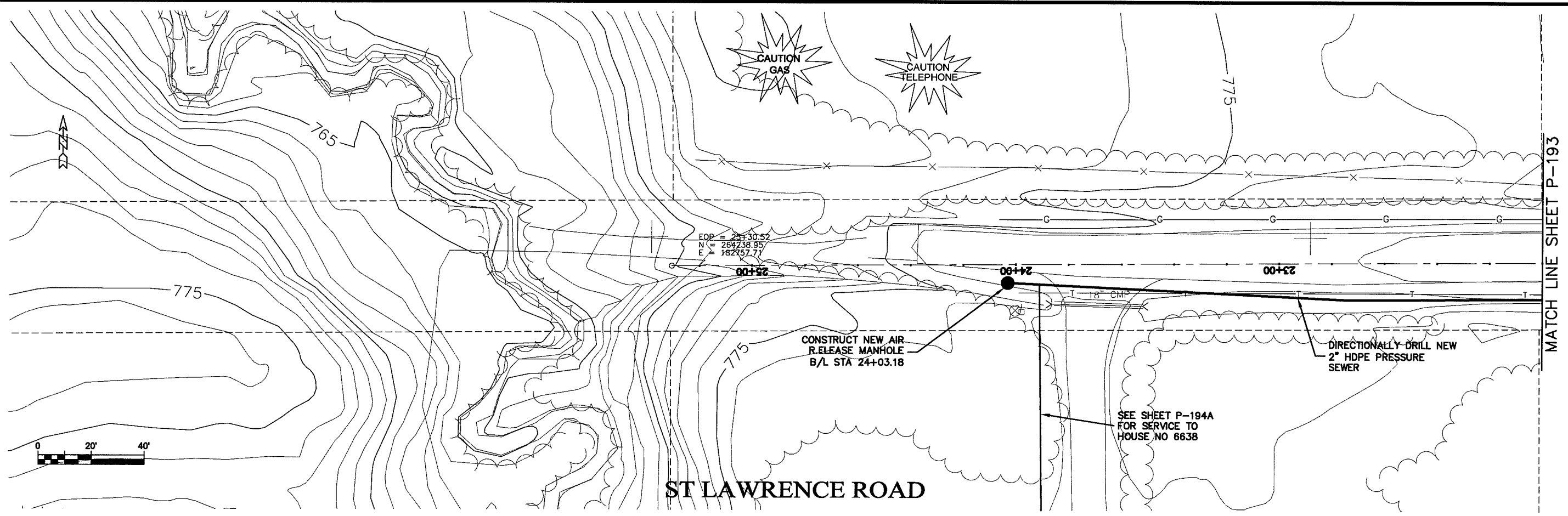
**MSA**  
PROFESSIONAL SERVICES

PROJECT NO. 628000  
DATE 18 Oct 2009  
SCALE AS SHOWN

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
SHEET P-193

PLAN DATE: P-194



PLAN DATE: 18 Oct 2009, 10:23am  
 DRAWN BY: K:\Design\RCp05024.dwg

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, WI 55802  
 218-722-3915 1-800-777-7980 Fax: 218-722-6548  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO. 626000  
 DATE: 18 Oct 2009  
 SCALE: AS SHOWN

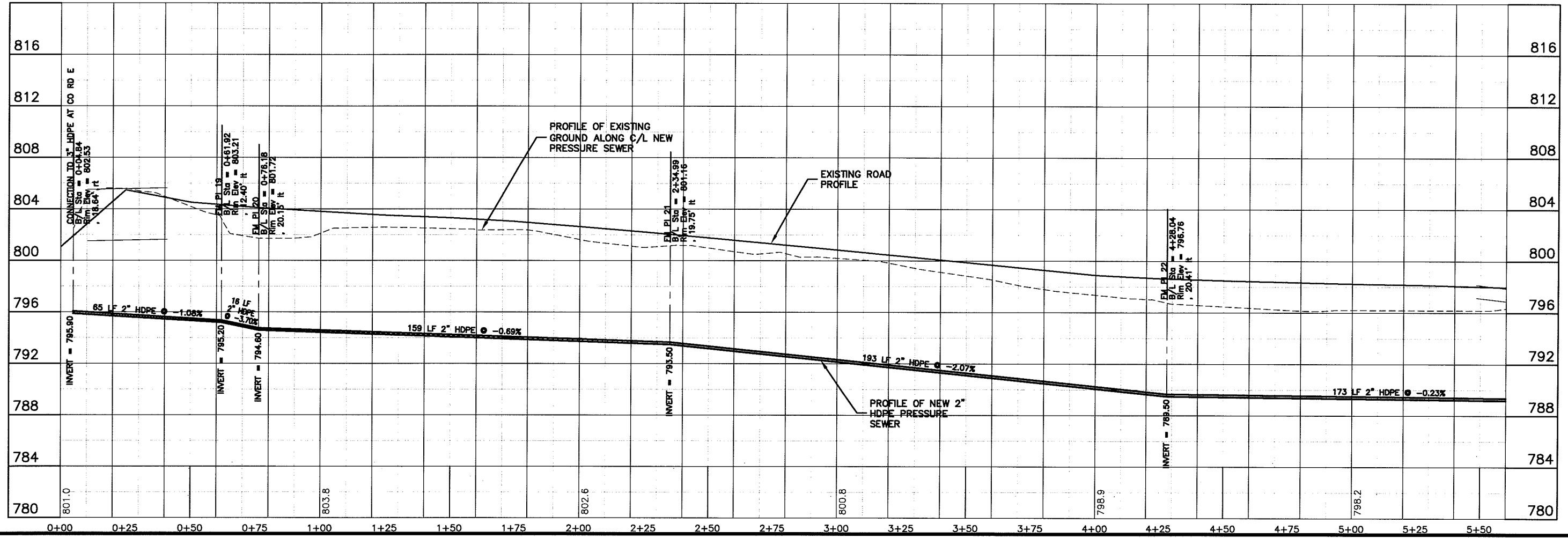
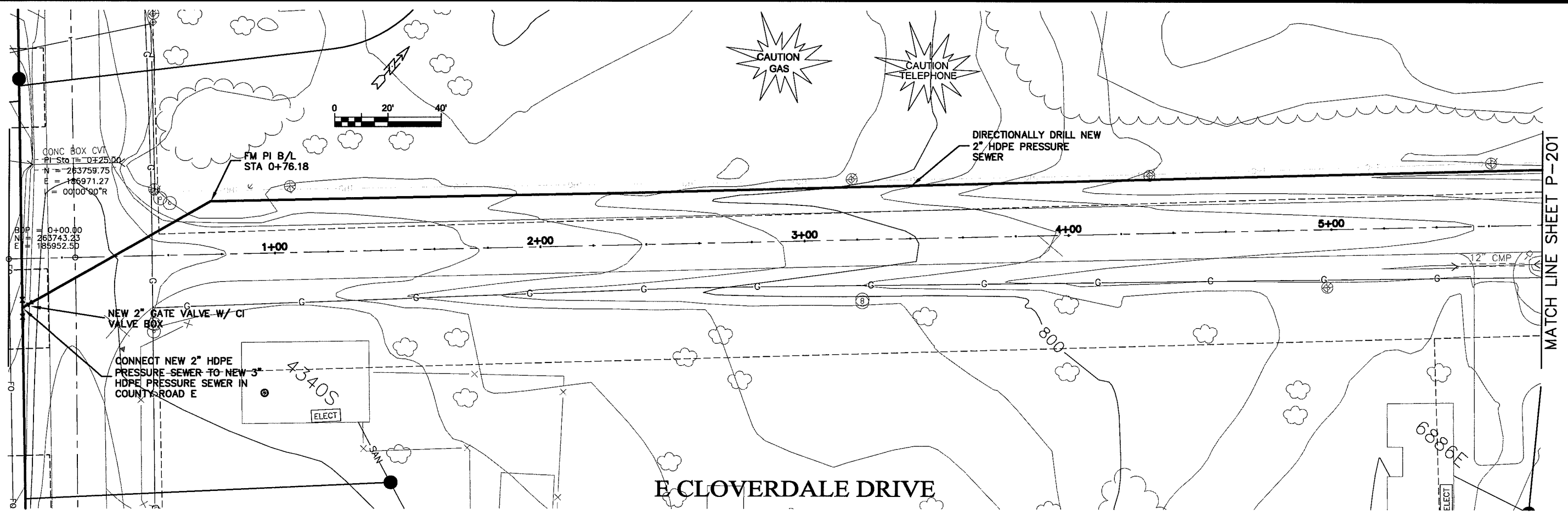
SEWER PLAN PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
 SHEET P-194



WORK NAME: P-200

DATE: 19 Oct 2009 8:54am  
 DRAWN: K:\Design\RCp01025.dwg

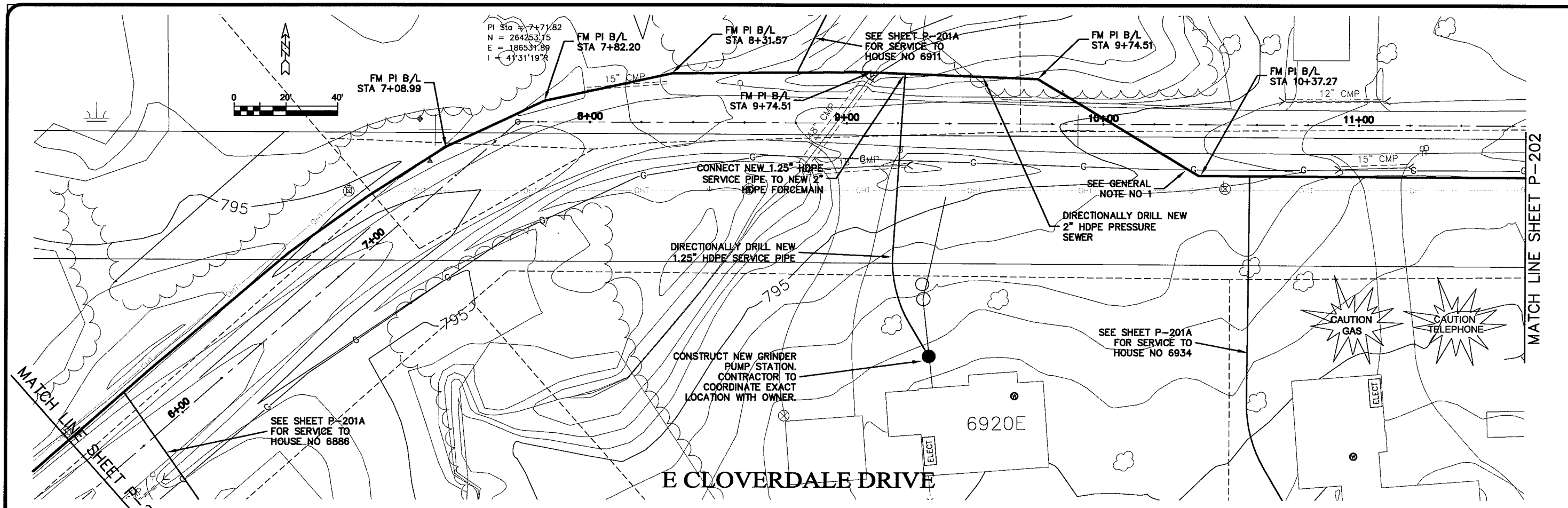


MATCH LINE SHEET P-201

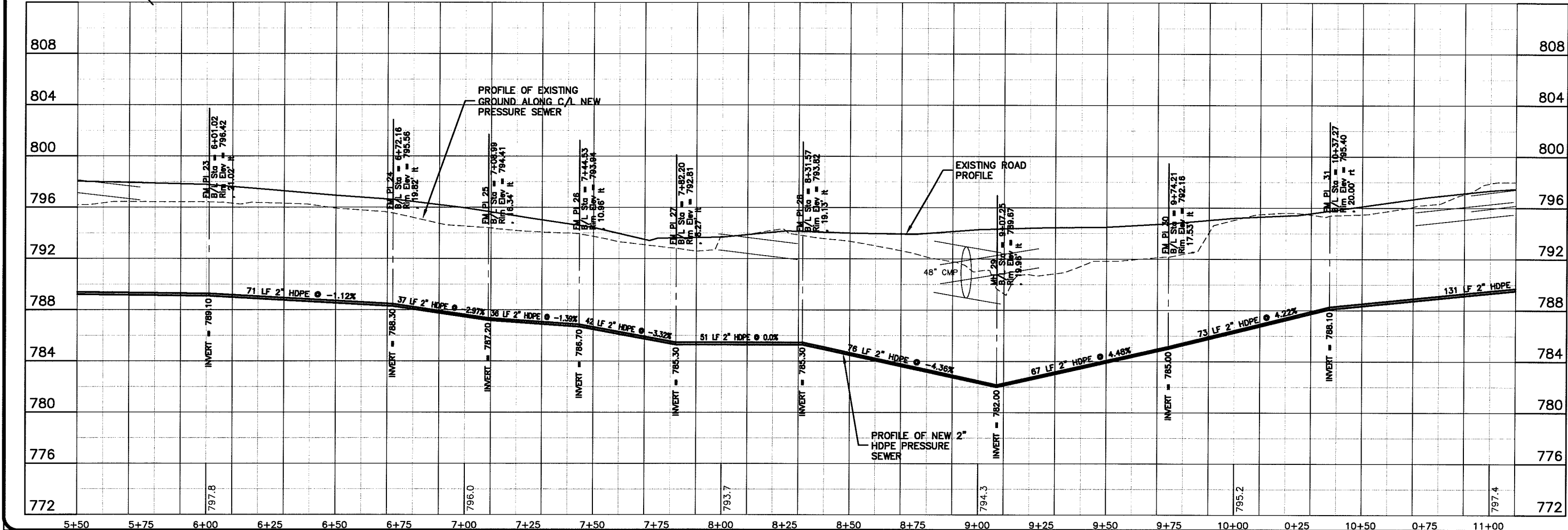
TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 • 1-800-777-7386 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

NO.	DATE	BY	REVISION
PROJECT NO. 626000	DATE: 19 Oct 2009	DRAWN BY: RWM	CHECKED BY: CWS
<b>SEWER PLAN-PROFILE</b> <b>PARKLAND SANITARY DISTRICT NO. 1</b> WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN			
FILE NO. 626-001	SHEET P-200		

UNIT NAME P-201



PLT DATE: 19 Oct 2009, PLT TIME: 6:08am  
 FILENAME: K:\Design\80p2025.dwg



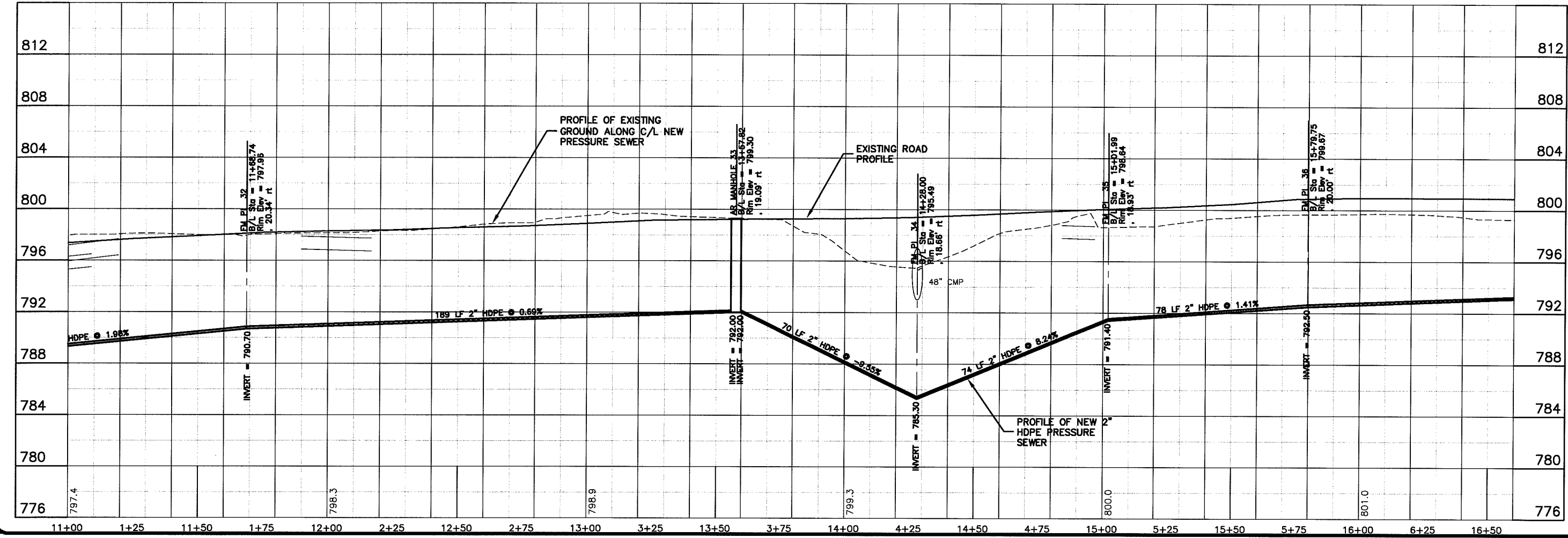
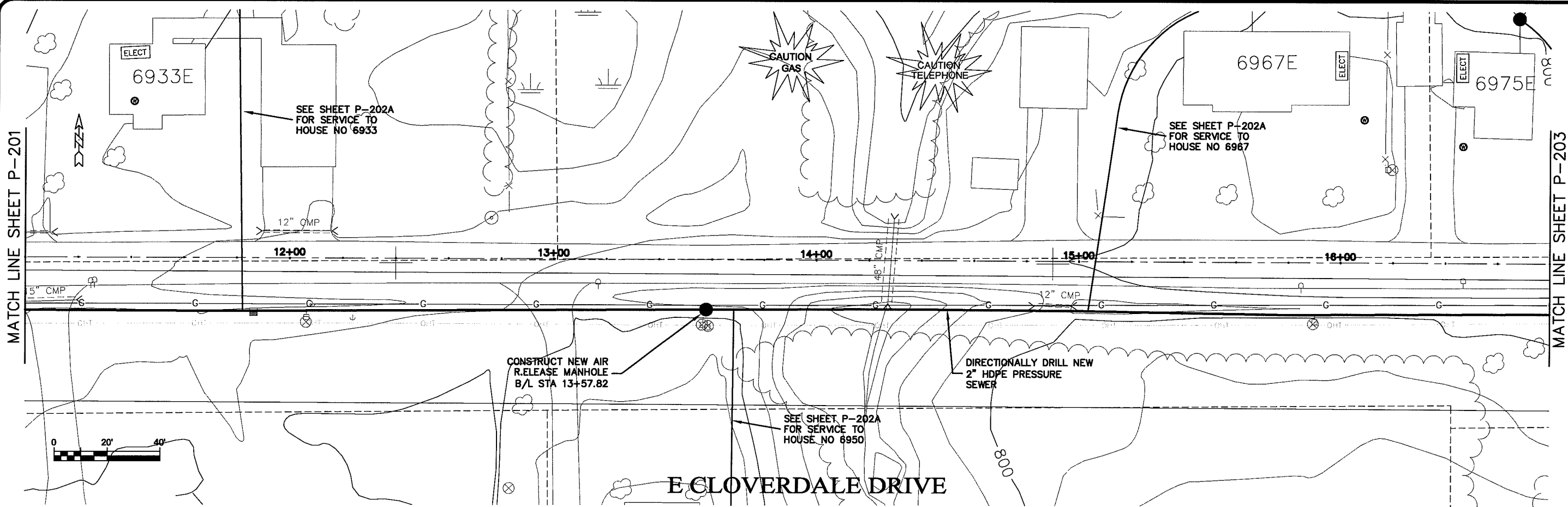
TRANSPORTATION - MUNICIPAL  
 DEVELOPMENT - ENVIRONMENTAL  
 30 West First Street, Duluth, MN 55802  
 218-722-9315 / 800-777-7930 Fax: 218-722-4948  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO. 626000  
 DATE: 19 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS  
 SCALE: AS SHOWN

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
 SHEET P-201

UNSAT WARE P-202



PLT DATE: 19 Oct 2009 10:47:38am  
 FILENAME: K:\Design\RC\p3025.dwg

TRANSPORTATION - MUNICIPAL  
 DEVELOPMENT - ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-9313 1-800-777-9300 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO. 626000  
 SHEET P-202

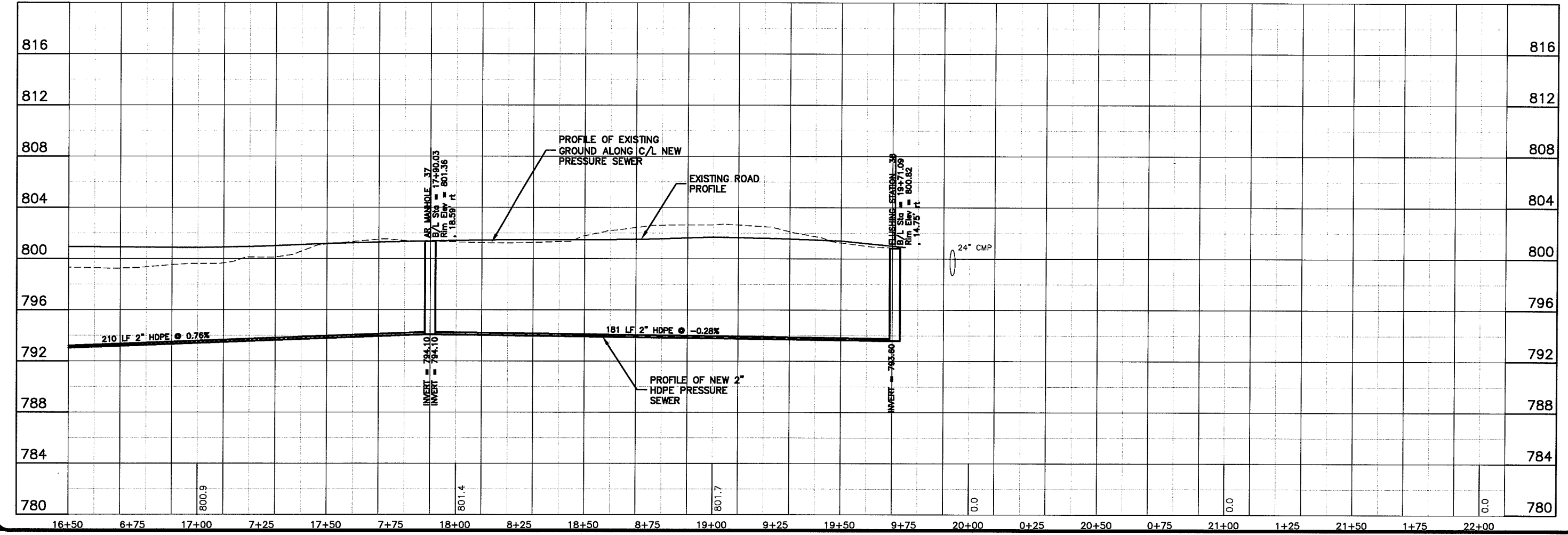
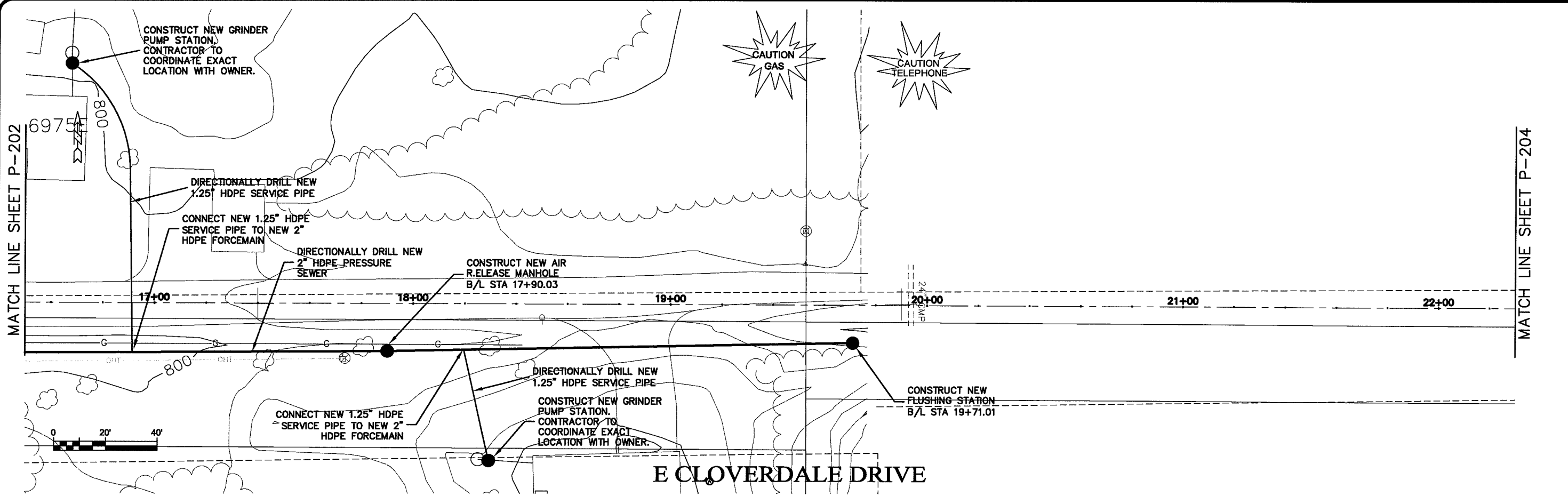
DATE: 19 Oct 2009  
 DRAWN BY: RWM  
 CHECKED BY: CWS

SCALE: AS SHOWN

SEWER PLAN - PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
 SHEET P-202

UROR 11/16/09 Layout1



PLT DATE: 19 Oct 2009, PLT TIME: 7:52am  
 FILENAME: K:\Design\80p04025.dwg

MATCH LINE SHEET P-202

MATCH LINE SHEET P-204

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-9115 • 1-800-777-7380 Fax: 218-722-4548  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO: 626000  
 FILE NO: 626-001  
 SHEET: P-203

DATE: 19 Oct 2009  
 SCALE: AS SHOWN

DESIGNED BY: RWIM  
 DRAWN BY: RWIM  
 CHECKED BY: CWS

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

LAYOUT NAME: P-204

FILE NAME: 19\_Oct\_2009\_RUF\_WW7\_586m  
FILE PATH: K:\Design\RCp05025.dwg

MATCH LINE SHEET P-203

MATCH LINE SHEET P-205



23+00

24+00

25+00

26+00

27+00

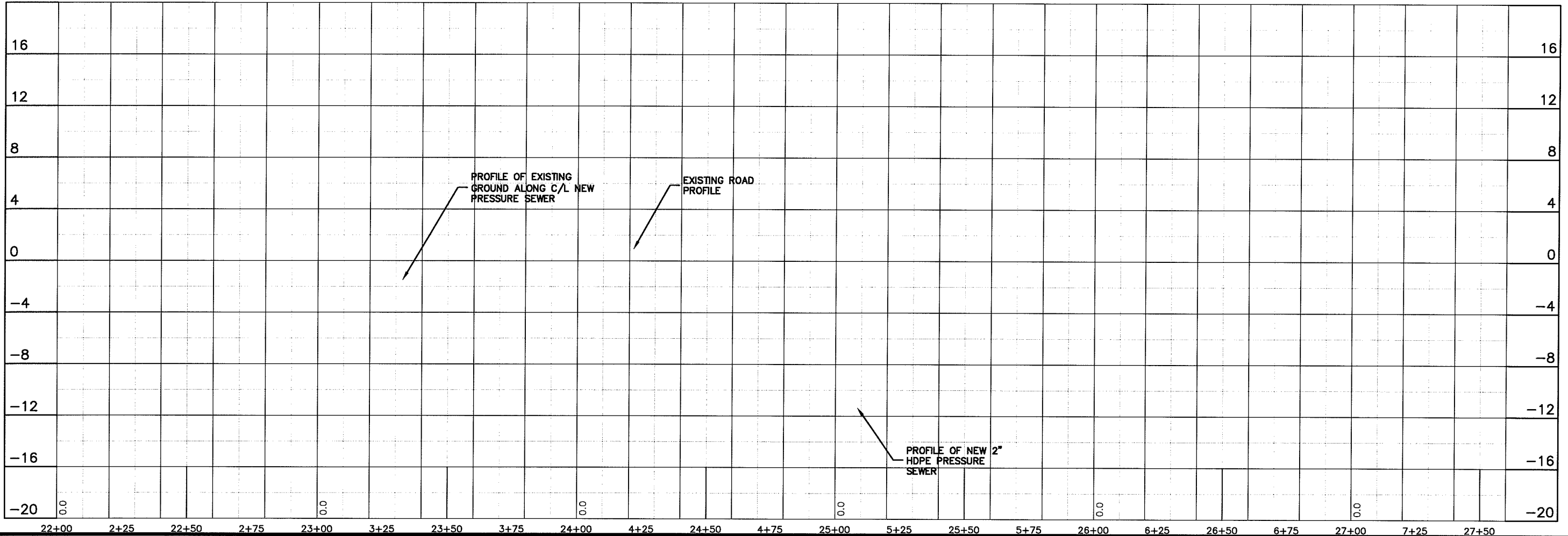
CAUTION  
GAS

CAUTION  
TELEPHONE

**THIS SHEET FOR  
FUTURE SERVICE**

DIRECTIONALLY DRILL NEW  
2" HDPE PRESSURE  
SEWER

E CLOVERDALE DRIVE



**MSA**  
TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-9315 1-800-777-7380 Fax: 218-722-4548  
MSA PROFESSIONAL SERVICES

PROJECT NO: 626000  
DATE: 19 Oct 2009  
SCALE: AS SHOWN

SEWER PLAN-PROFILE  
**PARKLAND SANITARY DISTRICT NO. 1**  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO: 626-001  
SHEET: P-204

UPRINT NAME: P-205

MATCH LINE SHEET P-204



28+00

29+00

30+00

31+00

32+00

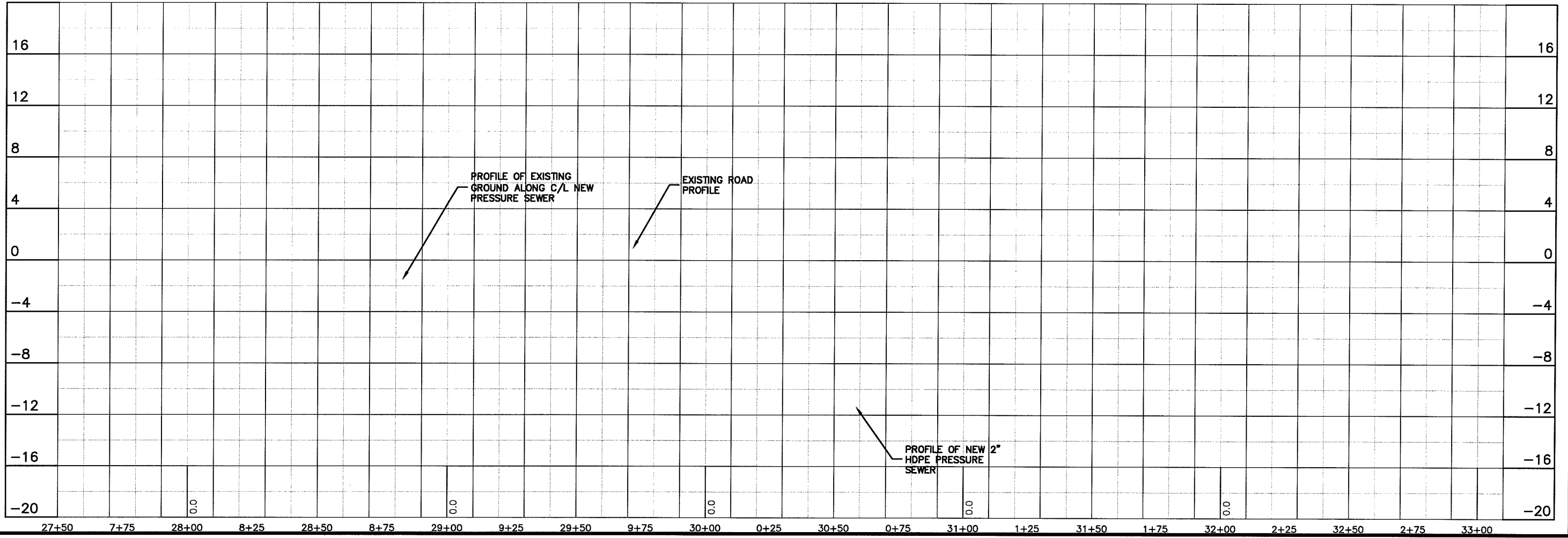
EOP = 32+74.16  
N = 64245.69  
E = 189034.22



THIS SHEET FOR  
FUTURE SERVICE

DIRECTIONALLY DRILL NEW  
2" HDPE PRESSURE  
SEWER

E CLOVERDALE DRIVE



PLT DATE: 19 Oct 2009 PLT TIME: 8:01am  
FILENAME: K:\Design\RCp06025.dwg

**MSA**  
PROFESSIONAL SERVICES

TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Des Moines, IA 50302  
216-222-9313 • 1-800-777-1380 • FAX: 216-222-4548

PROJECT NO. 626000  
DATE: 19 Oct 2009  
SCALE: AS SHOWN

SEWER PLAN - PROFILE  
PARKLAND SANITARY DISTRICT NO. 1  
WASTEWATER COLLECTION SYSTEM  
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
SHEET P-205

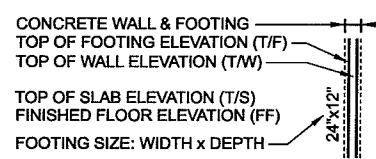
DESIGN STRESSES	
CAST-IN-PLACE CONCRETE	
FOOTINGS	$f_c = 4000$ psi
WALLS	$f_c = 4000$ psi
SLAB ON GRADE	$f_c = 4000$ psi
OTHER	$f_c = 3500$ psi
STEEL	
REINFORCING	$f_y = 60$ ksi
BOLTS	
ANCHOR	F1554, GRADE 36
EXPANSION	WEDGE TYPE
SOIL BEARING PRESSURE CAPACITY	
PRESUMED	$q = 1500$ psf

STEEL REINFORCING	
MIN. CLEAR COVER, UNO	
FOUNDATION WALLS	
#5 BARS & SMALLER	1 1/2"
#6 BARS & LARGER	2"
NON-STRUCT. SLABS ON GRADE	
BOTTOM & SIDES	1 1/2"
TOP	3/4"
FOOTINGS & STRUCT. SLABS ON GRADE	
BOTTOM & SIDES	3"
TOP	2"

NOTES  
1. LAP BARS 36" AT SPLICES.

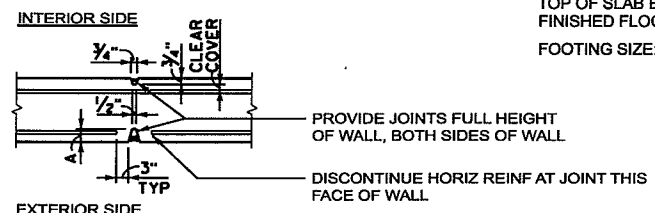
DESIGN LOADINGS			
BUILDING CATEGORY	III	SEISMIC DESIGN DATA	
WIND LOAD		SEISMIC IMPORTANCE FACTOR, $I_e$ 1.25	
BASIC WIND SPEED	90 mph	MAPPED SPECTRAL RESPONSE ACCELERATIONS	
WIND IMPORTANCE FACTOR, $I_w$	1.15	$S_s$	0.056
WIND EXPOSURE	C	$S_1$	0.018
INTERNAL PRESSURE COEFFICIENT	0.18	SPECTRAL RESPONSE COEFFICIENTS	
COMPONENTS AND CLADDING		$S_{ds}$	0.06
EXTERIOR WALLS, DOORS, WINDOWS		$S_{d1}$	0.03
AND LOUVERS	$\pm 30$ psf	SEISMIC DESIGN CATEGORY A	
ROOF UPLIFT	22.8 psf	BASIC SEISMIC-FORCE-RESISTING SYSTEM	
ROOF OVERHANG UPLIFT	32.0 psf	LIGHT FRAMED WALL SYSTEM USING	
ADDITIONAL ROOF LOADS		FLAT STRAP BRACING	
DEAD LOAD, TOTAL	18 psf	DESIGN BASE SHEAR	854 psf
TOP CHORD	10 psf	SEISMIC RESPONSE COEFFICIENT, $C_s$	0.01
BOTTOM CHORD	8 psf	RESPONSE MODIFICATION FACTOR	4.0
UNBALANCED ROOF SNOW LOADS		ANALYSIS PROCEDURE USED	
VALUES FOR FIG 7-5 (ASCE 7-05)		EQUIVALENT LATERAL FORCE	
(LEFT) $P_g$	15.2 psf	LIVE LOADS	
(RIGHT) $P_s$	50.8 psf	ROOF LIVE LOAD	
DRIFT ADJACENT TO GABLE	22.1 psf		
LENGTH OF DRIFT	8.1 ft	SNOW LOAD	
LIVE LOAD (MINIMUM)	20 psf	GROUND SNOW LOAD, $P_g$	60 psf
TRUSS DEFLECTION, MAX	L/360	FLAT-ROOF SNOW LOAD, $P_f$	50.8 psf
		SNOW EXPOSURE FACTOR, $C_e$	1.0
		SNOW LOAD FACTOR, $I$	1.1
		THERMAL FACTOR, $C_t$	1.1

**FOUNDATION LEGEND**

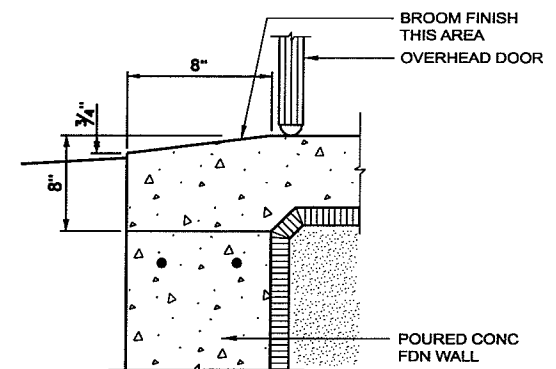


**GENERAL FOUNDATION NOTES**

- CONTRACTOR TO COORDINATE STRUCTURAL, ARCHITECTURAL, HVAC, AND PLUMBING PLANS FOR DETAILS, DIMENSIONS, ELEVATIONS, OPENINGS, INSERTS, ETC. NOTIFY ARCHITECT OF ANY VARIANCE BEFORE COMMENCING CONSTRUCTION.
- IN NO CASE SHALL STRUCTURAL ALTERATIONS OR WORK AFFECTING A STRUCTURAL MEMBER BE MADE, UNLESS APPROVED BY ENGINEER.
- SIMILAR PORTIONS OF THE BUILDING SHALL HAVE SIMILAR DETAILING, UNLESS NOTED OTHERWISE.
- FOOTINGS SHALL BE CENTERED ABOUT THE WALLS, UNLESS NOTED OTHERWISE.
- PROVIDE 3'-0"x3'-0" CORNER BARS IN FOUNDATION WALL AT CORNERS. BARS SHALL BE SAME SIZE AND LOCATION OF THE HORIZONTAL REINFORCING.

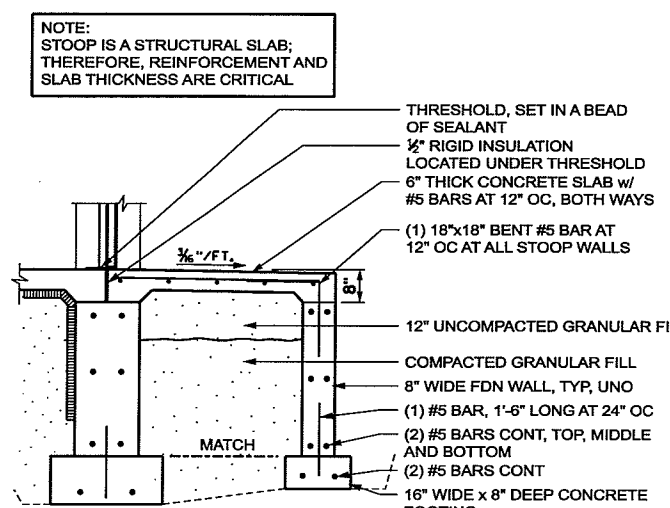
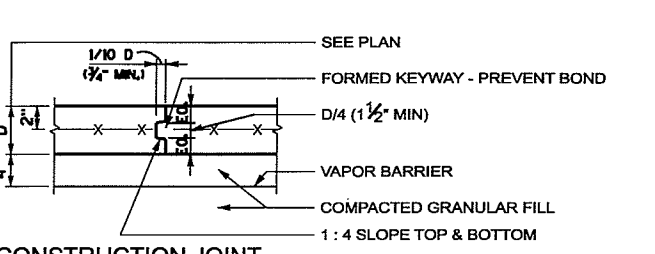
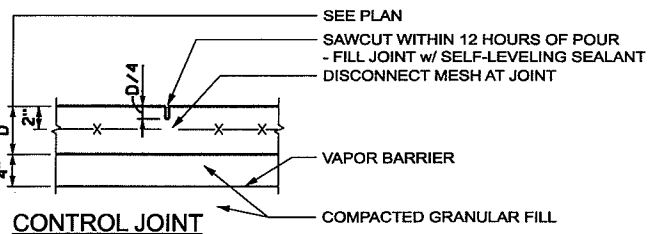


WALL THICKNESS	KEYWAY WIDTH			
	8"	10"	12"	16"
A	1 1/4"	1 3/4"	2 1/4"	3 1/4"



**1 TYPICAL FOUNDATION WALL JOINT (CJ) DETAIL**  
A-1 NOT TO SCALE

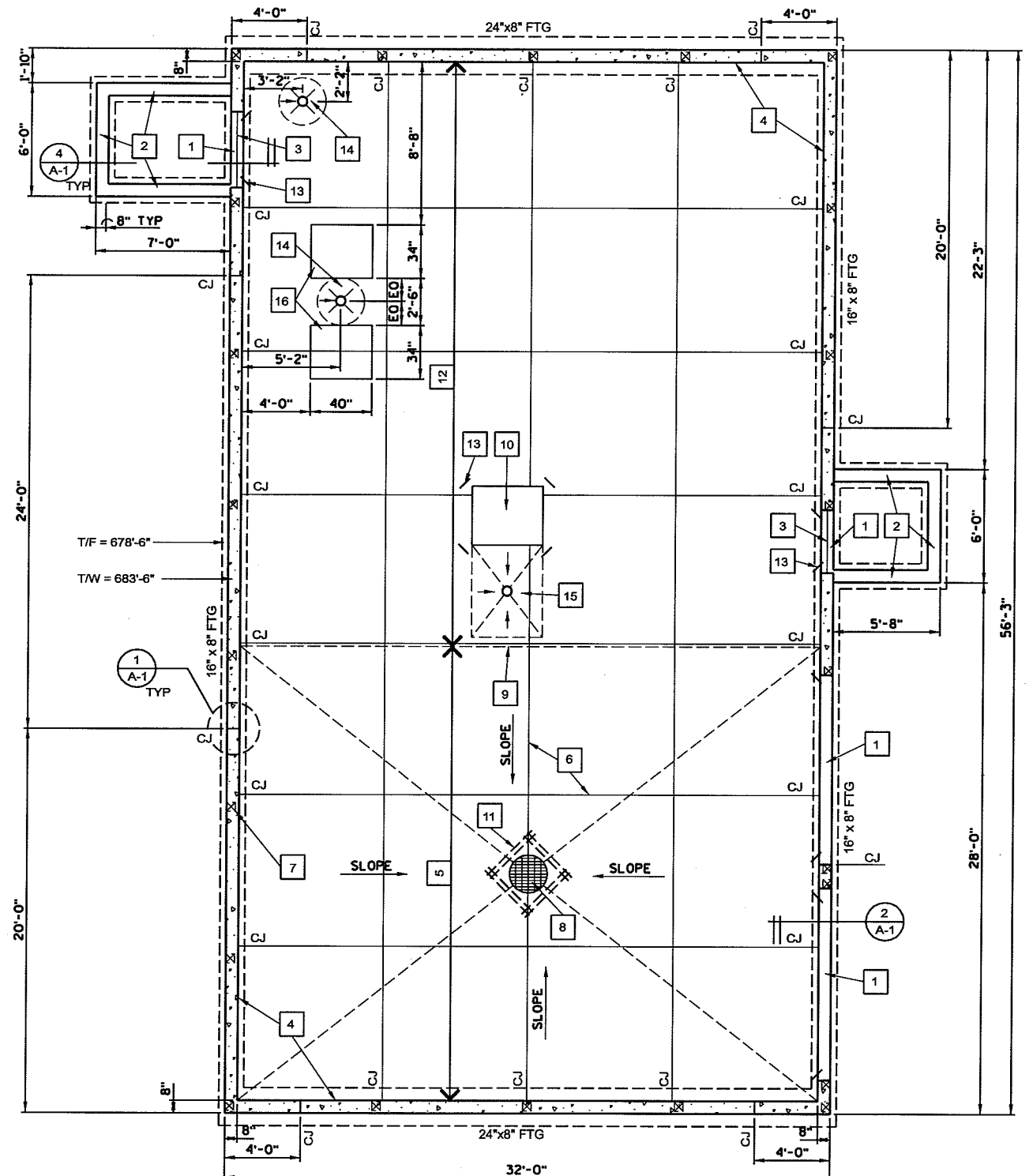
**2 OVERHEAD DOOR SILL DETAIL**  
A-1 NOT TO SCALE



**3 TYPICAL SLAB ON GRADE JOINT (CJ) DETAIL**  
A-1 NOT TO SCALE

**4 TYPICAL STOOP DETAIL**  
A-1 NOT TO SCALE

- BOX NOTES**
- HOLD TOP OF FOUNDATION WALL DOWN 8" AT DOOR OPENING
  - TOP OF CONCRETE STOOP WALL 8" BELOW TOP OF FINISHED FLOOR
  - LOCATE SLAB CONSTRUCTION JOINT BELOW DOOR THRESHOLD
  - 1/2" RIGID INSULATION AT SLAB PERIMETER, TYP
  - 6" THICK CONCRETE SLAB w/ 6x6-W2.9xW2.9 WWM OVER MIN 12" COMPACTED GRANULAR FILL AND VAPOR BARRIER - SEE DETAIL 3/A-1 FOR VAPOR BARRIER LOCATION
  - SLAB CONTROL/CONSTRUCTION JOINT (CJ) LOCATION - SEE DETAIL 3/A-1
  - BUILDING POST ABOVE, TYP
  - CATCH BASIN (TOP OF RIM EL 683'-3 1/4") - SEE PLUMBING
  - FINISHED FLOOR ELEVATION 683'-6" AT THIS LINE
  - SHOWER LOCATION - COORDINATE LOCATION, SIZE AND DEPTH THAT FLOOR SLAB MUST BE RECESSED
  - (2) 36" LONG #5 BAR IN SLAB
  - 4" THICK CONCRETE SLAB w/ 6x6-W1.4xW1.4 WWM OVER MIN 12" COMPACTED GRANULAR FILL AND VAPOR BARRIER - SEE DETAIL 3/A-1 FOR VAPOR BARRIER LOCATION
  - (1) #5 x 18" LONG CORNER BAR IN FLOOR SLAB AT DOOR OPENINGS AS SHOWN ON THE PLAN, TYP
  - SLOPE CONCRETE SLAB (30" DIA), THIS AREA, TOWARD DRAIN, TOP OF DRAIN AT EL 683'-5 5/8" (3/8" BELOW TOP OF FOUNDATION WALL)
  - SLOPE CONCRETE SLAB, THIS AREA, TOWARD DRAIN, TOP OF DRAIN AT EL 683'-5 1/2" (1/2" BELOW TOP OF FOUNDATION WALL)
  - RAISED CONCRETE PAD FOR PUMP - SEE PROCESS MECHANICAL AND DETAIL 2/PM-5



**FOUNDATION PLAN - DISTRICT OFFICE**  
SCALE: 1/4" = 1'-0" (22 x 34)  
SCALE: 1/8" = 1'-0" (11 x 17)

crestlund  
 10/28/2009  
 11:27:13 AM  
 0626000 A01 ftemp.lan.dgn

**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 501 West First Street, Duluth, MN 55802  
 218-722-2015 FAX: 218-722-2080 E-MAIL: 218-722-4546  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO.	0626000
DATE	OCTOBER 2009
SCALE	AS SHOWN
DRAWN BY	KNK
CHECKED BY	
DATE	
REVISION	

**FOUNDATION PLAN**  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

SHEET  
 626-001  
**A-1**

ROOM FINISH SCHEDULE											
ROOM NO	ROOM NAME	FLOOR	BASE	WALLS				CEILING		REMARKS	ROOM NO
				NORTH	EAST	SOUTH	WEST	MAT'L	HEIGHT		
101	BLOWER	F1	B2	W3	W3	W3	W3	C3	12'-0"		101
102	STORAGE	F2	B2	W3	W3	W3	W3	C3	9'-0"		102
103	OFFICE/ MTG	F2	B2	W3	W3	W3	W3	C4	8'-8"		103
104	ELECTRICAL	F1	B2	W3	W3	W3	W3	C3	12'-0"		104
105	TOILET ROOM	F2	B2	W2	W2	W2	W2	C2	9'-0"	1.	105
106	GARAGE	F1	B1,B2	W3	W1	W1	W1	C1	12'-0"	2.	106

FLOOR:  
F1. CONCRETE - SEALED  
F2. SHEET VINYL

BASE:  
B1. NONE  
B2. 4" HIGH VINYL BASE

WALLS:  
W1. PREFINISHED METAL LINER PANEL w/ TRIM  
W2. GYPSUM BOARD - SMOOTH FINISH - PAINT  
W3. GYPSUM BOARD - LIGHT TEXTURE - PAINT

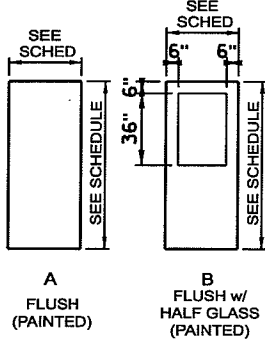
CEILING:  
C1. PREFINISHED METAL LINER PANEL w/ TRIM  
C2. GYPSUM BOARD - SMOOTH FINISH - PAINT  
C3. GYPSUM BOARD - LIGHT TEXTURE - PAINT  
C4. 2x4 SUSPENDED ACOUSTIC TILE

REMARKS  
1. PROVIDE A BEAD OF SEALANT AT THE BASE/ FLOOR JOINT  
2. PROVIDE 4" HIGH VINYL BASE AT THE NORTH WALL ONLY

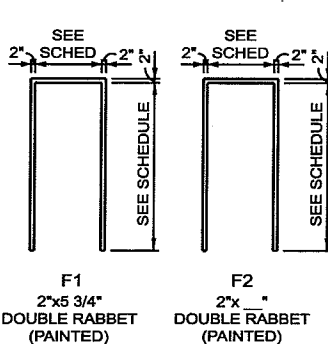
DOOR & FRAME SCHEDULE														
OPENING NO	TYPE	DOOR			FRAME			HARDWARE SET	FIRE LABEL	GLASS TYPE	REMARKS	OPENING NO		
		MAYL	NOMINAL SIZE		TYPE	MAYL	DETAILS							
			WIDTH	HEIGHT			THICK						HEAD	JAMB
1	A	HM	4'-0"	7'-0"	1 3/4"	F1	HM	9/A-5	9/A-5	4/A-1	1	1	1	
2	A	HM	3'-0"	7'-0"	1 3/4"	F2	HM	5/A-5	5/A-5		4	2	5.	
3	A	HM	3'-0"	7'-0"	1 3/4"	F2	HM	5/A-5	5/A-5		3	3	3.	
4	A	HM	3'-0"	7'-0"	1 3/4"	F2	HM	5/A-5	5/A-5		2	4	1.	
5	A	HM	3'-0"	7'-0"	1 3/4"	F2	HM	5/A-5	5/A-5		5	5	5.	
6	A	HM	3'-0"	7'-0"	1 3/4"	F2	HM	5/A-5	5/A-5		2	6	1.	
7	B	HM	3'-0"	7'-0"	1 3/4"	F1	HM	9/A-5	9/A-5	4/A-1	1	7	1.	
8	C	STL	10'-2"	10'-1"	2"					2/A-1		8	2, 3, 4.	
9	C	STL	10'-2"	10'-1"	2"					2/A-1		9	2, 3, 4.	

REMARKS  
1. SET THRESHOLD IN A BEAD OF SEALANT.  
2. WRAP OPENING w/ PREFINISHED METAL TRIM.  
3. TRACK HARDWARE AND OPERATOR BY DOOR SUPPLIER.  
4. ACTUAL WALL OPENING FOR DOOR SHALL BE 2" NARROWER AND 1" SHORTER THAN DOOR SIZE LISTED.  
5. PROVIDE DOOR GRILLE - SEE HVAC

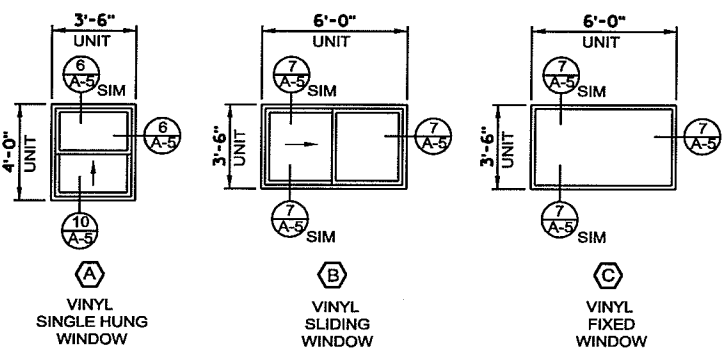
DOOR TYPES



FRAME TYPES



WINDOW TYPES

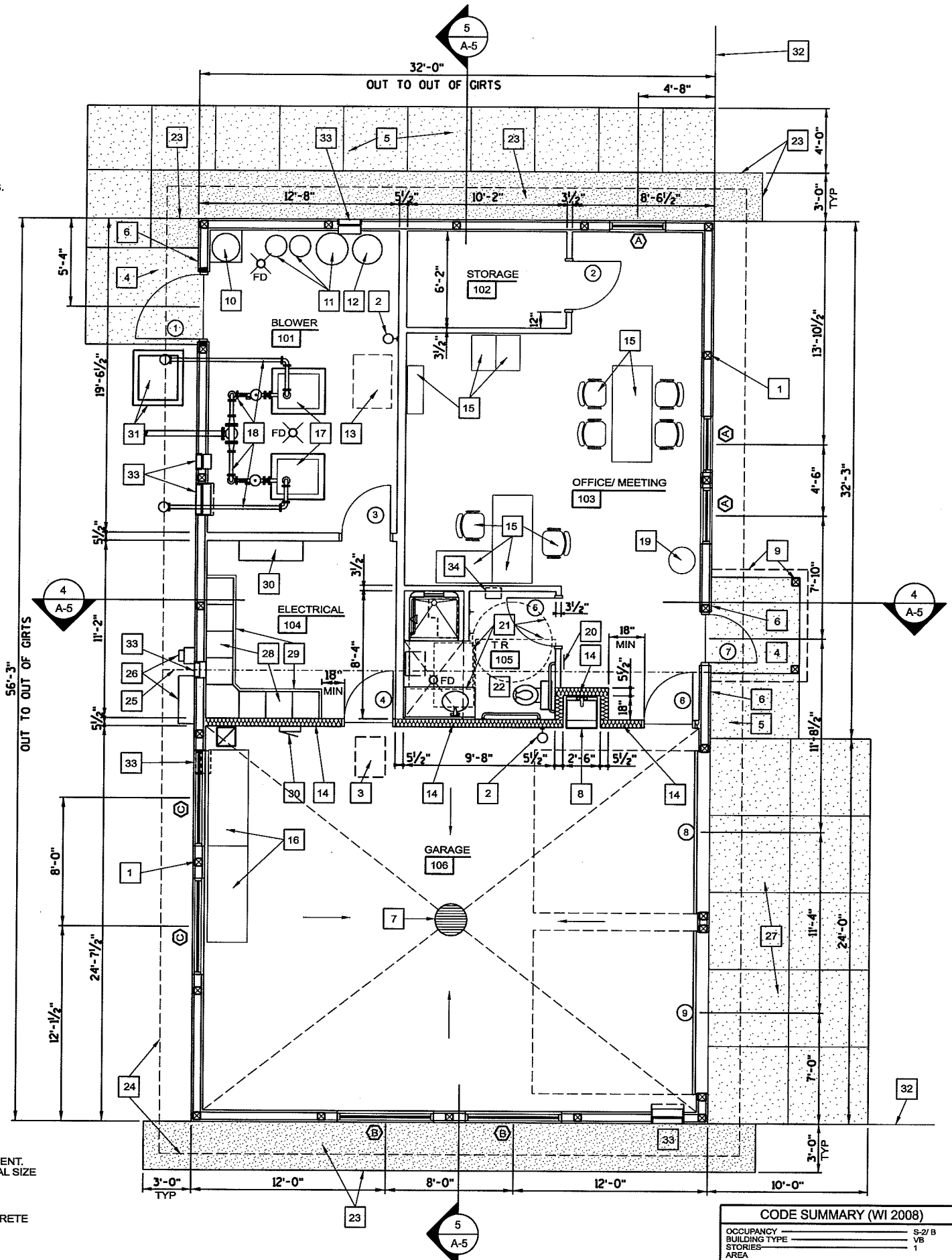


GENERAL NOTES

- ALL DIMENSIONING IS TO FACE OF CONCRETE OR FACE OF POST-FRAME BUILDING WALL GIRT OR FACE OF STUD.
- DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM THE ARCHITECT BEFORE CONTINUING WITH CONSTRUCTION.
- EXTERIOR WALL AND RELATED EXTERIOR OPENINGS BY ALL TRADES SHALL BE FLASHED AND CAULKED BY THE GC. ALL ROOFING PENETRATIONS SHALL BE FLASHED BY THE BUILDING ERECTOR.
- FRAMING FOR OPENINGS FOR PLUMBING, VENTILATING, PROCESS MECHANICAL AND ELECTRICAL WORK IN WALLS, FLOORS, CEILING, AND ROOF SHALL BE PROVIDED BY THE GC. LOCATION AND SIZE SHALL BE THE RESPONSIBILITY OF THE RESPECTIVE CONTRACTORS.
- BUILDING MANUFACTURER/ SUPPLIER TO PROVIDE STRUCTURAL MEMBERS FOR SUPPORTING CEILING HUNG HVAC EQUIPMENT, LIGHTING AND PROCESS PIPING - SEE HVAC, ELECTRICAL, AND PROCESS MECHANICAL.
- CONTRACTOR TO COORDINATE STRUCTURAL, ARCHITECTURAL, HVAC, AND PLUMBING PLANS FOR DETAILS, DIMENSIONS, ELEVATIONS, OPENINGS, INSERTS, ETC. NOTIFY ARCHITECT OF ANY VARIANCE BEFORE COMMENCING CONSTRUCTION.
- IN NO CASE SHALL STRUCTURAL ALTERATIONS OR WORK AFFECTING A STRUCTURAL MEMBER BE MADE, UNLESS APPROVED BY ENGINEER.

BOX NOTES

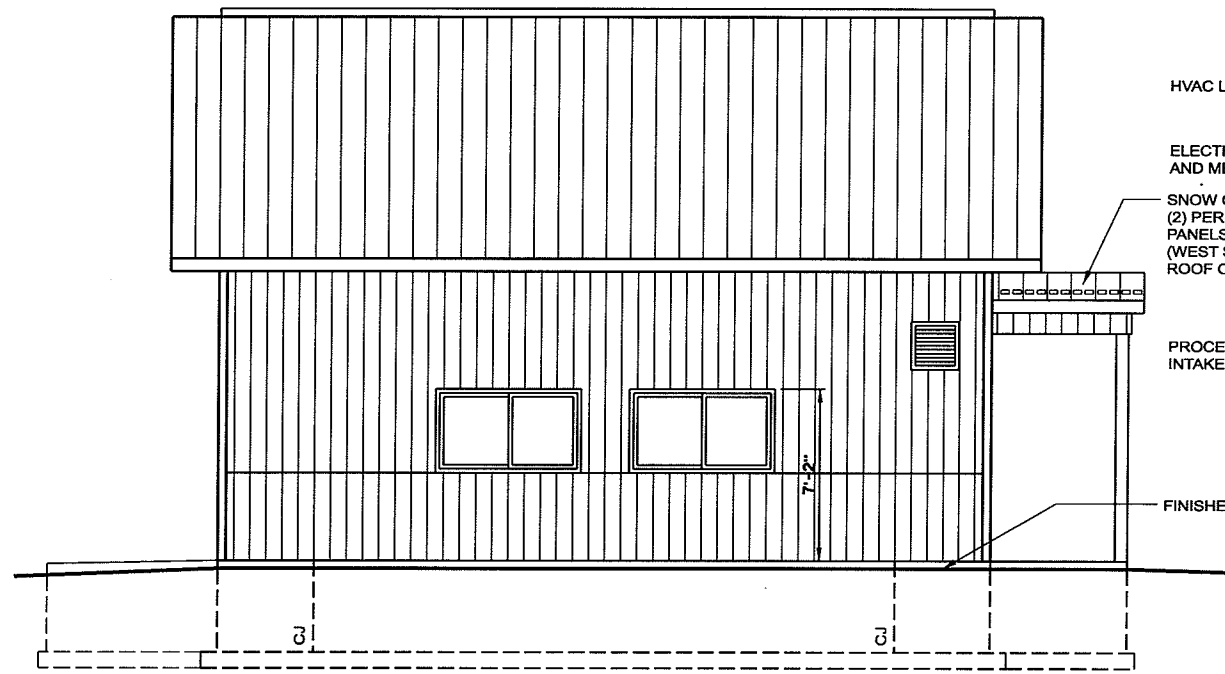
- BUILDING POST BY BUILDING SUPPLIER, TYP
- FIRE EXTINGUISHER
- ATTIC ACCESS HATCH - SEE DETAIL 4/A-5
- CONCRETE STOOP - SEE FOUNDATION
- 5" THICK CONCRETE SIDEWALK w/ 6x6-W1.4xW1.4 WWM OVER MIN 12" COMPACTED GRANULAR FILL. SLOPE AWAY FROM BUILDING, CROSS SLOPE MAX 1:50, RUNNING SLOPE MAX 1:20, w/ BROOM FINISH AND TOOLED CONTROL JOINTS AS SHOWN
- EXPANSION JOINT LOCATION - FULL LENGTH OF SIDEWALK AT BUILDING AND STOOPS, TYP
- CATCH BASIN - SEE PLUMBING
- SERVICE SINK - SEE PLUMBING
- CANOPY BY BUILDING SUPPLIER
- WATER HEATER - SEE PLUMBING. 3 1/2" HIGH x 24"x4" x 24"x4" CONCRETE PAD BY GC - COORDINATE EXACT SIZE w/ PLUMBING CONTRATOR
- WATER SOFTENER - SEE PLUMBING
- WELL PRESSURE TANK - SEE PLUMBING
- FURNACE SUSPENDED FROM CEILING - SEE HVAC
- INSULATED WALL (6" FG BATT INSUL, R-19) FULL HEIGHT
- FURNITURE (DESK, CHAIRS, BOOKCASE, FILE CABINETS, TABLE AND CHAIRS)
- WORK BENCH
- ISOLATION PAD w/ PUMP - SEE PROCESS MECHANICAL
- PROCESS PIPING SUSPENDED FROM CEILING - SEE PROCESS MECHANICAL
- BOTTLE WATER COOLER w/ CUP DISPENSER BY OWNER (NIC)
- TOILET ROOM SIGN - SEE DETAIL 8/A-5
- ACCESSIBLE CLEAR FLOOR SPACE - FOR REFERENCE ONLY
- TOILET ROOM INTERIOR ELEVATIONS - SEE 3/A-5
- 3" THICK WASHED STONE OVER WEED BARRIER. PROVIDE LANDSCAPE EDGING AT NON-SIDEWALK/ EDGE OF BLDG AREAS
- ROOF EDGE LINE - TYPICAL
- ROOF RIDGE LINE
- ELECTRICAL SERVICE (CT CABINET & METER) - SEE ELECTRICAL
- 6" THICK CONCRETE APRON w/ 6x6-W2.9xW2.9 WWM OVER MIN 12" COMPACTED GRANULAR FILL. SLOPE AWAY FROM BUILDING, CROSS SLOPE MAX 1:50, RUNNING SLOPE MAX 1:20, w/ BROOM FINISH AND TOOLED CONTROL JOINTS AS SHOWN
- MOTOR CONTROL CENTER (MCC) LOCATION - SEE ELECTRICAL
- 3 1/2" HIGH RAISED CONCRETE PAD BY GC FOR ELECTRICAL EQUIPMENT. PAD TO EXTEND 2" BEYOND FACE AND EXPOSED END. VERIFY FINAL SIZE w/ EQUIPMENT MANUFACTURER.
- ELECTRICAL PANELS - SEE ELECTRICAL
- CONDENSING UNIT w/ PAD. CONCRETE PAD BY GC, 4" THICK CONCRETE ON 6" GRANULAR FILL. COORDINATE SIZE REQUIRED w/ HVAC CONTRACTOR - SEE HVAC
- EDGE OF GRAVEL DRIVEWAY - SEE SITE PLAN
- WALL LOUVER/ GRILLE - SEE HVAC
- PAPER TOWEL/ WASTE RECEPTACLE



CODE SUMMARY (WI 2008)	
OCCUPANCY	S-2/ B
BUILDING TYPE	VB
STORIES	1
AREA	
ALLOWABLE	9,000 SF
ACTUAL	1,024 SF
VOLUME, TOTAL	16,677 CF
OCCUPANT LOAD (CODE)	11
EXIT DISTANCE	200 FT
SPRINKLERS	NONE

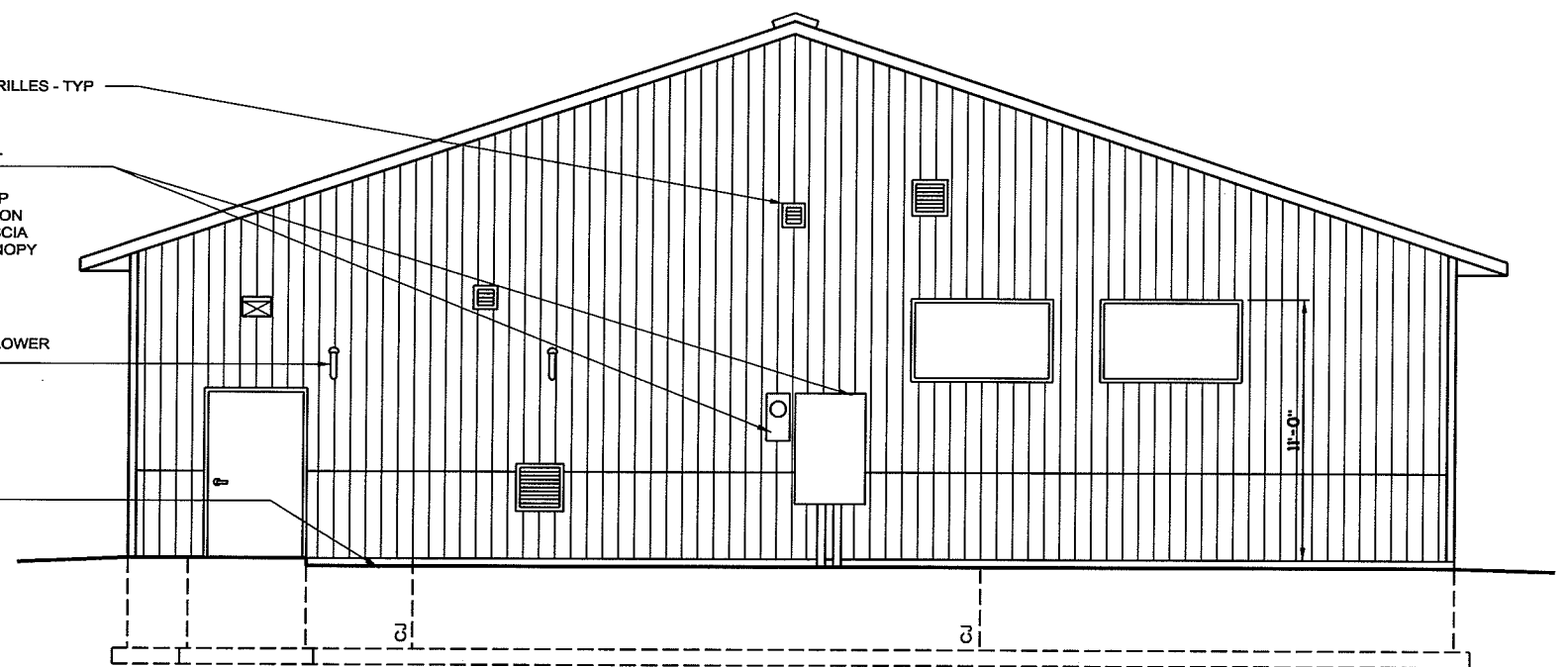
FLOOR PLAN - DISTRICT OFFICE  
SCALE: 1/4" = 1'-0" (22 x 34)  
SCALE: 1/8" = 1'-0" (11 x 17)





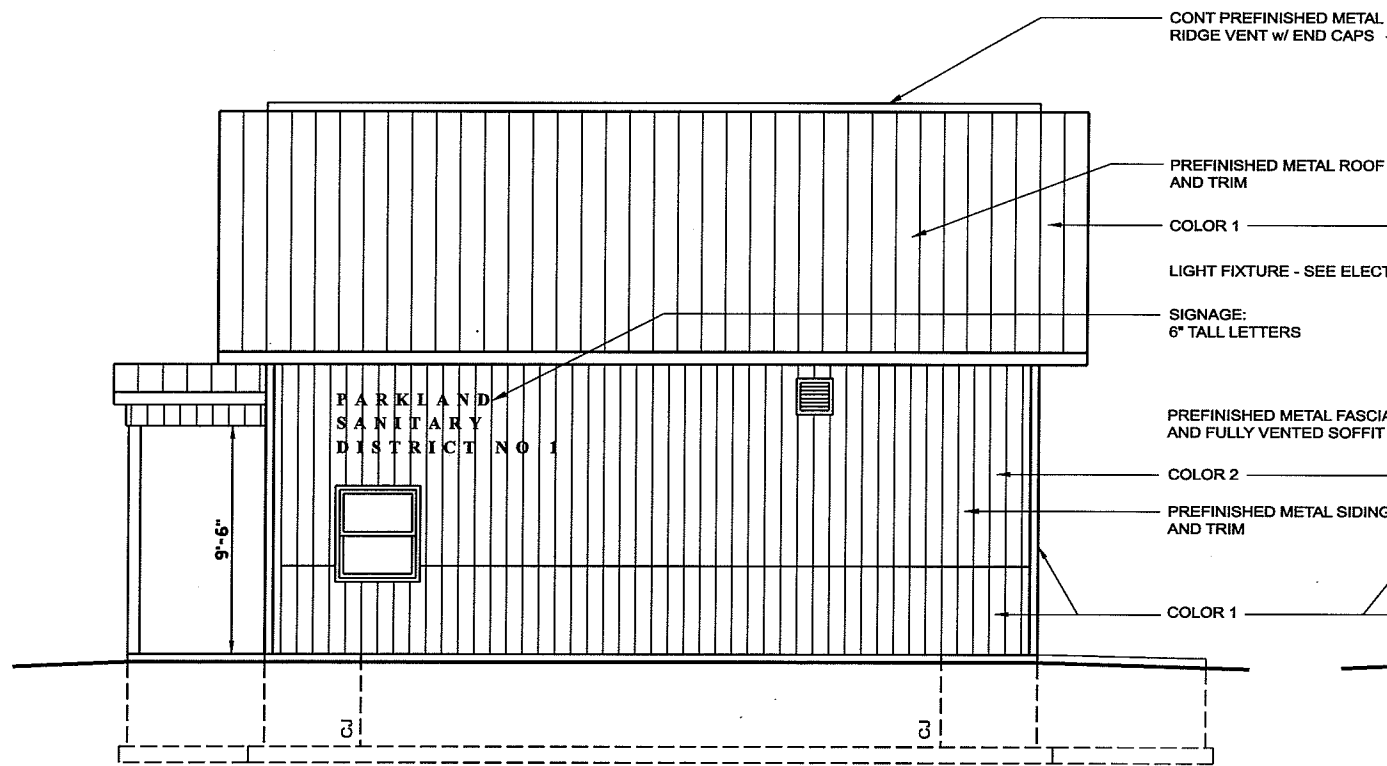
**SOUTH ELEVATION**

SCALE: 1/4" = 1'-0" (22 x 34)  
SCALE: 1/8" = 1'-0" (11 x 17)



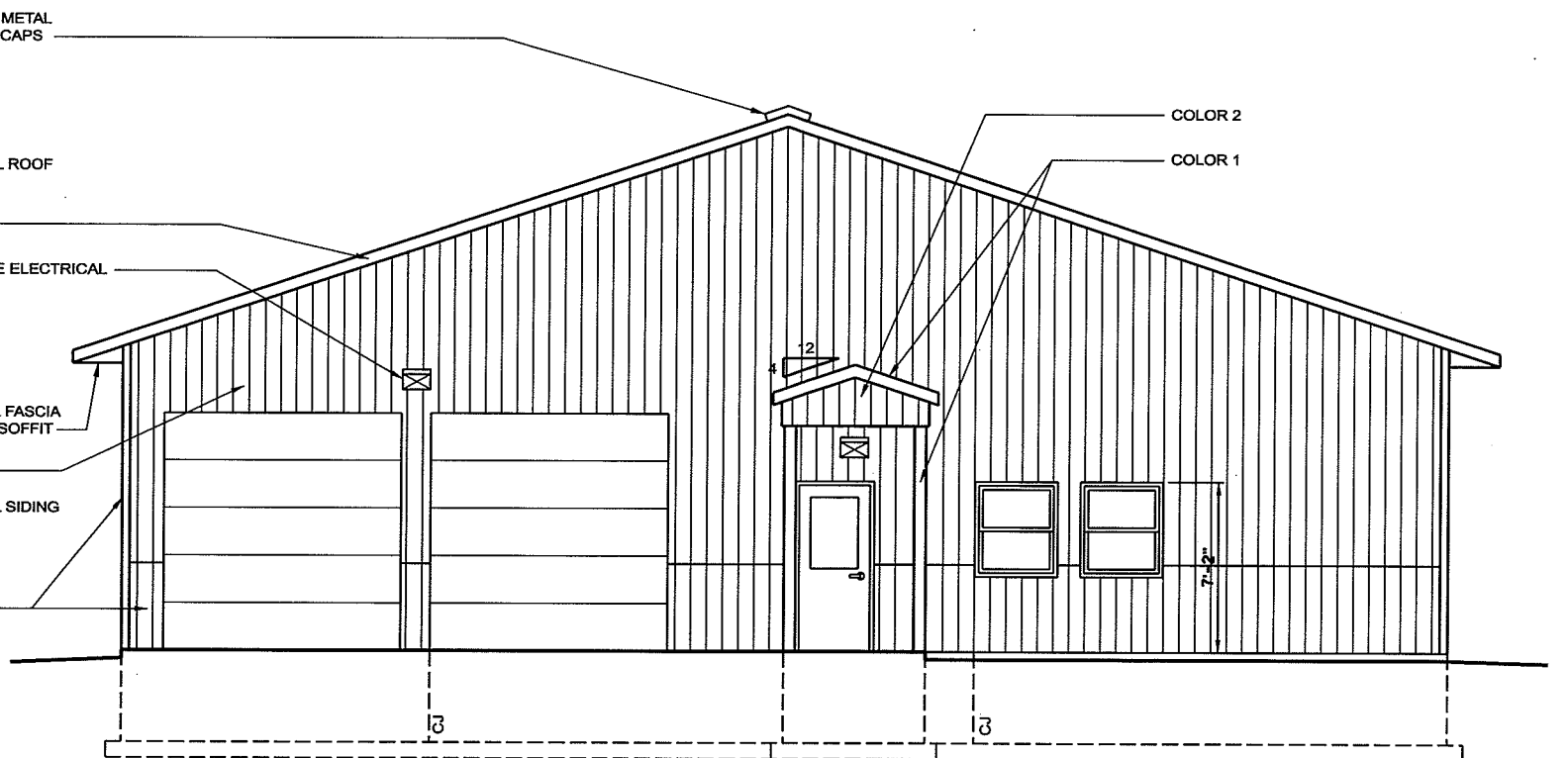
**WEST ELEVATION**

SCALE: 1/4" = 1'-0" (22 x 34)  
SCALE: 1/8" = 1'-0" (11 x 17)



**NORTH ELEVATION**

SCALE: 1/4" = 1'-0" (22 x 34)  
SCALE: 1/8" = 1'-0" (11 x 17)



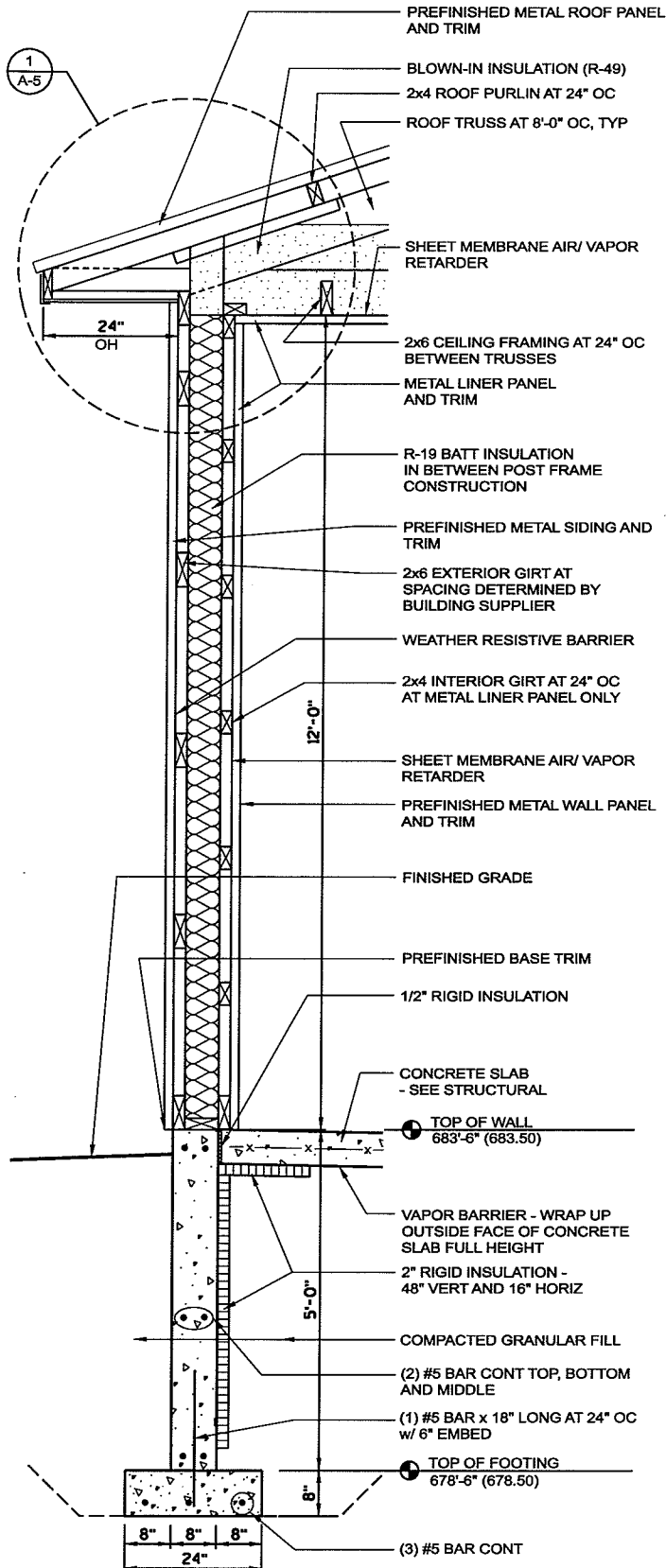
**EAST ELEVATION**

SCALE: 1/4" = 1'-0" (22 x 34)  
SCALE: 1/8" = 1'-0" (11 x 17)

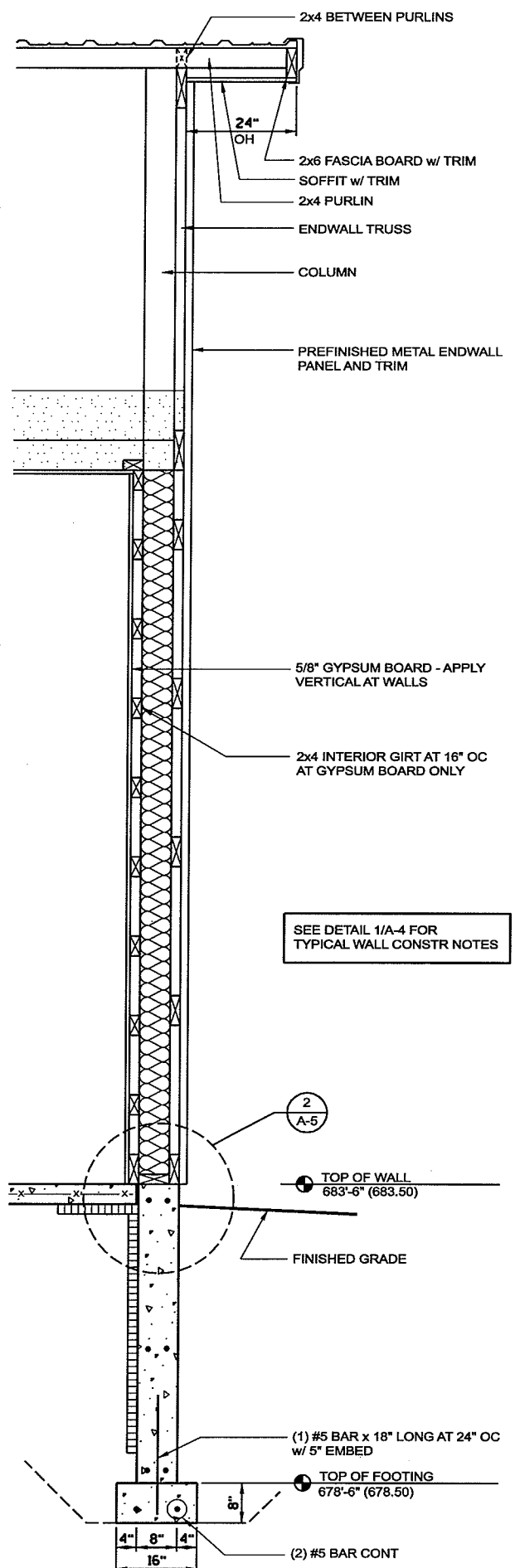
crestland  
10/29/2009  
11:27:55 AM  
00626001.dgn elevations.dgn

**TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL**  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 • 800-777-2800 Fax: 218-722-6548  
**MSA**  
 PROFESSIONAL SERVICES

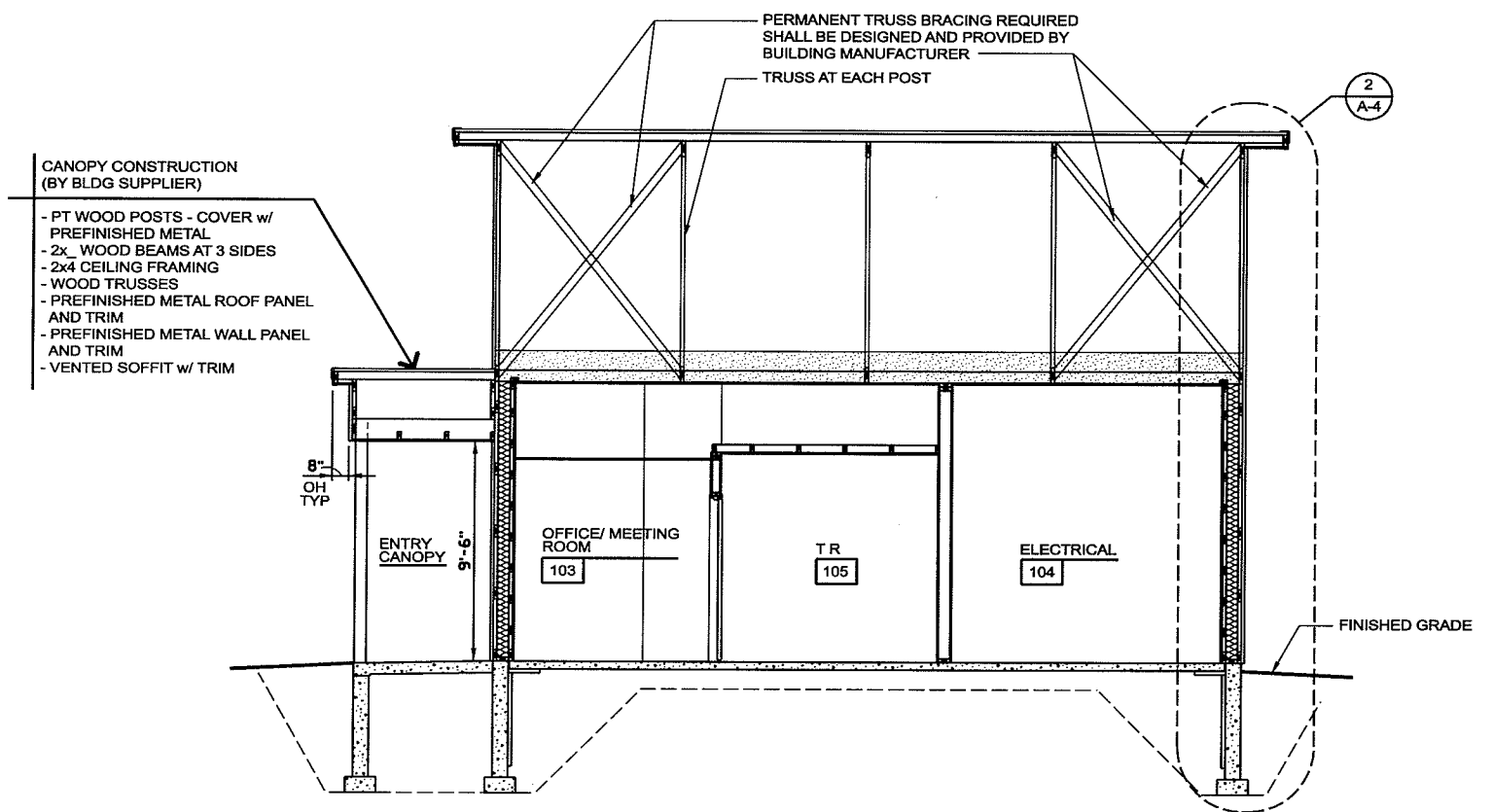
PROJECT NO.:	00626000	DATE:	OCTOBER 2009	DRAWN BY:	KNK
PROJECT NO.:	00626000	DATE:	OCTOBER 2009	DRAWN BY:	KNK
ELEVATIONS			SCALE:	AS SHOWN	CHECKED BY:
<b>PARKLAND SANITARY DISTRICT NO.1</b> WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN					
SHEET <b>A-3</b>					



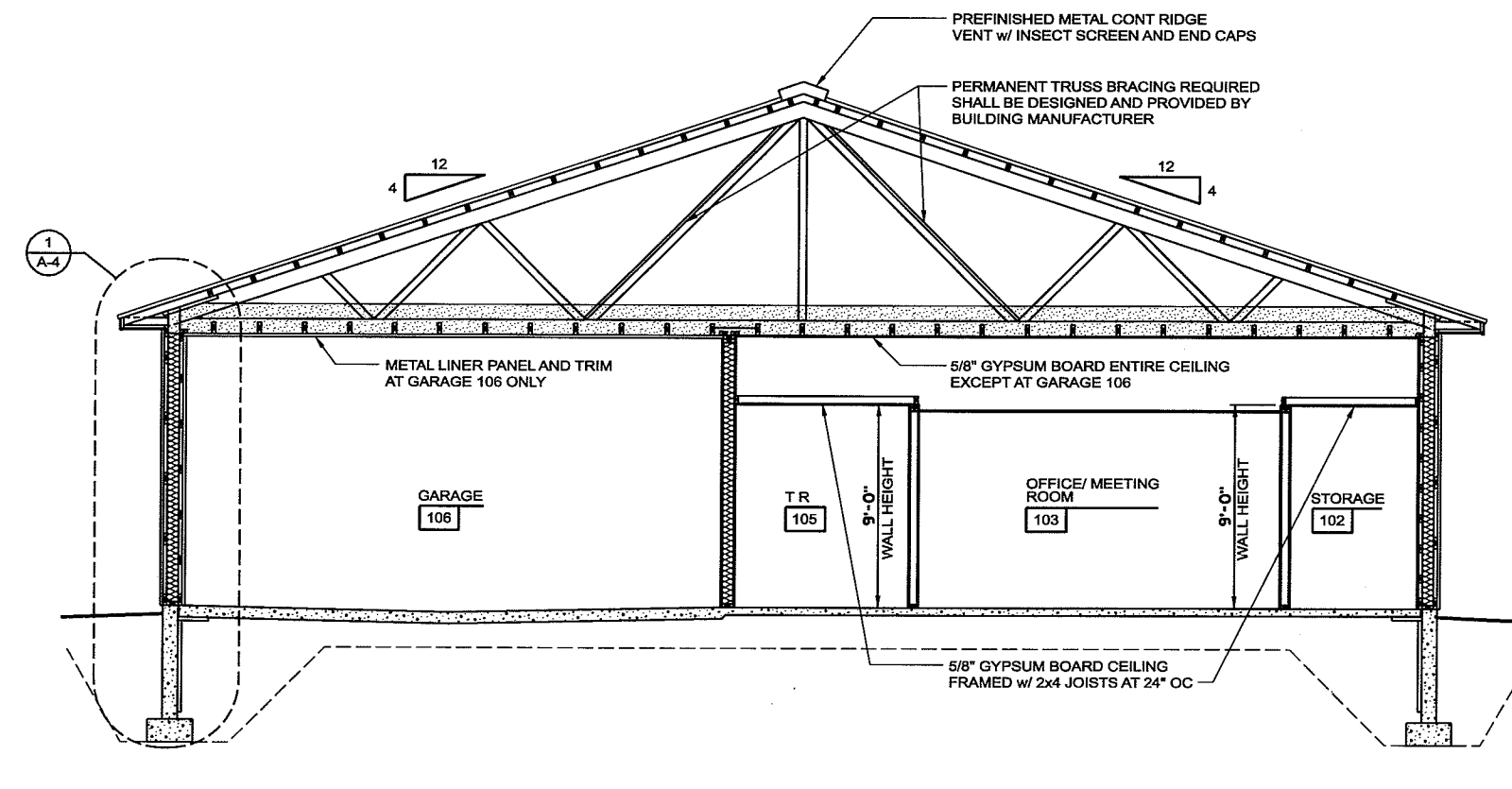
**1 EAVE - WALL SECTION**  
 SCALE: 3/4" = 1'-0" (22 x 34)  
 SCALE: 3/8" = 1'-0" (11 x 17)



**2 GABLE END - WALL SECTION**  
 SCALE: 3/4" = 1'-0" (22 x 34)  
 SCALE: 3/8" = 1'-0" (11 x 17)



**3 BUILDING CROSS-SECTION**  
 SCALE: 1/4" = 1'-0" (22 x 34)  
 SCALE: 1/8" = 1'-0" (11 x 17)

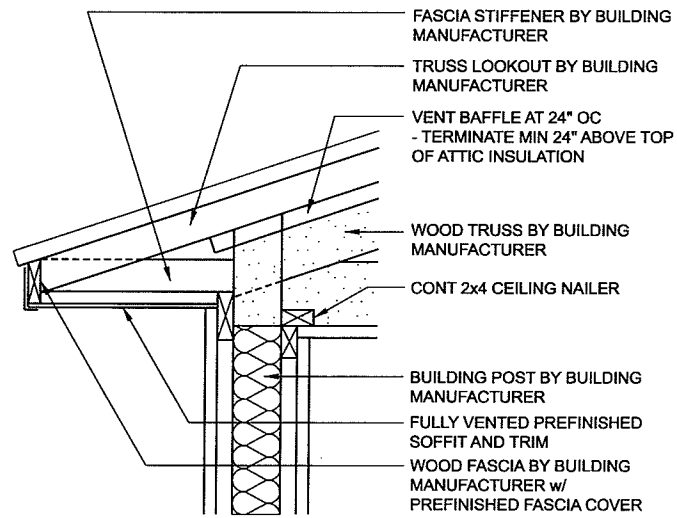


**4 BUILDING CROSS-SECTION**  
 SCALE: 1/4" = 1'-0" (22 x 34)  
 SCALE: 1/8" = 1'-0" (11 x 17)

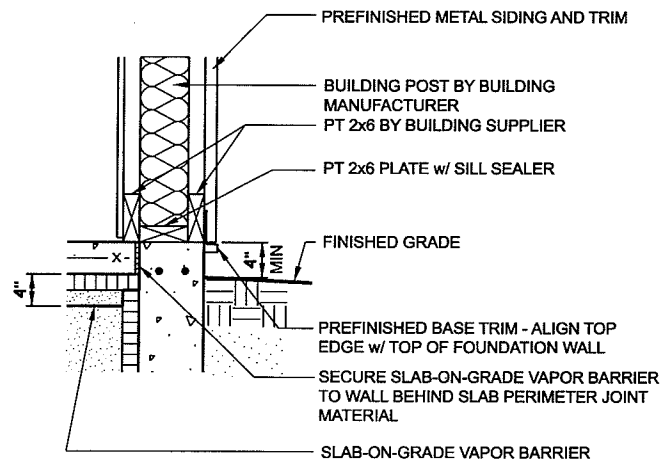
SEE DETAIL 1/A-4 FOR TYPICAL WALL CONSTR NOTES

cwestlund  
 10/28/2009  
 11:28:09 AM  
 00626000.M04 cross sections.dgn

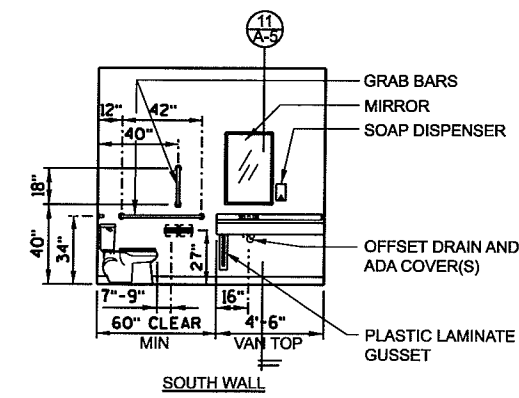
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL		301 West First Street, Duluth, MN 55802 218-722-3915 • 1-800-777-7380 • Fax: 218-722-4548	
<b>MSA</b>		PROFESSIONAL SERVICES	
PROJECT NO.	00626000	DATE	OCTOBER 2009
DESIGNER	KNK	CHECKED BY	AS SHOWN
SCALE			
BUILDING CROSS-SECTIONS			
<b>PARKLAND SANITARY DISTRICT NO. 1</b>			
WASTEWATER COLLECTION SYSTEM			
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN			
FILE NO.	626-001	SHEET	A-4
P:\PROJECTS\620s\626\00626000\CADD\PLANSHEETS\			



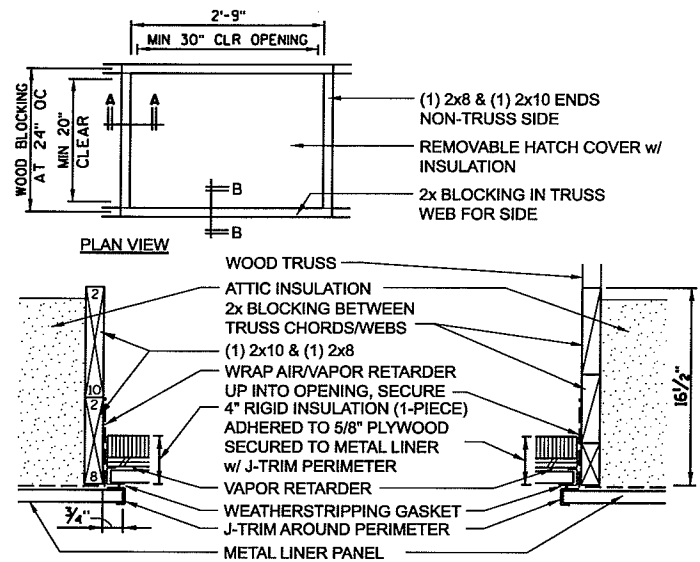
1 TYPICAL ROOF EAVE DETAIL  
 A-5 SCALE: 1" = 1'-0" (22 x 34)  
 SCALE: 1/2" = 1'-0" (11 x 17)



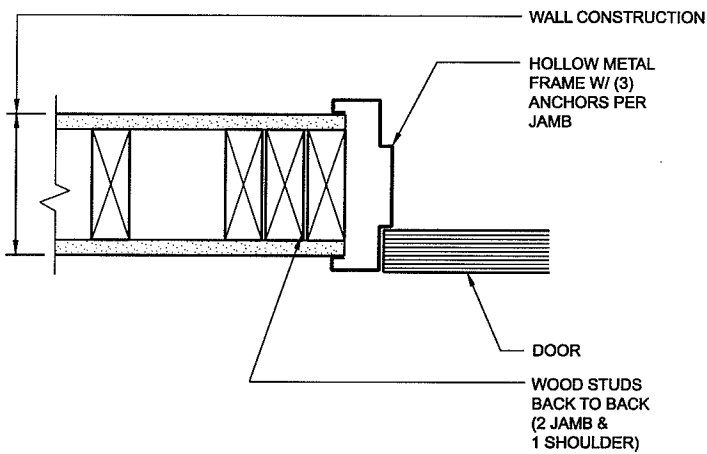
2 TYPICAL BASE OF WALL DETAIL  
 A-5 SCALE: 1" = 1'-0" (22 x 34)  
 SCALE: 1/2" = 1'-0" (11 x 17)



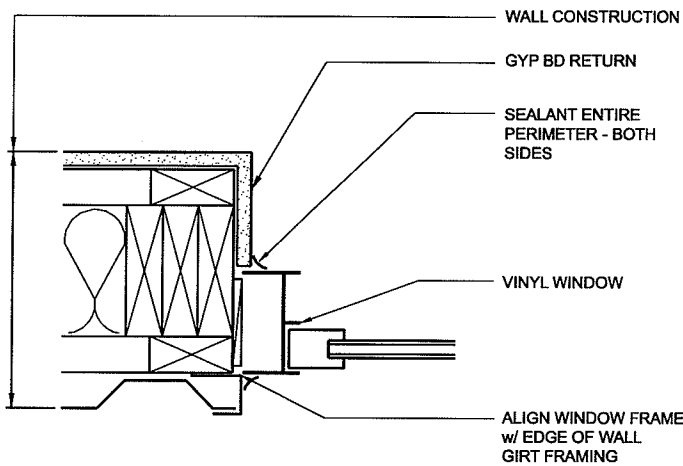
3 TOILET ROOM 105 INTERIOR ELEVATIONS  
 A-5 SCALE: 1/4" = 1'-0" (22 x 34)  
 SCALE: 1/8" = 1'-0" (11 x 17)



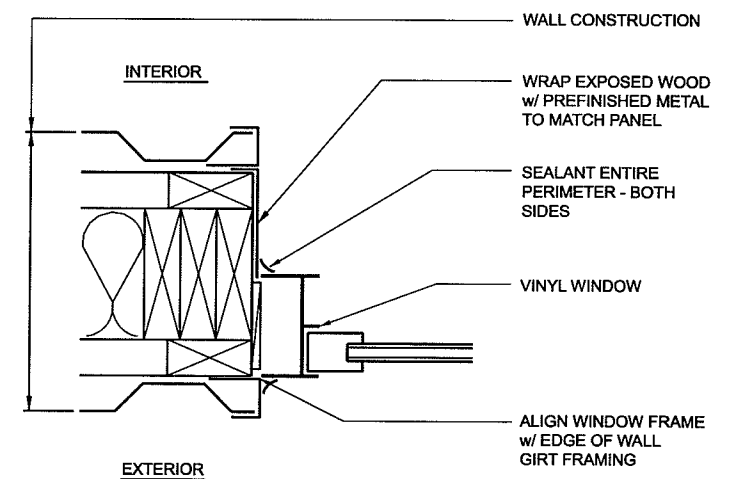
4 ATTIC ACCESS HATCH DETAIL  
 A-5 NOT TO SCALE



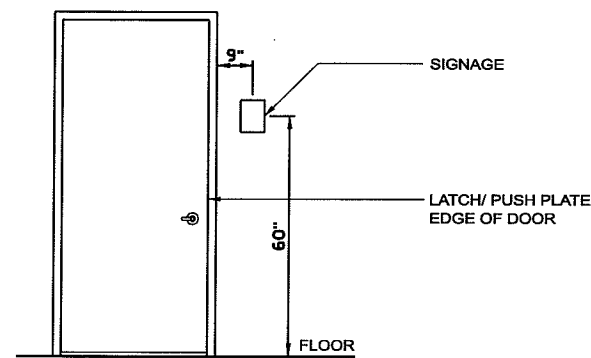
5 INTERIOR DOOR JAMB DETAIL - HEAD SIM  
 A-5 SCALE: 3" = 1'-0" (22 x 34)  
 SCALE: 1 1/2" = 1'-0" (11 x 17)



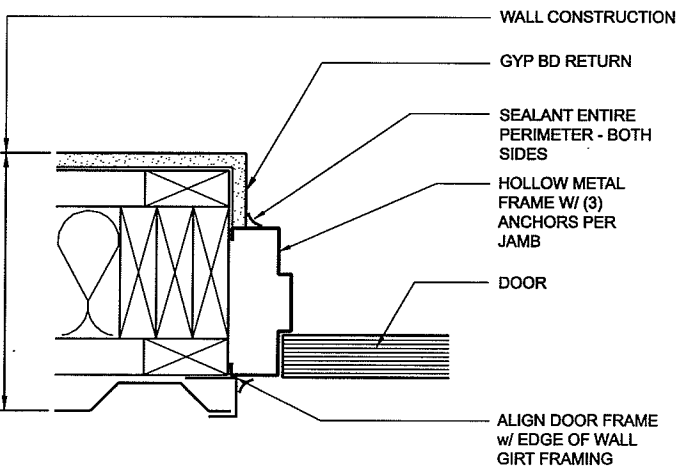
6 WINDOW JAMB DETAIL - HEAD SIM  
 A-5 SCALE: 3" = 1'-0" (22 x 34)  
 SCALE: 1 1/2" = 1'-0" (11 x 17)



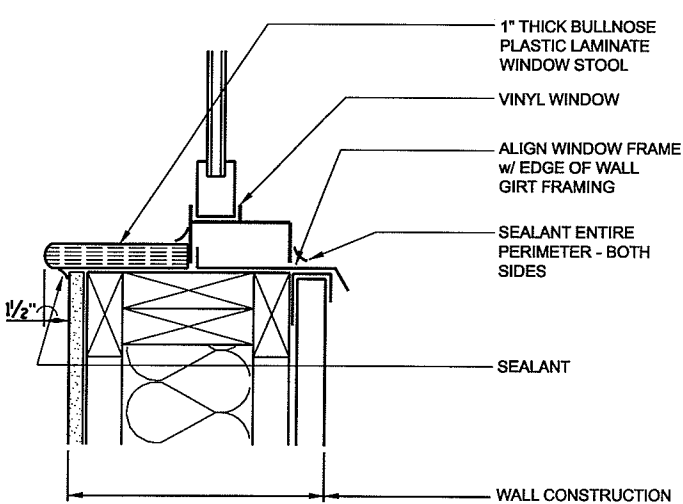
7 WINDOW JAMB DETAIL - HEAD AND SILL SIM  
 A-5 SCALE: 3" = 1'-0" (22 x 34)  
 SCALE: 1 1/2" = 1'-0" (11 x 17)



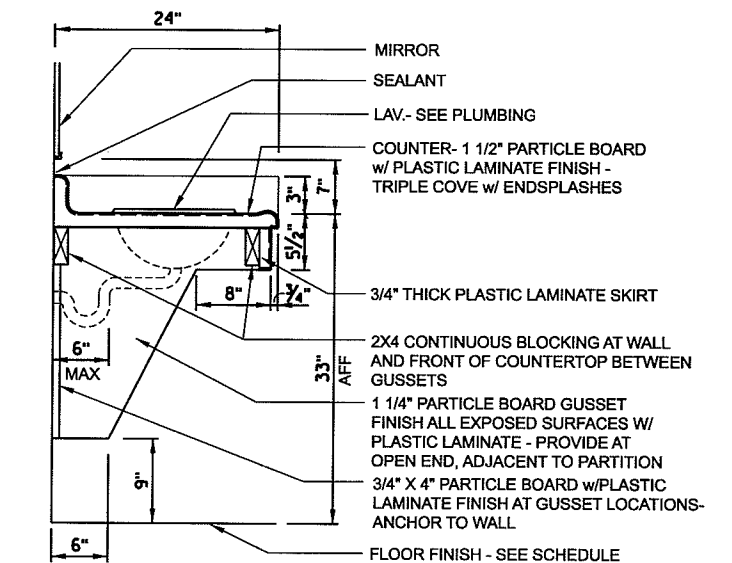
8 TYPICAL SIGNAGE MOUNTING DETAIL  
 A-5 NOT TO SCALE



9 EXTERIOR DOOR JAMB DETAIL - HEAD SIM  
 A-5 SCALE: 3" = 1'-0" (22 x 34)  
 SCALE: 1 1/2" = 1'-0" (11 x 17)

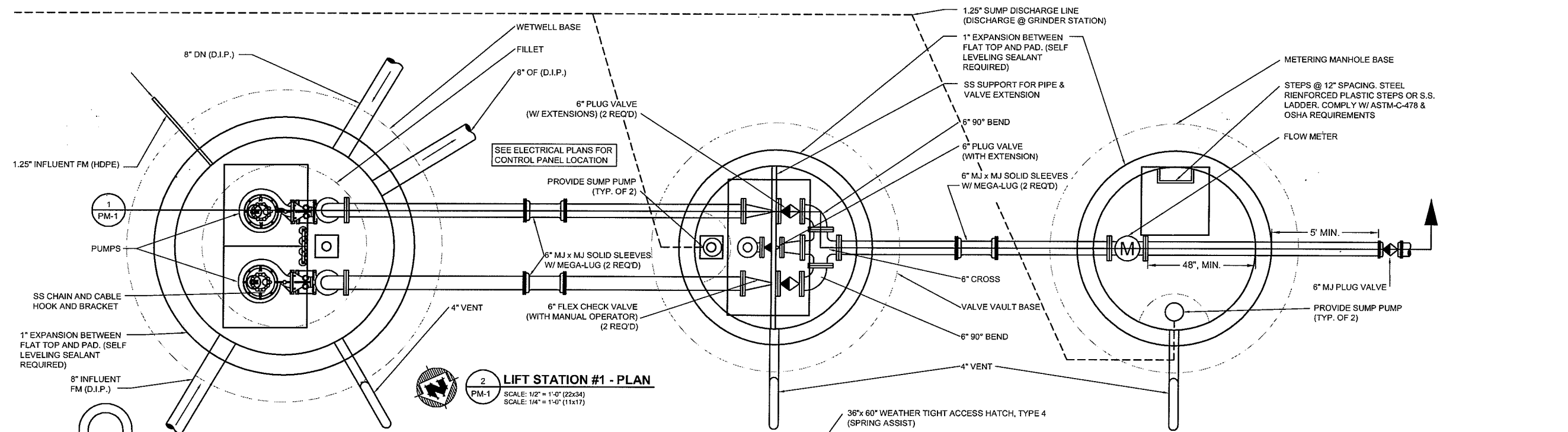


10 WINDOW SILL DETAIL  
 A-5 SCALE: 3" = 1'-0" (22 x 34)  
 SCALE: 1 1/2" = 1'-0" (11 x 17)

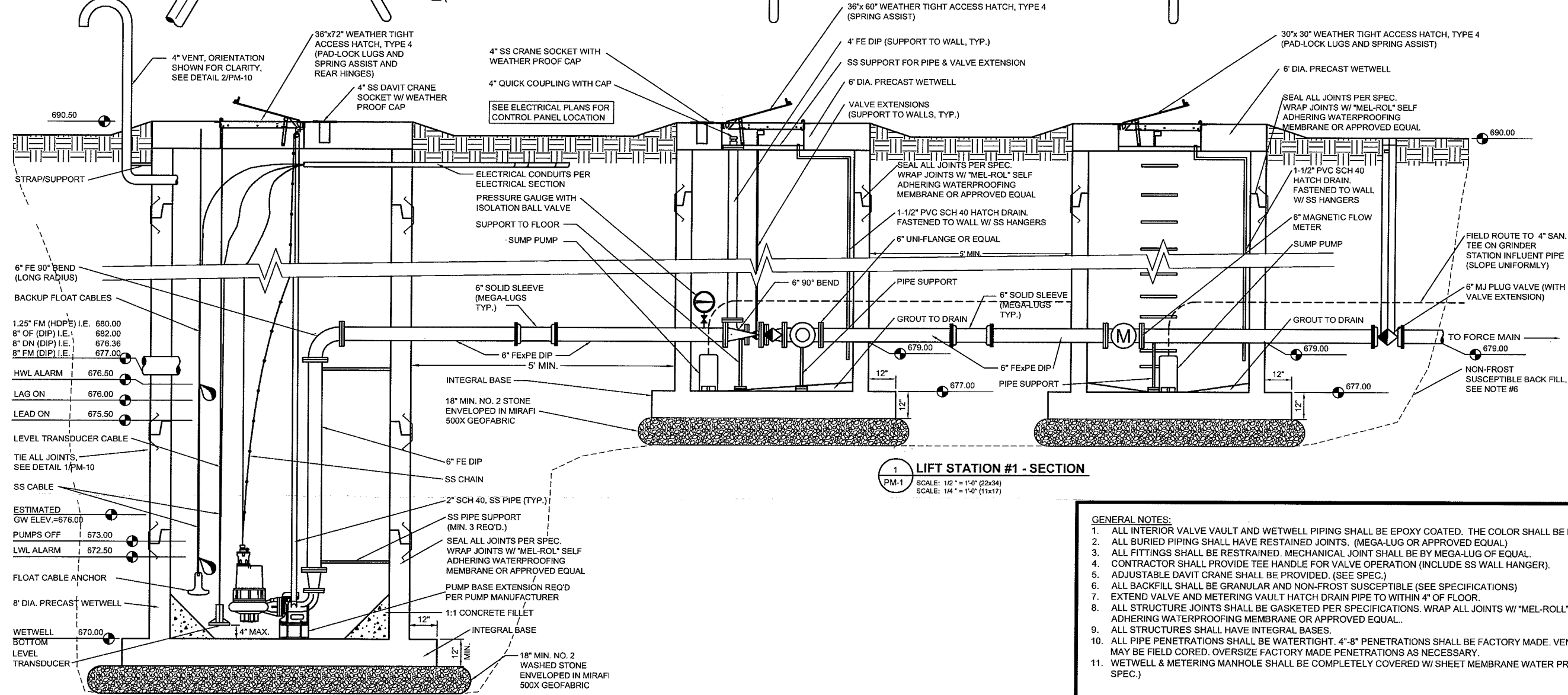


11 TYPICAL VANITY DETAIL  
 A-5 NOT TO SCALE

LIFT STATION #1



**1 LIFT STATION #1 - PLAN**  
 SCALE: 1/2" = 1'-0" (22x34)  
 SCALE: 1/4" = 1'-0" (11x17)



**1 LIFT STATION #1 - SECTION**  
 SCALE: 1/2" = 1'-0" (22x34)  
 SCALE: 1/4" = 1'-0" (11x17)

1.25" FM (HDPE) I.E.	680.00
8" OF (DIP) I.E.	682.00
8" DN (DIP) I.E.	676.36
8" FM (DIP) I.E.	677.00
HWL ALARM	676.50
LAG ON	676.00
LEAD ON	675.50
LEVEL TRANSDUCER CABLE	
TIE ALL JOINTS, SEE DETAIL 1/PM-10	
SS CABLE	
ESTIMATED GW ELEV. = 676.00	
PUMPS OFF	673.00
LWL ALARM	672.50
WETWELL BOTTOM LEVEL TRANSDUCER	670.00

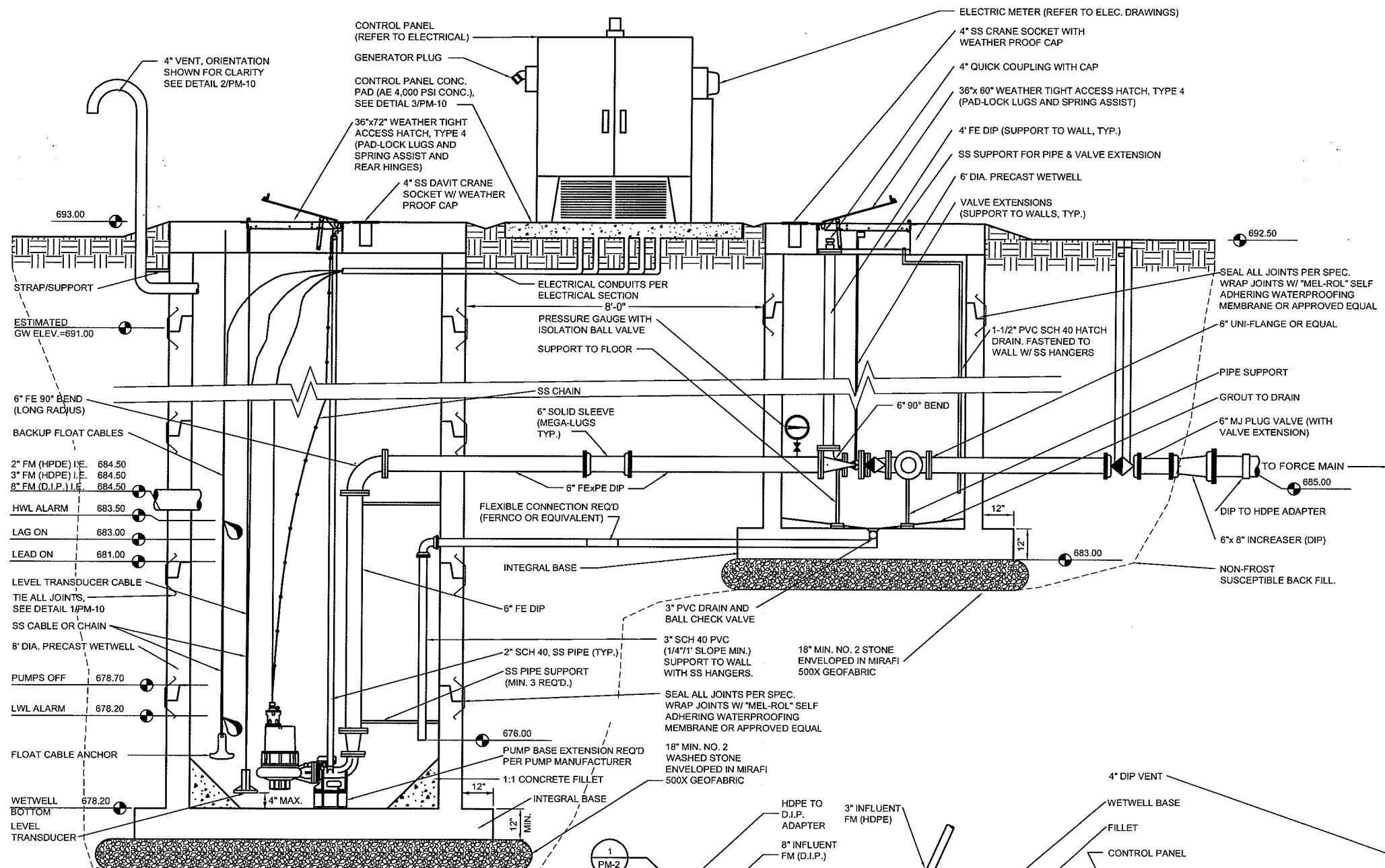
- GENERAL NOTES:**
1. ALL INTERIOR VALVE VAULT AND WETWELL PIPING SHALL BE EPOXY COATED. THE COLOR SHALL BE LIGHT GRAY.
  2. ALL BURIED PIPING SHALL HAVE RESTAINED JOINTS. (MEGA-LUG OR APPROVED EQUAL)
  3. ALL FITTINGS SHALL BE RESTAINED. MECHANICAL JOINT SHALL BE BY MEGA-LUG OF EQUAL.
  4. CONTRACTOR SHALL PROVIDE TEE HANDLE FOR VALVE OPERATION (INCLUDE SS WALL HANGER).
  5. ADJUSTABLE DAVIT CRANE SHALL BE PROVIDED. (SEE SPEC.)
  6. ALL BACKFILL SHALL BE GRANULAR AND NON-FROST SUSCEPTIBLE (SEE SPECIFICATIONS)
  7. EXTEND VALVE AND METERING VAULT HATCH DRAIN PIPE TO WITHIN 4" OF FLOOR.
  8. ALL STRUCTURE JOINTS SHALL BE GASKETED PER SPECIFICATIONS. WRAP ALL JOINTS W/ "MEL-ROLL" SELF ADHERING WATERPROOFING MEMBRANE OR APPROVED EQUAL.
  9. ALL STRUCTURES SHALL HAVE INTEGRAL BASES.
  10. ALL PIPE PENETRATIONS SHALL BE WATERTIGHT. 4"-8" PENETRATIONS SHALL BE FACTORY MADE. VENT & CONDUITS MAY BE FIELD CORED. OVERSIZE FACTORY MADE PENETRATIONS AS NECESSARY.
  11. WETWELL & METERING MANHOLE SHALL BE COMPLETELY COVERED W/ SHEET MEMBRANE WATER PROOFING (SEE SPEC.)

PROJECT: 05 Nov 2009  
 DRAWING: K:\plans\shs\swell\pipe.dwg  
 LAYOUT NAME: LSF#1

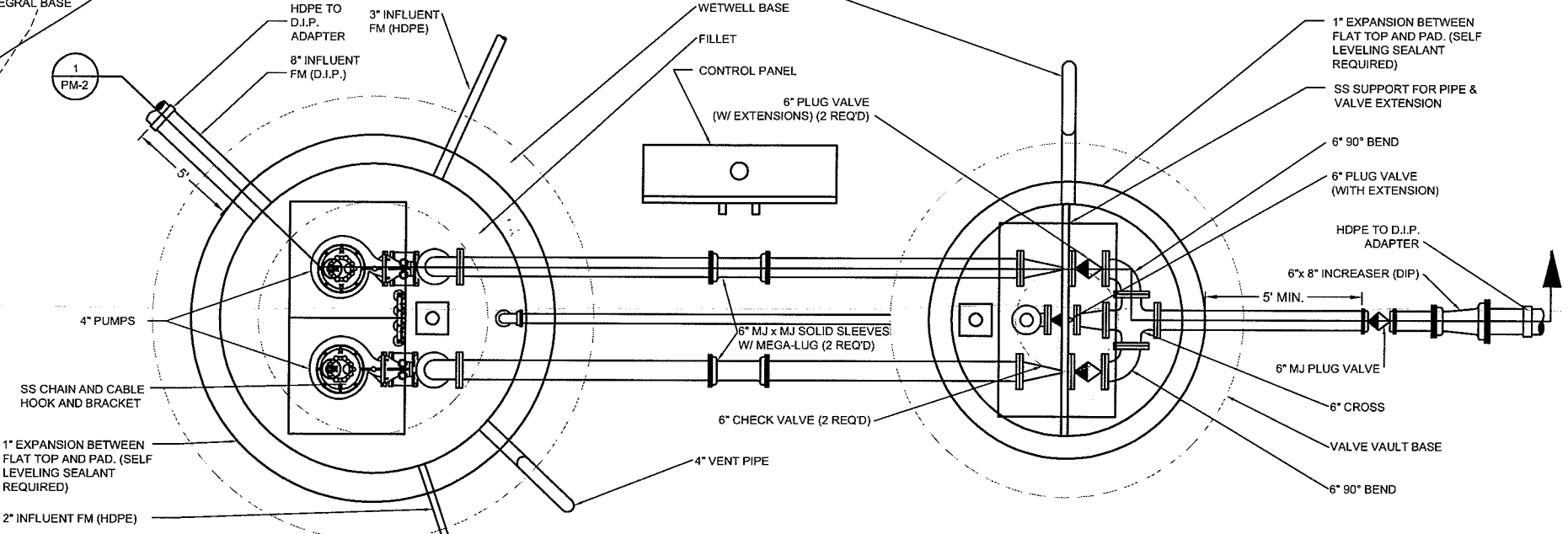
**TRANSPORTATION - MUNICIPAL DEVELOPMENT - ENVIRONMENTAL**  
 301 West First Street Duluth, MN 55802  
 218-723-3915 1-800-777-7380 Fax: 218-723-4548  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO. 00626000	DATE OCTOBER 2009	SCALE AS SHOWN
PLAN & SECTION - LIFT STATION #1	PARKLAND SANITARY DISTRICT NO. 1	WASTEWATER COLLECTION SYSTEM
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN	FILE NO. 626-001	SHEET PM-1

LIFT STATION #2



**1 LIFT STATION #2 - SECTION**  
 PM-2  
 SCALE: 1/2" = 1'-0" (22x34)  
 SCALE: 1/4" = 1'-0" (11x17)



**2 LIFT STATION #2 - PLAN**  
 PM-2  
 SCALE: 1/2" = 1'-0" (22x34)  
 SCALE: 1/4" = 1'-0" (11x17)

- GENERAL NOTES:**
1. ALL INTERIOR VALVE VAULT AND WETWELL PIPING SHALL BE EPOXY COATED. THE COLOR SHALL BE LIGHT GRAY.
  2. ALL BURIED PIPING SHALL HAVE RESTAINED JOINTS. (MEGA-LUG OR APPROVED EQUAL)
  3. ALL FITTINGS SHALL BE RESTRAINED. MECHANICAL JOINT SHALL BE BY MEGA-LUG OF EQUAL.
  4. CONTRACTOR SHALL PROVIDE TEE HANDLE FOR VALVE OPERATION (INCLUDE S.S. WALL HANGER).
  5. ADJUSTABLE DAVIT CRANE SHALL BE PROVIDED (SEE SPEC).
  6. ALL BACKFILL SHALL BE GRANULAR AND NON-FROST SUSCEPTIBLE (SEE SPECIFICATIONS)
  7. EXTEND VALVE VAULT HATCH DRAIN PIPE TO WITHIN 4" OF FLOOR.
  8. ALL STRUCTURE JOINTS SHALL BE GASKETED PER SPECIFICATIONS. WRAP ALL JOINTS W/ "MEL-ROLL" SELF ADHERING WATERPROOFING MEMBRANE OR APPROVED EQUAL...
  9. ALL STRUCTURES SHALL HAVE INTEGRAL BASES.
  10. ALL PIPE PENETRATIONS SHALL BE WATERTIGHT. 4"-8" PENETRATIONS SHALL BE FACTORY MADE. VENT & CONDUITS MAY BE FIELD CORED. OVERSIZED FACTORY MADE PENETRATIONS AS NECESSARY.
  11. FINISHED GRADE TO SLOPE @ MIN. 3:1 AWAY FROM ALL STRUCTURES.
  12. WETWELL SHALL BE COMPLETELY COVERED W/ SHEET MEMBRANE WATER PROOFING (SEE SPEC.)

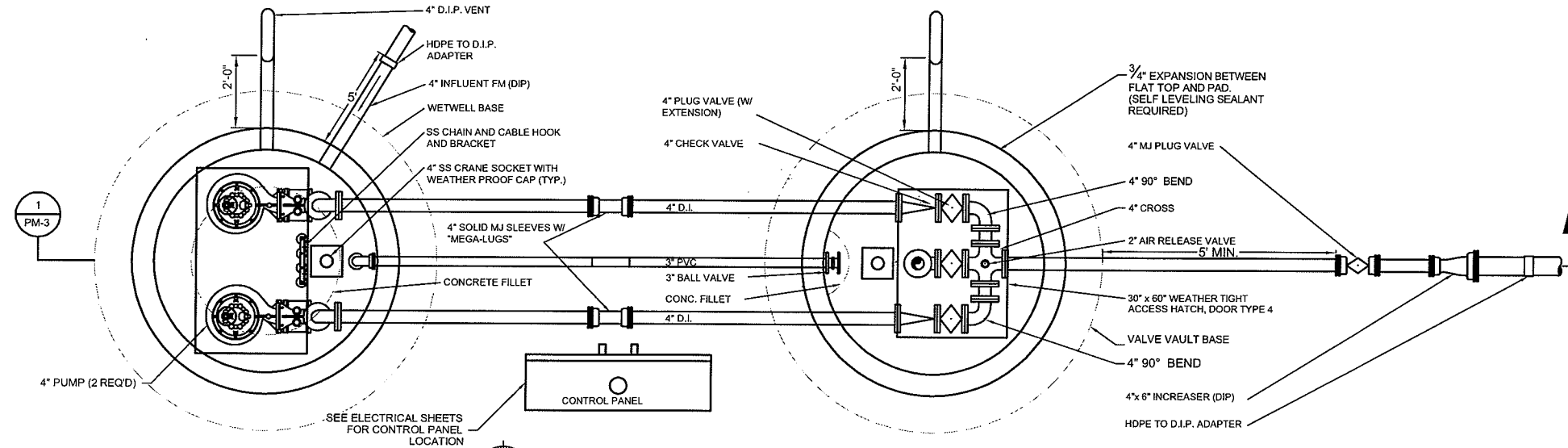
PLOT DATE: 05 Nov 2009 10:22am  
 FILEPATH: K:\plansh\Bwell\Bpipe.dwg

**TRANSPORTATION - MUNICIPAL DEVELOPMENT - ENVIRONMENTAL**  
 301 West First Street, Duluth, MN 55802  
 218-722-9131 | 480-577-7580 | Fax: 218-722-4848  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO. 00626000	DATE: OCTOBER 2009	SCALE: AS SHOWN
FILE NO. 626-001	SHEET PM-2	

**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

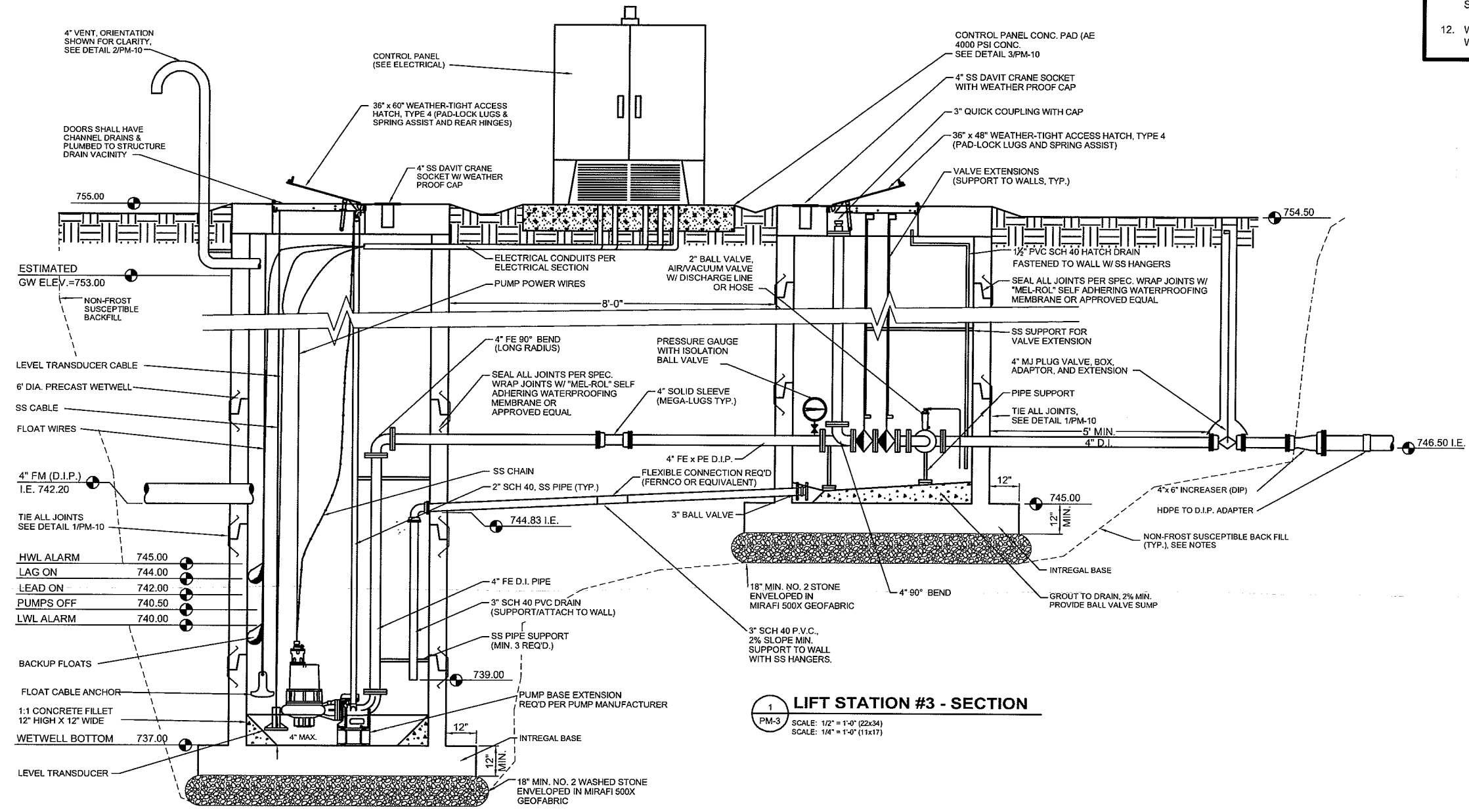
LIFT STATION #3



**2 LIFT STATION #3 - PLAN**

PM-3  
SCALE: 1/2" = 1'-0" (2x34)  
SCALE: 1/4" = 1'-0" (11x17)

- GENERAL NOTES:**
1. ALL INTERIOR VALVE VAULT AND WETWELL PIPING SHALL BE EPOXY COATED. THE COLOR SHALL BE LIGHT GRAY.
  2. ALL BURIED PIPING SHALL HAVE RESTAINED JOINTS. (MEGA-LUG OR APPROVED EQUAL)
  3. ALL FITTINGS SHALL BE RESTAINED. MECHANICAL JOINT SHALL BE BY MEGA-LUG OF EQUAL.
  4. CONTRACTOR SHALL PROVIDE TEE HANDLE FOR VALVE OPERATION (INCLUDE SS WALL HANGER).
  5. ADJUSTABLE DAVIT CRANE SHALL BE PROVIDED. (1330 MIN. LIFTING CAPACITY) (BY HALLIDAY OR EQUAL)
  6. ALL BACKFILL SHALL BE GRANULAR AND NON-FROST SUSCEPTIBLE (SEE SPECIFICATIONS)
  7. EXTEND VALVE VAULT HATCH DRAIN PIPE TO WITHIN 4" OF FLOOR.
  8. ALL STRUCTURE JOINTS SHALL BE GASKETED PER SPECIFICATIONS. WRAP ALL JOINTS W/ "MEL-ROLL" SELF ADHERING WATERPROOFING MEMBRANE OR APPROVED EQUAL..
  9. ALL STRUCTURES SHALL HAVE INTEGRAL BASES.
  10. ALL PIPE PENETRATIONS SHALL BE WATERTIGHT. 4"-8" PENETRATIONS SHALL BE FACTORY MADE. VENT & CONDUITS MAY BE FIELD CORED. OVERSIZED FACTORY MADE PENETRATIONS AS NECESSARY.
  11. FINISHED GRADE TO SLOPE @ MIN. 3:1 AWAY FROM ALL STRUCTURES.
  12. WETWELL SHALL BE COMPLETELY COVERED W/ SHEET MEMBRANE WATER PROOFING (SEE SPEC.)



**1 LIFT STATION #3 - SECTION**

PM-3  
SCALE: 1/2" = 1'-0" (2x34)  
SCALE: 1/4" = 1'-0" (11x17)

- ESTIMATED GW ELEV. = 753.00
- NON-FROST SUSCEPTIBLE BACKFILL
- LEVEL TRANSDUCER CABLE
- 6" DIA. PRECAST WETWELL
- SS CABLE
- FLOAT WIRES
- 4" FM (D.I.P.) I.E. 742.20
- TIE ALL JOINTS SEE DETAIL 1/PM-10
- |           |        |
|-----------|--------|
| HWL ALARM | 745.00 |
| LAG ON    | 744.00 |
| LEAD ON   | 742.00 |
| PUMPS OFF | 740.50 |
| LWL ALARM | 740.00 |
- BACKUP FLOATS
- FLOAT CABLE ANCHOR
- 1:1 CONCRETE FILLET  
12" HIGH X 12" WIDE
- WETWELL BOTTOM 737.00
- LEVEL TRANSDUCER

PLAN DATE: 05 Nov 2009 10:34am  
 PLAN TIME: 10:34am  
 FILENAME: K:\plans\shits\swell\pipe.dwg

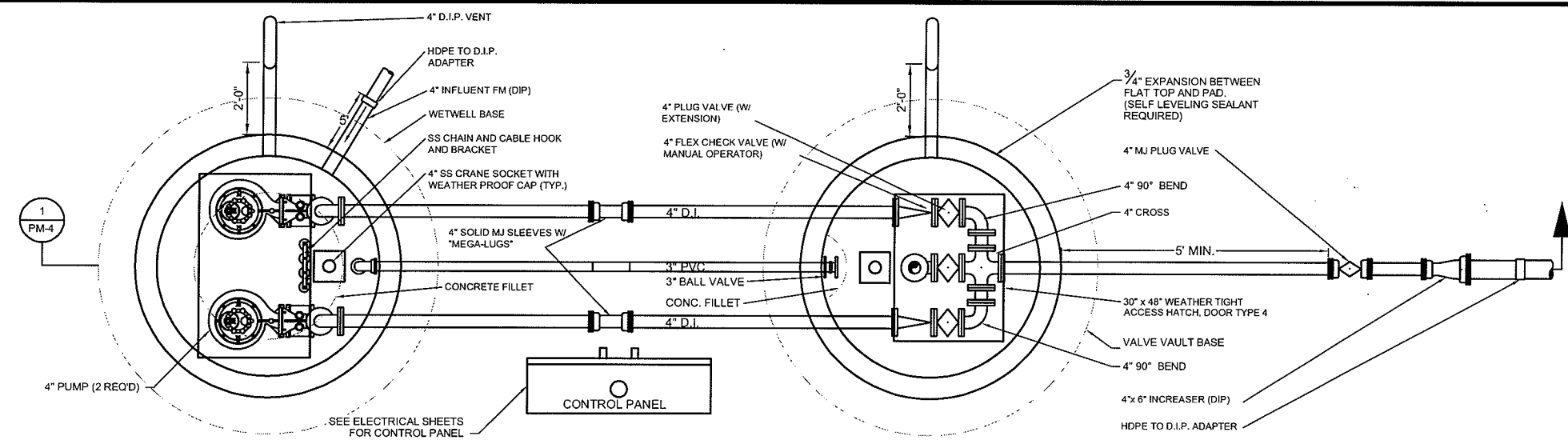
TRANSPORTATION - MUNICIPAL DEVELOPMENT - ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-725-3131 FAX: 218-725-4048  
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO.	00625000
DATE	OCTOBER 2009
SCALE	AS SHOWN
FILE NO.	626-001
SHEET	PM-3

PLAN & SECTION - LIFT STATION #3  
**PARKLAND SANITARY DISTRICT NO. 1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

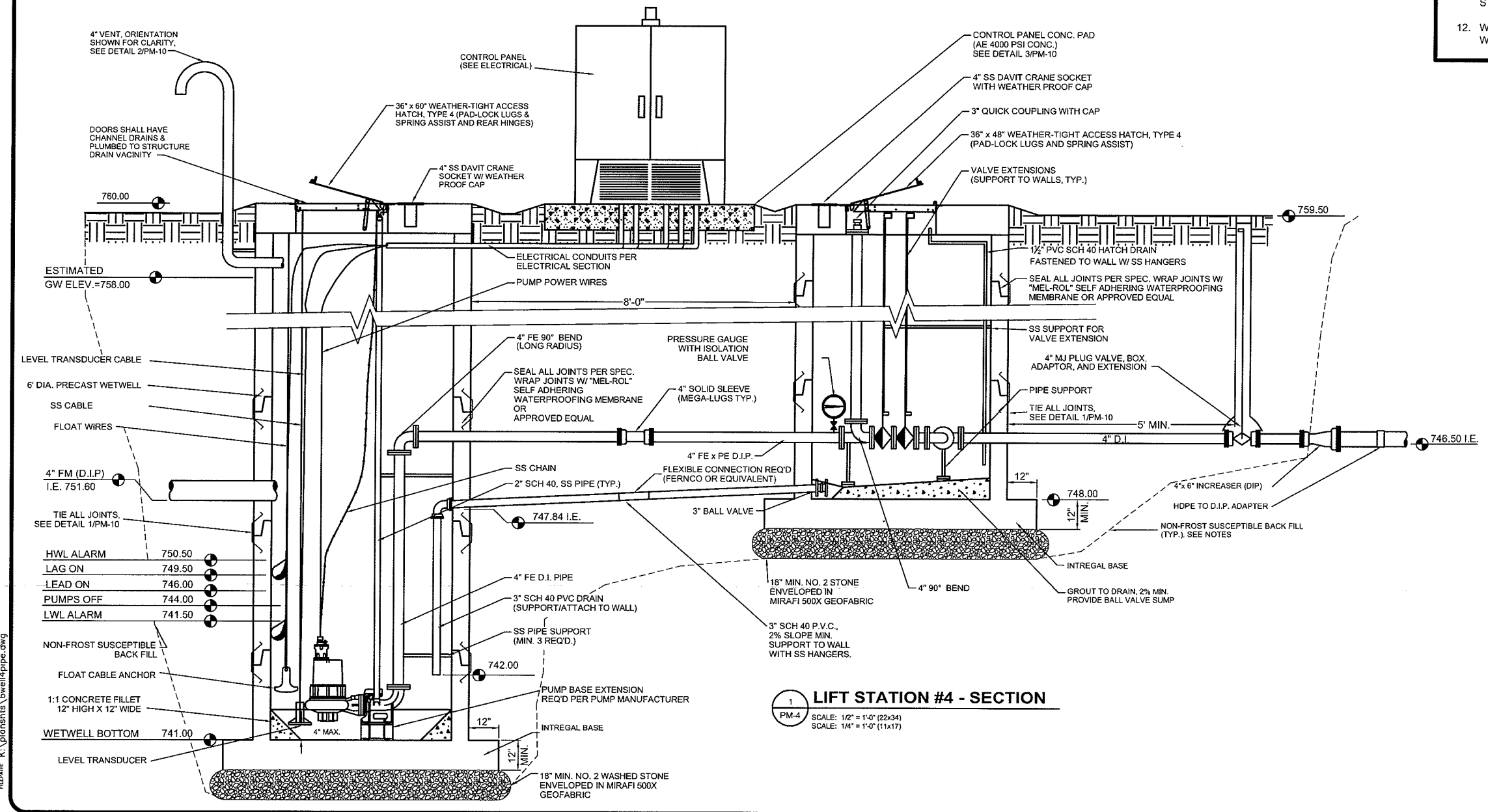
BY: \_\_\_\_\_  
 CHECKED BY: CWS  
 DATE: \_\_\_\_\_  
 F.E.L. XXX  
 DRAWN BY: L.A.J.

LIFT STATION #4



**2 LIFT STATION #4 - PLAN**  
 SCALE: 1/2" = 1'-0" (22x34)  
 SCALE: 1/4" = 1'-0" (11x17)

- GENERAL NOTES:**
- ALL INTERIOR VALVE VAULT AND WETWELL PIPING SHALL BE EPOXY COATED. THE COLOR SHALL BE LIGHT GRAY.
  - ALL BURIED PIPING SHALL HAVE RESTAINED JOINTS. (MEGA-LUG OR APPROVED EQUAL)
  - ALL FITTINGS SHALL BE RESTAINED. MECHANICAL JOINT SHALL BE BY MEGA-LUG OF EQUAL.
  - CONTRACTOR SHALL PROVIDE TEE HANDLE FOR VALVE OPERATION (INCLUDE SS WALL HANGER).
  - ADJUSTABLE DAVIT CRANE SHALL BE PROVIDED. (1330 MIN. LIFTING CAPACITY) (BY HALLIDAY OR EQUAL)
  - ALL BACKFILL SHALL BE GRANULAR AND NON-FROST SUSCEPTIBLE (SEE SPECIFICATIONS)
  - EXTEND VALVE VAULT HATCH DRAIN PIPE TO WITHIN 4" OF FLOOR.
  - ALL STRUCTURE JOINTS SHALL BE GASKETED PER SPECIFICATIONS. WRAP ALL JOINTS W/ "MEL-ROL" SELF ADHERING WATERPROOFING MEMBRANE OR APPROVED EQUAL.
  - ALL STRUCTURES SHALL HAVE INTEGRAL BASES.
  - ALL PIPE PENETRATIONS SHALL BE WATERTIGHT. 4"-8" PENETRATIONS SHALL BE FACTORY MADE. VENT & CONDUITS MAY BE FIELD CORED. OVERSIZED FACTORY MADE PENETRATIONS AS NECESSARY.
  - FINISHED GRADE TO SLOPE @ MIN. 3:1 AWAY FROM ALL STRUCTURES.
  - WETWELL SHALL BE COMPLETELY COVERED W/ SHEET MEMBRANE WATER PROOFING (SEE SPEC.)



**1 LIFT STATION #4 - SECTION**  
 SCALE: 1/2" = 1'-0" (22x34)  
 SCALE: 1/4" = 1'-0" (11x17)

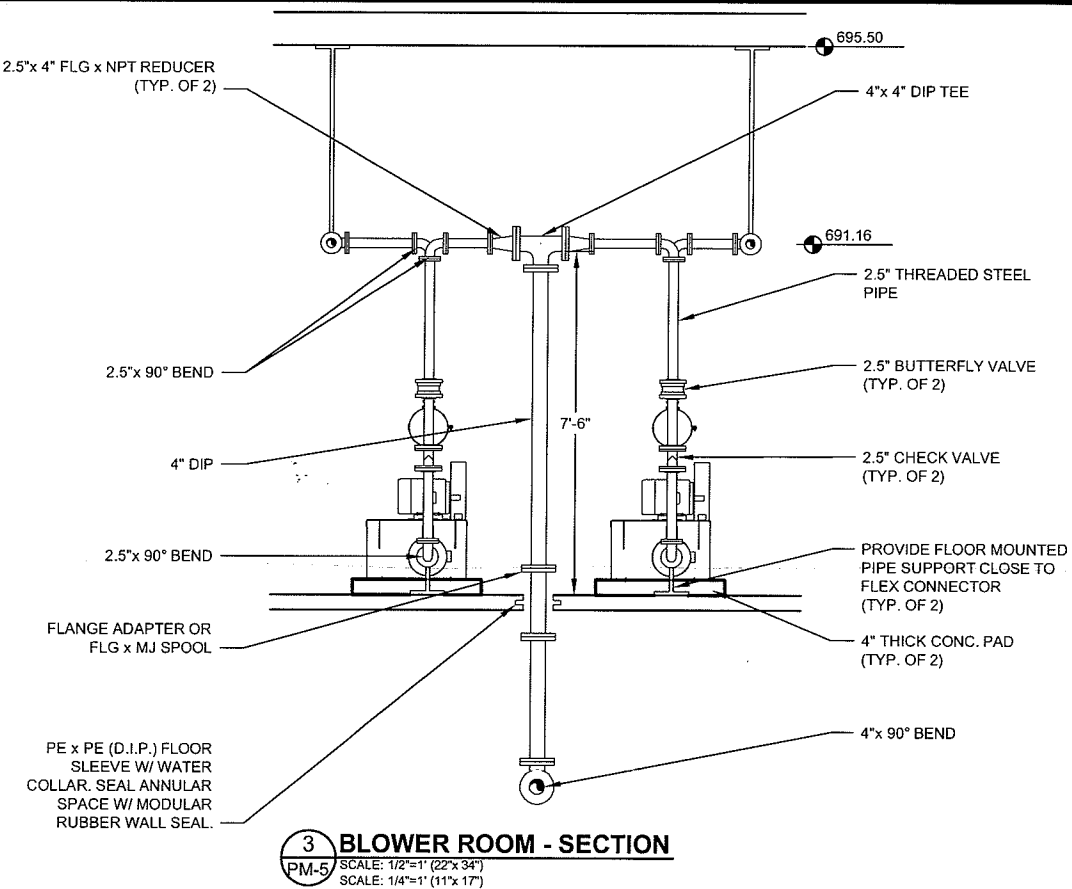
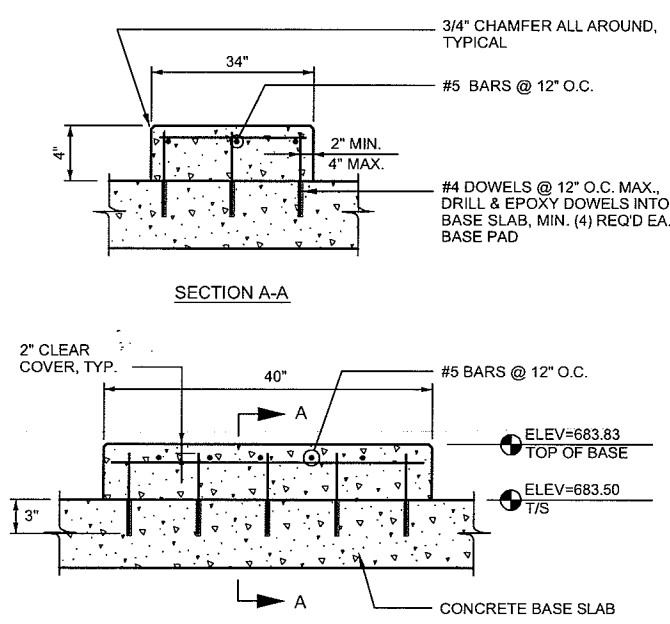
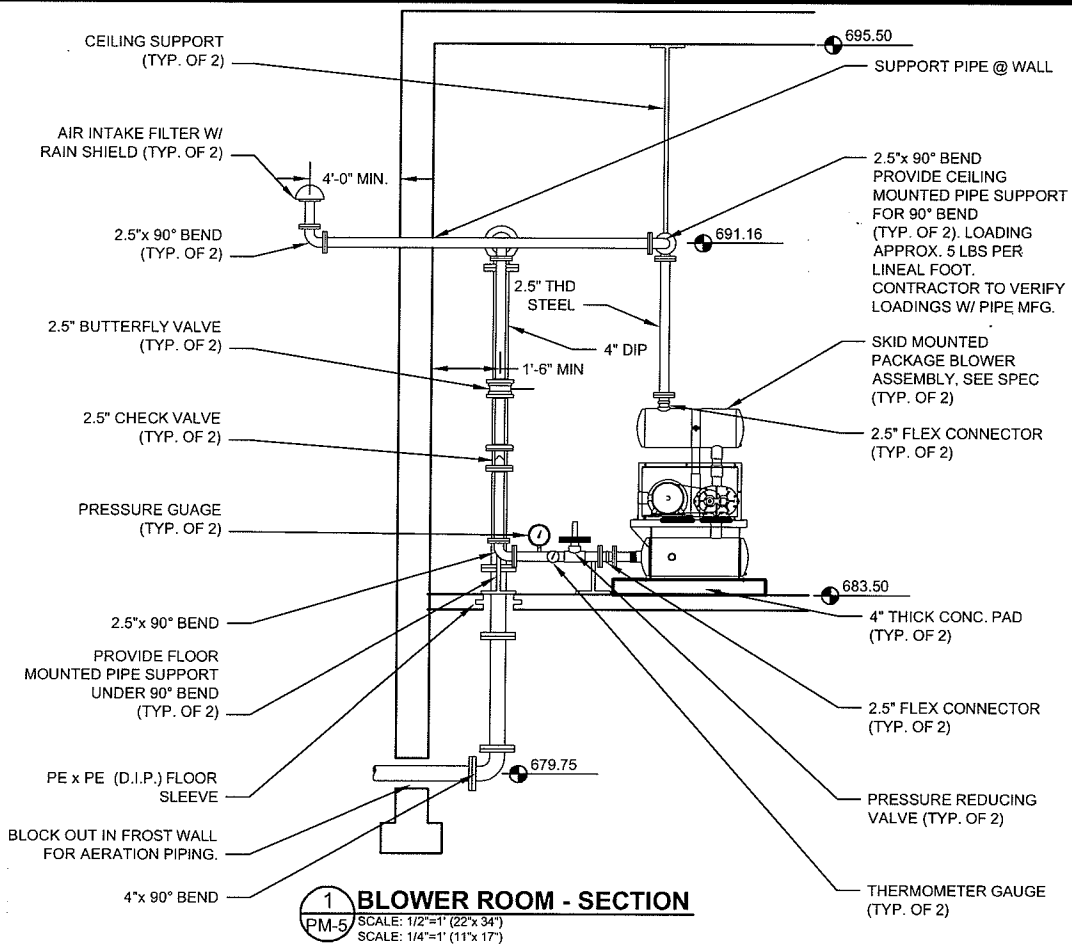
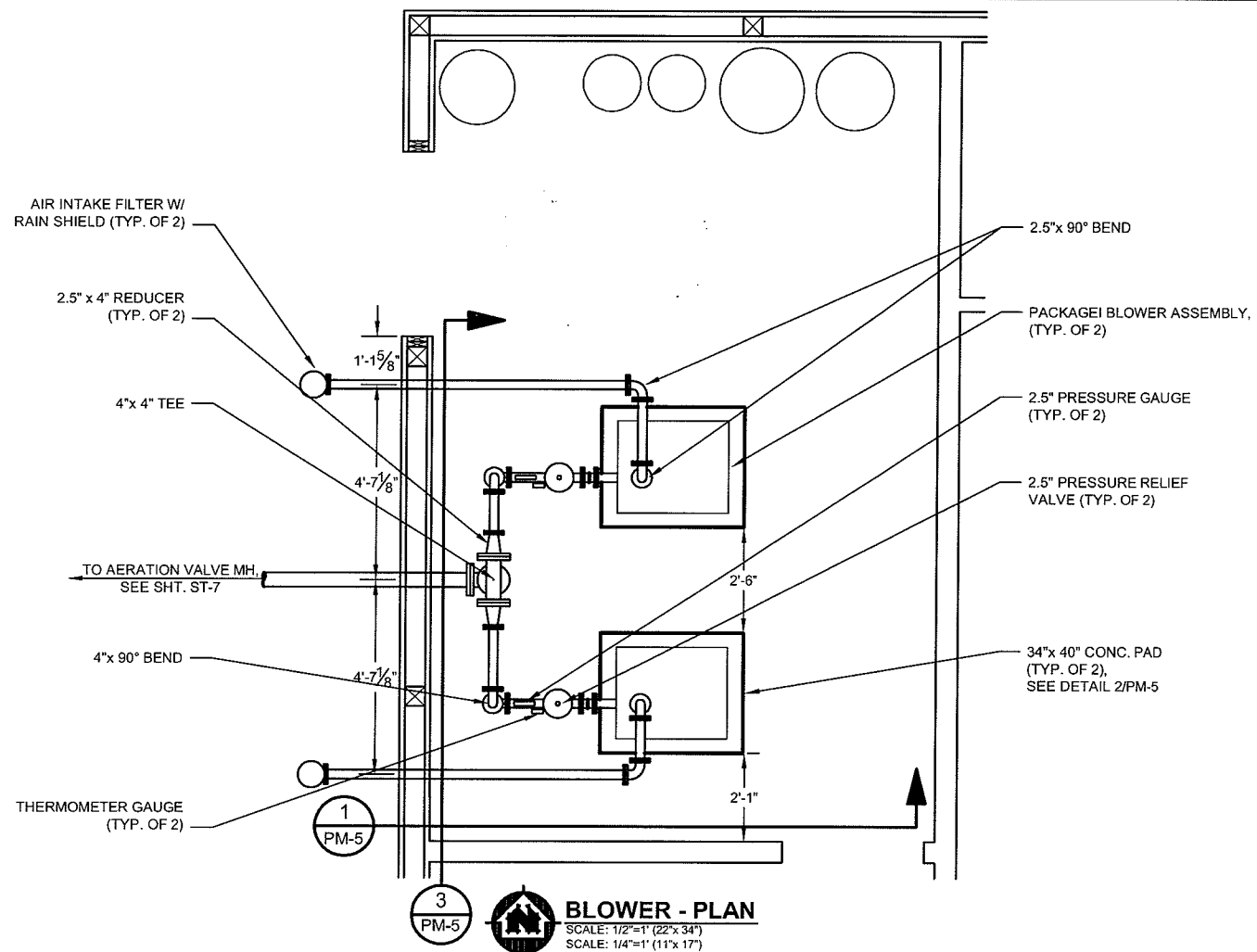
PLOT DATE: 05 Nov 2009 PLOT TIME: 10:49am  
 FILEPATH: K:\plansh\15\lwf\l4\pipe.dwg

TRANSPORTATION - MUNICIPAL DEVELOPMENT - ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-9913, 1-800-777-7800 Fax: 218-722-4148  
 © 1987 PROFESSIONAL SERVICES

**MSA**  
PROFESSIONAL SERVICES

PROJECT NO. 00626000	DATE: OCTOBER 2009	SCALE: AS SHOWN
FILE: XXXX	DRAWN BY: LAJ	CHECKED BY: CWS
REVISION	DATE	
NO.		
PLAN & SECTION - LIFT STATION #4		
PARKLAND SANITARY DISTRICT NO.1		
WASTEWATER COLLECTION SYSTEM		
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN		
FILE NO. 626-001		
SHEET PM-4		

USER NAME: Layout1

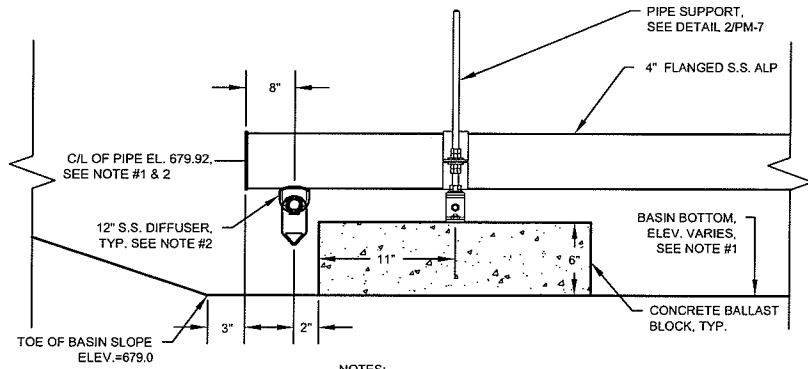


REV: 05 Nov. 2009 FOR THE 10:58am  
 REVISION: K:\Projects\Blower Room.dwg

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL	301 West First Street Duluth, MN 55802	218-722-3915 1-800-777-7388 Fax: 218-722-4548	USA PROFESSIONAL SERVICES
<b>MSA</b> PROFESSIONAL SERVICES			
PROJECT NO.	00626000	DATE	OCTOBER 2009
FILE NO.	626-001	SCALE	AS SHOWN
DESIGNED BY	L.A.J.	CHECKED BY	C.W.S.
<b>PARKLAND SANITARY DISTRICT NO. 1</b> WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN			
<b>PLAN &amp; SECTION - BLOWER ROOM</b>			
<b>3 BLOWER ROOM - SECTION</b>			
SCALE: 1/2"=1' (22'x 34') SCALE: 1/4"=1' (11'x 17')			

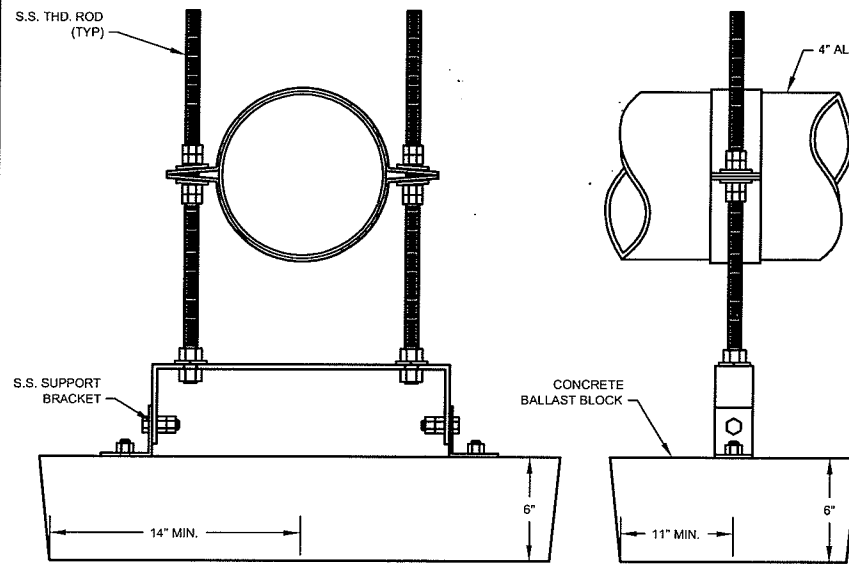


LAYOUT NAME: Layout1



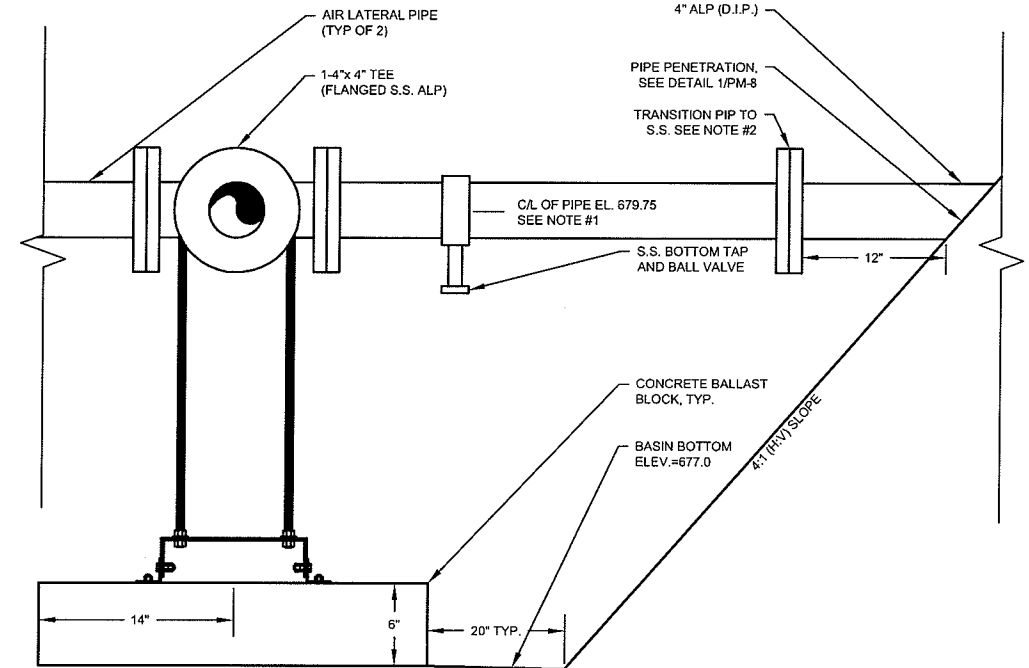
- NOTES:**
1. BASIN BOTTOM ELEVATION VARIES AS SHOWN ON GRADING PLAN (SEE SHT. ST-5). PIPE SUPPORT ELEVATION SHALL BE ADJUSTABLE TO ACCOUNT FOR BASIN BOTTOM ELEVATION VARIATION.
  2. DIFFUSER THREADED CONNECTION TO LATERAL AND DIFFUSER C/L ELEV. PER MANUFACTURERS SPECIFICATIONS. DIFFUSER C/L START 7" ABOVE BASIN BOTTOM ELEV.

**1 DIFFUSER LATERAL ELEV. DETAIL**  
PM-6 NOT TO SCALE



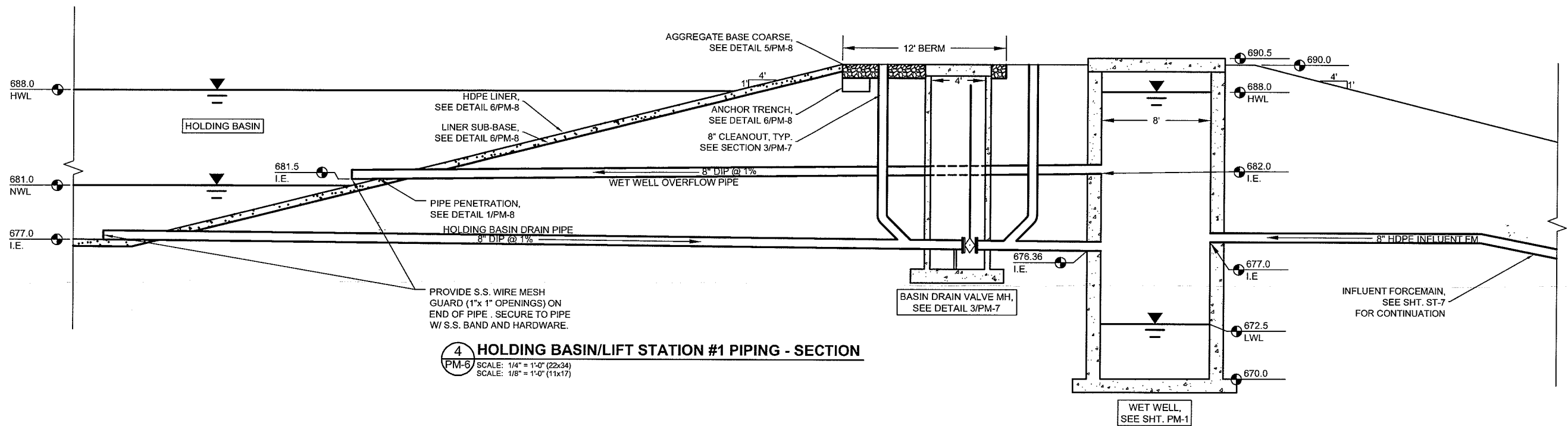
- NOTES:**
1. ALL PIPE SUPPORTS MATERIALS TO BE STAINLESS STEEL.
  2. SEE SPECIFICATIONS FOR PIPE SUPPORT REQUIREMENTS

**2 CONC. BALLAST BLOCK & PIPE SUPPORT DETAIL**  
PM-6 NOT TO SCALE



- NOTES:**
1. BASIN BOTTOM ELEVATION VARIES AS SHOWN ON GRADING PLAN (SEE SHT. ST-5). PIPE SUPPORT ELEVATION SHALL BE ADJUSTABLE TO ACCOUNT FOR BASIN BOTTOM AND AIR LATERAL ELEVATION VARIATION.
  2. TRANSITION TO FLANGED PIPE BY DIFFUSER EQUIPMENT MANUFACTURER. EXPANSION JOINT TO BE PROVIDED AS DETERMINED BY DIFFUSER EQUIPMENT MANUFACTURER

**3 AERATION HEADER ELEV. DETAIL**  
PM-6 NOT TO SCALE



**4 HOLDING BASIN/LIFT STATION #1 PIPING - SECTION**  
PM-6 SCALE: 1/4" = 1'-0" (22x34)  
SCALE: 1/8" = 1'-0" (11x17)

PLOT DATE: 05 Nov 2009 11:01am  
FILEPATH: K:\planshfts\Aeration\_Details.dwg

TRANSPORTATION - MUNICIPAL  
DEVELOPMENT - ENVIRONMENTAL  
301 West First Street Duluth, MN 55802  
218-722-9193 1-800-577-7190 Fax: 218-722-4448  
© MSA PROFESSIONAL SERVICES

**MSA**  
PROFESSIONAL SERVICES

NO.	DATE	REVISION	BY

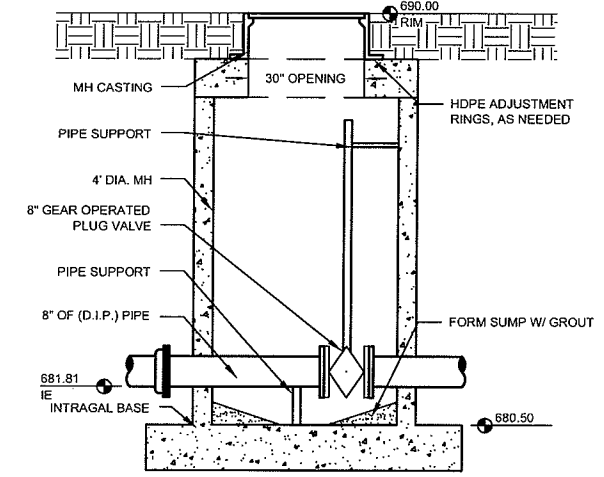
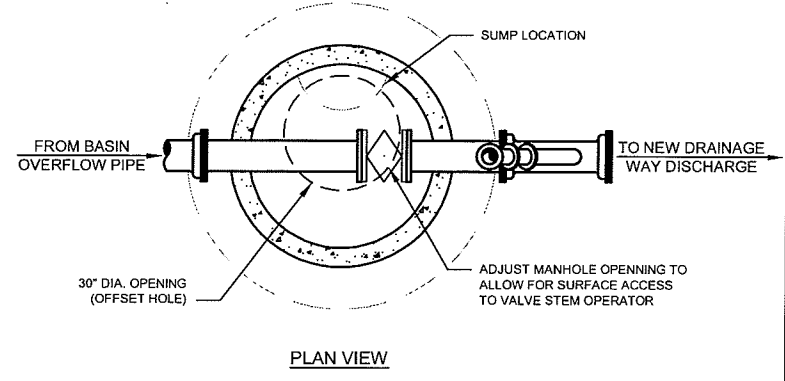
  

FILE NO.	626-001
SHEET	PM-6
PROJECT NO.	00626000
DATE	OCTOBER 2009
SCALE	AS SHOWN
FILE	XXX
DRAWN BY	L.A.J.
CHECKED BY	C.W.S.

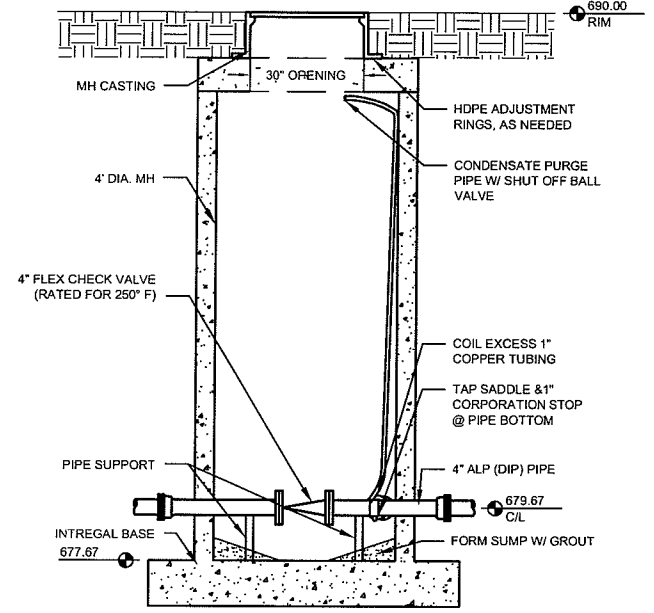
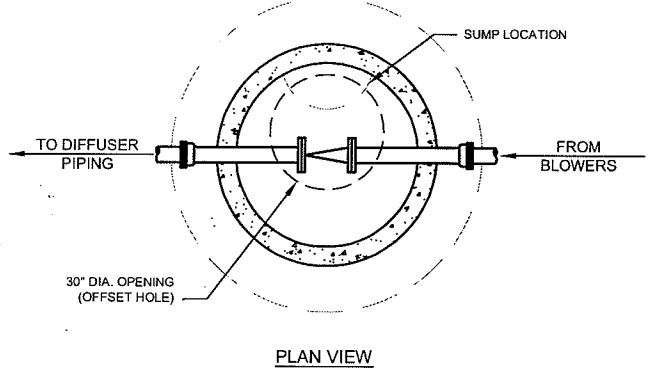
  

SECTION & DETAILS-	PIPING & AERATION
<b>PARKLAND SANITARY DISTRICT NO.1</b>	
WASTEWATER COLLECTION SYSTEM	
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN	

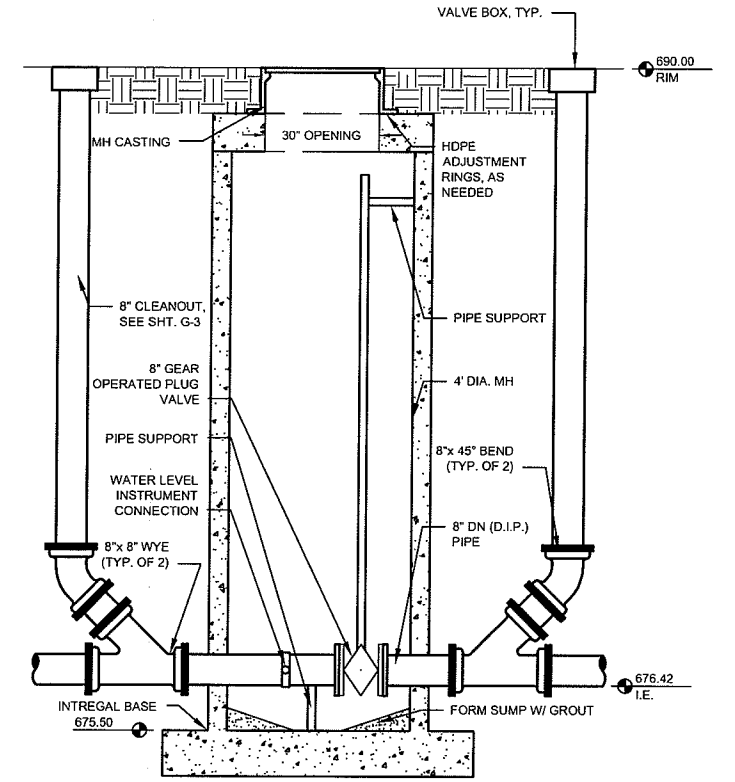
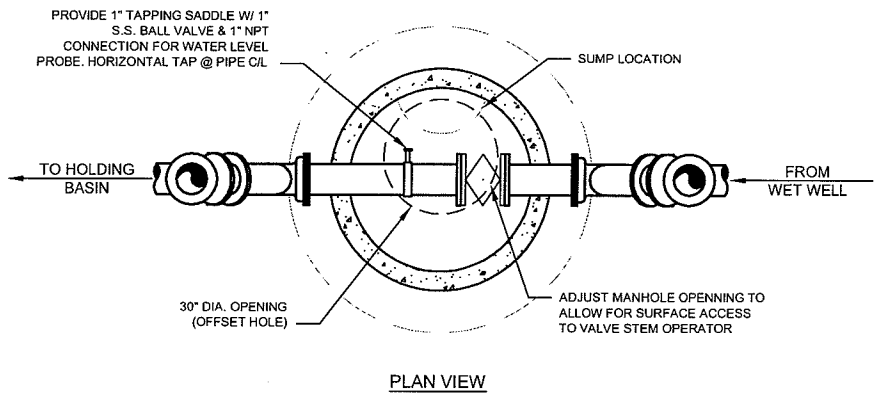
layout name: layout1



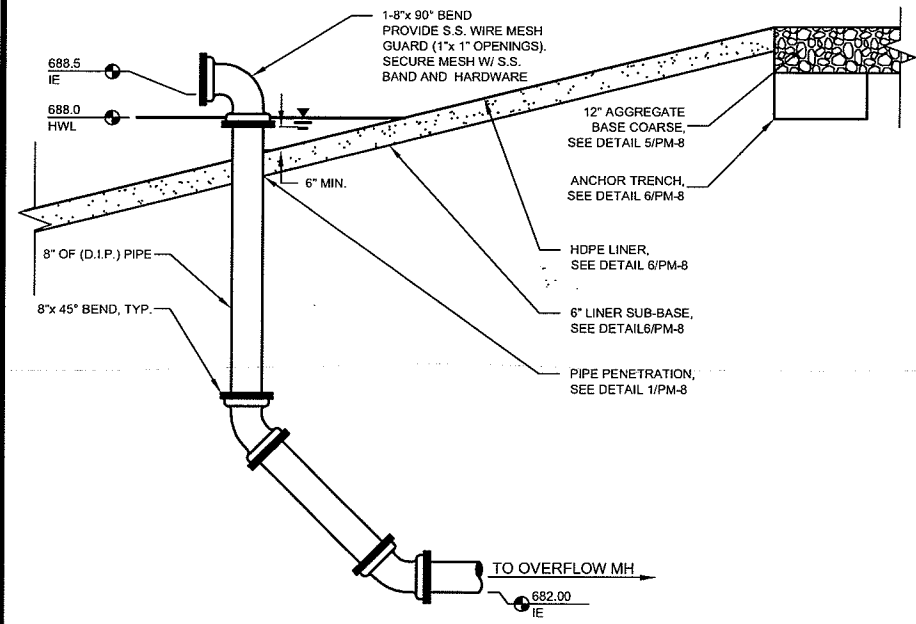
**1 OVERFLOW VALVE MANHOLE**  
 PM-7 SCALE: 1/2" = 1'-0" (22x34)  
 SCALE: 1/4" = 1'-0" (11x17)



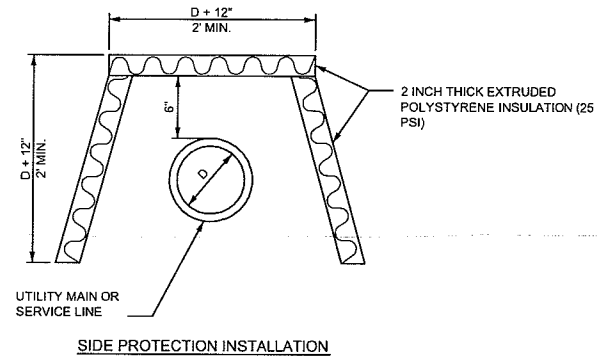
**2 AERATION VALVE MANHOLE**  
 PM-7 SCALE: 1/2" = 1'-0" (22x34)  
 SCALE: 1/4" = 1'-0" (11x17)



**3 HOLDING BASIN DRAIN MANHOLE**  
 PM-7 SCALE: 1/2" = 1'-0" (22x34)  
 SCALE: 1/4" = 1'-0" (11x17)



**4 OVERFLOW PIPE - SECTION**  
 PM-7 SCALE: 1/2" = 1'-0" (22x34)  
 SCALE: 1/4" = 1'-0" (11x17)



**GENERAL NOTES:**

1. THE SIDE PROTECTION INSTALLATION SHALL BE USED WHERE FROST WILL PENETRATE BELOW THE PIPE INVERT.
2. FOR UNDERGROUND 4" ALP EXTEND SIDE INSULATION TO A MIN. OF 5 FEET BELOW NEW GROUND SURFACE ELEVATION.

**5 PIPE INSULATION DETAIL**  
 PM-7 SCALE: NONE

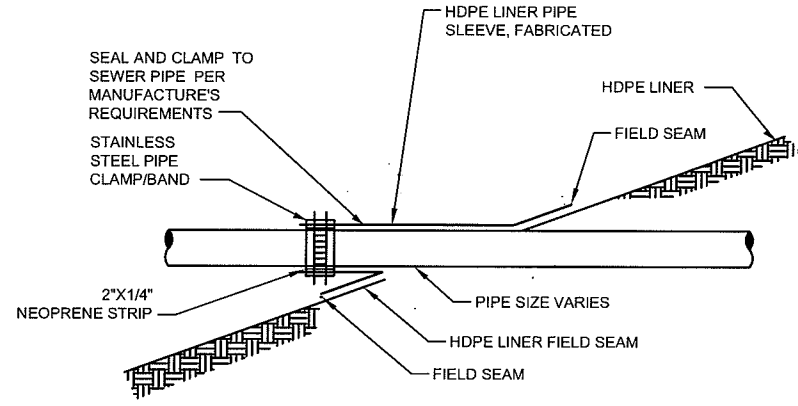
11/05/09 11:05am K:\plan\Basin Drain\_MH.dwg

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-723-9131 • 1-800-777-7390 Fax: 218-723-4488  
 MSA PROFESSIONAL SERVICES

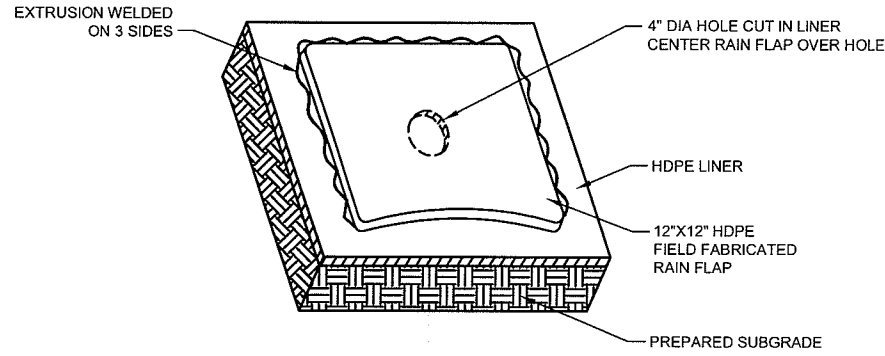
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO. 00626000	DATE: OCTOBER 2009	SCALE: AS SHOWN
FILE: XXXX	DRAWN BY: LAJ	CHECKED BY: CWS
REVISION	DATE	NO.
PLAN & SECTION - HOLDING BASIN MANHOLES		
<b>PARKLAND SANITARY DISTRICT NO. 1</b>		
WASTEWATER COLLECTION SYSTEM		
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN		
FILE NO. 626-001		
SHEET PM-7		

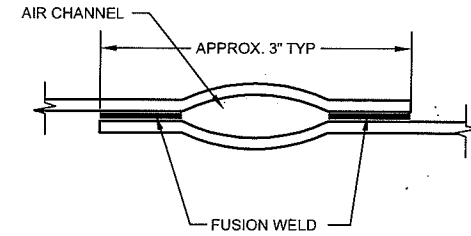
Linear WWS: Holding Basin



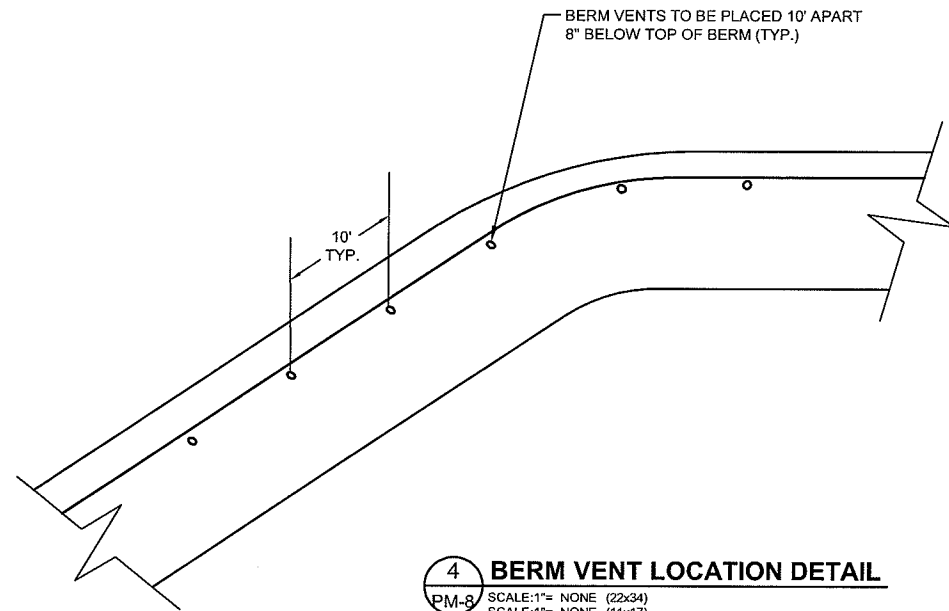
**1 PIPE PENETRATION SEAL DETAIL**  
 SCALE: 1" = NONE (22x34)  
 SCALE: 1" = NONE (11x17)



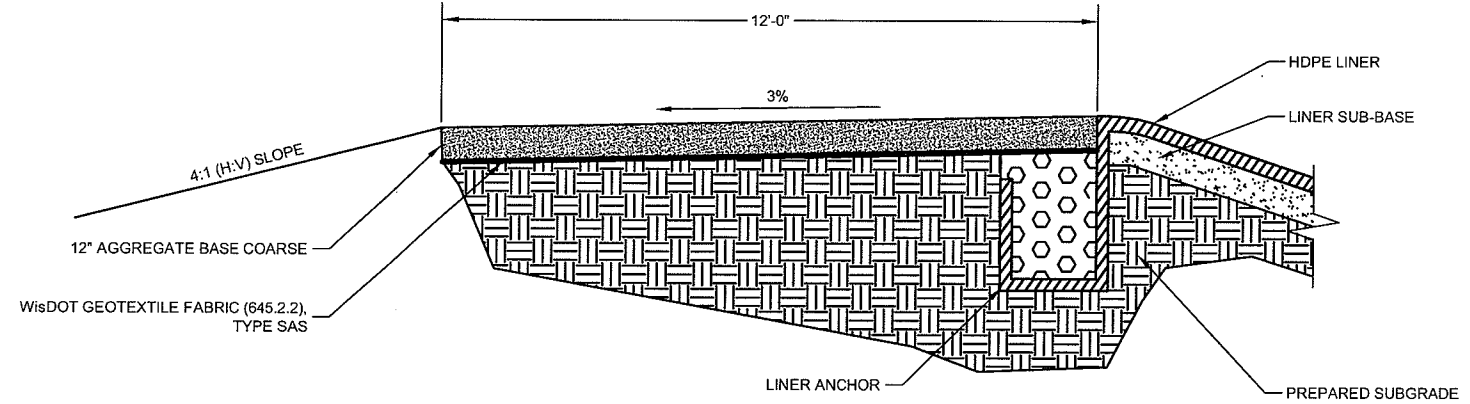
**2 BERM VENT DETAIL**  
 SCALE: 1" = NONE (22x34)  
 SCALE: 1" = NONE (11x17)



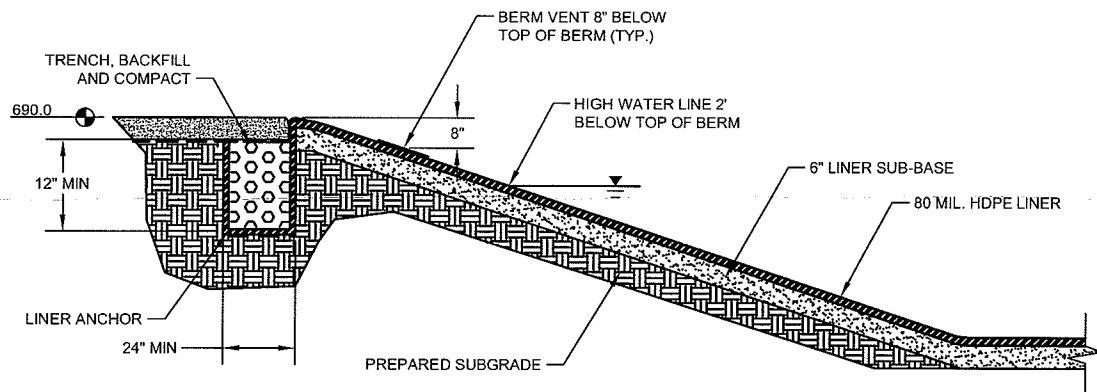
**3 TYPICAL FIELD SEAM**  
 SCALE: 1" = NONE (22x34)  
 SCALE: 1" = NONE (11x17)



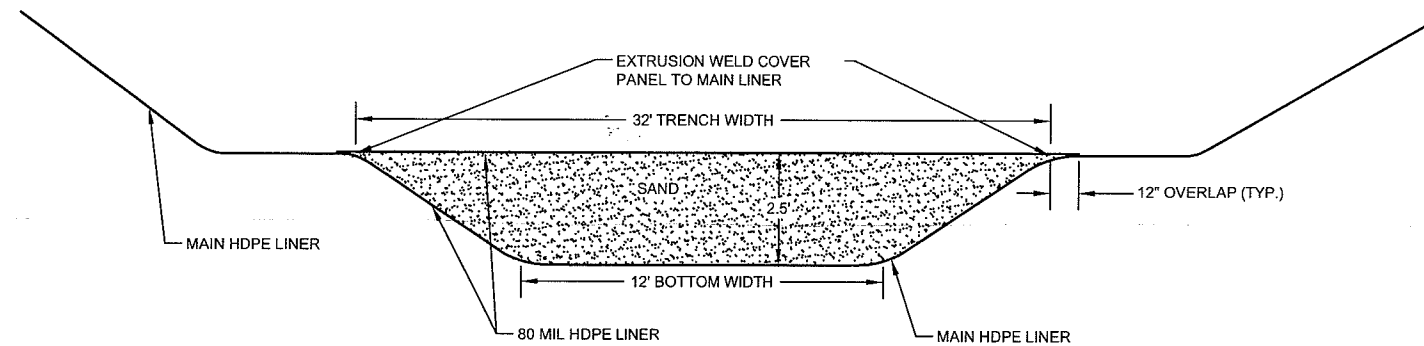
**4 BERM VENT LOCATION DETAIL**  
 SCALE: 1" = NONE (22x34)  
 SCALE: 1" = NONE (11x17)



**5 PERIMETER ROAD DETAIL**  
 SCALE: 1" = NONE (22x34)  
 SCALE: 1" = NONE (11x17)



**6 LINER ANCHOR DETAIL**  
 SCALE: 1" = NONE (22x34)  
 SCALE: 1" = NONE (11x17)



CONTRACTOR TO SEQUENCE PANEL LAYOUT WITH SAND PLACEMENT. EQUIPMENT SHALL NOT BE DRIVEN ON LINER EXCEPT AS LISTED IN THE SPECIFICATIONS.

**7 SAND BALLAST DETAIL**  
 SCALE: 1" = NONE (22x34)  
 SCALE: 1" = NONE (11x17)

Plot Date: 05 Nov 2009 Plot Time: 11:08am  
 File: K:\plan\shis\DETAILS.dwg

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 • 800-777-7300 Fax: 218-722-4548  
 MSA PROFESSIONAL SERVICES

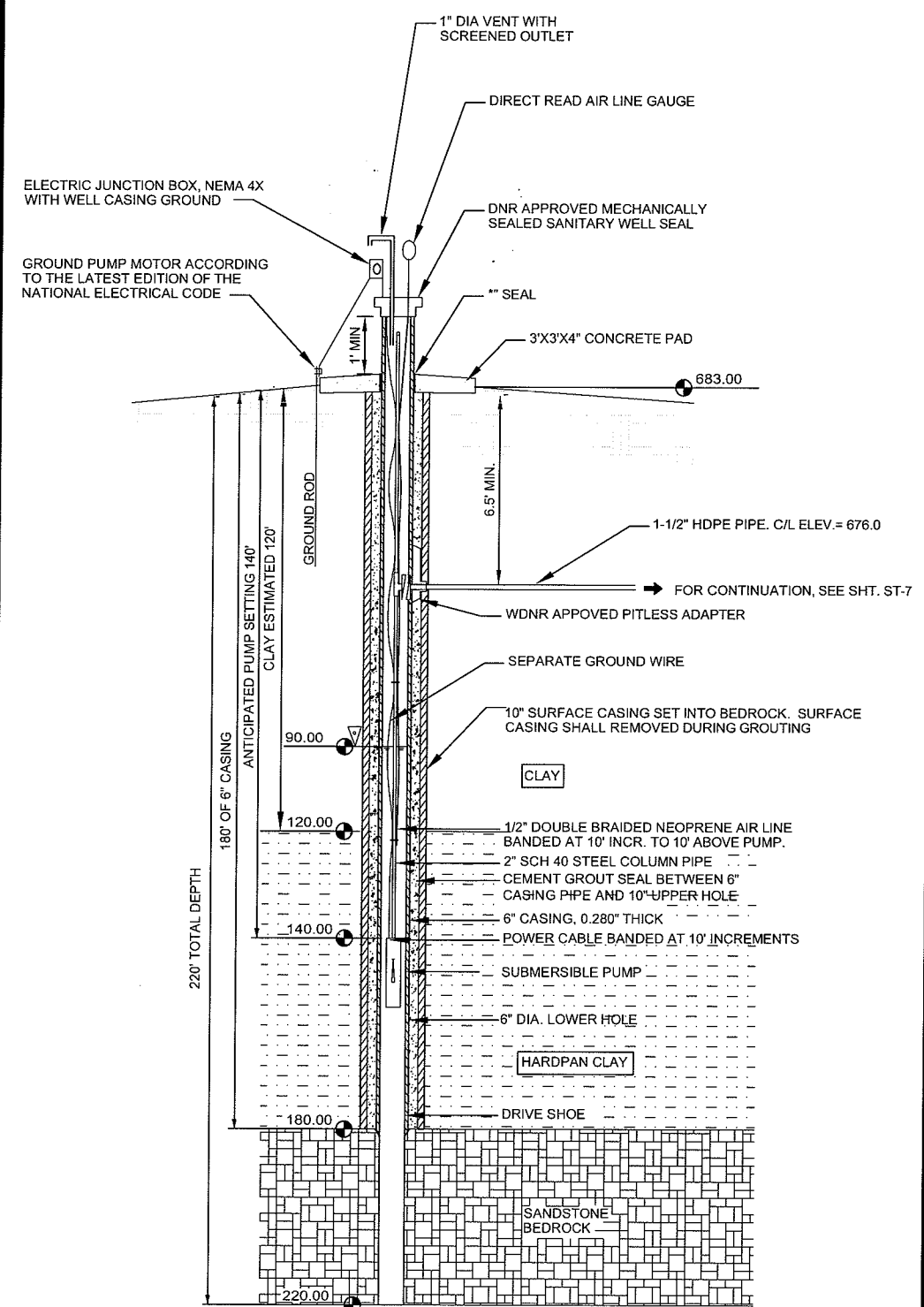
**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO.:	00626000
DATE:	OCTOBER 2009
SCALE:	AS SHOWN
FILE NO.:	626-001
SHEET:	PM-8
BY:	
DATE:	
NO.:	
F.B.:	XXX
DRAWN BY:	LJL
CREATED BY:	CWS
REVISION:	

DETAILS - HOLDING BASIN LINER  
 PARKLAND SANITARY DISTRICT NO.1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLASS COUNTY, WISCONSIN

PLOT SHEET 3 Nov. 2009 PLOT TIME: 9:22:00  
 FABRIC: K:\plansheets\DETAILS.dwg

LAYOUT NAME: S119



- GENERAL NOTES:**
- TEST PUMPING DATA SHALL BE SUBMITTED TO ENGINEER PRIOR TO ORDERING SUBMERSIBLE PUMP
  - CHECK VALVE SHALL BE LOCATED AT THE TOP OF THE SUBMERSIBLE PUMP
  - BURIED DISCHARGE LINE TO THE BUILDING MUST MEET ONE OF THE FOLLOWING CONDITIONS WHEN CROSSING SANITARY SEWER LINES:
    - WATER LINE SHALL BE AT LEAST 12" ABOVE THE TOP OF THE SEWER LINE
    - WATER LINE SHALL BE AT LEAST 18" BELOW THE BOTTOM OF THE SEWER LINE
    - WATER LINE SHALL BE WITHIN A WATER PROOF SLEEVE MADE OF MATERIALS AS SPECIFIED IN CH. COMM. 84.

**1 WELL SECTION**  
 PM-9 SCALE: NONE

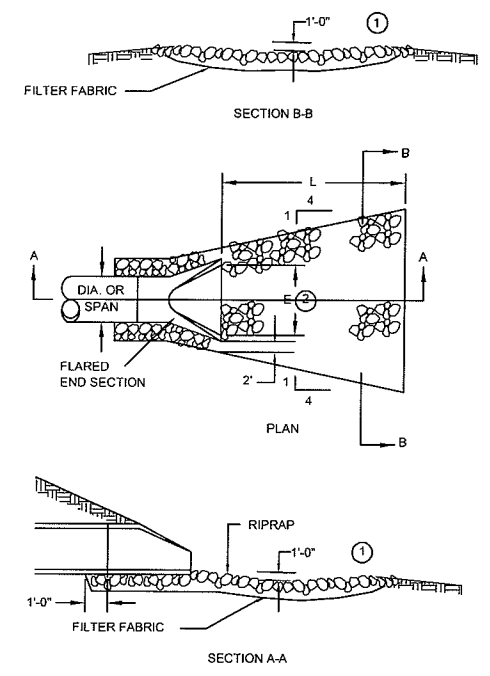
**TABLE OF QUANTITIES  
 RIPRAP AT RCP OUTLETS**

DIA. OF ROUND PIPE (IN.)	L (FT.)	CLASS II d50=6"	CLASS III d50=9"	CLASS IV d50=12"
		DEPTH RIPRAP (CU.YDS.)	DEPTH RIPRAP (CU.YDS.)	DEPTH RIPRAP (CU.YDS.)
12	8	2.8	4.1	5.5
15	8	2.9	4.4	5.8
18	10	3.9	5.9	7.8
21	10	4.2	6.3	8.4
24	12	5.5	8.3	11.0
27	12	5.8	8.7	11.6
30	14	7.3	10.9	14.5
36	16	9.2	13.8	18.3
42	18	10.9	16.3	21.7
48	20	12.9	19.4	25.8

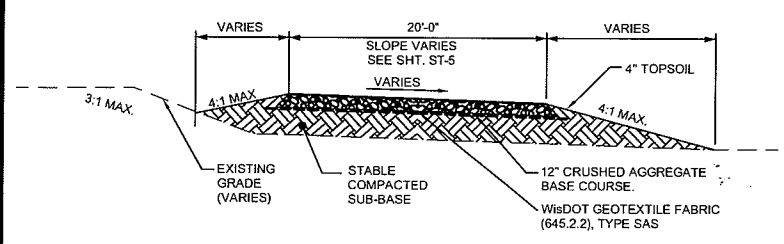
**TABLE OF QUANTITIES  
 RIPRAP AT RCP-A OUTLETS  
 OR BOXES OF EQUIVALENT SPAN WIDTH**

SPAN OF PIPE ARCH (IN.)	L (FT.)	CLASS II d50=6"	CLASS III d50=9"	CLASS IV d50=12"
		DEPTH RIPRAP (CU.YDS.)	DEPTH RIPRAP (CU.YDS.)	DEPTH RIPRAP (CU.YDS.)
22	10	3.9	5.9	7.8
28	12	5.5	8.2	10.9
36	14	7.2	10.8	14.3
43	16	9.2	13.7	18.3
51	18	10.9	16.3	21.7
58	20	12.7	19.0	25.4

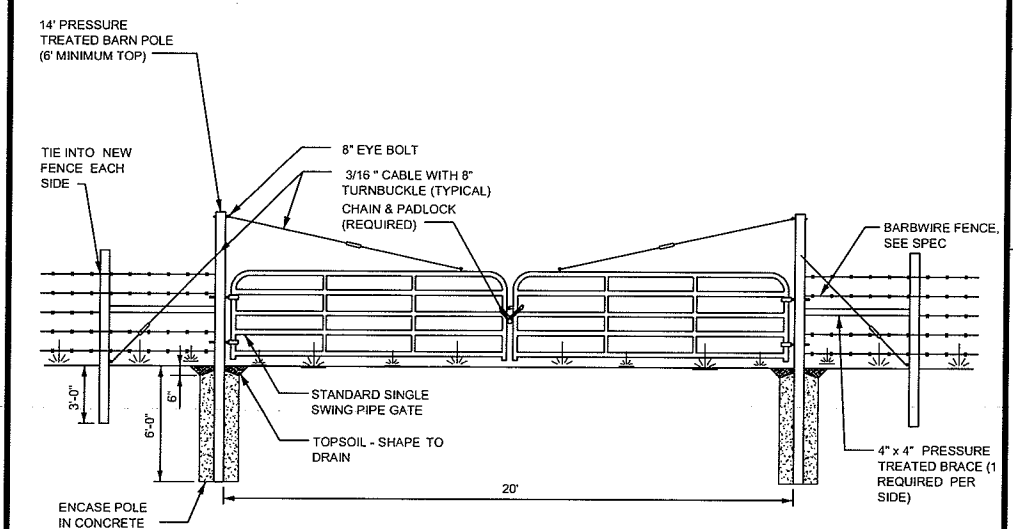
**2 RIP RAP AT OUTLETS**  
 PM-9 NTS



- NOTES:**
- PIPE SIZES LARGER THAN THOSE SHOWN REQUIRE A SPECIAL DESIGN.
  - REQUIREMENTS FOR RIPRAP SIZE AND THICKNESS AND FILTER BLANKET WILL BE DESIGNATED IN THE PLANS.
  - FOR PIPES GREATER THAN OR EQUAL TO 30" USE 1.5.
  - DIMENSION E IS GIVEN ON STANDARD PLATES 3100 AND 3110.



**5 NEW DRIVEWAY CROSS-SECTION**  
 PM-9 SCALE: NONE



**6 DOUBLE SWING PIPE GATE DETAIL**  
 PM-9 SCALE: NONE

TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-3388 Fax: 218-722-4548  
 MSA PROFESSIONAL SERVICES

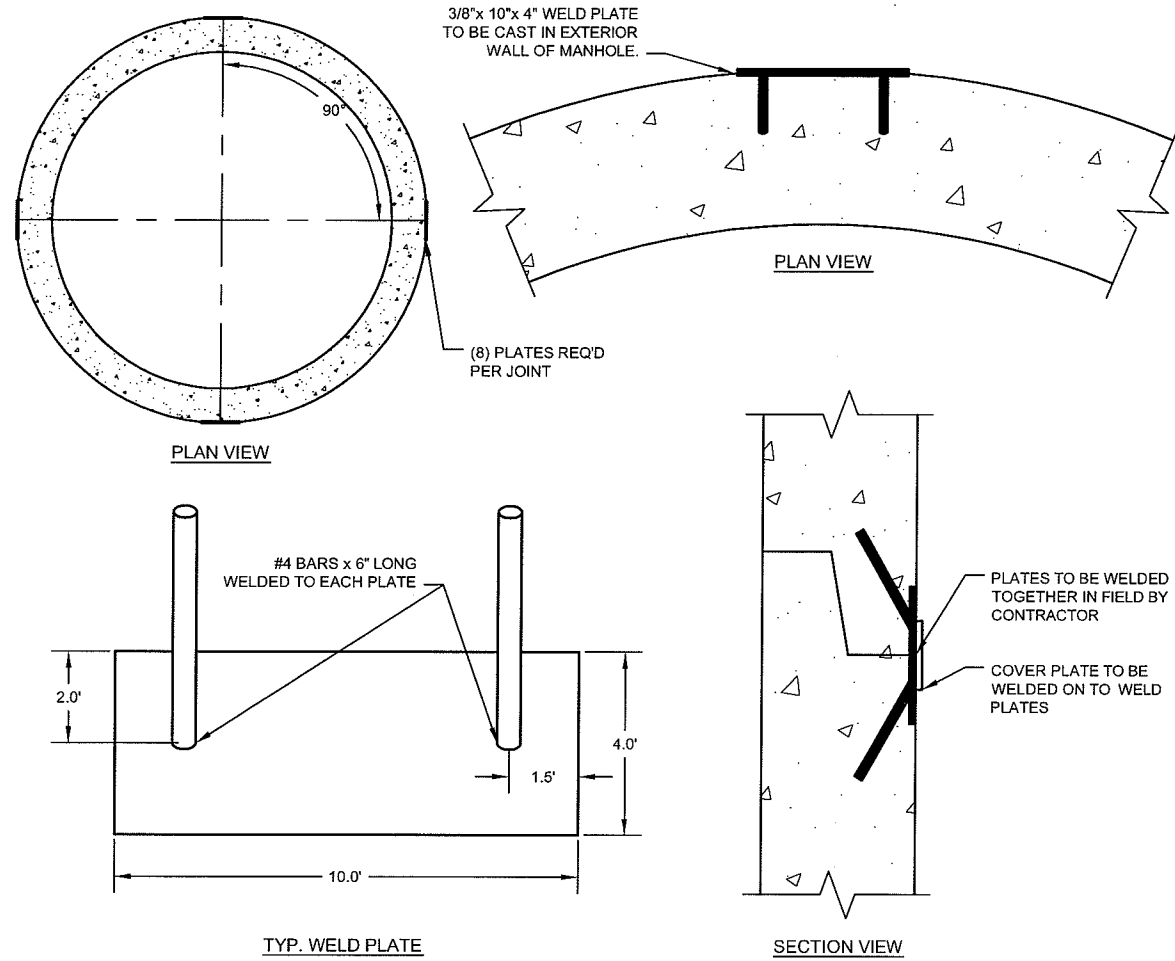
PROJECT NO.: 00626000  
 DATE: OCTOBER 2009  
 SCALE: AS SHOWN

FILE NO.: 626-001  
 SHEET: PM-9

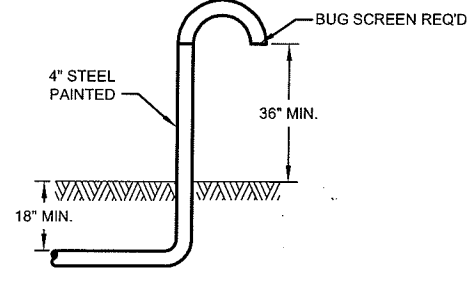
DETAILS - HOLDING BASIN SITE  
 PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

DATE: 10/20/09  
 DRAWN BY: LAJ  
 CHECKED BY: CWS

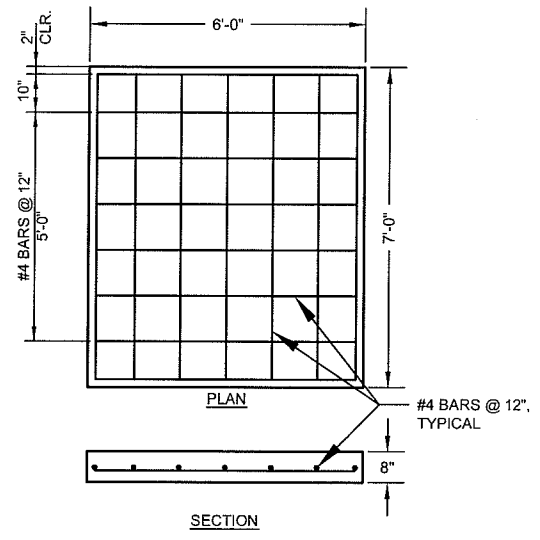
LAYOUT NAME: MISC



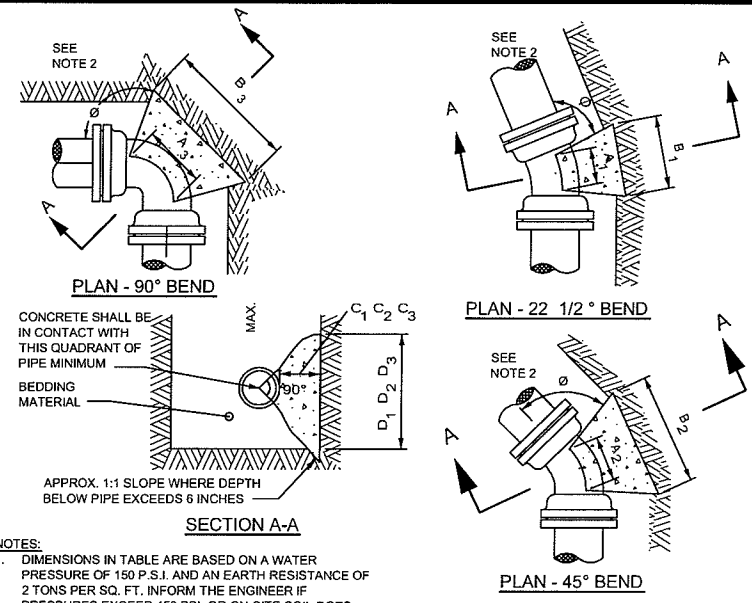
**1 MANHOLE WELD PLATES**  
PM-10 SCALE: NONE



**2 LIFT STATION VENT DETAIL**  
PM-10 SCALE: NONE



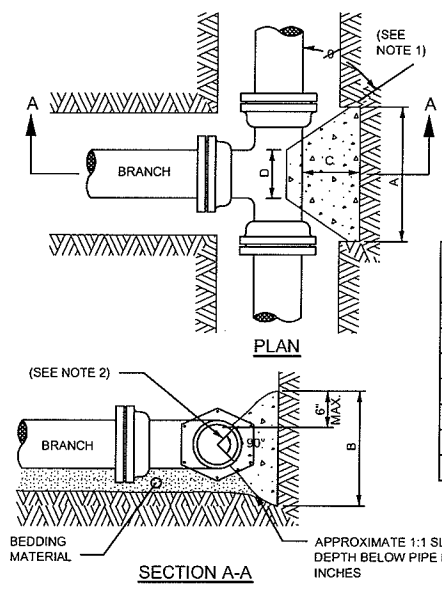
**3 CONTROL PANEL CONC. PAD DETAIL**  
PM-10 SCALE: NONE



- NOTES:**
- DIMENSIONS IN TABLE ARE BASED ON A WATER PRESSURE OF 150 P.S.I. AND AN EARTH RESISTANCE OF 2 TONS PER SQ. FT. INFORM THE ENGINEER IF PRESSURES EXCEED 150 PSI, OR ON-SITE SOIL DOES NOT MEET THIS CONDITION.
  - DIMENSION C1 C2 C3 SHOULD BE LARGE ENOUGH TO MAKE ANGLE Ø EQUAL TO OR LARGER THAN 45°.
  - DIMENSION A1 A2 A3 SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH THE MECHANICAL JOINT.
  - BUTTRESS TO BE PLACED AGAINST FIRM UNDISTURBED SOIL, OR DISTURBED SOIL COMPACTED TO 95% OF MODIFIED PROCTOR DENSITY, ASTM D1557.
  - ALL POURED BUTTRESSED FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.
  - CONCRETE SHALL HAVE A MINIMUM 7-DAY COMPRESSIVE STRENGTH OF 2000 PSI.
  - IN ADDITION TO BUTTRESS, ALL JOINTS SURROUNDING BENDS SHALL BE RESTRAINED WITH WEDGE ACTION RESTRAINING GLANDS.

PIPE SIZE	BUTTRESS DIMENSIONS					
	22 1/2° BENDS		45° BENDS		90° BENDS	
	B <sub>1</sub>	D <sub>1</sub>	B <sub>2</sub>	D <sub>2</sub>	B <sub>3</sub>	D <sub>3</sub>
6"	1'-0"	1'-0"	1'-0"	1'-0"	1'-4"	1'-2"
8"	1'-0"	1'-0"	1'-4"	1'-2"	1'-10"	1'-6"
10"	1'-2"	1'-2"	1'-7"	1'-7"	2'-3"	1'-10"
12"	1'-4"	1'-4"	1'-10"	1'-10"	2'-8"	2'-3"
16"	1'-10"	1'-8"	2'-6"	2'-4"	3'-10"	2'-10"
20"	2'-4"	2'-0"	3'-3"	2'-10"	5'-0"	3'-4"
24"	2'-10"	2'-4"	4'-0"	3'-3"	6'-4"	3'-10"

**4 BUTTRESS FOR BENDS DETAIL**  
PM-10 SCALE: NONE

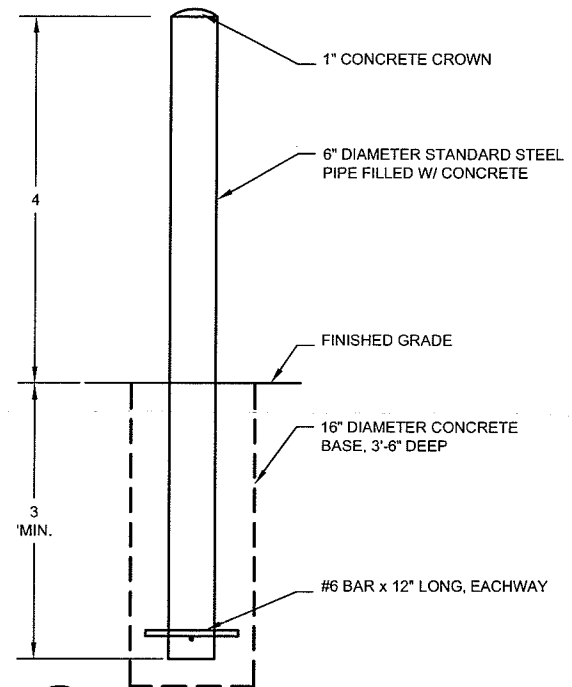


B.D.	BUTTRESS DIMENSIONS			
	A	B	C	D
6"	1'-3"	1'-0"		
8"	1'-6"	1'-4"		
10"	1'-10"	1'-8"	SEE NOTE NO. 1	SEE NOTE NO. 3
12"	2'-3"	2'-0"		
16"	3'-2"	2'-6"		
20"	4'-0"	3'-0"		
24"	5'-3"	3'-4"		

B.D. = BRANCH DIAMETER

- NOTES:**
- DIMENSION 'C' SHOULD BE LARGE ENOUGH TO MAKE ANGLE Ø GREATER THAN OR EQUAL TO 45°.
  - CONCRETE SHOULD BEAR ON THIS QUADRANT OF PIPE AT A MINIMUM.
  - DIMENSION 'D' SHOULD BE AS LARGE AS POSSIBLE BUT CONCRETE SHOULD NOT INTERFERE WITH MECHANICAL JOINTS.
  - BUTTRESS DIMENSIONS ARE BASED ON A SOIL RESISTANCE OF TWO TONS PER SQ. FT. AND A WATER PRESSURE OF 150 PSI. INFORM THE ENGINEER IF ON-SITE SOIL DOES NOT MEET THIS CONDITION OR PRESSURES EXCEED 150 PSI.
  - BUTTRESS TO BE PLACED AGAINST FIRM UNDISTURBED SOIL, OR DISTURBED SOIL COMPACTED TO 95% OF MODIFIED PROCTOR DENSITY, ASTM D1557.
  - CONCRETE SHALL HAVE A MINIMUM 7-DAY COMPRESSIVE STRENGTH OF 2000 PSI.
  - ALL POURED BUTTRESSED FITTINGS SHALL BE WRAPPED IN POLYETHYLENE.
  - IN ADDITION TO BUTTRESSES, ALL JOINTS SURROUNDING TEES SHALL BE RESTRAINED WITH WEDGE ACTION RESTRAINING GLANDS.

**6 BUTTRESS FOR TEES DETAIL**  
PM-10 SCALE: NONE



**5 BOLLARD DETAIL**  
PM-10 SCALE: NONE

PLT DATE: 05 NOV 2009 PLT TIME: 11:09am  
PLT BY: K:\plnshis\DETAILS.dwg

TRANSPORTATION • MUNICIPAL  
DEVELOPMENT • ENVIRONMENTAL  
301 West First Street, Duluth, MN 55802  
218-722-3915 1-800-777-3388 Fax: 218-722-4548  
© USA PROFESSIONAL SERVICES

**MSA**  
PROFESSIONAL SERVICES

PROJECT NO.:	DATE:	NO.:	DATE:	NO.:	DATE:	NO.:
00626000	OCTOBER 2009	XXX				
DETAILS - MISCELLANEOUS			PARKLAND SANITARY DISTRICT NO.1 WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN			
FILE NO.:	DRAWN BY:		CHECKED BY:		SCALE:	
626-001	LAJ		CWS		AS SHOWN	
SHEET						
PM-10						

**GENERAL NOTES**

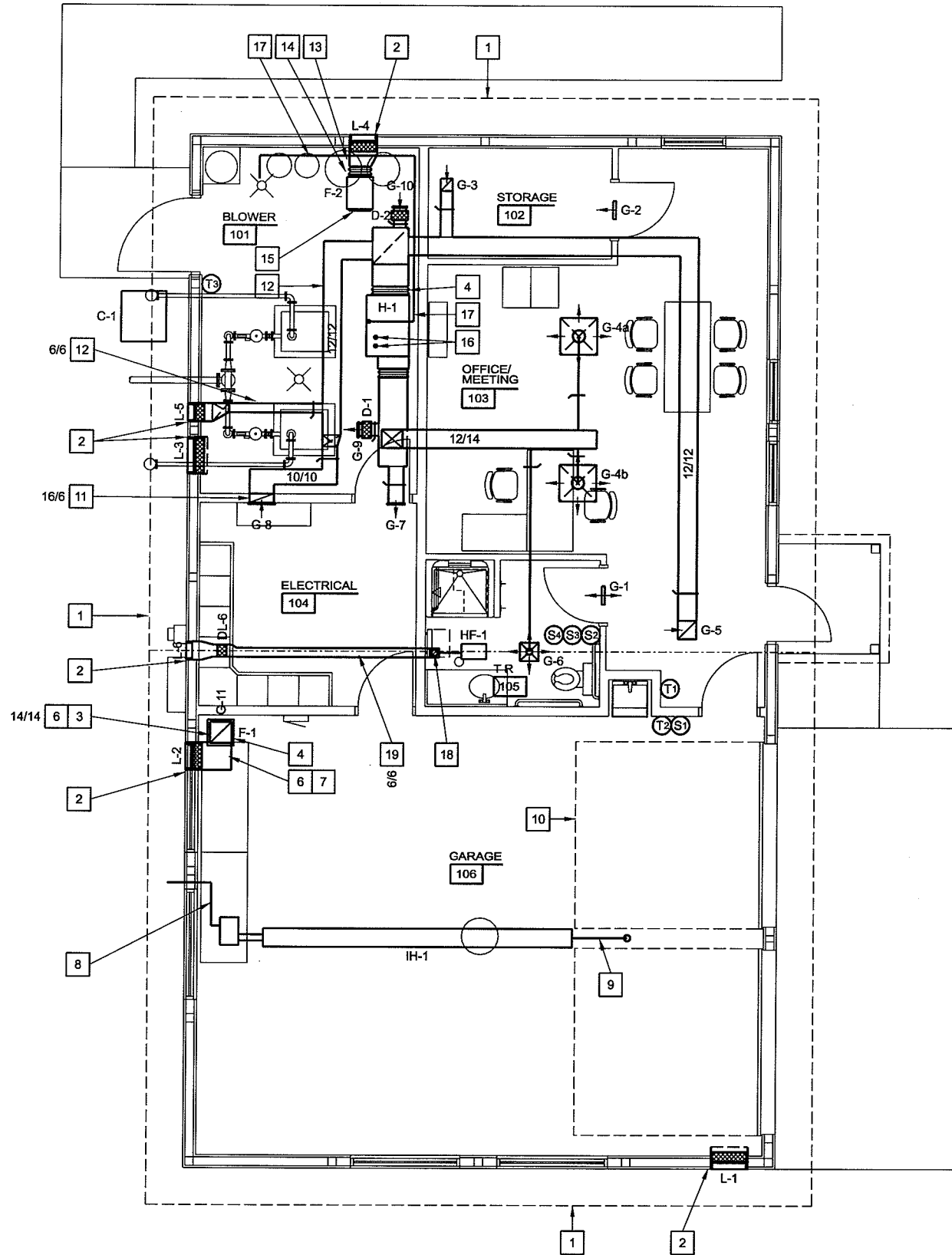
- SEE GENERAL NOTES ON THE ARCHITECTURAL PLANS AS THEY APPLY TO THIS WORK.
- CONTRACTOR TO COORDINATE INSTALLATION OF ALL EQUIPMENT WITH OTHER CONTRACTORS TO AVOID CONFLICTS. INSTALL ALL WORK TO PROVIDE MAXIMUM CLEARANCES.
- ALL DUCTWORK SHALL BE RUN TIGHT TO CEILING OR WALL, UNO.
- ALL PENETRATIONS THROUGH EXTERIOR ABOVE GRADE WALLS SHALL HAVE SEALANT (BY OTHERS).
- ALL PENETRATIONS THROUGH ROOF SHALL BE FLASHED BY ROOFING CONTRACTOR.

**BOX NOTES**

- BUILDING OVERHANG (EAVE) LOCATION
- OPENING FRAMING AND TRIM BY POLE BUILDING SUPPLIER
- RUN DUCT UP WALL TO FAN IN CORNER
- VIBRATION ISOLATION ON INLET AND OUTLET DUCT
- RUN DUCT UP THROUGH CEILING
- DUCT RUN IN ATTIC TO LOUVER
- TRANSITION DUCT TO LOUVER SIZE ABOVE CEILING
- UNIT COMBUSTION AIR INTAKE THROUGH WALL TO HOOD (BY UNIT MANUFACTURER). INSULATE DUCT INSIDE BUILDING.
- COMBUSTION AIR DUCT UP THROUGH ROOF TO HOOD (BY UNIT MANUFACTURER). INSULATE DUCT FULL LENGTH.
- LIMITS OF OVERHEAD DOOR OPERATION - SEE ARCHITECTURAL
- RUN DUCT UP INSIDE WALL
- RUN DUCT NEAR CEILING
- TRANSITION FROM UNIT SIZE TO LOUVER SIZE
- VIBRATION ISOLATION ON OUTLET DUCT
- OSHA INLET GUARD ON FAN INLET BY UNIT MANUFACTURER
- COMBUSTION AIR AND FLUE VENT UP THROUGH CEILING AND ROOF TO HOOD (BY UNIT MANUFACTURER). CONCENTRIC VENT KIT BY UNIT MANUFACTURER.
- RUN LINE FROM CONDENSATE DRAIN TRAP ALONG AND DOWN WALL TO ABOVE FLOOR DRAIN
- RUN DUCT UP THROUGH CEILING INTO ATTIC
- RUN DUCT IN ATTIC, ABOVE INSULATION. INSULATE DUCT FULL LENGTH.

**LEGEND**

- DAMPER, ACTUATED
- DAMPER, MANUAL BALANCE
- RETURN, EXHAUST DUCT (UPWARD FLOW)
- RETURN, EXHAUST DUCT (DOWNWARD FLOW)
- RETURN DUCT - SINGLE LINE
- SUPPLY, OUTSIDE AIR DUCT (UPWARD FLOW)
- SUPPLY, OUTSIDE AIR DUCT (DOWNWARD FLOW)
- SUPPLY DUCT - SINGLE LINE
- 20/20 DUCT SIZE - WIDTH/HEIGHT OR WIDTH/DEPTH
- 20/20(1500) DUCT SIZE AND AIR FLOW (CFM)
- (S) SWITCH/SENSOR - ID NUMBER
- (T) THERMOSTAT - ID NUMBER



**HVAC FLOOR PLAN - DISTRICT OFFICE**

SCALE: 1/4" = 1'-0" (22 x 34)  
SCALE: 1/8" = 1'-0" (11 x 17)

crest.lpd  
 10/28/2009  
 11:28:13 AM  
 00626000\_001\_floorplan.dgn

TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West Park Street, Danville, VA 24042  
 218-722-3913 Fax: 218-722-4468  
 © 2008 Professional Services

**MSA**  
 PROFESSIONAL SERVICES

NO.	DATE	REVISION

PROJECT NO.: 00626000  
 DATE: OCTOBER 2009  
 F.B.I. DRAWN BY: C.J.W.  
 SCALE: AS SHOWN  
 CHECKED BY:

HVAC FLOOR PLAN  
**PARKLAND SANITARY DISTRICT NO.1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO.: 626-001  
 SHEET: H-1



**GENERAL NOTES**

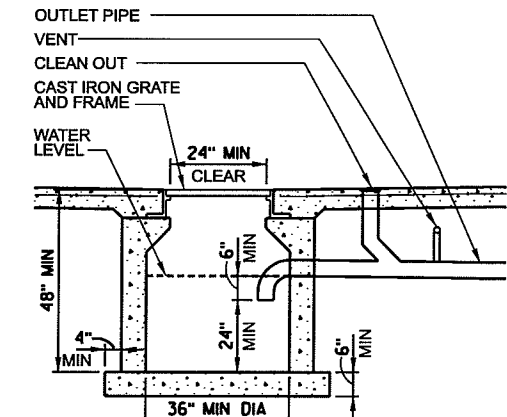
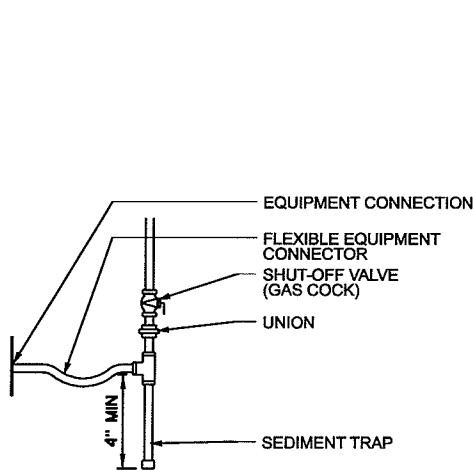
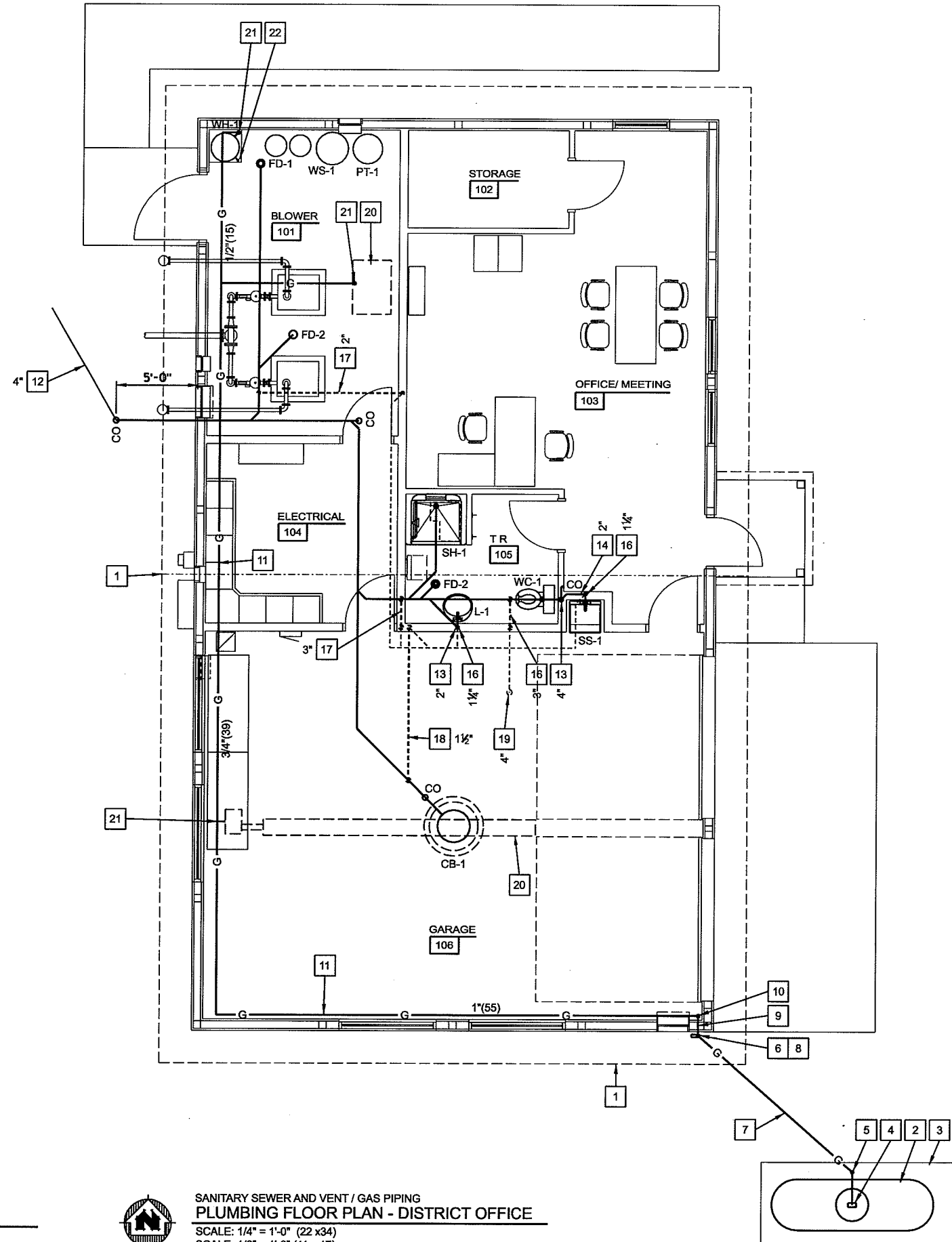
- SEE GENERAL NOTES ON THE ARCHITECTURAL PLANS AS THEY APPLY TO THIS WORK.
- CONTRACTOR TO COORDINATE INSTALLATION OF ALL PIPING, FIXTURES AND EQUIPMENT WITH OTHER CONTRACTORS TO AVOID CONFLICTS. DO NOT INSTALL ANY PIPING ABOVE ELECTRICAL PANELS. INSTALL ALL WORK TO PROVIDE MAXIMUM CLEARANCES.
- ALL PIPING, INSIDE BUILDING, SHALL BE SURFACE MOUNTED TIGHT TO WALLS AND CEILING, ALLOWING FOR SLOPE, OR BE RUN INSIDE WALLS. DO NOT RUN IN EXTERIOR WALLS, UNLESS NOTED OTHERWISE. TYPICAL.
- BUILDING PLUMBING CONTRACTOR TO PROVIDE WATER SERVICE TO 5' OUTSIDE BUILDING. SITE CONTRACTOR TO PROVIDE WATER LATERAL FROM THAT LOCATION TO MUNICIPAL WATERMAIN. SEE SITE PLAN.
- BUILDING PLUMBING CONTRACTOR TO PROVIDE SANITARY SEWER TO 5' OUTSIDE BUILDING. SITE CONTRACTOR TO PROVIDE SANITARY SEWER LATERAL FROM THAT LOCATION TO GRINDER STATION. SEE SITE PLAN.
- APPLIANCE CONNECTIONS: FINAL ELECTRICAL CONNECTIONS SHALL BE MADE BY ELECTRICAL CONTRACTOR. FINAL GAS CONNECTION SHALL BE MADE BY PLUMBING CONTRACTOR.
- SEE PROJECT MANUAL AND ARCHITECTURAL FOR PAINTING REQUIREMENTS.
- ALL PENETRATIONS THROUGH FLOOR SHALL BE WATER-TIGHT.
- ALL PENETRATIONS THROUGH EXTERIOR ABOVE GRADE WALLS SHALL HAVE SEALANT (BY OTHERS - SEE ARCHITECTURAL).

**LEGEND**

- |         |                           |
|---------|---------------------------|
| CO      | CLEAN OUT                 |
| G       | GAS, LIQUID PROPANE (LP)  |
| ---     | SANITARY DRAIN            |
| ---     | SANITARY VENT             |
| ---     | WATER, HARD (COLD)        |
| ---     | WATER, SOFT (COLD)        |
| ---     | WATER, SOFT (HOT)         |
| M       | VALVE                     |
| 2"(3.0) | PIPE SIZE (FIXTURE UNITS) |

**BOX NOTES**

- ROOF RIDGE LINE LOCATION
- 500 GALLON LP TANK - INSTALL MIN 25' FROM BUILDING AND PROPERTY LINES - SEE SITE PLAN FOR LOCATION
- CONCRETE PAD FOR EQUIPMENT - SEE SITE PLAN
- FIRST-STAGE REGULATOR LOCATION (CONTAINER PRESSURE TO 10 PSI)
- RUN GAS LINE DOWN THROUGH SLEEVE IN CONCRETE PAD, WRAP PIPE
- SECOND-STAGE REGULATOR LOCATION FOR HVAC AND PLUMBING EQUIPMENT (10 PSI TO 14" WC) - CONFIRM REQUIRED PRESSURE w/ EQUIPMENT
- UNDERGROUND GAS LINE
- GAS LINE UP THROUGH GRADE IN STEEL CONDUIT
- RUN GAS LINE THROUGH EXTERIOR WALL IN SLEEVE, WRAP PIPE
- RUN LINE UP TO UNDER CEILING ALONG WALL IN CORNER
- RUN LINE ALONG WALL UNDER CEILING - DO NOT RUN ABOVE ELECTRICAL PANELS
- BUILDING SEWER TO GRINDER STATION - SEE SITE PLAN
- RUN SANITARY LINE DOWN INSIDE WALL TO BELOW SLAB
- RUN SANITARY LINE INSIDE WALL
- RUN VENT LINE UP INSIDE WALL INTO ATTIC
- CIRCUIT VENT. CONNECT TO TOP OF DRAIN LINE, RUN UNDER SLAB TO INSIDE WALL. RUN UP INSIDE WALL INTO ATTIC.
- RELIEF VENT. CONNECT VENT TO TOP OF SANITARY LINE, RUN UNDER SLAB TO INSIDE WALL. RUN UP INSIDE WALL INTO ATTIC.
- CONNECT VENT TO TOP OF SANITARY LINE, RUN UNDER SLAB TO INSIDE WALL. RUN UP INSIDE WALL INTO ATTIC.
- VTR. LOCATE A MINIMUM OF 5' FROM RIDGE LINE.
- GAS-FIRED HEATING APPLIANCE - SEE HVAC PLAN
- EQUIPMENT GAS CONNECTION - VERIFY SIZE w/ MANUFACTURER - SEE DETAIL 1/PL-1
- RUN DISCHARGE PIPE FROM T&P VALVE DOWN WALL TO ABOVE FLOOR, RUN PIPE ALONG FLOOR AND DIRECT TOWARD FLOOR DRAIN



**NOTES**

- BASIN AND BASE SHALL BE CAST-IN-PLACE CONCRETE OR PRE-CAST CONCRETE.
- CONSTRUCT WATER TIGHT.

**1 EQUIPMENT GAS CONNECTION**  
PL-1 NOT TO SCALE

**2 GARAGE CATCH BASIN DETAIL**  
PL-1 NOT TO SCALE

SANITARY SEWER AND VENT / GAS PIPING  
**PLUMBING FLOOR PLAN - DISTRICT OFFICE**  
SCALE: 1/4" = 1'-0" (22 x 34)  
SCALE: 1/8" = 1'-0" (11 x 17)

TRANSPORTATION - MUNICIPAL  
DEVELOPMENT - ENVIRONMENTAL  
303 West Third Street, Duluth, MN 55802  
218-722-3915 1-800-777-7380 Fax: 218-722-4548  
© MSA PROFESSIONAL SERVICES

**MSA**  
PROFESSIONAL SERVICES

PROJECT NO.:	00626000	DATE:	OCTOBER 2009	SCALE:	AS SHOWN
FILE NO.:	626-001	DESIGNED BY:	CJW	DRAWN BY:	CJW
PLUMBING FLOOR PLAN - SANITARY <b>PARKLAND SANITARY DISTRICT NO.1</b> WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN					
SHEET <b>PL-1</b>					

P:\PROJECTS\6206\626\00626000\CADD\PLANSHEETS\

crest1.dwg  
 10/26/2009  
 3:16:15 PM  
 00626000\_PL-1\_1.florpl.dgn

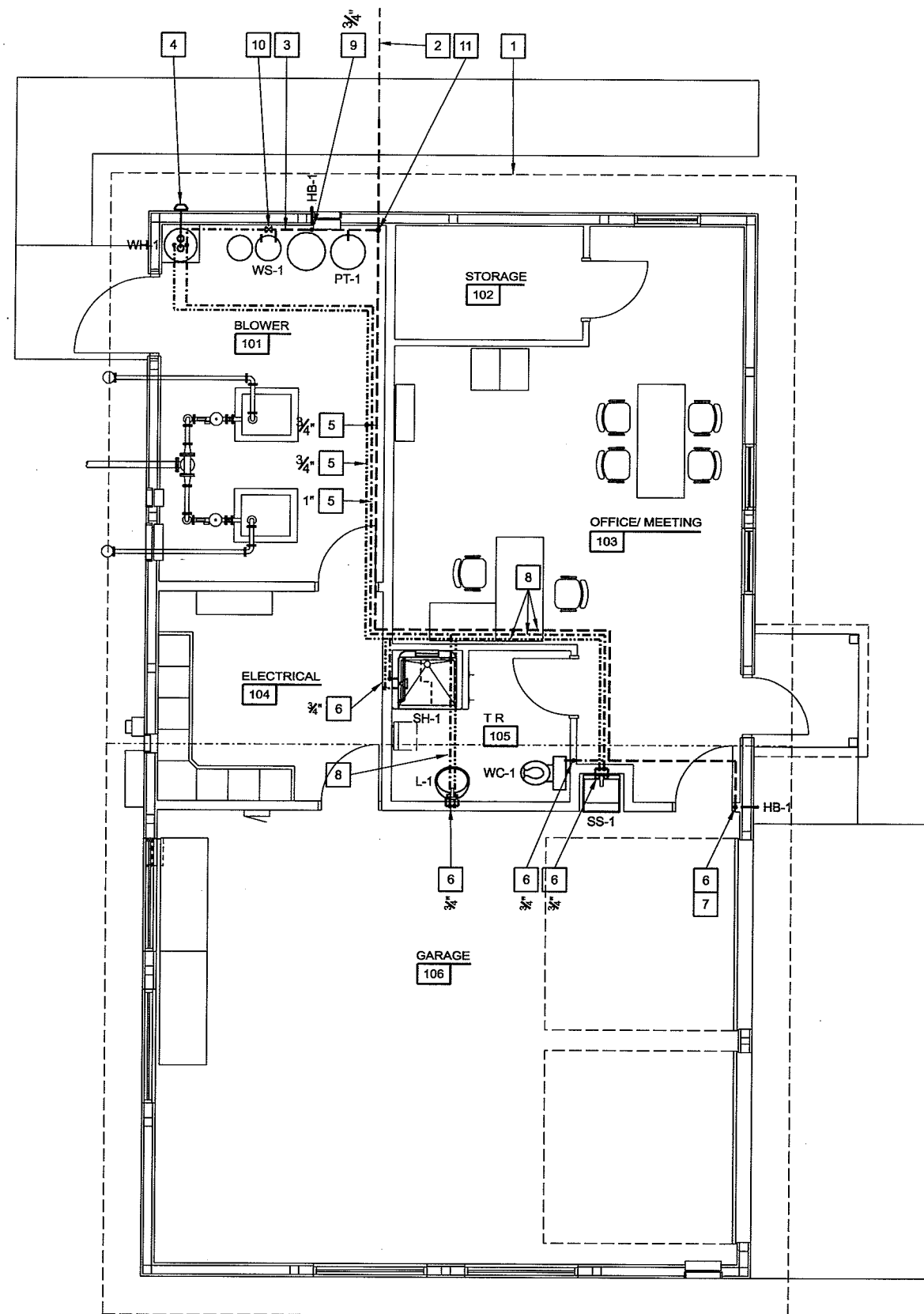


**LEGEND**

CO	CLEAN OUT
G	GAS, LIQUID PROPANE (LP)
—	SANITARY DRAIN
- - - - -	SANITARY VENT
- · - · - · -	WATER, HARD (COLD)
- · - - - -	WATER, SOFT (COLD)
- · - · - · -	WATER, SOFT (HOT)
⊘	VALVE
2"(3.0)	PIPE SIZE (FIXTURE UNITS)

**BOX NOTES**

- 1 ROOF RIDGE LINE LOCATION
- 2 WATER SERVICE FROM WELL - SEE SITE PLAN
- 3 ON-OFF WELL CONTROLS (PRESSURE SENSORS 40-60 PSI) AND PRESSURE RELIEF VALVE
- 4 CONCENTRIC VENT KIT (BY WATER HEATER MFG), MOUNT MIN 2' ABOVE TOP OF DOOR
- 5 RUN LINE ALONG WALL NEAR CEILING
- 6 RUN LINE DOWN INSIDE WALL TO FIXTURE CONNECTION
- 7 PROVIDE SHUT-OFF VALVE ABOVE CEILING
- 8 RUN LINE ALONG WALL, ABOVE SUSPENDED CEILING, NEAR BOTTOM OF TRUSS
- 9 RUN LINE DOWN WALL SURFACE TO FIXTURE CONNECTION (NOT INSIDE WALL), PROVIDE SHUT-OFF VALVE IN LINE.
- 10 BY-PASS (NORMALLY SHUT) VALVE
- 11 WATER SERVICE UP THROUGH FLOOR IN CORNER



**PLUMBING FIXTURE AND EQUIPMENT SCHEDULE**

TAG	NAME	DFU	TRAP SIZE	WATER			REMARKS	MANUFACTURER	MODEL	DESCRIPTION	
				HOT	COLD	TOTAL					
CB-1	CATCH BASIN	4.0	-	-	-	-	7.	NEENAH FNDRY	R-2556	CONCRETE BASIN AND BASE HEAVY DUTY CAST IRON GRATE 'G' AND FRAME	
FD-1	FLOOR DRAIN	4.0	4"	/	/	/	3.	SMITH	2005/2010 + FIG 3591	ADJ FLOOR DRAIN w/ FLASHING COLLAR AND ROUND NICKLE BRONZE GRATE	
FD-2	FLOOR DRAIN	3.0	3"	/	/	/	3.	SMITH	2005/2010	ADJ FLOOR DRAIN w/ FLASHING COLLAR AND ROUND NICKLE BRONZE GRATE w/ OVAL FUNNEL	
HB-1	HOSE BIBB, EXTERIOR	/	/	4.0	4.0	3/4"	2.	WOODFORD	MODEL 65	3/4" FROST-PROOF AUTOMATIC DRAINING WALL HYDRANT w/ ANTI-SIPHON VACUUM BREAKER	
L-1	LAVATORY	1.0	1 1/4"	0.5	0.5	1/2"	-	KOHLER	K-2196	SELF-RIMMING LAVATORY	
PT-1	PRESSURE TANK	/	/	/	/	/	1.	CHICAGO	2200-4CP-E26	SINGLE LEVER FAUCET w/ 3/4 GPM OUTLET (E26) AND GRID OUTLET	
							-	AMTROL	WELL-X-TROL WX-255	NON-ASME, RESIDENTIAL PRESSURE TANK 81 GALLONS, 0.41 ACCEPTANCE FACTOR, 40/60 PSI	
							1.	KOHLER	K-T15621-4 K-304-K	THERMOSTATIC MIXING VALVE AND TRIM	
SH-1	SHOWER	2.0	2"	2.0	2.0	3.0	3/4"	5.	KOHLER	K-12101-C	PREFABRICATED ADA SHOWER UNIT w/ GRAB BARS AND FOLDING SEAT, SHOWER DRAIN AND DOME LIGHT
								1.	KOHLER	K-8520	HANDSHOWER, SLIDE BAR, SOAP DISH, 60" METAL SHOWER HOSE, WALL SUPPLY ELBOW, VACUUM BREAKER
								1.	MUSTEE	15F	FLOOR MOUNTED LAUNDRY TUB w/ STRAINER
SS-1	SERVICE SINK	2.0	1 1/2"	1.5	1.5	2.0	3/4"	1.	CHICAGO	895-317CP	DECK MOUNT FAUCET w/ 3/4" THREADED OUTLET, LEVER HANDLES
								1.	CHICAGO	E27JKCP	THREADED OUTLET BACKFLOW PREVENTER
								4.6.	TOTO	CST744SL	FLOOR MOUNTED TANK WATER CLOSET, 1.6 GPF
WC-1	WATER CLOSET	6.0	3"	/	3.0	3.0	3/4"	BEMIS	1955C	ELONGATED OPEN SEAT w/ SELF-SUSTAINING CHECK	
WH-1	WATER HEATER	/	/	/	/	/	3/4"	STATE	GS6 40 HBDT	GAS WATER HEATER, POWER DIRECT VENT, LP 36 MBH, ELECTRICAL: 120/60/1, 1ST HOUR RECOVERY RATE 37 GPM AT 90-6T	
WS-1	WATER SOFTENER	/	/	/	/	/	1"	CULLIGAN	SMS-181	SOFT-MINDER TWIN, TRIPL-HULL STEEL TANKS	

REMARKS:  
 1. CHROME PLATED FIXTURE.  
 2. MOUNT FIXTURE AT 32" AFF.  
 3. SEE FOUNDATION PLAN FOR INSTALLATION ELEVATION AND LOCATION.  
 4. SEE MANUFACTURER'S DATA FOR CONNECTION SIZE(S).  
 5. SEE FAUCET MANUFACTURER'S REQUIREMENTS FOR SINK OPENING SIZES AND LOCATIONS.  
 6. FLUSH LEVER SHALL BE ON WIDE SIDE OF STALL - SEE FLOOR PLAN.  
 7. SEE DETAIL 2/PL-1.  
 8. SEPARATE COMBUSTION, POWER VENTED TYPE.  
 9. SET OUTLET TEMPERATURE AT 120 DEGREE-F.  
 10. PROVIDE THERMAL EXPANSION ABSORBER AT UNIT, AMTROL OR EQUAL. SIZE BY MANUFACTURER.  
 11. INSTALL THERMOMETER IN INLET AND OUTLET PIPES.



DOMESTIC WATER  
**PLUMBING FLOOR PLAN - DISTRICT OFFICE**  
 SCALE: 1/4" = 1'-0" (22 x34)  
 SCALE: 1/8" = 1'-0" (11 x 17)

TRANSPORTATION - MUNICIPAL  
 DEVELOPMENT - ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 1-800-777-7889 Fax: 218-722-4548  
 © USA PROFESSIONAL SERVICES

**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO.:	00626000	DATE:	OCTOBER 2009	SCALE:	AS SHOWN
PROJECT NAME:	PLUMBING FLOOR PLAN - WATER				
PROJECT LOCATION:	PARKLAND SANITARY DISTRICT NO.1 WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN				
DESIGNED BY:	C-W	CHECKED BY:	AS SHOWN		
DATE:		SCALE:			

FILE NO.  
626-001  
SHEET  
PL-2

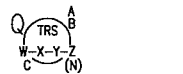
P:\PROJECTS\620s\626\00626000\CADD\PLANSHEETS\

crestlund  
 10/29/2009  
 11:29:28 AM  
 00626000 PL02 1/00rpl.cm.dgn

INSTRUMENT SOCIETY OF AMERICA INSTRUMENT IDENTIFICATION

FIRST LETTER(S)		SUCCEEDING LETTERS		
PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSOUT FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM	
B	BURNER, COMBUSTION		USER'S CHOICE	USER'S CHOICE
C	USER'S CHOICE		USER'S CHOICE	USER'S CHOICE
D	USER'S CHOICE	DIFFERENTIAL		
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)	
F	FLOW RATE	RATIO(FRACTION)		
G	USER'S CHOICE		GLASS, VIEWING DEVICE	
H	HAND			HIGH
I	CURRENT		INDICATE	
J	POWER	SCAN		
K	TIME OR SCHEDULE	TIME RATE OF CHANGE		
L	LEVEL		LIGHT	LOW
M	MOISTURE			
N	TORQUE		USER'S CHOICE	USER'S CHOICE
O	USER'S CHOICE		ORIFICE, RESTRICTION	
P	PRESSURE (OR VACUUM)		POINT, TEST CONNECTION	
Q	QUANTITY	INTEGRATE		
R	RADIATION		RECORD	
S	SPEED, FREQUENCY	SAFETY		
T	TEMPERATURE		SWITCH	
U	MULTIVARIABLE		TRANSMIT	
V	VIBRATION		MULTIFUNCTION	MULTIFUNCTION
W	WEIGHT, FORCE		WELL	
X	UNCLASSIFIED	X AXIS		
Y	EVENT, STATE	Y AXIS		
Z	POSITION, DIMENSION	Z AXIS		

P&ID SYMBOLS (TYPICAL)



- A: DESCRIPTION, TOP LINE  
 B: DESCRIPTION, BOTTOM LINE  
 TRS: FIRST LETTER(S) AND SUCCEEDING LETTERS OF INSTRUMENT IDENTIFICATION, REFER TO ISA TABLE  
 W: UNIT PROCESS NUMBER  
 X: LOOP NUMBER  
 Y: UNIT NUMBER, USED FOR MULTIPLE SETS WITH THE SAME X-Y DESIGNATION  
 Z: SET NUMBER, USED FOR MULTIPLE SETS OF UNITS WITH THE SAME W-X-Y DESIGNATION
- N: NUMBER OF UNITS  
 C: INSTALLATION REQUIREMENT:  
 e.g.: CLASS 1, DIVISION 1 HAZARDOUS LOCATION  
 i.s.: INTRINSICALLY SAFE INSTALLED IN CLASS 1, DIVISION 1 HAZARDOUS LOCATION  
 Q: PROVISION REQUIREMENT:  
 \* : EXISTING, RE-USED EQUIPMENT  
 \*\* : EQUIPMENT SPECIFIED UNDER DIVISION OTHER THAN 26  
 \*\*\* : FUTURE EQUIPMENT  
 BLANK : EQUIPMENT SPECIFIED UNDER DIVISION 26

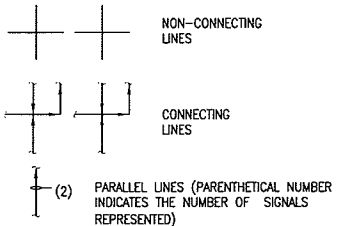
- FIELD DEVICE
- CONTROL PANEL DEVICE, FRONT-OF-PANEL, NORMALLY ACCESSIBLE
- CONTROL PANEL DEVICE, BACK-OF-PANEL, NOT NORMALLY ACCESSIBLE
- MCC DEVICE, FRONT-OF-PANEL, NORMALLY ACCESSIBLE
- MCC DEVICE, BACK-OF-PANEL, NOT NORMALLY ACCESSIBLE
- SOFTWARE DEVICE OR FUNCTION, NORMALLY ACCESSIBLE
- SOFTWARE DEVICE OR FUNCTION, NOT NORMALLY ACCESSIBLE
- SOFTWARE ALARM FUNCTION, NORMALLY ACCESSIBLE

- PROGRAMMABLE LOGIC CONTROLLER
- INPUT/OUTPUT POINT WHERE Y=QUANTITY AND XX
- DI: DIGITAL INPUT
- DO: DIGITAL OUTPUT
- AI: ANALOG INPUT
- AO: ANALOG OUTPUT
- NETWORK (DEVCENET, ETC) CONTROL SYSTEM
- INPUT/OUTPUT POINT WHERE Y=QUANTITY AND XX
- DI: DIGITAL INPUT
- DO: DIGITAL OUTPUT
- AI: ANALOG INPUT
- AO: ANALOG OUTPUT

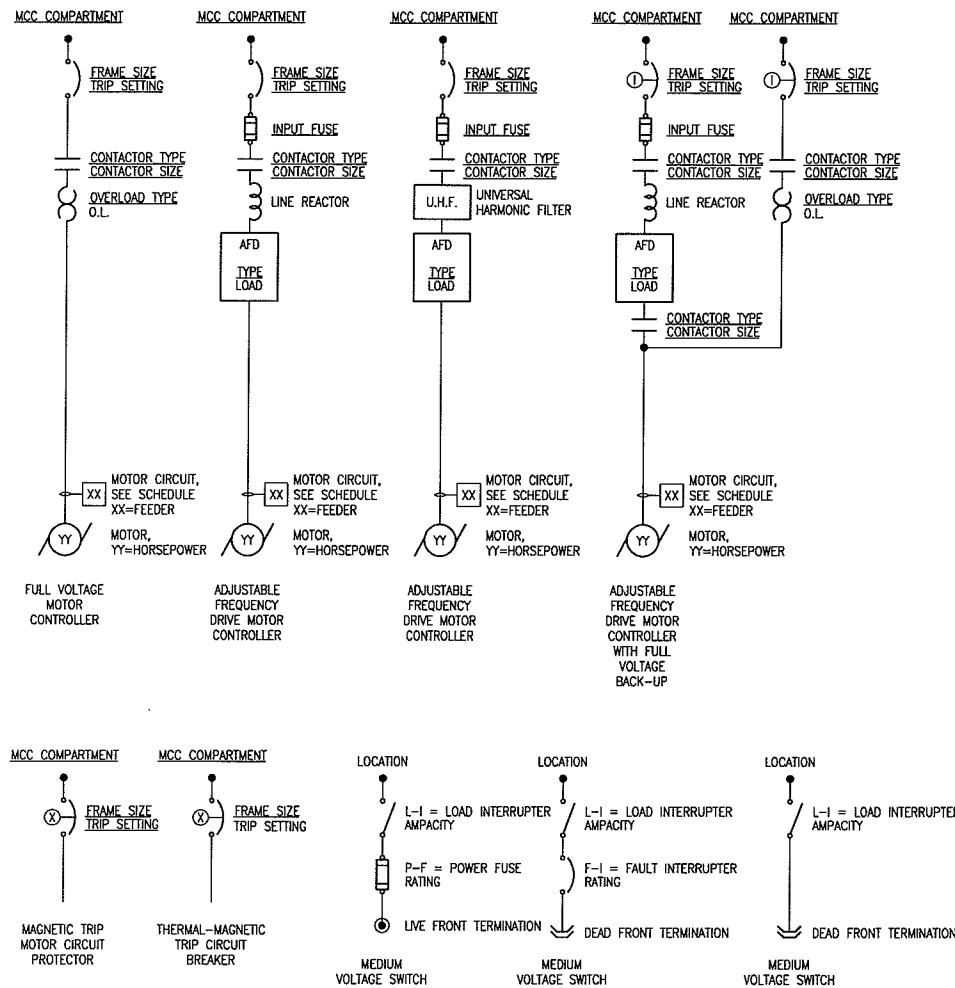
- FULL VOLTAGE MOTOR CONTROLLER, XX INDICATES LOCATION
- MOTOR CONTROLLER, XX INDICATES TYPE OF CONTROLLER AND YY INDICATES LOCATION

LINETYPE LEGEND

- Ax = 2C#16 SHIELDED, TWISTED PAIR CABLE
- Dx = #14 THHN WIRE (x = NUMBER OF WIRES)
- Mx = 1" CONDUIT FOR CABLE SUPPLIED BY MANUFACTURER BY MFG. (x=NUMBER OF CONDUITS)
- Ex = CAT5e CABLE IN 3/4"
- SOFTWARE SIGNAL/FUNCTION
- ANALOG SIGNAL, 4-20mADC OR PULSE FREQUENCY
- PULSE FREQUENCY
- DISCRETE SIGNAL, DRY CONTACT
- MANUFACTURER'S SIGNAL
- PNEUMATIC SIGNAL
- MAJOR PROCESS
- MINOR PROCESS



MOTOR CONTROL CENTER (MCC) SYMBOLS



ELECTRICAL PLAN SYMBOLS

- SINGLE POLE SWITCH, 2-2-POLE, 3-3 WAY, 4-4 WAY, P-PILOT R-RELAY, K-KEYED, I-ILLUMINATED, D-DIMMER M-MOMENTARY CONTACT
- SIMPLEX RECEPTACLE XP-EXPLOSION PROOF.
- DUPLEX RECEPTACLE C-CORROSION RESISTANT
- DUPLEX RECEPTACLE LOWER HALF SWITCHED
- POWER RECEPTACLE 240V 30-30AMP 60-60AMP R = 50A RANGE
- DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER
- GROUND FAULT INTERRUPTER RECEPTACLE
- EQUIPMENT CONNECTION
- SPECIAL OUTLET
- DATA OUTLET, SEE DETAILS.
- TELEPHONE OUTLET, SEE DETAILS
- COMBINATION TELEPHONE/DATA OUTLET.
- TELEPHONE OUTLET FLOOR TYPE. "F" INDICATES FLUSH MOUNT, "S" INDICATES SURFACE MOUNT.
- TELEPHONE/DATA OUTLET FLOOR TYPE. "F" INDICATES FLUSH MOUNT, "S" INDICATES SURFACE MOUNT.
- DATA OUTLET FLOOR TYPE. "F" INDICATES FLUSH MOUNT, "S" INDICATES SURFACE MOUNT.
- EQUIPMENT CONNECTION, CIRCUIT AS SHOWN
- FLEXIBLE CORD CONNECTION, TYPE SO CORD REQUIRED
- ELECTRIC BASEBOARD HEATER, WIRE HVAC SUPPLIED STARTERS, PROVIDE DISC. AS REQD.
- REFERS TO NOTE WITH NUMBER X
- REFERS TO DETAIL WITH NUMBER XXXX-XX
- ATS AUTOMATIC TRANSFER SWITCH
- TS MANUAL TRANSFER SWITCH
- DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- FUSED DISCONNECT SWITCH
- ADJUSTABLE FREQUENCY DRIVE
- MANUAL STARTER
- MAGNETIC MOTOR STARTER
- NEMA "T" INDICATES REDUCED VOLTAGE
- NEMA "X" INDICATES COMBINATION MAGNETIC MOTOR STARTER AND DISCONNECT SWITCH
- MOTOR CONNECTION

- GENERAL NOTES:
- THIS DRAWING IS A STANDARD LEGEND. SYMBOLS SHOWN MAY NOT ALL APPEAR ON DRAWINGS FOR THIS PROJECT.
  - ALL CONTACTS ARE SHOWN IN THE DE-ENERGIZED (SHIELD) POSITION. BI-STABLE RELAYS ARE SHOWN IN THE RESET POSITION.
  - ONE-LINE DIAGRAMS FOR POWER SWITCHGEAR, USE ANSI STANDARD SYMBOLS AND ABBREVIATIONS.
  - SEE INSTRUMENTATION DRAWINGS FOR INSTRUMENTATION SYMBOLS AND DETAILS.
  - OTHER ABBREVIATIONS PER ANSI Z39.13 AND ISA S5.1
  - ELEVATIONS ADJACENT TO SYMBOLS ARE BASED ON STATION DATUM. HEIGHTS ADJACENT TO SYMBOLS (+4.0) ARE REFERENCED TO FINISHED FLOOR GRADE.
  - THE LETTERS "GF" ADJACENT TO A RECEPTACLE INDICATES A GROUND FAULT INTERRUPTER FEED-THROUGH RECEPTACLE ASSEMBLY. THE LETTERS ADJACENT TO A PANELBOARD CIRCUIT BREAKER INDICATES A GROUND FAULT CIRCUIT BREAKER. THE LETTERS "G" INDICATE AN ISOLATED GROUND RECEPTACLE, PROVIDE SEPARATE GROUND WIRE.
  - SEE SPECIFICATIONS AND SCHEDULES FOR COMPONENT REQUIREMENTS FOR MOTOR CONTROLLERS AND FOR CONTACTORS.

PROCESS NOTES:

- SIZE CONDUIT PER NEC. MINIMUM SIZE 3/4".
- PROVIDE SEPARATE CONDUITS FOR THE FOLLOWING:
  - 4-20mADC
  - 120 VOLT CONTROL
  - 120 VOLT POWER
  - 480 VOLT POWER
  - LOW VOLTAGE INSTRUMENTATION
  - COMMUNICATION
- REFER TO SPECIFICATION 269000 FOR DETAILS ON VARIOUS LOOP FUNCTIONS AS WELL AS DETAILS REGARDING OPERATOR INTERFACE FUNCTIONS.
- REFER TO DIVISION 44 FOR ADDITIONAL DETAILS REGARDING INSTRUMENTATION AND CONTROL EQUIPMENT FURNISHED UNDER THOSE SPECIFICATIONS.
- (1) 1-1/2" C REFERS TO NUMBER OF WIRES AND SIZE OF WIRE REQUIRED, WHERE AS:
  - (1) = ONE WIRE
  - 1-1/2" = THE SIZE OF WIRE REQUIRED

WIRING & CONDUIT

- (X) #12 & #12G  
 REFERS TO NUMBER OF WIRE(S) AND SIZE OF WIRE(S) REQUIRED, WHERE AS:  
 (1) = ONE WIRE  
 #12 = THE SIZE OF WIRE REQUIRED  
 G = GROUND WIRE
  - (X) 1-1/2" C  
 REFERS TO NUMBER OF CONDUIT(S) AND SIZE OF CONDUIT(S) REQUIRED, WHERE AS:  
 (1) = ONE CONDUIT  
 1-1/2" C = THE SIZE OF CONDUIT REQUIRED
- \* REFER TO DRAWINGS FOR REQ'D WIRE AND CONDUIT SIZES AND AMOUNTS

ELECTRICAL ABBREVIATIONS

AFD	ADJUSTABLE FREQUENCY DRIVE	EM	EMERGENCY	KVA	KILOVOLT-AMPERES	PC	PHOTO CONTROL
AFG	ABOVE FINISH GRADE	EP	CLASS 1, DIV. 1 EQUIPMENT	KW	KILOWATTS	PFR	PHASE FAIL RELAY
AHU	AIR HANDLING UNIT	EUH	ELECTRIC UNIT HEATER	MAU	MAKE-UP AIR UNIT	PVC	POLYVINYL CHLORIDE
AUTO	AUTOMATIC	EWG	ELECTRIC WATER COOLER	M.C.	MECHANICAL CONTRACTOR	REQ'D	REQUIRED
AUX	AUXILIARY	EWH	ELECTRIC WALL HEATER	MCC	MOTOR CONTROL CENTER	SPEC	SPECIFICATION
AWG	AMERICAN WIRE GAUGE	FBO	FURNISHED BY OTHERS	MFR	MANUFACTURER	SPD	150KA/PHASE MINIMUM SURGE PROTECTIVE DEVICE
BKR	BREAKER	G	GROUND	MS-AUX	MOTOR STARTER AUXILIARY	SS	STAINLESS STEEL
C	CONDUIT	G.C.	GENERAL CONTRACTOR	mA	MILLIAMPERE	TC	7 DAY TIMECLOCK PROVIDED BY ELECTRICAL CONTRACTOR
CB	CIRCUIT BREAKER	GFI	GROUND FAULT INTERRUPTER	mV	MILLIVOLT	UPS	UNINTERRUPTIBLE POWER SUPPLY
CKT	CIRCUIT	GND	GROUND	MOD	MOTOR OPERATED DAMPER	UHP	UNIT HEATER
CU	COPPER	HVAC	HEATING, VENTILATING & AIR CONDITIONING	NL	NIGHTLIGHT	UHS	UNINTERRUPTIBLE POWER SUPPLY
DISC	DISCONNECT	HTR	HEATER	N.O.	NORMALLY OPEN	W/	WITH
E.C.	ELECTRICAL CONTRACTOR	I.S.	INTRINSICALLY SAFE	N.C.	NORMALLY CLOSED	WH	WATER HEATER
ECB	ENCLOSED CIRCUIT BREAKER	I/O	INPUT/OUTPUT	NF	NON-FUSED	WP	WEATHER PROOF
EDH	ELECTRIC DUCT HEATER	JG	ISOLATED GROUND	NTS	NOT TO SCALE	XFRM	TRANSFORMER
EF	EXHAUST FAN	J-BOX	JUNCTION BOX	O.L.	OVERLOAD	XLP	CROSS LINKED POLYETHYLENE
ELEV	ELEVATION	KCMIL	THOUSAND CIRCULAR MILS	DHD	OVER HEAD DOOR		
		KV	KILOVOLTS				

FILEPATH: N:\Parkland Sanitary District\_2009\02\Muermann Drawings\Electrical\E-1 Electrical Symbols & Abbreviations.dwg  
 PLOT TIME: 12:53pm  
 PROJECT NO.: 00626000  
 DATE: OCTOBER 2009  
 SCALE: AS SHOWN  
 SHEET E-1

TRANSPORTATION - MUNICIPAL DEVELOPMENT - ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-721-3915 1-800-777-7380 FAX: 218-721-1488  
 O U.S.A. PROFESSIONAL SERVICES

**MSA**  
 PROFESSIONAL SERVICES

BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_

REVISION: \_\_\_\_\_

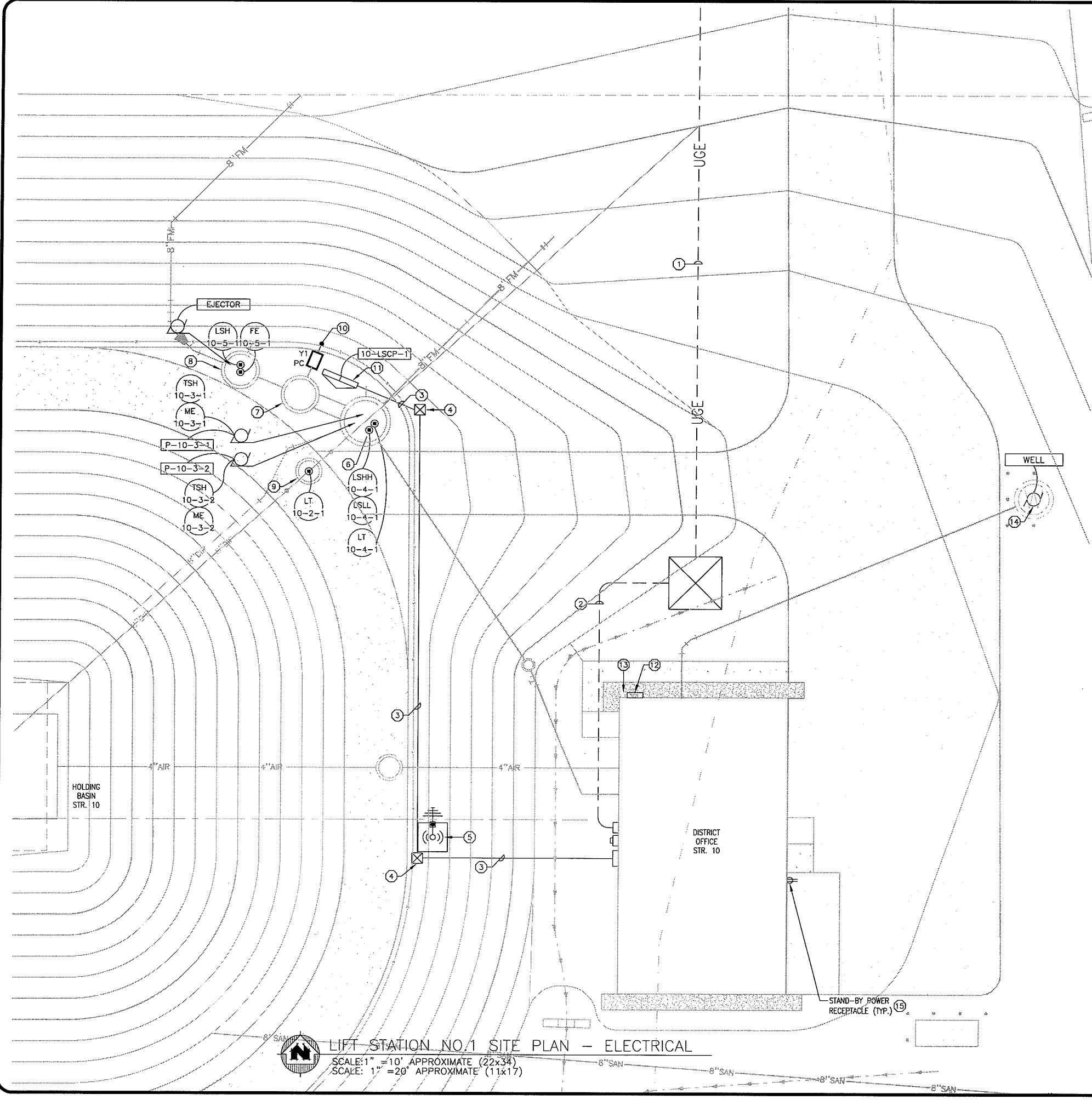
PROJECT NO.: 00626000  
 DATE: OCTOBER 2009  
 SCALE: AS SHOWN

DESIGNED BY: JLG  
 CHECKED BY: SRC

**PARKLAND SANITARY DISTRICT NO.1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO.: 626-001  
 SHEET E-1

Plot time: 12:54pm  
 P:\Parkland Sanitary District\Drawings\Electrical\E-2 Lift Station No.1 Site Plan - Electrical.dwg



**LIFT STATION NO.1 SITE PLAN - ELECTRICAL**  
 SCALE: 1" = 10' APPROXIMATE (22x34)  
 SCALE: 1" = 20' APPROXIMATE (11x17)

- GENERAL NOTES:**
- DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM ENGINEER PRIOR TO PROCEEDING WITH WORK.
  - EFFORT WAS MADE IN THE PREPARATION OF THE CONTRACT DOCUMENTATION TO COORDINATE CONNECTIONS WITH ALL DISCIPLINES, HOWEVER THE EC IS RESPONSIBLE TO REVIEW ENTIRE PLANS AND THE SPECIFICATIONS AND INCLUDE ALL WORK REQUIRED TO PROVIDE A COMPLETE PROJECT.
  - SIZE HOMERUN WIRING PER ONE-LINE DIAGRAM AND WIRE SCHEDULE.
  - REFER TO INSTRUMENTATION DEVICE SCHEDULE ON SCHEDULE SHEET FOR WIRING REQUIREMENTS.
  - OBSERVE APPLICABLE CODE REQUIREMENTS FOR ELECTRICAL INSTALLATIONS WITHIN HAZARDOUS AREAS NOTED ON PLAN.
  - MINIMUM CONDUIT SIZE 3/4", UNLESS OTHERWISE NOTED. REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION.
  - ALL EXPOSED CONDUIT LOCATED IN UNCLASSIFIED AREAS SHALL BE GALVANIZED RIGID STEEL. UNLESS OTHERWISE NOTED OR REQUIRED BY SCHEDULE.
  - ALL CONDUITS LOCATED IN CLASSIFIED AS HAZARDOUS OR CORROSIVE AREAS SHALL BE PVC COATED RIGID CONDUIT, PVC COATED CAST BOXES, AND SS SUPPORTS & HARDWARE.
  - ALL TRENCHING MINIMUM 30" DEPTH TO TOP OF CONDUIT. CONTRACTOR SHALL INSTALL IDENTIFICATION RIBBONS 6" ABOVE ALL CONDUITS TRENCHES (MULTIPLE RIBBONS MAYBE REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING UTILITIES PRIOR AND FOR ALL BACK FILL AND RESTORATION AFTERWARDS).
  - REFER TO ELECTRICAL PLANS AND SPECIFICATION FOR ADDITIONAL INFORMATION AND DETAILS.
  - ALL ITEMS AND DEVICES SHOWN ARE FOR GENERAL INTENT AND CLARITY. ACTUAL LAYOUT AND INSTALLATION MAY VARY, BASED ON FIELD CONDITIONS. ALL CHANGES SHALL BE COORDINATED WITH OWNER AND FIELD ENGINEER.
  - ELECTRICAL INSTALLATION SHALL BE PERFORMED IN A WORKMANSHIP MANNER AND COMPLY WITH ALL RELEVANT CODES, REGULATIONS, AND GUIDANCE.
  - CONTRACTOR SHALL FIELD VERIFY FEEDER SIZING FOR VOLTAGE DROP PER ACTUAL WIRE RUNS.
  - CONTRACTOR SHALL FIELD VERIFY THAT ALL LOADS AND BRANCH LOADS ARE BALANCED. THE CONTRACTOR SHALL ADJUST AND BALANCE LOADS (INCLUSIVE AND COMPLETE.)

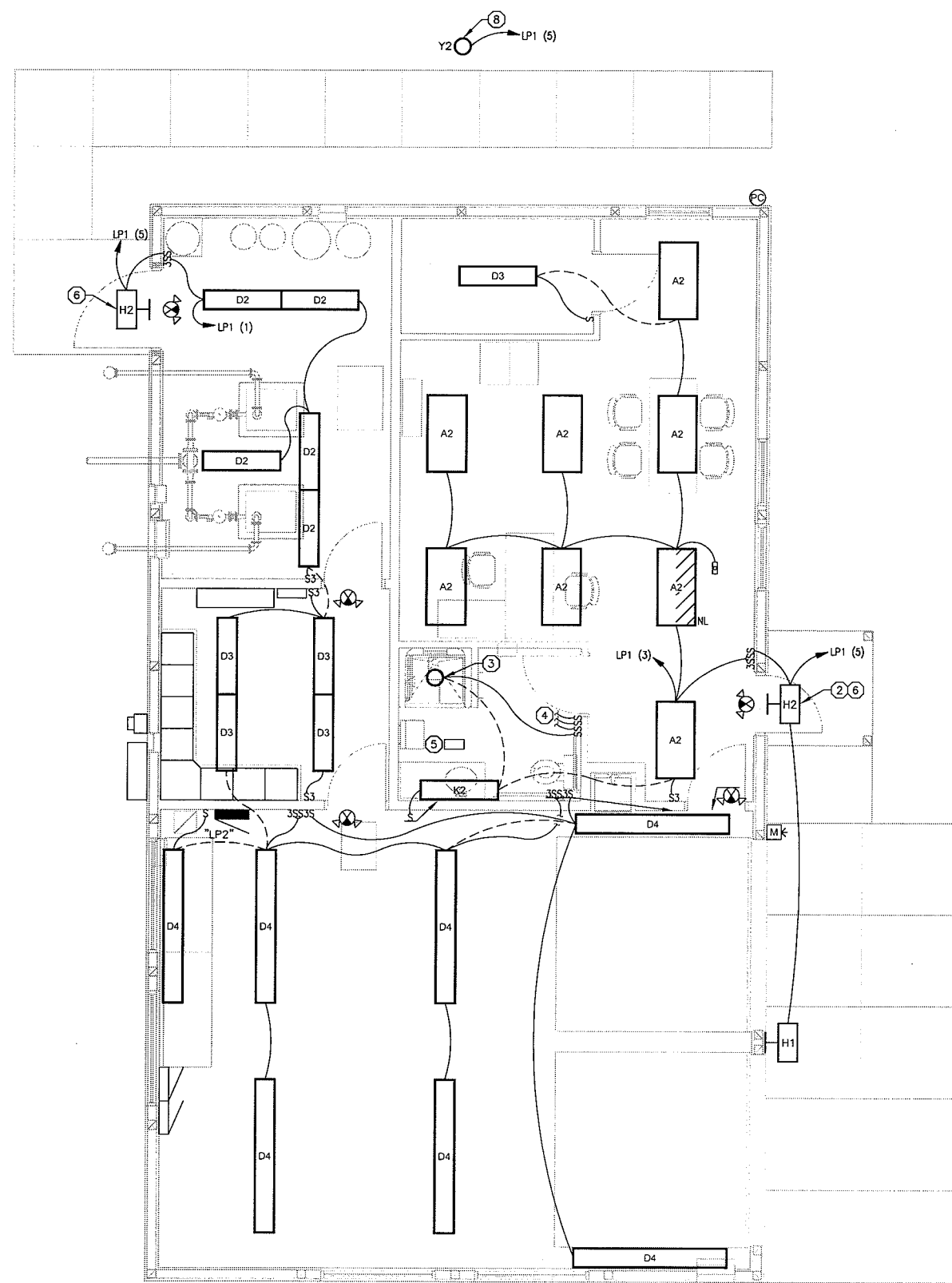
- GENERAL PROJECT DESCRIPTION:**
- EXISTING FEEDER:** EXISTING FEEDER, (3)#2 AND #6 ARMORED CABLE. EXISTING FEEDER TO BE RECONNECTED TO FEED FROM LCP-LOF TO LCP-ESF.
  - DIRECT BURIED ELECTRICAL DUCTS AND RACEWAYS:** PROPOSED BURIED DUCTS AND RACEWAY.
  - GROUND PULL BOX:** BOX(ES) SHALL BE SIZED FOR PROPOSED AND FUTURE CONDUCTORS WIT CODE COMPLIANT ISOLATION POWER AND CONTROL CIRCUITS. MULTIPLE BOX(S) MAYBE REQUIRED.
  - LIFT STATION AND HOLDING FACILITY:** PROPOSED STORAGE TANK AND SYSTEM AS SPECIFIED HEREIN. (COMPLETE AND OPERABLE.)
  - LIFT STATION CONTROL PANEL:** PROPOSED CONTROL PANEL.
  - ELECTRICAL SERVICE:** PROPOSED SERVICE EQUIPMENT TO BE INSTALL ON TYPICAL EQUIPMENT RACK.
  - PROPOSED UTILITY TRANSFORMER:** THE CONTRACTOR SHALL COORDINATE INSTALLATION WITH UTILITY PER ALLOWANCE.
  - TELEPHONE/DATA:** CONTRACTOR SHALL COORDINATE RELOCATION WITH UTILITY. UTILITY COSTS THAT ARE INVOICED SHALL BE PAID BY UTILITY ALLOWANCE. ALL OTHER COST FOR EQUIPMENT, MATERIALS, WORK, AND COORDINATION SHALL BE INCLUSIVE TO CONTRACTOR.
  - SECONDARY SERVICE FEEDERS AND RACEWAYS:** BY THIS CONTRACT.

- PLAN NOTES:** (X)
- APPROXIMATE LOCATION OF UG UTILITY SERVICE LATERAL.
  - APPROXIMATE LOCATION OF UTILITY SERVICE LATERAL.
  - UNDERGROUND DIRECT BURIED DUCT BANK. PROVIDE WITH REQUIRED RACEWAYS, INCLUDE (3)1"Ø SPARE. (TYP.)
  - APPROXIMATE LOCATION OF PROPOSED GROUND PULL BOX (TYP.)
  - APPROXIMATE LOCATION OF SCADA ANTENNA AND TOWER. INSTALL NEW RC BASE. THE BASE SHALL BE INSTALLED INSITU OF THE GRADE PRIOR TO FILLING. BASE SHALL EXTEND THROUGH FILL. PROVIDE AND INSTALL OBSTRUCTION LIGHT ON TOWER, REFER TO SCHEDULE ((2)#10 #=& #12G IN 1"Ø).
  - WETWELL, HAZARDOUS ENVIRONMENT. INSTALL RWW PUMP(S) (TYP.), LEVEL TRANSMITTER (TYP.), AND LEVEL FLOAT SWITCHES (TYP.).
  - VALVE VAULT, WET/COORESIVE ENVIRONMENT.
  - METERING VAULT, WET/COORESIVE ENVIRONMENT. INSTALL FLOW METER (TYP.), FLOOD FLOAT SWITCH (TYP), AND CLEAR WATER EJECTOR PUMP (TYP).
  - HOLDING BASIN DRAIN LINE MANHOLE, WET/COORESIVE ENVIRONMENT. PROVIDE AND INSTALL LEVEL TRANSMITTER.
  - NEW POLE MOUNTED FIXTURE (TYP.).
  - INSTALL NEW 10-LSCP-1 (TYP.).
  - INSTALL NEW 10-GPCP-1 (TYP.).
  - NEW GRINDER PUMP STATION, HAZARDOUS ENVIRONMENT.
  - APPROXIMATE LOCATION OF NEW WELL (TYP.). INSTALL (2)#10 #=& #12G IN 1"Ø.
  - NEW DISCONNECT SWITCH AND GENERATOR REC. (TYP.).

**TRANSPORTATION - MUNICIPAL DEVELOPMENT - ENVIRONMENTAL**  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-7380 Fax: 218-722-4548  
 MSA PROFESSIONAL SERVICES

PROJECT NO. 00626000	DATE OCTOBER 2009	SCALE: AS SHOWN
Lift Station No.1 Site Plan - Electrical	PROJECT NO. 00626000	DATE OCTOBER 2009
PARKLAND SANITARY DISTRICT NO.1 WASTEWATER COLLECTION SYSTEM	PROJECT NO. 00626000	DATE OCTOBER 2009
PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN	PROJECT NO. 00626000	DATE OCTOBER 2009
FILE NO. 626-001	PROJECT NO. 00626000	DATE OCTOBER 2009
SHEET E-2	PROJECT NO. 00626000	DATE OCTOBER 2009

FILE PATH: N:\Parkland Sanitary District, 2009502\Muermann Drawings\Electrical\E-3 Lift Station No.1 & Garage Plan - Lighting.dwg  
 PLOT TIME: 12:54pm



**GENERAL NOTES:**

1. DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM ENGINEER PRIOR TO PROCEEDING WITH WORK.
2. EFFORT WAS MADE IN THE PREPARATION OF THE CONTRACT DOCUMENTATION TO COORDINATE CONNECTIONS WITH ALL DISCIPLINES, HOWEVER THE EC IS RESPONSIBLE TO REVIEW ENTIRE PLANS AND THE SPECIFICATIONS AND INCLUDE ALL WORK REQUIRED TO PROVIDE A COMPLETE PROJECT.
3. OBSERVE APPLICABLE CODE REQUIREMENTS FOR ELECTRICAL INSTALLATIONS WITHIN HAZARDOUS AREAS NOTED ON PLAN.
4. MINIMUM CONDUIT SIZE 3/4", UNLESS OTHERWISE NOTED.
5. ALL CONDUITS SHALL BE CONCEALED WITHIN WALLS, CEILING, AND FLOOR TO LOCATION OF CONNECTION WITH UTILIZATION EQUIPMENT. USE FLEXIBLE CONDUIT AS SPECIFIED AT EQUIPMENT. MINIMIZE FLEX LENGTHS AND SUPPORT PER NEC.
6. ALL BRANCH CIRCUIT HOMERUNS TO BE (2)#12 & #12G IN 3/4" UNLESS OTHERWISE NOTED. MOTOR WIRING AS INDICATED ON ONE-LINE DIAGRAM.
7. SURFACE-MOUNT TYPE "D2" FIXTURES. (TYP.)
8. MOUNT EXTERIOR FIXTURES AT 11'-0" AFF TO BOTTOM OF FIXTURE, UNLESS NOTED OTHERWISE.
9. COORDINATE EXACT LOCATION OF ALL EQUIPMENT AND LIGHT FIXTURES WITH GC, OWNER, AND ENGINEER PRIOR TO ROUGH-IN.
10. EC SHALL MODIFY WIRE AND CIRCUIT SIZES BASED ON ACTUAL EQUIPMENT SUPPLIED.
11. WIRE SWITCHES FOR EXTERIOR WALL FIXTURES IN SERIES WITH PHOTO CONTROLS.
12. CONTRACTOR SHALL REVIEW TYPICAL DETAILS AND ALL CONSTRUCTION SHALL COMPLY TO DETAILS.
13. EXTERIOR FIXTURES SHALL BE CONTROLLED BY 10-ELC-1. PHOTOCELL TO CONTROL LIGHTS WHEN TIME CLOCK ALLOWS LIGHTS TO BE ON. LIGHT FIXTURE AT GARAGE DOORS TO HAVE MOTION SENSOR ON TIMER TO TURN LIGHTS ON WHEN TIME CLOCK HAS EXTERIOR LIGHTS OFF. (TYP.)

**PLAN NOTES:** (X)

1. WIRE SWITCH IN SERIES WITH PHOTOCELL CONTROL.
2. MOUNT FIXTURE AT 8'-0" AFF TO BOTTOM OF FIXTURE.
3. SHOWER LAMP TO BE FURNISHED INTEGRAL TO SHOWER STALL. EC SHALL PROVIDE CONNECTION.
4. CONNECT TO LIGHT, FAN AND HEATER CONNECTIONS OF HF-1.
5. INSTALL AND CONNECT TO HEATER, FAN, LIGHT.
6. EXTERIOR EMERGENCY EGRESS LIGHT TO BE POWERED BY INTERIOR EXIT LIGHT BATTERY.
7. EXTERIOR LIGHT CONTROL 10-ELC-1. (TYP.)
8. EXTERIOR GROUND MOUNTED FIXTURE. INSTALL TO ILLUMINATE SIGNAGE.

**FIXTURE SCHEDULE**

TYPE	DESCRIPTION	WATTS	LAMP TYPE	LAMP QTY.	MANUFACTURER	CATALOG NUMBER	NOTE
A2	2X4' LAY-IN ACRYLIC FLUORESCENT 2 LAMP	56	F32T8/ADV841/ALTO	2	METALUX	2GC8FA-232A125-PAF	1,2
					DAYBRITE	2SPG232-FA21-PAF	
					COLUMBIA	ST824-232G-FAA12125-PAF	
B	FAA OBSTRUCTION		L.E.D.	2	HONEYWELL	L810-LED-002	4,5,6,7,8
D2	4' WET SURFACE 2 LAMP	56	F32T8/ADV841/ALTO	2	DAYBRITE	DWAE-232-UNV-EB	1,2
					METALUX	VT2-232DR-WL	
					COLUMBIA	LUN42-32-120	
D3	1X4' SURFACE 2 LAMP	56	F32T8/ADV841/ALTO	2	DAYBRITE	SWN232-120-1/2-EB	1,2
					METALUX	WS-232A-120V-EB81	
					COLUMBIA	WC4-232-EU	
D4	8' INDUSTRIAL NARROW FLUORESCENT HIGH BAY	109	F32T8/835	4	DAYBRITE	THP-232-120-EB101	1,2
					METALUX	8T8-BLANK-232-BLANK-WG-120V-EB8-UPL-PC6 GRAPPLE LOOP	
					COLUMBIA	LHR8-232-GW15-IP120V F0841 F3C10 GLH15 LHRNWG BD	
H1	EXTERIOR WEDGE DOWN LIGHT FLUORESCENT 2 LAMP	66	26 WTT	2	LUMARK	PLIP-T-52-E-BZ	1
					ECLIPSE	MA-A-FT-(2)TTT26-120-EB	
					HUBBELL	TRP-26F8-FT	
H2	EXTERIOR WEDGE DOWN LIGHT FLUORESCENT 2 LAMP WITH TWO 6 VOLT 5 WATT MR16 LAMPS	66	26 WTT/5WQT	2/2	LUMARK	PLIP-T-52-E-BZ-QMR	1,3
					ECLIPSE	MA-A-FT-(2)TTT26-120-EB-ES2	
					HUBBELL	TRP-26F8-FT-EM12	
K2	BATHROOM WALL FIXTURE	56	F32T8/835	2	METALUX	BC-2-32-120V-EB8-U	9
Y1	POLE MOUNTED LUMINAIRE	150	HPS	1	LITHONIA	KAD-150-R3-120-SPD04-PE1-VG-DDB	9
POLE					LITHONIA	SS-20-4G-DM19-DDB	9
Y2	GROUND MOUNTED SIGN FLOOD LIGHT	50	MH	1	INVUE	VFS-K-50-MP-120-NF-(VFS-BD)	9
(Symbol)	1 FACE EXIT WITH EMERGENCY	18	W/FIX	1/2	SURELITE	LPX-H70RWDH-029-37	1
					MCPHILBEN	VCRW	
					BEGHELLI	APE-R-U-W-AT	

**GENERAL NOTES:**  
 1. ALL FIXTURES TO BE 120V UNLESS OTHERWISE NOTED.

- PLAN NOTES:**
1. LAMPS SHALL COMPLY WITH FOCUS ON ENERGY.
  2. THE BALLASTS IN THIS FIXTURE SHALL BE 120 VOLT AND HAVE A MINIMUM POWER FACTOR OF 0.88. THEY SHALL BE AS FOLLOWS:  
 2 LAMP = ADVANCE CAT# IOP-2P32-SC@120 (FOCUS ON ENERGY INCENTIVE) OR EQUAL.  
 4 LAMP = ADVANCE CAT# IOP-4P32-SC@120 (FOCUS ON ENERGY INCENTIVE) OR EQUAL.
  3. THE EMERGENCY LIGHTS IN THIS FIXTURE ARE POWERED BY THE EXIT LIGHT.
  4. PROVIDE WITH PHOTOCELL CONTROL UNIT. WIRE SWITCH PARALLEL WITH PHOTOCELL UNIT. SEE PLAN.
  5. FAA APPROVED OBSTRUCTION LIGHTS WITH RED FRESNEL LENSES.
  6. FAA FIXTURE SHALL BE PROVIDED WITH FAL OUTPUT CONTACT CIRCUIT.
  7. MOUNT IN LOCATION ACCESSIBLE FROM TOP HATCH.
  8. PROVIDE WITH APPROPRIATE COLD WEATHER KIT AND BALLASTS FOR OPERATION IN UNHEATED LOCATIONS.
  9. ARCHITECT TO SELECT COLOR FROM MANUFACTURERS STANDARD OR CUSTOM COLOR CHOICES. A 4X4 COLOR SAMPLE OF SELECTED COLOR IS TO BE SUBMITTED. PROVIDE WITH ADDITIONAL.

**LIFT STATION NO.1 & GARAGE PLAN - LIGHTING**  
 SCALE: 1/4" = 1'-0" APPROXIMATE (22x34)  
 SCALE: 1/8" = 1'-0" APPROXIMATE (11x17)

**TRANSPORTATION - MUNICIPAL DEVELOPMENT - ENVIRONMENTAL**  
 301 West First Street Duluth, MN 55802  
 218-722-3915 4800-777-3300 Fax: 218-722-4548  
 © MSA PROFESSIONAL SERVICES

**MSA**  
 PROFESSIONAL SERVICES

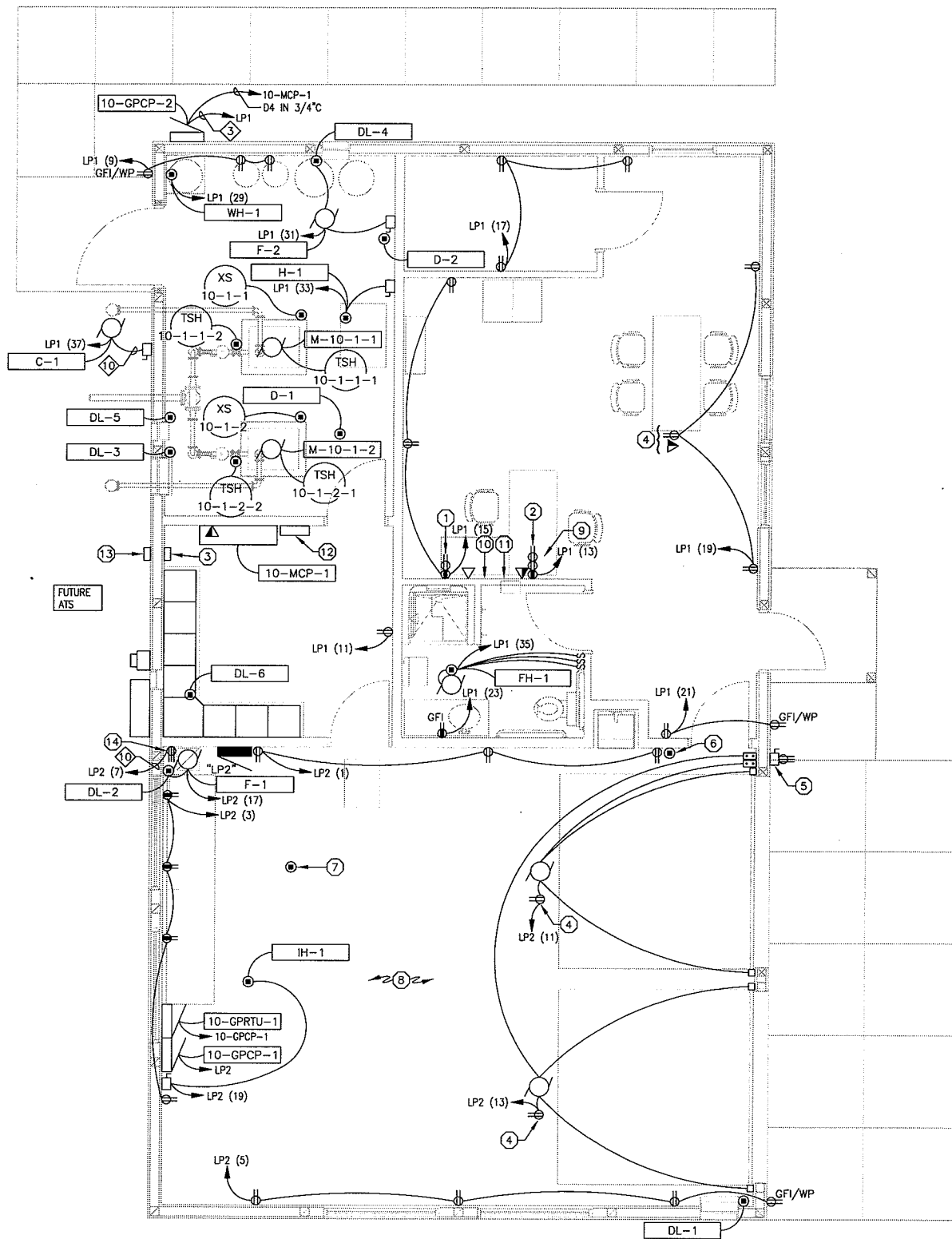
PROJECT NO.: 006276000  
 DATE: OCTOBER 2009  
 SCALE: AS SHOWN

Lift Station No.1 & Garage Plan - Lighting  
**PARKLAND SANITARY DISTRICT NO.1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

REVISION  
 NO. DATE  
 BY: JLC  
 CHECKED BY: SRC

SHEET  
 626-001  
 E-3

Plot time: 12:54pm  
 FILEPATH: N:\Parkland Sanitary District 2009502\Muermann Drawings\Electrical\E-4 Lift Station No.1 & Garage Plan - Power.dwg



**LIFT STATION NO.1 & GARAGE PLAN - POWER**

SCALE: 1/4" = 1'-0" APPROXIMATE (22x34)  
 SCALE: 1/8" = 1'-0" APPROXIMATE (11x17)

**GENERAL NOTES:**

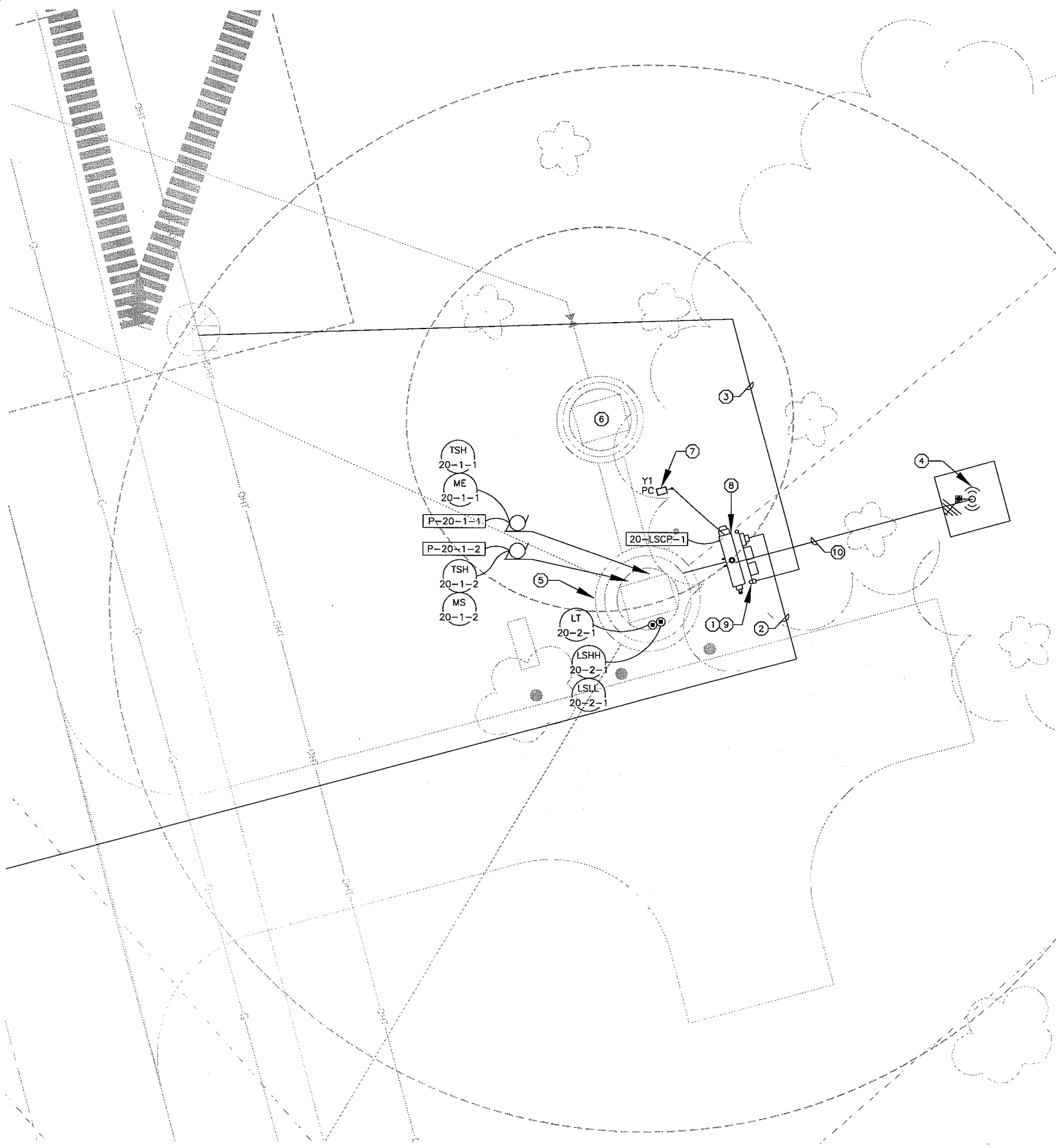
- DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM ENGINEER PRIOR TO PROCEEDING WITH WORK.
- EFFORT WAS MADE IN THE PREPARATION OF THE CONTRACT DOCUMENTATION TO COORDINATE CONNECTIONS WITH ALL DISCIPLINES. HOWEVER THE EC IS RESPONSIBLE TO REVIEW ENTIRE PLANS AND THE SPECIFICATIONS AND INCLUDE ALL WORK REQUIRED TO PROVIDE A COMPLETE PROJECT.
- PROVIDE HOUSEKEEPING PAD FOR ALL FLOOR MOUNTED EQUIPMENT, SEE DETAILS.
- SIZE HOMERUN WIRING PER ONE-LINE DIAGRAM AND WIRE SCHEDULE.
- REFER TO INSTRUMENTATION DEVICE SCHEDULE ON SCHEDULE SHEET FOR WIRING REQUIREMENTS.
- OBSERVE APPLICABLE CODE REQUIREMENTS FOR ELECTRICAL INSTALLATIONS WITHIN HAZARDOUS AREAS NOTED ON PLAN.
- MINIMUM CONDUIT SIZE 3/4", UNLESS OTHERWISE NOTED.
- ALL CONDUITS SHALL BE CONCEALED WITHIN WALLS, CEILING, AND FLOOR TO LOCATION OF CONNECTION WITH UTILIZATION EQUIPMENT. USE FLEXIBLE CONDUIT AS SPECIFIED AT EQUIPMENT. MINIMIZE FLEX LENGTHS AND SUPPORT PER NEC.
- ALL BRANCH CIRCUIT HOMERUNS TO BE (2)#12 & #12G IN 3/4" UNLESS OTHERWISE NOTED. MOTOR WIRING AS INDICATED ON ONE-LINE DIAGRAM.
- ALL DEVICE/SIGNAL CIRCUIT HOMERUNS TO BE (2)#14 & IN 3/4".
- ALL MOTOR AND SIGNAL CIRCUIT HOMERUNS RELATED TO HVAC EQUIPMENT SHALL BE #12 WIRES AS REQUIRED.
- USE FLANGED, SEALABLE AIR-VAPOR BARRIER BOXES FOR RECEPTACLES AND SWITCHES WHERE INSTALLED IN VAPOR-BARRIER WALLS.
- ALL RECEPTACLES SHALL BE GFCI PROTECTED, MOUNTED AT 48" AFF.
- EXTERIOR RECEPTACLES SHALL BE MOUNTED AT 24" AFG. UNLESS OTHERWISE NOTED
- COORDINATE EXACT LOCATION OF ALL EQUIPMENT WITH GC, OWNER, AND ENGINEER PRIOR TO ROUGH-IN.
- DATA AND VOICE JACKS SHALL BE MOUNTED 54" AFF.
- RECEPTACLES MARKED "WP" SHALL HAVE WEATHER AND WATER RESISTANT EXTERIOR COVERS.
- EC SHALL MODIFY WIRE AND CIRCUIT SIZES BASED ON ACTUAL EQUIPMENT SUPPLIED.
- WIRE SWITCHES FOR EXTERIOR WALL FIXTURES IN SERIES WITH PHOTO CONTROLS.
- INTERLOCK MOTORIZED HVAC EQUIPMENT AND DAMPERS WITH FAN OPERATION PER MFR INSTRUCTIONS, P&ID, AND HVAC PLANS AND SPECIFICATIONS.
- FURNISH AND INSTALL EXPLOSION PROOF J-BOXES AND SEAL-OFFS TO ISOLATE SCREENING ROOM FROM CONTROL ROOM.
- CONTRACTOR SHALL REVIEW TYPICAL DETAILS AND ALL CONSTRUCTION SHALL COMPLY TO DETAILS.
- FUTURE EQUIPMENT AND DEVICES SHALL BE ROUGH IN CONDUIT FOR CONTROL AND POWER CABLES TO BOXES ON WEST WALL OF SCREEN ROOM. ROUGH-IN CONDUIT AND MAKE PROVISION FOR FUTURE WIRING AND CABLING FOR POWER AND CONTROL.
- EXTERIOR OUTLETS TO BE INSTALLED WITH WEATHERPROOF CAST COVER.
- DISCONNECTS RELATED TO HVAC AND PLUMBING CONNECTIONS SHALL BE PROVIDED BY EQUIPMENT SUPPLIER, BUT INSTALLED BY THE EC.
- EC SHALL COORDINATE AND PROVIDE ALL CONNECTION TO PROJECT EQUIPMENT.

**PLAN NOTES: (X)**

- STACK RECEPTACLES IN WALL ONE AT 15" AFF AND THE SECOND AT 36".
- STACK RECEPTACLES IN WALL ONE AT 15" AFF AND THE OTHER TWO AT 36".
- 110 POINT PUNCHDOWN BLOCK IN NEMA 1 ENCLOSURE.
- MOUNT IN CEILING.
- 200A DISCONNECT WITH STAND-BY POWER RECEPTACLE.
- PROVIDE BOX AND BLANK COVER FOR FUTURE CEILING FAN SWITCH.
- PROVIDE CEILING FAN BOX AND BLANK COVER FOR FUTURE CEILING FAN.
- ALL RECEPTACLES THIS AREA SHALL BE GFCI PROTECTED.
- APPROXIMATE LOCATION OF SCADA WORKSTATION.
- APPROXIMATE LOCATION OF PRINTER.
- NEW COMMERCIAL ETHERNET SWITCH.
- EXTERIOR LIGHT CONTROL 10-ELC-1. (TYP.)
- TELCO/DATA NID.
- WELDING RECEPTACLE.

<b>TRANSPORTATION - MUNICIPAL DEVELOPMENT - ENVIRONMENTAL</b> 301 West First Street Duluth, MN 55802 218-722-3915 1-800-777-7388 Fax: 218-722-4548 <b>MSA</b> PROFESSIONAL SERVICES		BY	
		DATE	
PROJECT NO.: 00626000 DATE: OCTOBER 2009 SCALE: AS SHOWN	F.B.: XXX DRAWN BY: JLC CHECKED BY: SRC	NO.	
		REVISION	
Lift Station No. 1 & Garage Plan - Power <b>PARKLAND SANITARY DISTRICT NO. 1</b> WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN		FILE NO.	626-001
		SHEET	1-1

FILEPATH: N:\Parkland Sanitary District, 2009502\Muermann Drawings\Electrical\E-5\_Lift Station No.2 Site Plan - Electrical.dwg  
 PLOT TIME: 12:54pm



**LIFT STATION NO.2 SITE PLAN – ELECTRICAL**

SCALE: 1" = 10'-0" APPROXIMATE (22x34)  
 SCALE: 1" = 20'-0" APPROXIMATE (11x17)

**GENERAL NOTES:**

- DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM ENGINEER PRIOR TO PROCEEDING WITH WORK.
- EFFORT WAS MADE IN THE PREPARATION OF THE CONTRACT DOCUMENTATION TO COORDINATE CONNECTIONS WITH ALL DISCIPLINES. HOWEVER THE EC IS RESPONSIBLE TO REVIEW ENTIRE PLANS AND THE SPECIFICATIONS AND INCLUDE ALL WORK REQUIRED TO PROVIDE A COMPLETE PROJECT.
- SIZE HOMERUN WIRING PER ONE-LINE DIAGRAM AND WIRE SCHEDULE.
- REFER TO INSTRUMENTATION DEVICE SCHEDULE ON SCHEDULE SHEET FOR WIRING REQUIREMENTS.
- OBSERVE APPLICABLE CODE REQUIREMENTS FOR ELECTRICAL INSTALLATIONS WITHIN HAZARDOUS AREAS NOTED ON PLAN.
- MINIMUM CONDUIT SIZE 3/4", UNLESS OTHERWISE NOTED. REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION.
- ALL CONDUITS LOCATED IN CLASSIFIED AS HAZARDOUS OR CORROSIVE AREAS SHALL BE PVC COATED RIGID CONDUIT, AND XP FITTINGS & BOXES, AND SS SUPPORTS & HARDWARE. CABLE SLEEVES SHALL BE SCH. 80 NON-METALLIC CONDUIT (TYP.).
- ALL BURIED RACEWAYS AND SLEEVES SHALL BE INSTALLED WITH A MINIMUM 24" DEPTH TO TOP OF CONDUIT. CONTRACTOR SHALL INSTALL IDENTIFICATION RIBBONS 12" ABOVE ALL CONDUITS TRENCHES (MULTIPLE RIBBONS MAYBE REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING UTILITIES PRIOR AND FOR ALL BACK FILL AND RESTORATION AFTERWARDS.
- REFER TO ELECTRICAL PLANS AND SPECIFICATION FOR ADDITIONAL INFORMATION AND DETAILS.
- ALL ITEMS AND DEVICES SHOWN ARE FOR GENERAL INTENT AND CLARITY. ACTUAL LAYOUT AND INSTALLATION MAY VARY, BASED ON FIELD CONDITIONS. ALL CHANGES SHALL BE COORDINATED WITH OWNER AND FIELD ENGINEER.
- ELECTRICAL INSTALLATION SHALL BE PERFORMED IN A WORKMANSHIP MANNER AND COMPLY WITH ALL RELEVANT CODES, REGULATIONS, AND GUIDANCE.
- CONTRACTOR SHALL FIELD VERIFY FEEDER SIZING FOR VOLTAGE DROP PER ACTUAL WIRE RUNS.
- CONTRACTOR SHALL FIELD VERIFY THAT ALL LOADS AND BRANCH LOADS ARE BALANCED.
- CONTRACTOR SHALL COORDINATE ALL UTILITY RELOCATIONS (COMPLETE).

**LIFT STATION ELECTRICAL REQUIREMENTS:**

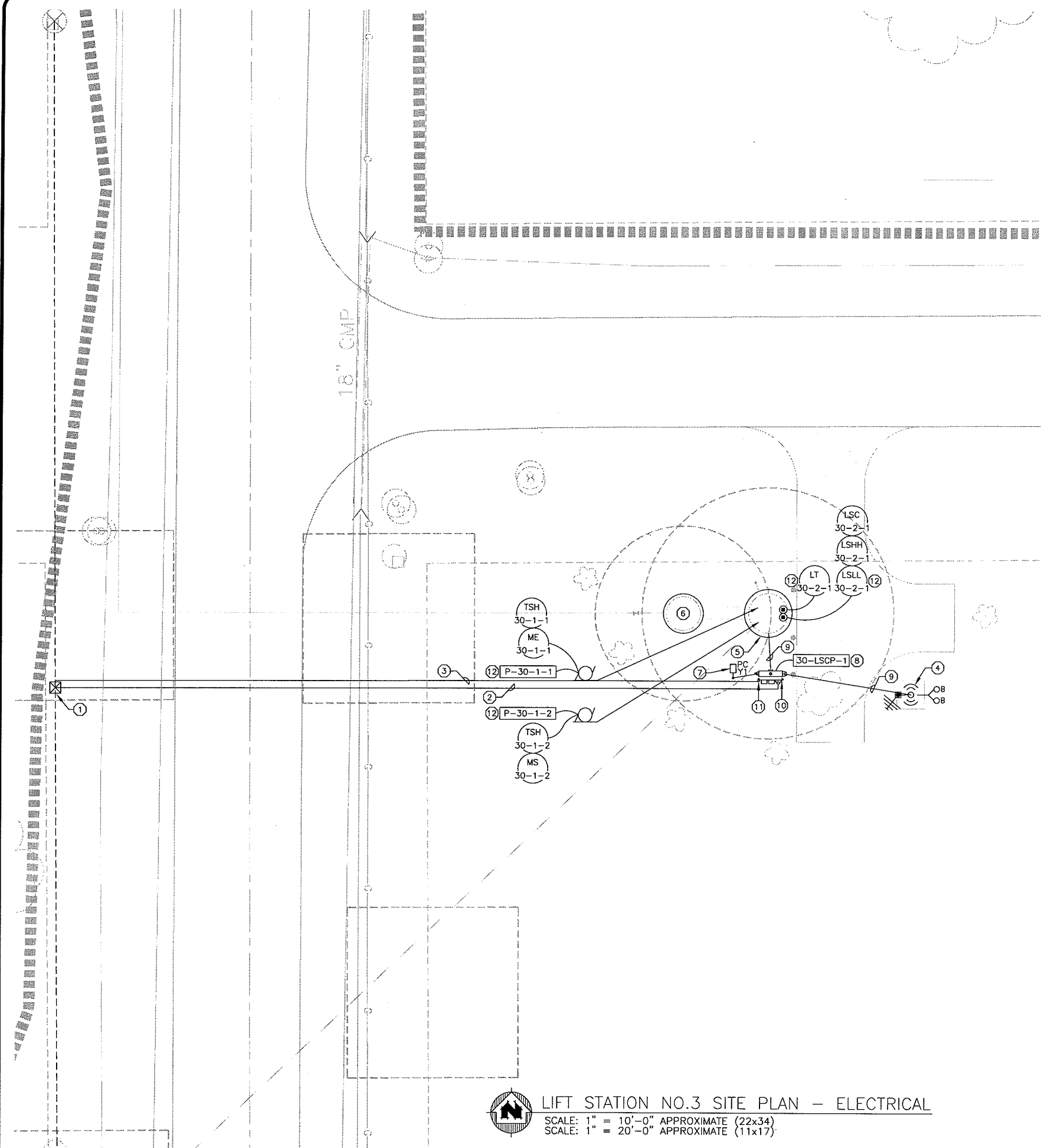
- UTILITY POLE-MOUNTED TRANSFORMER:** NEW POLE-MOUNTED TRANSFORMER. UTILITY TRANSFORMERS SHALL PROVIDE THE SCHEDULED ELECTRIC SERVICE TO THE FACILITY.
- UTILITY SERVICE LATERAL:** PROVIDE CONDUITS AND/OR OVERHEAD WEATHERHEAD FOR SERVICE. INSTALLATION OF SERVICE LATERAL, RACEWAYS AND CONDUCTORS AS SCHEDULED. (COMPLETE AND INCLUSIVE)
- UTILITY APPROVED SELF-CONTAINED METER SOCKET:** PROVIDE METER SOCKET SUITABLE FOR THE ELECTRIC SERVICE SCHEDULED AND PER UTILITY REQUIREMENTS FOR UTILITY INSTALLATION OF METER.
- GENERATOR CIRCUIT:** PROVIDE GENERATOR CIRCUIT AS SCHEDULED. CONNECT AND WIRE ALL DEVICES AS INDICATED HEREIN AND RECOMMENDED BY MFR. (TYP.)
- LIFT STATION CONTROL PANEL:** PROVIDE LIFT STATION CONTROL PANEL INTERNAL COMPONENTS AS SCHEDULED.
- P-1 & P-2:** INSTALL PUMP CABLES AS DETAILED.
- FLOAT SWITCHES:** PROVIDE AND INSTALL FLOAT SWITCHES AS DETAILED.
- LEVEL TRANSMITTER:** PROVIDE AND INSTALL FLOAT SWITCHES AS DETAILED.
- EXTERIOR RECEPTACLE:** PROVIDE AND INSTALL ONE EXTERIOR WEATHERPROOF/GFCI RECEPTACLE AT THE EQUIPMENT MOUNTING RACK AS DETAILED. ROUTE 2#10 & #10G IN 3/4" TO 20A/1P CIRCUIT BREAKER IN CONTROL PANEL.
- TELEPHONE DATA SERVICE:** PROVIDE AND INSTALL TELEPHONE SERVICE. LOCATE TELCO INTERFACE INSIDE ON EQUIPMENT MOUNTING RACK. INSTALL SINGLE LINE TELEPHONE SERVICE TO LIFT STATION CONTROL PANEL.

**PLAN NOTES: (X)**

- PROVIDE AND INSTALL EQUIPMENT RACK FOR MOUNTING OF METER SOCKET, ETC.
- APPROXIMATE LOCATION OF UTILITY SERVICE LATERAL. COORDINATE ACTUAL INSTALLATION WITH UTILITY, OWNER, AND FIELD ENGINEER.
- APPROXIMATE LOCATION OF PROPOSED TELE/DATA COMMUNICATION SERVICE. COORDINATE WITH UTILITY.
- APPROXIMATE LOCATION OF SCADA ANTENNA AND TOWER. INSTALL NEW RC BASE. THE BASE SHALL BE INSTALLED INSITU OF THE GRADE PRIOR TO FILLING. BASE SHALL EXTEND THROUGH FILL. PROVIDE AND INSTALL OBSTRUCTION LIGHT ON TOWER, REFER TO SCHEDULE ((2)#10 #=& #12G IN 1" TO 20A CB).
- WETWELL, HAZARDOUS ENVIRONMENT. INSTALL RHW PUMP(S) (TYP.), LEVEL TRANSMITTER (TYP.), AND LEVEL FLOAT SWITCHES (TYP.).
- VALVE VAULT, WET/COORSIVE ENVIRONMENT.
- NEW POLE MOUNTED FIXTURE (TYP.).
- INSTALL NEW LSCP-1 (TYP.).
- NEW GENERATOR REC. (TYP.).
- APPROXIMATE LOCATION OF BURIED CONDUITS OR CABLE SLEEVES (TYP.).

<b>TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL</b> <small>301 West First Street Duluth, MN 55802          218-722-9115 1-800-777-7300 Fax: 218-722-4548          MSA PROFESSIONAL SERVICES</small>			
PROJECT NO.	DATE	DRAWN BY:	CHECKED BY:
00626000	OCTOBER 2009	JLG	SRC
<b>PARKLAND SANITARY DISTRICT NO.1</b> WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN			
PROJECT NO.: 00626000		DATE: OCTOBER 2009	
SCALE: AS SHOWN			
Lift Station No.2 Site Plan - Electrical			
<b>626-001</b>			
SHEET E-5			

PLT TIME: 12:54pm  
 FILEPATH: N:\Parkland Sanitary District\_2009502\Muermann Drawings\Electrical\E-6 Lift Station No.3 Site Plan - Electrical.dwg



**LIFT STATION NO.3 SITE PLAN - ELECTRICAL**  
 SCALE: 1" = 10'-0" APPROXIMATE (22x34)  
 SCALE: 1" = 20'-0" APPROXIMATE (11x17)

**GENERAL NOTES:**

- DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM ENGINEER PRIOR TO PROCEEDING WITH WORK.
- EFFORT WAS MADE IN THE PREPARATION OF THE CONTRACT DOCUMENTATION TO COORDINATE CONNECTIONS WITH ALL DISCIPLINES, HOWEVER THE EC IS RESPONSIBLE TO REVIEW ENTIRE PLANS AND THE SPECIFICATIONS AND INCLUDE ALL WORK REQUIRED TO PROVIDE A COMPLETE PROJECT.
- SIZE HOMERUN WIRING PER ONE-LINE DIAGRAM AND WIRE SCHEDULE.
- REFER TO INSTRUMENTATION DEVICE SCHEDULE ON SCHEDULE SHEET FOR WIRING REQUIREMENTS.
- OBSERVE APPLICABLE CODE REQUIREMENTS FOR ELECTRICAL INSTALLATIONS WITHIN HAZARDOUS AREAS NOTED ON PLAN.
- MINIMUM CONDUIT SIZE 3/4", UNLESS OTHERWISE NOTED. REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION.
- ALL CONDUITS LOCATED IN CLASSIFIED AS HAZARDOUS OR CORROSIVE AREAS SHALL BE PVC COATED RIGID CONDUIT, AND XP FITTINGS & BOXES, AND SS SUPPORTS & HARDWARE. CABLE SLEEVES SHALL BE SCH. 80 NON-METALLIC CONDUIT (TYP.).
- ALL BURIED RACEWAYS AND SLEEVES SHALL BE INSTALLED WITH A MINIMUM 24" DEPTH TO TOP OF CONDUIT. CONTRACTOR SHALL INSTALL IDENTIFICATION RIBBONS 12" ABOVE ALL CONDUITS TRENCHES (MULTIPLE RIBBONS MAYBE REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING UTILITIES PRIOR AND FOR ALL BACK FILL AND RESTORATION AFTERWARDS.
- REFER TO ELECTRICAL PLANS AND SPECIFICATION FOR ADDITIONAL INFORMATION AND DETAILS.
- ALL ITEMS AND DEVICES SHOWN ARE FOR GENERAL INTENT AND CLARITY. ACTUAL LAYOUT AND INSTALLATION MAY VARY, BASED ON FIELD CONDITIONS. ALL CHANGES SHALL BE COORDINATED WITH OWNER AND FIELD ENGINEER.
- ELECTRICAL INSTALLATION SHALL BE PERFORMED IN A WORKMANSHIP MANNER AND COMPLY WITH ALL RELEVANT CODES, REGULATIONS, AND GUIDANCE.
- CONTRACTOR SHALL FIELD VERIFY FEEDER SIZING FOR VOLTAGE DROP PER ACTUAL WIRE RUNS.
- CONTRACTOR SHALL FIELD VERIFY THAT ALL LOADS AND BRANCH LOADS ARE BALANCED.
- CONTRACTOR SHALL COORDINATE ALL UTILITY RELOCATIONS (COMPLETE).

**LIFT STATION ELECTRICAL REQUIREMENTS:**

- UTILITY POLE-MOUNTED TRANSFORMER:** NEW POLE-MOUNTED TRANSFORMER. UTILITY TRANSFORMERS SHALL PROVIDE THE SCHEDULED ELECTRIC SERVICE TO THE FACILITY.
- UTILITY SERVICE LATERAL:** PROVIDE CONDUITS AND/OR OVERHEAD WEATHERHEAD FOR SERVICE INSTALLATION OF SERVICE LATERAL, RACEWAYS AND CONDUCTORS AS SCHEDULED. (COMPLETE AND INCLUSIVE)
- UTILITY APPROVED SELF-CONTAINED METER SOCKET:** PROVIDE METER SOCKET SUITABLE FOR THE ELECTRIC SERVICE SCHEDULED AND PER UTILITY REQUIREMENTS FOR UTILITY INSTALLATION OF METER.
- GENERATOR CIRCUIT:** PROVIDE GENERATOR CIRCUIT AS SCHEDULED. CONNECT AND WIRE ALL DEVICES AS INDICATED HEREIN AND RECOMMENDED BY MFR. (TYP.)
- LIFT STATION CONTROL PANEL:** PROVIDE LIFT STATION CONTROL PANEL INTERNAL COMPONENTS AS SCHEDULED.
- P-1 & P-2:** INSTALL PUMP CABLES AS DETAILED.
- FLOAT SWITCHES:** PROVIDE AND INSTALL FLOAT SWITCHES AS DETAILED.
- LEVEL TRANSMITTER:** PROVIDE AND INSTALL FLOAT SWITCHES AS DETAILED.
- EXTERIOR RECEPTACLE:** PROVIDE AND INSTALL ONE EXTERIOR WEATHERPROOF/GFCI RECEPTACLE AT THE EQUIPMENT MOUNTING RACK AS DETAILED. ROUTE 2#10 & #10G IN 3/4" TO 20A/1P CIRCUIT BREAKER IN CONTROL PANEL.
- TELEPHONE DATA SERVICE:** PROVIDE AND INSTALL TELEPHONE SERVICE. LOCATE TELCO INTERFACE ON EQUIPMENT MOUNTING RACK. INSTALL SINGLE LINE TELEPHONE SERVICE TO LIFT STATION CONTROL PANEL.

**PLAN NOTES:** (X)

- APPROXIMATE LOCATION OF PROPOSED POLE MOUNTED UTILITY TRANSFORMERS. EXPECTED SERVICE TO BE OPEN DELTA.
- APPROXIMATE LOCATION OF UTILITY SERVICE LATERAL, COORDINATE ACTUAL INSTALLATION WITH UTILITY, OWNER, AND FIELD ENGINEER.
- APPROXIMATE LOCATION OF PROPOSED TELE/DATA COMMUNICATION SERVICE. COORDINATE WITH UTILITY.
- APPROXIMATE LOCATION OF SCADA ANTENNA AND TOWER. INSTALL NEW RC BASE. THE BASE SHALL BE INSTALLED INSITU OF THE GRADE PRIOR TO FILLING. BASE SHALL EXTEND THROUGH FILL. PROVIDE AND INSTALL OBSTRUCTION LIGHT ON TOWER, REFER TO SCHEDULE ((2)#10 #=& #12G IN 1" TO 20A CB).
- WETWELL, HAZARDOUS ENVIRONMENT. INSTALL RWW PUMP(S) (TYP.), LEVEL TRANSMITTER (TYP.), AND LEVEL FLOAT SWITCHES (TYP.).
- VALVE VAULT, WET/COORRESIVE ENVIRONMENT.
- NEW POLE MOUNTED FIXTURE (TYP.).
- INSTALL NEW LSCP-1 (TYP.).
- APPROXIMATE LOCATION OF BURIED CONDUITS OR CABLE SLEEVES (TYP.).
- PROVIDE AND INSTALL EQUIPMENT RACK FOR MOUNTING OF METER SOCKET, ETC.
- TELCO/DATA NID.
- PROVIDE AND INSTALL EQUIPMENT (TYP.).

TRANSPORTATION - MUNICIPAL  
 DEVELOPMENT - ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-2300 Fax: 218-722-4548  
 MSA PROFESSIONAL SERVICES

**MSA**  
 PROFESSIONAL SERVICES

NO.	DATE	REVISION

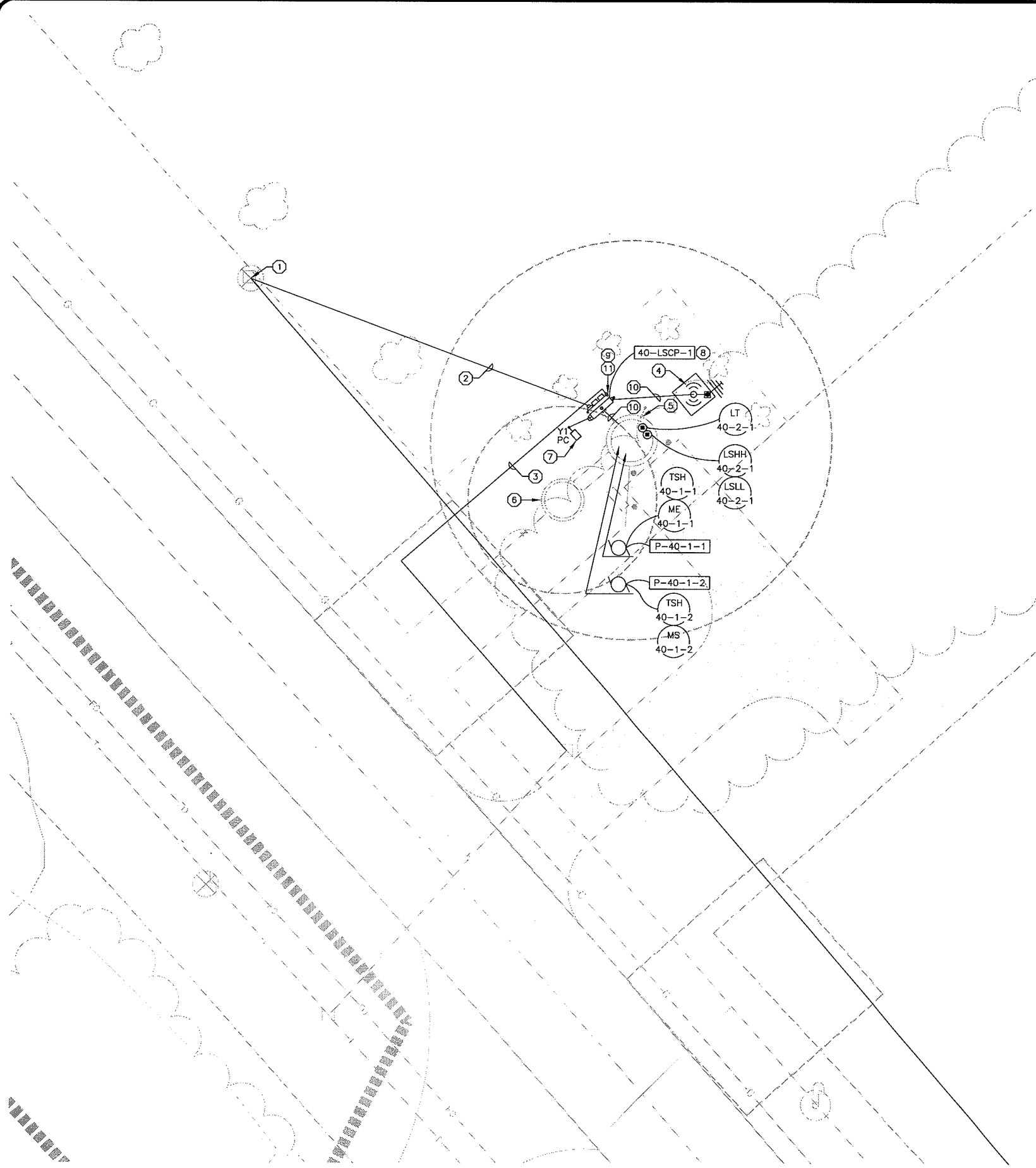
BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 NO.: \_\_\_\_\_

PROJECT NO.: 00626000  
 DATE: OCTOBER 2009  
 SCALE: AS SHOWN

**PARKLAND SANITARY DISTRICT NO.1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO: 626-001  
 SHEET: E-6

Plot Time: 12:55pm  
 File Path: N:\Parkland Sanitary District 2009502\Muermann Drawings\Electrical\E-7 Lift Station No.4 Site Plan - Electrical.dwg



**LIFT STATION NO.4 SITE PLAN - ELECTRICAL**  
 SCALE: 1" = 10'-0" APPROXIMATE (22x34)  
 SCALE: 1" = 20'-0" APPROXIMATE (11x17)

**GENERAL NOTES:**

- DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM ENGINEER PRIOR TO PROCEEDING WITH WORK.
- EFFORT WAS MADE IN THE PREPARATION OF THE CONTRACT DOCUMENTATION TO COORDINATE CONNECTIONS WITH ALL DISCIPLINES, HOWEVER THE EC IS RESPONSIBLE TO REVIEW ENTIRE PLANS AND THE SPECIFICATIONS AND INCLUDE ALL WORK REQUIRED TO PROVIDE A COMPLETE PROJECT.
- SIZE HOMERUN WIRING PER ONE-LINE DIAGRAM AND WIRE SCHEDULE.
- REFER TO INSTRUMENTATION DEVICE SCHEDULE ON SCHEDULE SHEET FOR WIRING REQUIREMENTS.
- OBSERVE APPLICABLE CODE REQUIREMENTS FOR ELECTRICAL INSTALLATIONS WITHIN HAZARDOUS AREAS NOTED ON PLAN.
- MINIMUM CONDUIT SIZE 3/4", UNLESS OTHERWISE NOTED. REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION.
- ALL CONDUITS LOCATED IN CLASSIFIED AS HAZARDOUS OR CORROSIVE AREAS SHALL BE PVC COATED RIGID CONDUIT, AND XP FITTINGS & BOXES, AND SS SUPPORTS & HARDWARE. CABLE SLEEVES SHALL BE SCH. 80 NON-METALLIC CONDUIT (TYP.).
- ALL BURIED RACEWAYS AND SLEEVES SHALL BE INSTALLED WITH A MINIMUM 24" DEPTH TO TOP OF CONDUIT. CONTRACTOR SHALL INSTALL IDENTIFICATION RIBBONS 12" ABOVE ALL CONDUITS TRENCHES (MULTIPLE RIBBONS MAYBE REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING UTILITIES PRIOR AND FOR ALL BACK FILL AND RESTORATION AFTERWARDS.
- REFER TO ELECTRICAL PLANS AND SPECIFICATION FOR ADDITIONAL INFORMATION AND DETAILS.
- ALL ITEMS AND DEVICES SHOWN ARE FOR GENERAL INTENT AND CLARITY. ACTUAL LAYOUT AND INSTALLATION MAY VARY, BASED ON FIELD CONDITIONS. ALL CHANGES SHALL BE COORDINATED WITH OWNER AND FIELD ENGINEER.
- ELECTRICAL INSTALLATION SHALL BE PERFORMED IN A WORKMANSHIP MANNER AND COMPLY WITH ALL RELEVANT CODES, REGULATIONS, AND GUIDANCE.
- CONTRACTOR SHALL FIELD VERIFY FEEDER SIZING FOR VOLTAGE DROP PER ACTUAL WIRE RUNS.
- CONTRACTOR SHALL FIELD VERIFY THAT ALL LOADS AND BRANCH LOADS ARE BALANCED.
- CONTRACTOR SHALL COORDINATE ALL UTILITY RELOCATIONS (COMPLETE).

**LIFT STATION ELECTRICAL REQUIREMENTS:**

- UTILITY POLE-MOUNTED TRANSFORMER:** NEW POLE-MOUNTED TRANSFORMER. UTILITY TRANSFORMERS SHALL PROVIDE THE SCHEDULED ELECTRIC SERVICE TO THE FACILITY.
- UTILITY SERVICE LATERAL:** PROVIDE CONDUITS AND/OR OVERHEAD WEATHERHEAD FOR SERVICE INSTALLATION OF SERVICE LATERAL, RACEWAYS AND CONDUCTORS AS SCHEDULED. (COMPLETE AND INCLUSIVE)
- UTILITY APPROVED SELF-CONTAINED METER SOCKET:** PROVIDE METER SOCKET SUITABLE FOR THE ELECTRIC SERVICE SCHEDULED AND PER UTILITY REQUIREMENTS FOR UTILITY INSTALLATION OF METER.
- GENERATOR CIRCUIT:** PROVIDE GENERATOR CIRCUIT AS SCHEDULED. CONNECT AND WIRE ALL DEVICES AS INDICATED HEREIN AND RECOMMENDED BY MFR. (TYP.)
- LIFT STATION CONTROL PANEL:** PROVIDE LIFT STATION CONTROL PANEL INTERNAL COMPONENTS AS SCHEDULED.
- P-1 & P-2:** INSTALL PUMP CABLES AS DETAILED.
- FLOAT SWITCHES:** PROVIDE AND INSTALL FLOAT SWITCHES AS DETAILED.
- LEVEL TRANSMITTER:** PROVIDE AND INSTALL FLOAT SWITCHES AS DETAILED.
- EXTERIOR RECEPTACLE:** PROVIDE AND INSTALL ONE EXTERIOR WEATERPROOF/GFCI RECEPTACLE AT THE EQUIPMENT MOUNTING RACK AS DETAILED. ROUTE 2#10 & #10G IN 3/4" TO 20A/1P CIRCUIT BREAKER IN CONTROL PANEL.
- TELEPHONE DATA SERVICE:** PROVIDE AND INSTALL TELEPHONE SERVICE. LOCATE TELCO INTERFACE INSIDE ON EQUIPMENT MOUNTING RACK. INSTALL SINGLE LINE TELEPHONE SERVICE TO LIFT STATION CONTROL PANEL.

**PLAN NOTES:** (X)

- APPROXIMATE LOCATION OF PROPOSED POLE MOUNTED UTILITY TRANSFORMERS. EXPECTED SERVICE TO BE OPEN DELTA.
- APPROXIMATE LOCATION OF UTILITY SERVICE LATERAL, COORDINATE ACTUAL INSTALLATION WITH UTILITY, OWNER, AND FIELD ENGINEER.
- APPROXIMATE LOCATION OF PROPOSED TELE/DATA COMMUNICATION SERVICE. COORDINATE WITH UTILITY.
- APPROXIMATE LOCATION OF SCADA ANTENNA AND TOWER. INSTALL NEW RC BASE. THE BASE SHALL BE INSTALLED INSITU OF THE GRADE PRIOR TO FILLING. BASE SHALL EXTEND THROUGH FILL. PROVIDE AND INSTALL OBSTRUCTION LIGHT ON TOWER, REFER TO SCHEDULE ((2)#10 #=& #12G IN 1" TO 20A CB).
- WETWELL, HAZARDOUS ENVIRONMENT. INSTALL RIW PUMP(S) (TYP.), LEVEL TRANSMITTER (TYP.), AND LEVEL FLOAT SWITCHES (TYP.).
- VALVE VAULT, WET/COORESIVE ENVIRONMENT.
- NEW POLE MOUNTED FIXTURE (TYP.).
- INSTALL NEW LSCP-1 (TYP.).
- NEW GENERATOR REC. (TYP.).
- APPROXIMATE LOCATION OF BURIED CONDUITS OR CABLE SLEVES (TYP.).
- PROVIDE AND INSTALL EQUIPMENT RACK FOR MOUNTING OF METER SOCKET, ETC.

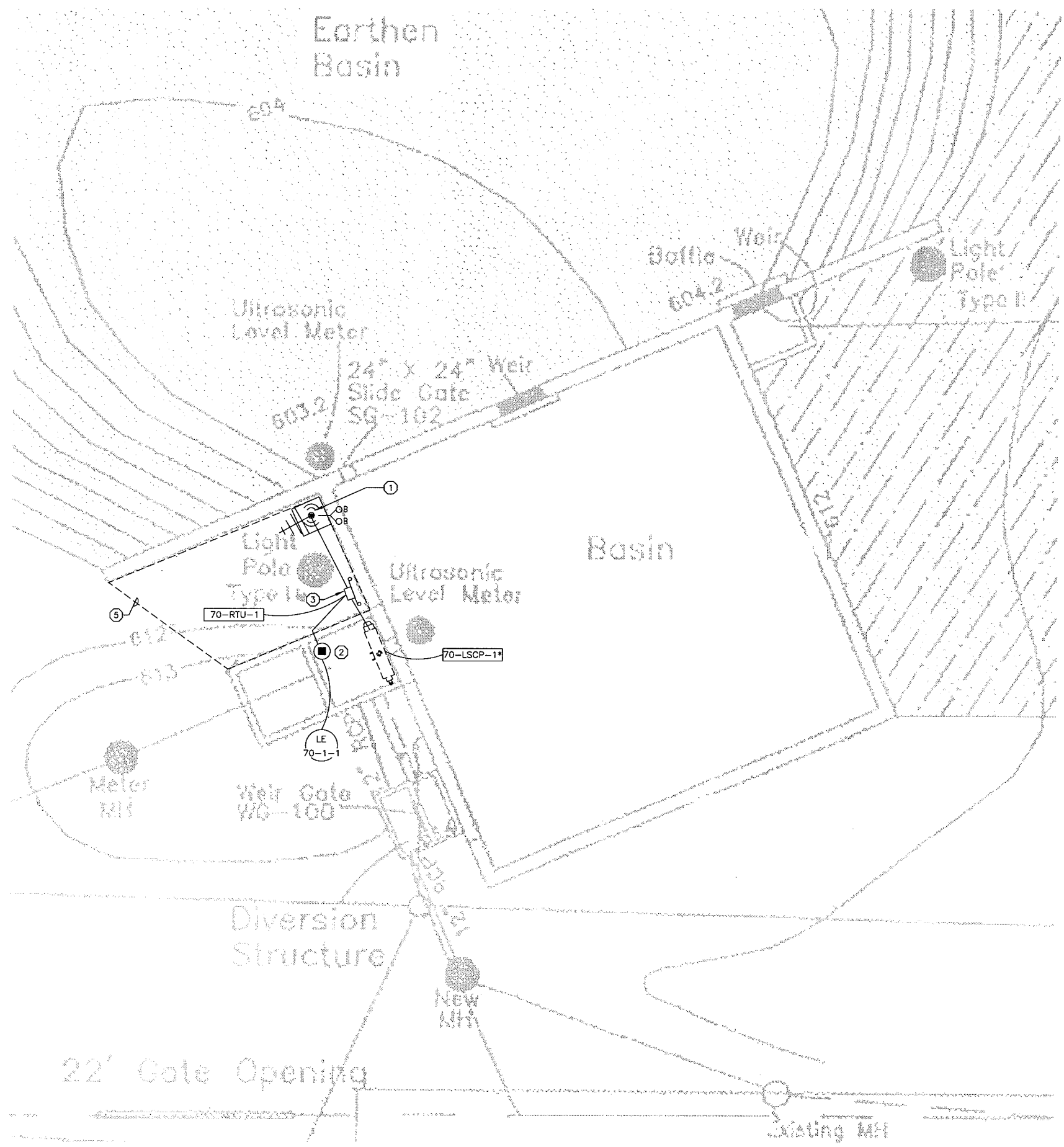
TRANSPORTATION • MUNICIPAL  
 DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-725-9115 • 800-777-7300 • Fax: 218-725-1448  
 O USA PROFESSIONAL SERVICES

**MSA**  
 PROFESSIONAL ENGINEERS

BY		DATE		F.B. XXX	PROJECT NO.: 00626000
REVISION		NO.		DRAWN BY: JLG	DATE: OCTOBER 2009
				CHECKED BY: SRC	SCALE: AS SHOWN
Lift Station No.4 Site Plan - Electrical <b>PARKLAND SANITARY DISTRICT NO.1</b> WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN					
FILE NO: <b>626-001</b>					
SHEET <b>E-7</b>					



FILEPATH: N:\Porkland Sanitary District\Drawings\Electrical\E-8 Lift Station No.7 Site Plan - Electrical.dwg  
 PLOT TIME: 12:55pm  
 PROJECT NO.: 00626000  
 DATE: OCTOBER 2009  
 SCALE AS SHOWN



- GENERAL NOTES:**
- DO NOT SCALE DRAWINGS. IF DIMENSIONS ARE IN QUESTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATION FROM ENGINEER PRIOR TO PROCEEDING WITH WORK.
  - EFFORT WAS MADE IN THE PREPARATION OF THE CONTRACT DOCUMENTATION TO COORDINATE CONNECTIONS WITH ALL DISCIPLINES, HOWEVER THE EC IS RESPONSIBLE TO REVIEW ENTIRE PLANS AND THE SPECIFICATIONS AND INCLUDE ALL WORK REQUIRED TO PROVIDE A COMPLETE PROJECT.
  - SIZE HOMERUN WIRING PER ONE-LINE DIAGRAM AND WIRE SCHEDULE.
  - REFER TO INSTRUMENTATION DEVICE SCHEDULE ON SCHEDULE SHEET FOR WIRING REQUIREMENTS.
  - OBSERVE APPLICABLE CODE REQUIREMENTS FOR ELECTRICAL INSTALLATIONS WITHIN HAZARDOUS AREAS NOTED ON PLAN.
  - MINIMUM CONDUIT SIZE 3/4", UNLESS OTHERWISE NOTED. REFER TO SPECIFICATION FOR ADDITIONAL INFORMATION.
  - ALL CONDUITS LOCATED IN CLASSIFIED AS HAZARDOUS OR CORROSIVE AREAS SHALL BE PVC COATED RIGID CONDUIT, AND XP FITTINGS & BOXES, AND SS SUPPORTS & HARDWARE. CABLE SLEEVES SHALL BE SCH. 80 NON-METALLIC CONDUIT (TYP.).
  - ALL BURIED RACEWAYS AND SLEEVES SHALL BE INSTALLED WITH A MINIMUM 24" DEPTH TO TOP OF CONDUIT. CONTRACTOR SHALL INSTALL IDENTIFICATION RIBBONS 12" ABOVE ALL CONDUITS TRENCHES (MULTIPLE RIBBONS MAYBE REQUIRED. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING EXISTING UTILITIES PRIOR AND FOR ALL BACK FILL AND RESTORATION AFTERWARDS.
  - REFER TO ELECTRICAL PLANS AND SPECIFICATION FOR ADDITIONAL INFORMATION AND DETAILS.
  - ALL ITEMS AND DEVICES SHOWN ARE FOR GENERAL INTENT AND CLARITY. ACTUAL LAYOUT AND INSTALLATION MAY VARY, BASED ON FIELD CONDITIONS. ALL CHANGES SHALL BE COORDINATED WITH OWNER AND FIELD ENGINEER.
  - ELECTRICAL INSTALLATION SHALL BE PERFORMED IN A WORKMANSHIP MANNER AND COMPLY WITH ALL RELEVANT CODES, REGULATIONS, AND GUIDANCE.
  - CONTRACTOR SHALL FIELD VERIFY FEEDER SIZING FOR VOLTAGE DROP PER ACTUAL WIRE RUNS.
  - CONTRACTOR SHALL FIELD VERIFY THAT ALL LOADS AND BRANCH LOADS ARE BALANCED.
  - CONTRACTOR SHALL COORDINATE ALL UTILITY RELOCATIONS (COMPLETE).
  - ALL RACEWAYS SHALL BE CONCEALED OR DIRECTE BURIED. EXPOSED RACEWAYS SHALL BE APPROVED PRIOR TO INSTALLATION.

- LIFT STATION ELECTRICAL REQUIREMENTS:**
- POWER:** OBTAIN POWER CIRCTUI FROM THE EXISITNG LOAD CENTER LOCATED INSIDE 70-LSCP-1.
  - COMMUNICATION LINK:** PROVIDE AND INSTALL (1) CAT5e CABLE BETWEEN 70-RTU-1 AND 70-LSCP-1.
  - 70-LSCP-1:** CITY OF SUPERIOR LIFT STATION NO.7 CONTROL PANEL TO REMAIN. COORDINATE INTEGRATION WITH CITY.
  - 70-RTU-1:** PROVIDE AND INSTALL NEW RTU PANEL MOUNTED TO NEW FREE STANDING EQUIPMENT RACK.
  - LEVEL TRANSMITTER:** PROVIDE AND INSTALL FLOAT SWITCHES AS DETAILED.
  - EXTERIOR RECEPTACLE:** PROVIDE AND INSTALL ONE EXTERIOR WEATERPROOF/GFCI RECEPTACLE AT THE EQUIPMENT MOUNTING RACK AS DETAILED. ROUTE 2#10 & #10C IN 3/4"C TO 20A/1P CIRCUIT BREAKER IN CONTROL PANEL.
  - EXISTING LIGHT POLE:** TO REMAIN, THE CONTRACTOR SHALL SUPPORT DURING CONSTRUCTION.
  - PAVEMENT REMOVAL AND RESTORATION:** APPROXIMATE LIMITS AS SHOWN. COMPLETE AND INCLUSIVE.
  - ANTENNA BASE:** PROVIDE AND INSTALL AS SPECIFIED AND DETAILED.

- PLAN NOTES:** (X)
- APPROXIMATE LOCATION OF SCADA ANTENNA AND TOWER. INSTALL NEW RC BASE. THE BASE SHALL BE INSTALLED INSITU OF THE GRADE PRIOR TO FILLING. BASE SHALL EXTEND THROUGH FILL. PROVIDE AND INSTALL OBSTRUCTION LIGHT ON TOWER, REFER TO SCHEDULE ((2)#10 #=& #12G IN 1"C. TO 20A CB).
  - EXISTING WETWELL, HAZARDOUS ENVIRONMENT. INSTALL LEVEL TRANSMITTER (TYP.). CORE WETWELL WALL AND SEAL CONDUIT PENETRATION WITH A MODULAR COMPRESSOR SEAL (LINK SEAL, OR EQUAL) (TYP.).
  - INSTALL NEW RTU PANEL MOUNTED TO A EQUIPMENT RACK (TYP.).
  - APPROXIMATE LOCATION OF BURIED CONDUITS, RACEWAYS OR CABLE SLEVES (TYP.).
  - APPROXIMATE LIMITS OF REMOVAL RESTORATION SHALL BE COMPLETE.

**LIFT STATION NO.7 SITE PLAN - ELECTRICAL**  
 SCALE: 1" = 10'-0" APPROXIMATE (22x34)  
 SCALE: 1" = 20'-0" APPROXIMATE (11x17)

TRANSPORTATION - MUNICIPAL  
 DEVELOPMENT - ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-723-9115 F-800-777-2380 Fax: 218-723-4548  
 © USA PROFESSIONAL SERVICES

**MSA**  
 PROFESSIONAL SERVICES

NO.	DATE	REVISION

PROJECT NO.: 00626000  
 DATE: OCTOBER 2009  
 SCALE AS SHOWN

F.B. XXX  
 DRAWN BY: JLG  
 CHECKED BY: SRC

Lift Station No.7 Site Plan - Electrical  
**PARKLAND SANITARY DISTRICT NO.1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

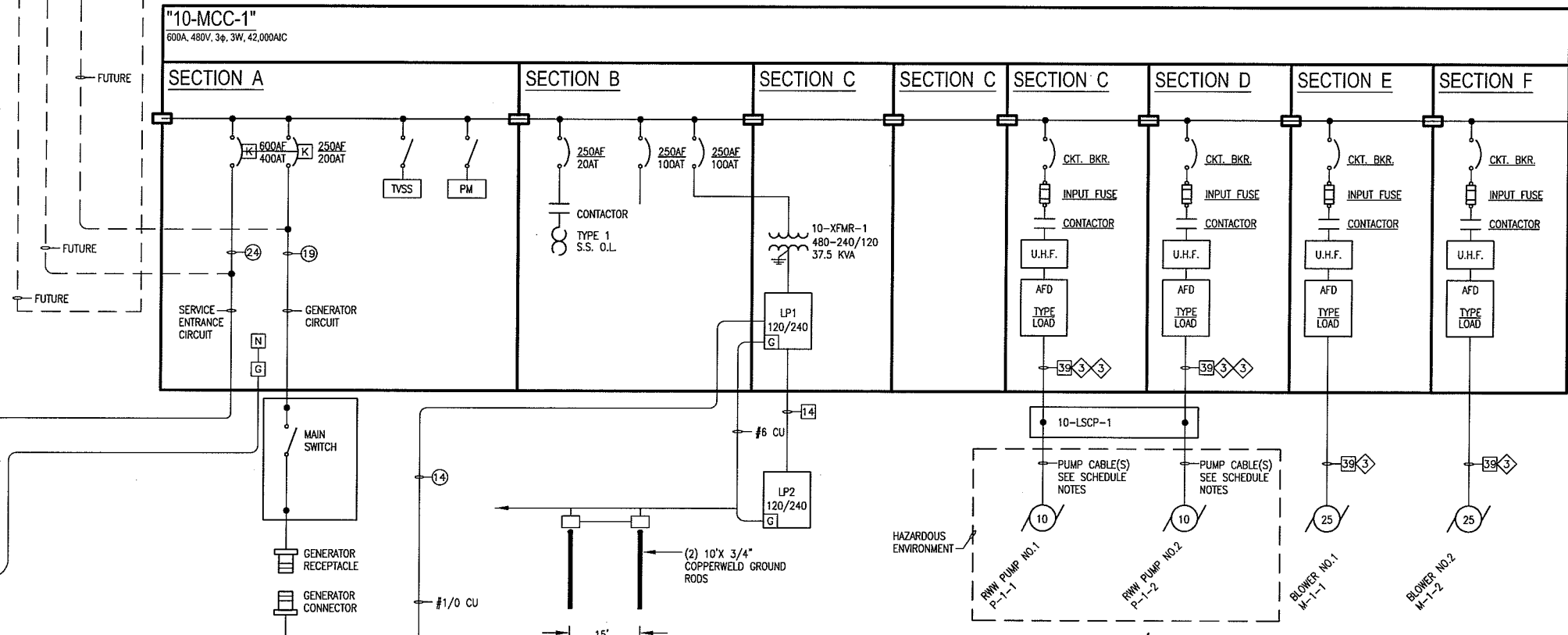
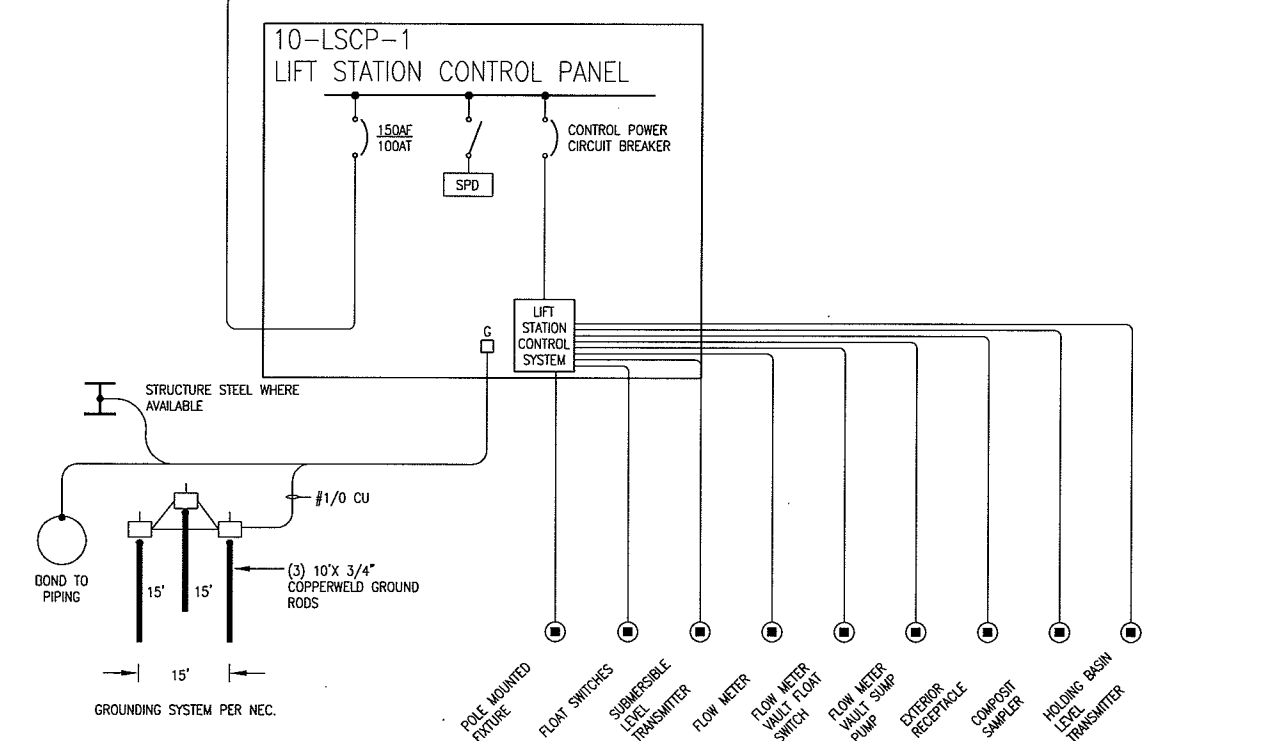
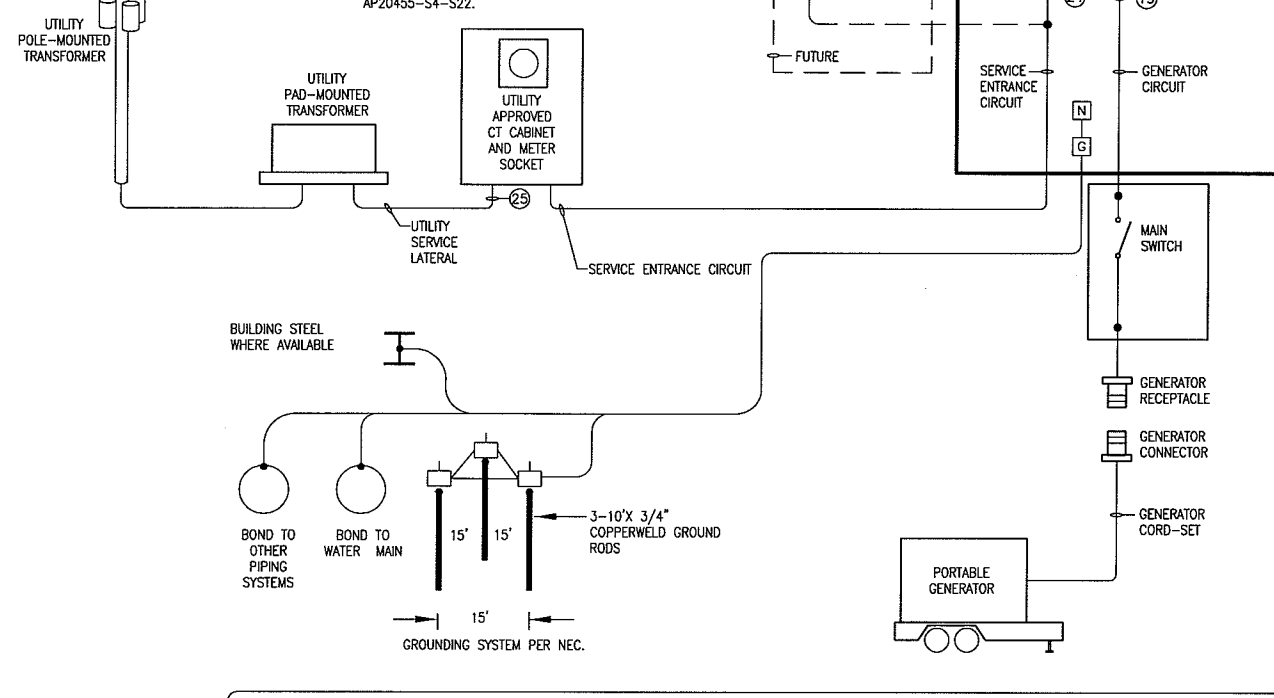
FILE NO:  
 626-001

SHEET:  
 E-8

**ELECTRICAL REQUIREMENTS:**

- UTILITY PAD-MOUNTED TRANSFORMER:** TRANSFORMER PAD BY UTILITY REQUIREMENTS FOR UTILITY INSTALLATION OF TRANSFORMER(S). UTILITY TRANSFORMERS SHALL PROVIDE THE SCHEDULED ELECTRIC SERVICE TO THE FACILITY.
- UTILITY SERVICE LATERAL:** PROVIDE CONDUITS FOR UTILITY INSTALLATION OF SERVICE LATERAL CONDUCTORS AS SCHEDULED.
- UTILITY APPROVED SELF-CONTAINED METER SOCKET:** PROVIDE METER SOCKET SUITABLE FOR THE ELECTRIC SERVICE SCHEDULED AND PER UTILITY REQUIREMENTS FOR UTILITY INSTALLATION OF METER.
- SERVICE ENTRANCE CIRCUIT:** PROVIDE SERVICE ENTRANCE CIRCUIT AS SCHEDULED.
- GENERATOR CIRCUIT:** PROVIDE GENERATOR CIRCUIT AS SCHEDULED.
- LIFT STATION CONTROL PANEL COMPONENTS:** PROVIDE LIFT STATION CONTROL PANEL INTERNAL COMPONENTS AS SCHEDULED.
- PORTABLE GENERATOR:** PROVIDE PORTABLE GENERATOR, ENCLOSURE, FUEL SYSTEM, AND TRAILER AS SPECIFIED.
- CONTROL POWER SYSTEM:** CONTROL PANEL SUPPLIER SHALL BE RESPONSIBLE FOR SIZING CONTROL POWER COMPONENTS BASED ON THE CONNECTED LOAD OF THE BRANCH CIRCUITS
- FLOAT SWITCHES:** PROVIDE AND INSTALL THREE FLOAT SWITCHES AS DETAILED. FLOAT SWITCH CABLES SHALL BE INSTALLED IN ACCORDANCE WITH NEC REQUIREMENTS FOR INTRINSICALLY SAFE SYSTEMS. MANUFACTURER SUPPLIED CABLES SHALL BE ROUTED TO CONTROL PANEL AND SHALL NOT BE SPLICED.
- SUBMERSIBLE LEVEL TRANSMITTER:** PROVIDE AND INSTALL ONE SUBMERSIBLE LEVEL SENSOR AS DETAILED. LEVEL SENSOR CABLE SHALL BE INSTALLED IN ACCORDANCE WITH NEC REQUIREMENTS FOR INTRINSICALLY SAFE SYSTEMS. MANUFACTURER SUPPLIED CABLES SHALL BE ROUTED TO CONTROL PANEL AND SHALL NOT BE SPLICED.
- FLOW METER:** PROVIDE AND INSTALL ONE FLOW METER AT LIFT STATION AS DETAILED. FLOW METER TRANSMITTER SHALL BE INSTALLED INSIDE LIFT STATION CONTROL PANEL. MANUFACTURER SUPPLIED CABLES SHALL BE ROUTED TO TRANSMITTER IN CONTROL PANEL AND SHALL NOT BE SPLICED. POWER FLOW METER TRANSMITTER FROM 20A/1P CIRCUIT BREAKER IN CONTROL PANEL.
- FLOW METER VAULT FLOAT SWITCH:** PROVIDE AND INSTALL ONE FLOAT SWITCH AT LIFT STATION AS DETAILED. ROUTE 2#14 SIGNAL CONDUCTORS TO LIFT STATION CONTROL PANEL.
- MAIN SWITCH:** NEMA 3R LOCKABLE 200A SWITCH.
- GENERATOR RECEPTACLE AND PLUG:** AR2041-S4-S22 AND AP20455-S4-S22.

- FLOW METER VAULT SUMP PUMP:** PROVIDE AND INSTALL DUPLEX RECEPTACLE FOR SUMP PUMP (PROVIDED UNDER THIS CONTRACT OR PROVIDED BY OWNER) AT LIFT STATION. LOCATE RECEPTACLE IN FLOW METER VAULT IN LOCATION ACCESSIBLE FROM HATCH AND NO MORE THAN SIX INCHES BELOW THE BOTTOM OF THE TOP SLAB OF THE VAULT. PROVIDE STAINLESS STEEL KELLEM'S GRIP FOR PUMP CORD(S) AND SUPPORT FROM STAINLESS STEEL HOOK ANCHORED IN VAULT STRUCTURE. ROUTE 2#10 & #10G IN 3/4" TO 20A/1P CIRCUIT BREAKER IN CONTROL PANEL.
- EXTERIOR RECEPTACLE:** PROVIDE AND INSTALL ONE EXTERIOR WEATHERPROOF/GFCI RECEPTACLE AT THE EQUIPMENT MOUNTING RACK AS DETAILED. ROUTE 2#12 & #12G IN 3/4" TO 20A/1P CIRCUIT BREAKER IN CONTROL PANEL.
- STAND-BY GENERATOR COOLANT HEATER:** PROVIDE RECEPTACLE MOUNTED INSIDE GENERATOR HOUSING FOR GENERATOR BLOCK HEATER. ROUTE 2#10 & #10G IN 3/4" TO 30A/1P CIRCUIT BREAKER IN CONTROL PANEL. COORDINATE EXACT REQUIREMENTS WITH GENERATOR MFR.
- TELEPHONE/DATA SERVICE:** PROVIDE AND INSTALL TELEPHONE SERVICE. LOCATE TELCO INTERFACE INSIDE ON EQUIPMENT MOUNTING RACK. INSTALL SINGLE LINE TELEPHONE SERVICE TO LIFT STATION CONTROL PANEL.
- COMPOSITE SAMPLER:** PROVIDE AND INSTALL ONE COMPOSITE SAMPLER. ROUTE 2#12 & #12G IN 3/4" TO 20A/1P CIRCUIT BREAKER IN CONTROL PANEL. ROUTE ANALOG FLOW SIGNAL TO SAMPLER PER MFR REQUIREMENTS.
- POLE MOUNTED FIXTURE:** PROVIDE AND INSTALL POLE MOUNTED FIXTURE AS SCHEDULED. INSTALL WP/GFI REC. IN POLE. PROVIDE SWITCH IN PARALLEL WITH POHOT CELL CONTROL. SWITCH TO BE LOCATED INSIDE 10-LSCP-1. ROUTE (2)#12 & #12G IN 3/4" CONDUIT TO 20A-1P CIRCUIT BREAKER IN CONTROL PANEL.



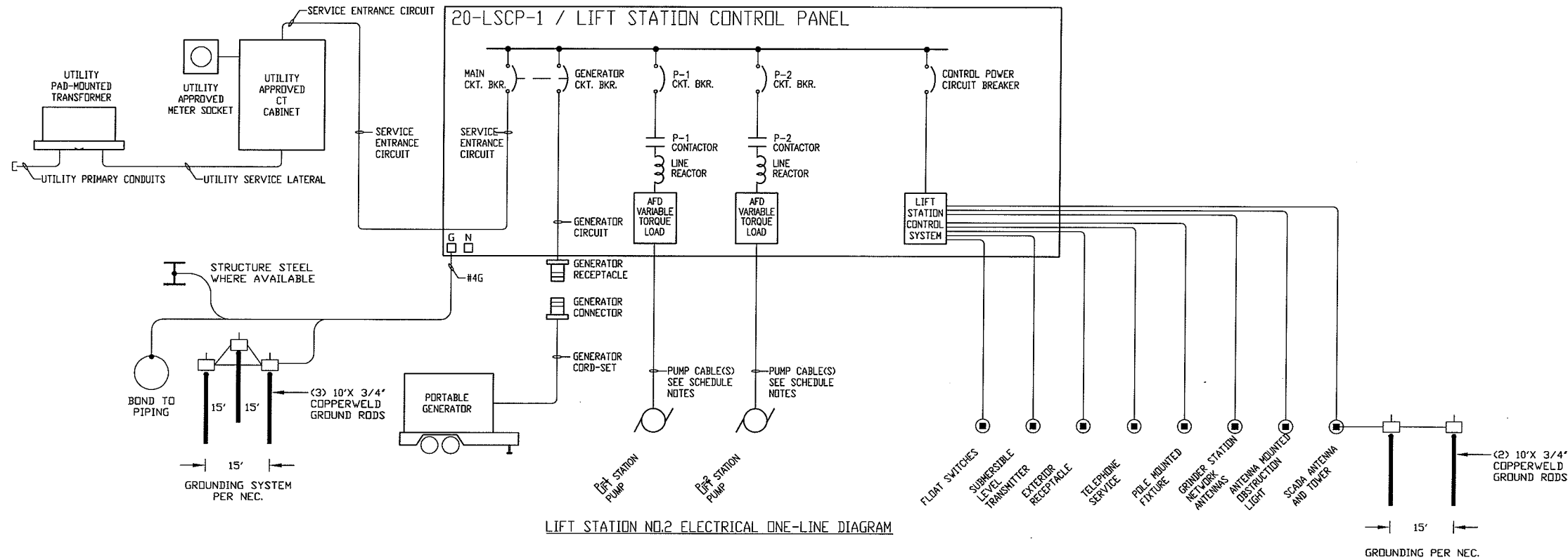
SECTION	SECTION A	SECTION B	SECTION C	SECTION D	SECTION E	SECTION F	SECTION G	SECTION H
A	TVSS	MAIN LP1						
B		SPARE						
C	POWER MONITOR		10-PP-1					
D		SPARE						
E								
F	GENERATOR RECEPTACLE			CORNER SECTION	RWW PUMP NO.1 P-1-1	RWW PUMP NO.2 P-1-2	BLOWER NO.1 M-1-1	BLOWER NO.2 M-1-2
G		SPACE			PUMP NO.1 AFD COMPARTMENT	PUMP NO.2 AFD COMPARTMENT	BLOWER NO.1 AFD COMPARTMENT	BLOWER NO.2 AFD COMPARTMENT
H								
I								
J	MAIN	SPACE	10-XFMR-1					
K								
L								

"10-MCC-1"  
MOTOR CONTROL CENTER FRONT ELEVATION  
NTS

PLAN TIME: 12:55pm  
 FILEPATH: N:\Parkland Sanitary District\_2009502\Muermann Drawings\Electrical\E-9 Lift Station No.1 & Garage - One-Line Diagram.dwg  
 PROJECT NO.: 00626000  
 DATE: OCTOBER 2009  
 SCALE: AS SHOWN  
 SHEET E-9

TRANSPORTATION - MUNICIPAL  
 DEVELOPMENT - ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-7380 FAX: 218-722-4448  
 MSA  
 PROFESSIONAL SERVICES  
 PROJECT NO.: 00626000  
 DATE: OCTOBER 2009  
 SCALE: AS SHOWN  
 SHEET E-9

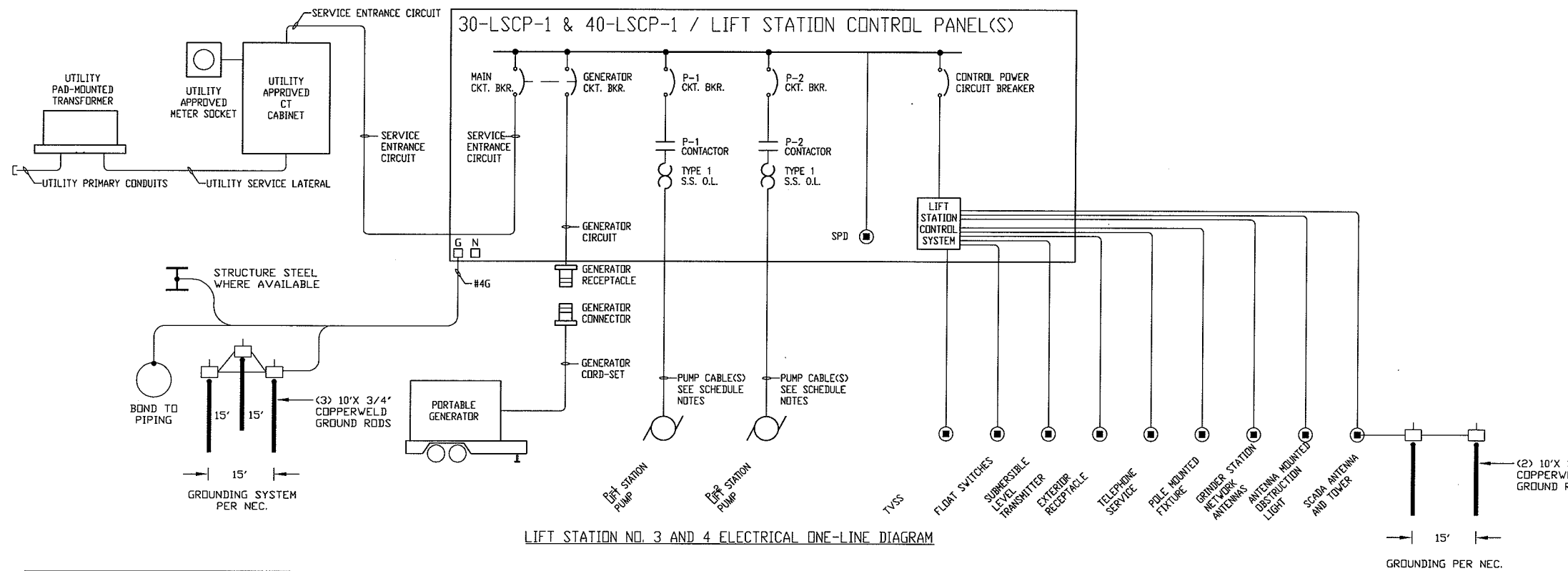
FILENAME: N:\Parkland Sanitary District\Drawings\Electrical\10 Lift Station No. 2, 3 & 4 - One-Line Diagram.dwg  
 PLOT TIME: 12:55pm  
 PROJECT NO: 00626000  
 DATE: OCTOBER 2009  
 SCALE: AS SHOWN  
 SHEET: E-10



LIFT STATION NO.2 ELECTRICAL ONE-LINE DIAGRAM

**ELECTRICAL REQUIREMENTS:**

- UTILITY POLE-MOUNTED TRANSFORMER:** POLE BY UTILITY REQUIREMENTS FOR UTILITY INSTALLATION OF POLE-MOUNTED TRANSFORMERS. UTILITY TRANSFORMERS SHALL PROVIDE THE SCHEDULED ELECTRIC SERVICE TO THE FACILITY.
- UTILITY SERVICE LATERAL:** PROVIDE CONDUITS FOR UTILITY INSTALLATION OF SERVICE LATERAL CONDUCTORS AS SCHEDULED.
- UTILITY APPROVED SELF-CONTAINED METER SOCKET:** PROVIDE METER SOCKET SUITABLE FOR THE ELECTRIC SERVICE SCHEDULED AND PER UTILITY REQUIREMENTS FOR UTILITY INSTALLATION OF METER.
- SERVICE ENTRANCE CIRCUIT:** PROVIDE SERVICE ENTRANCE CIRCUIT AS SCHEDULED.
- SERVICE DISCONNECT SWITCH:** PROVIDE FUSIBLE SERVICE DISCONNECT SWITCH AS SCHEDULED.
- GENERATOR CIRCUIT:** PROVIDE GENERATOR CIRCUIT AS SCHEDULED.
- LIFT STATION CONTROL PANEL COMPONENTS:** PROVIDE LIFT STATION CONTROL PANEL INTERNAL COMPONENTS AS SCHEDULED.
- PORTABLE GENERATOR:** PROVIDE PORTABLE GENERATOR, ENCLOSURE, FUEL SYSTEM, AND TRAILER AS SPECIFIED.
- P-1 & P-2 MOTOR CONTROLLERS:** PROVIDE MOTOR CONTROL COMPONENTS AS SCHEDULED. INSTALL PUMP CABLES AS DETAILED. PUMP CABLES SHALL BE PROVIDED BY PUMP MANUFACTURER AND SIZED FOR THE FULL LOAD OF THE PUMP MOTOR. PUMP CABLES MAY INCLUDE SENSOR (HIGH TEMPERATURE AND SEAL FAIL) WIRING OR SECOND CABLE MAY BE PROVIDED FOR THIS PURPOSE.
- CONTROL POWER SYSTEM:** CONTROL PANEL SUPPLIER SHALL BE RESPONSIBLE FOR SIZING CONTROL POWER COMPONENTS BASED ON THE CONNECTED LOAD OF THE BRANCH CIRCUITS FED BY THE CONTROL POWER SYSTEM.
- FLOAT SWITCHES:** PROVIDE AND INSTALL THREE FLOAT SWITCHES AS DETAILED. FLOAT SWITCH CABLES SHALL BE INSTALLED IN ACCORDANCE WITH NEC REQUIREMENTS FOR INTRINSICALLY SAFE SYSTEMS. MANUFACTURER SUPPLIED CABLES SHALL BE ROUTED TO CONTROL PANEL AND SHALL NOT BE SPLICED.
- SUBMERSIBLE LEVEL TRANSMITTER:** PROVIDE AND INSTALL ONE SUBMERSIBLE LEVEL SENSOR AS DETAILED. LEVEL SENSOR CABLE SHALL BE INSTALLED IN ACCORDANCE WITH NEC REQUIREMENTS FOR INTRINSICALLY SAFE SYSTEMS. MANUFACTURER SUPPLIED CABLES SHALL BE ROUTED TO CONTROL PANEL AND SHALL NOT BE SPLICED.
- EXTERIOR RECEPTACLE:** PROVIDE AND INSTALL ONE EXTERIOR WEATHERPROOF/GFCI RECEPTACLE AT THE EQUIPMENT MOUNTING RACK AS DETAILED. ROUTE 2#10 & #10G IN 3/4" CONDUIT TO 20A/1P CIRCUIT BREAKER IN CONTROL PANEL.
- TELEPHONE/DATA SERVICE:** PROVIDE AND INSTALL TELEPHONE SERVICE. LOCATE TELCO INTERFACE INSIDE ON EQUIPMENT MOUNTING RACK. INSTALL SINGLE LINE TELEPHONE SERVICE TO LIFT STATION CONTROL PANEL.
- POLE MOUNTED FIXTURE:** PROVIDE AND INSTALL POLE MOUNTED FIXTURE AS SCHEDULED. INSTALL WP/GFI REC. IN POLE. PROVIDE SWITCH IN PARALLEL WITH POHOT CELL CONTROL. SWITCH TO BE LOCATED INSIDE 10-LSCP-1. ROUTE (2)#12 & #12G IN 3/4" CONDUIT TO 20A-1P CIRCUIT BREAKER IN CONTROL PANEL.
- GRINDER STATION NETWORK ANTENNA:** PROVIDE AND INSTALL ON EQUIPMENT RACK. ALL CABLES SHALL INSTALLED IN CONDUIT.
- ANTENNA MOUNTED OBSTRUCTION LIGHT:** PROVIDE AND INSTALL AS SCHEDULED. ROUTE (2)#12 & #12G IN 3/4" CONDUIT TO 20A-1P CIRCUIT BREAKER IN CONTROL PANEL.
- SCADA ANTENNA AND TOWER:** PROVIDE AND INSTALL AS SHOWN AND SPECIFIED.
- SPD:** 160KA SURGE PROTECTIVE DEVICES.
- TVSS:** TRANSIENT VOLTAGE SURGE SUPPRESSOR.

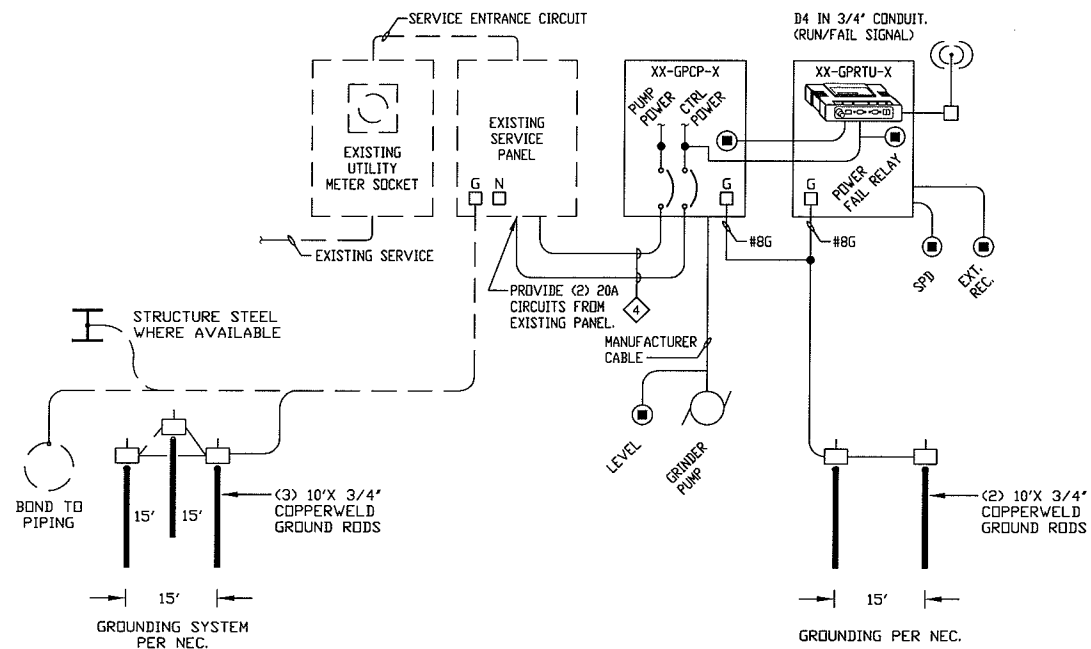


LIFT STATION NO. 3 AND 4 ELECTRICAL ONE-LINE DIAGRAM

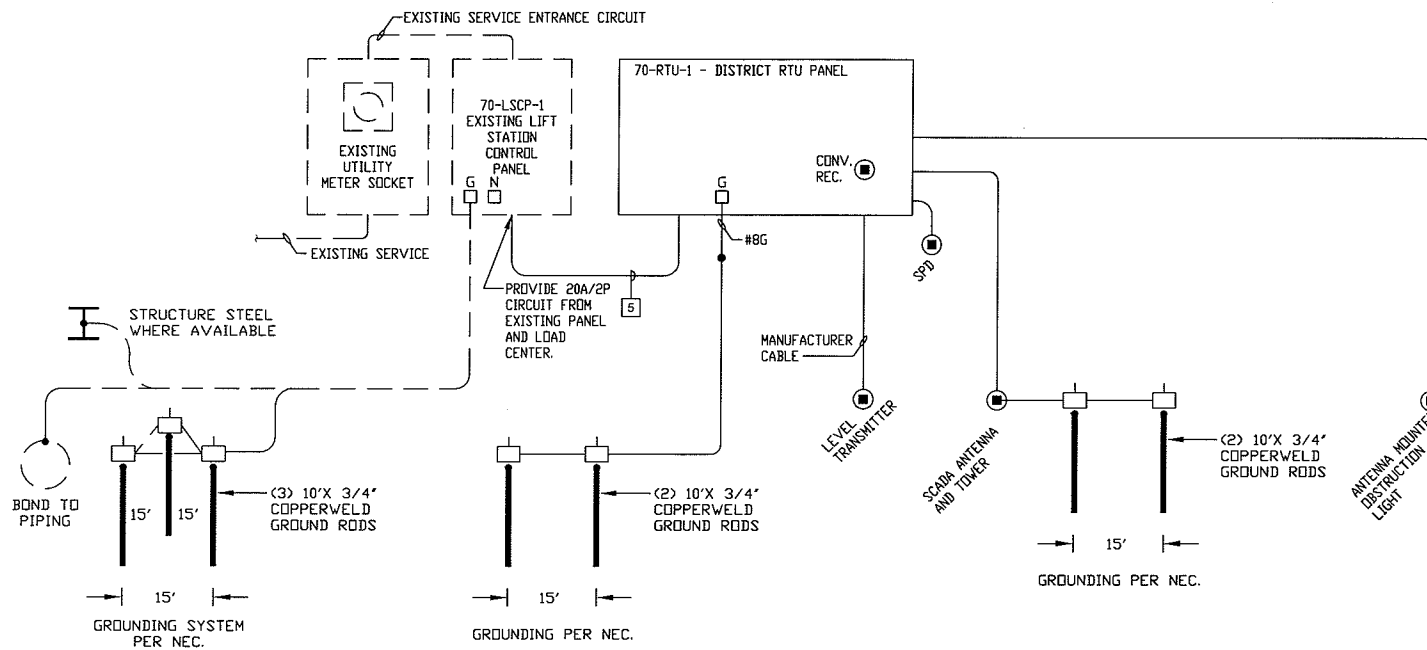
Site	ELECTRIC SERVICE ENTRANCE					PUMP DATA					STAND-BY POWER EQUIPMENT				
	VOLTAGE	AMPACITY	SERVICE LATERAL	UTILITY METER LOAD BREAK SWITCH	SERVICE ENTRANCE CIRCUIT	SERVICE DISCONNECT SWITCH	HORSEPOWER	CIRCUIT BREAKER	CONTACTOR	SSRV	AFD	CABLE(S)	GENERATOR CIRCUIT BREAKER	GENERATOR RECEPTACLE	GENERATOR PLUG
Lift Station No.2	208/120V 3Ø,4W	100A	1-3"	N/A	#83 & #8G IN 1-1 1/4" C	100A/3Ø,4W/100AF	7.5	150AF/50AT - MCP	FVNR - SIZE 1		X	1	100A/3P	AR1041-S4-S22	APJ10477-S4-S22
Lift Station No.3	208/120V 3Ø,4W	100A	1-3"	N/A	#83 & #8G IN 1-1 1/4" C	100A/3Ø,4W/100AF	3	150AF/30AT - MCP	FVNR - SIZE 1			1	100A/3P	AR1041-S4-S22	APJ10477-S4-S22
Lift Station No.4	240/120V 3Ø,4W	100A	1-3"	N/A	#83 & #8G IN 1-1 1/4" C	100A/3Ø,4W/100AF	7.5	150AF/50AT - MCP	FVNR - SIZE 1			1	100A/3P	AR1041-S4-S22	APJ10477-S4-S22

NOTES:  
 1. COORDINATE WITH PUMP MANUFACTURER AND DETERMINE NUMBER AND SIZE OF PUMP CABLES. SIGNAL CABLE FOR HIGH TEMPERATURE AND SEAL FAIL SENSOR WIRING MAY BE PROVIDED AS A SEPARATE CABLE OR INTEGRAL TO THE PUMP POWER CABLE BASED ON PUMP MANUFACTURER DESIGN. SIZE PUMP CABLE CONDUITS AS NEEDED TO SATISFY NEC REQUIREMENTS FOR  
 2. NOTE SERVICE TO LIFT STATION NO.7 IS EXPECTED TO BE AN OPEN DELTA.  
 3. ALL CONDUCTORS SHALL BE COPPER.

TRANSPORTATION - MUNICIPAL  
 DEVELOPMENT - ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-3915 / 800-777-7380 Fax: 218-722-4448  
 © U.S. PROFESSIONAL SERVICES  
**MSA**  
 PROFESSIONAL SERVICES  
 PROJECT NO: 00626000  
 DATE: OCTOBER 2009  
 SCALE: AS SHOWN  
 LIFT STATION NO. 2, 3 & 4 - One-Line Diagram  
**PARKLAND SANITARY DISTRICT NO.1**  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN  
 FILE NO: 626-001  
 SHEET: E-10



GRINDER PUMP PANEL TYPICAL ONE-LINE DIAGRAM



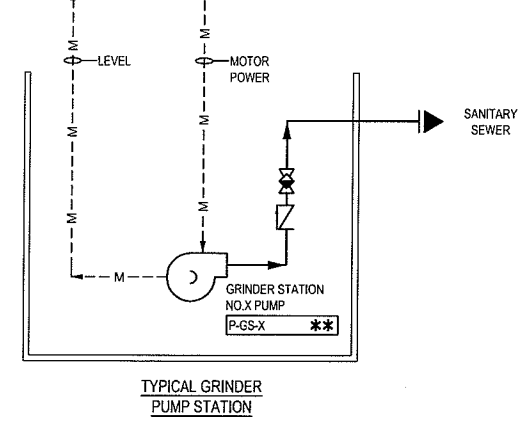
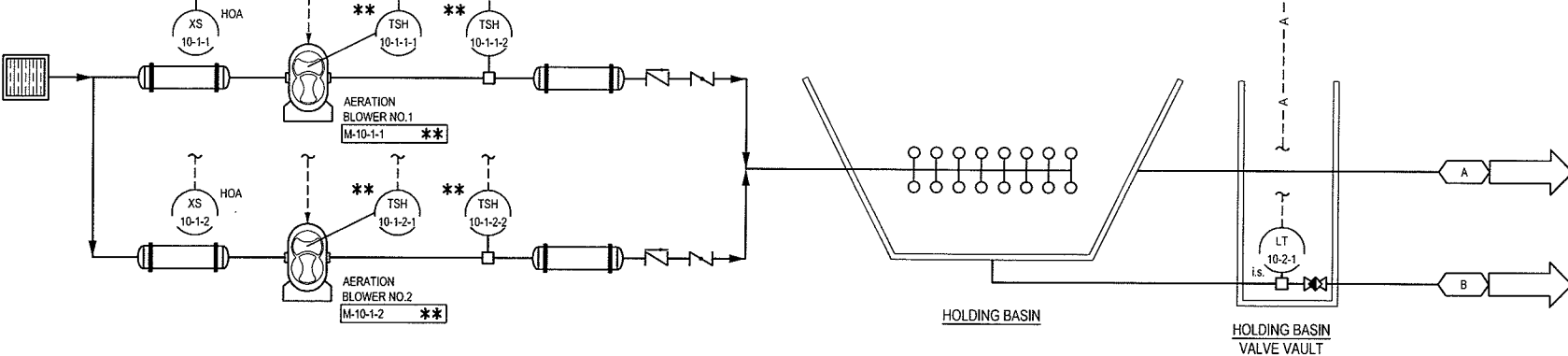
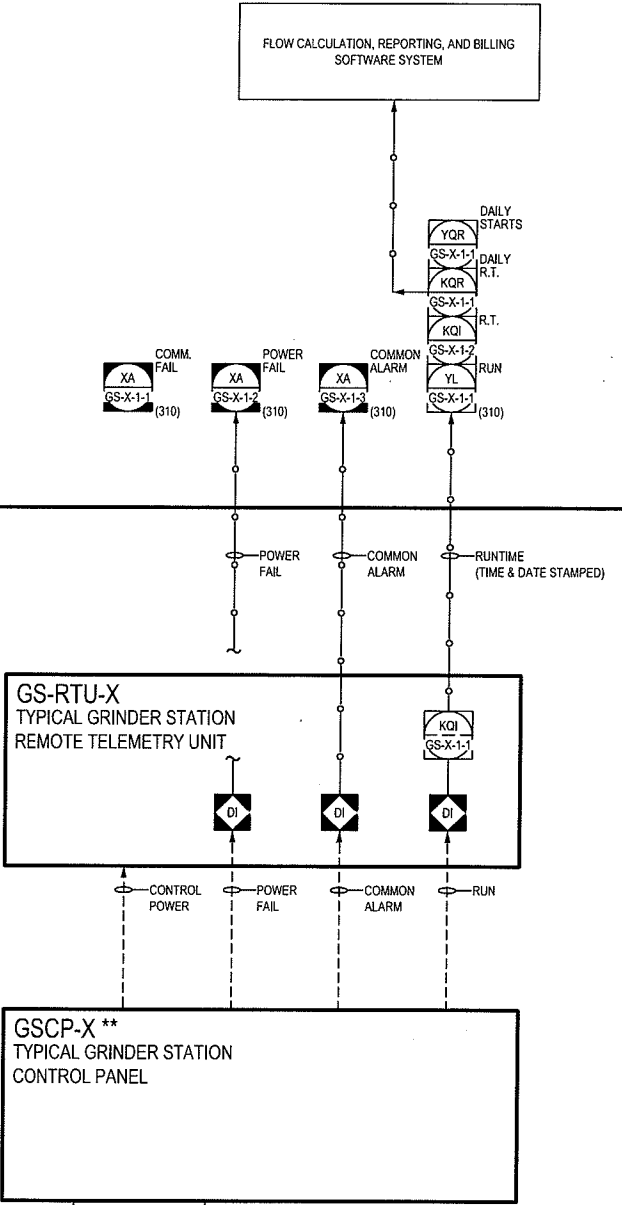
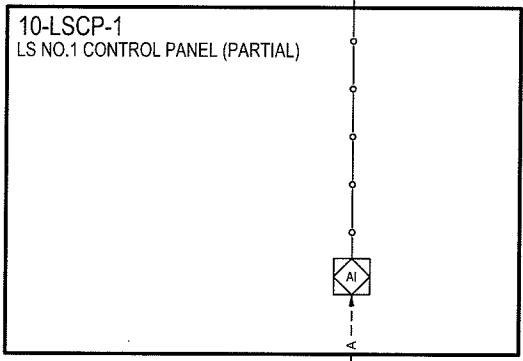
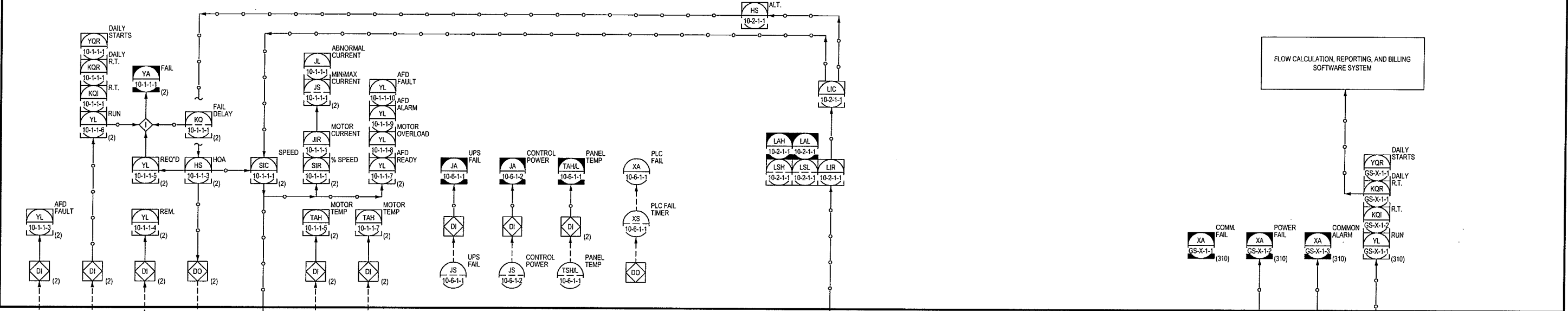
LIFT STATION NO.7 TYPICAL ONE-LINE DIAGRAM

**ELECTRICAL REQUIREMENTS:**

1. EXISTING EQUIPMENT AND DEVICES: TO REMAIN.
2. UTILITY POLE-MOUNTED TRANSFORMER: POLE BY UTILITY REQUIREMENTS FOR UTILITY INSTALLATION OF POLE-MOUNTED TRANSFORMERS. UTILITY TRANSFORMERS SHALL PROVIDE THE SCHEDULED ELECTRIC SERVICE TO THE FACILITY.
3. EXISTING UTILITY SERVICE LATERAL: TO REMAIN.
4. EXISTING UTILITY APPROVED SELF-CONTAINED METER SOCKET: TO REMAIN.
5. SERVICE ENTRANCE CIRCUIT: TO REMAIN.
6. CONTROL PANEL COMPONENTS: PROVIDE LIFT STATION CONTROL PANEL INTERNAL COMPONENTS AS SCHEDULED.
7. CONTROL POWER SYSTEM: CONTROL PANEL SUPPLIER SHALL BE RESPONSIBLE FOR SIZING CONTROL POWER COMPONENTS BASED ON THE CONNECTED LOAD OF THE BRANCH CIRCUITS FED BY THE CONTROL POWER SYSTEM.
8. LEVEL TRANSMITTER: PROVIDE AND INSTALL ONE LEVEL SENSOR AS DETAILED. LEVEL SENSOR CABLE SHALL BE INSTALLED IN ACCORDANCE WITH NEC REQUIREMENTS FOR INTRINSICALLY SAFE SYSTEMS. MANUFACTURER SUPPLIED CABLES SHALL BE ROUTED TO CONTROL PANEL AND SHALL NOT BE SPLICED.
9. GRINDER PUMP CONTROL PANEL/XX-GPCP-X: PROVIDE AND INSTALL MFR CONTROL PANEL. CONNECT POWER, RUN SIGNAL, AND ALARM SIGNAL AS SHOWN.
10. GRINDER STATION NETWORK ANTENNA: PROVIDE AND INSTALL ON EQUIPMENT RACK. ALL CABLES SHALL BE INSTALLED IN CONDUIT.
11. ANTENNA MOUNTED OBSTRUCTION LIGHT: PROVIDE AND INSTALL AS SCHEDULED. ROUTE (2) #12 & #12G IN 3/4" CONDUIT TO 20A-1P CIRCUIT BREAKER IN CONTROL PANEL.
12. SCADA ANTENNA AND TOWER: PROVIDE AND INSTALL AS SHOWN AND SPECIFIED.
13. SPD: 160KA SURGE PROTECTIVE DEVICES.
14. TVSS: TRANSIENT VOLTAGE SURGE SUPPRESSOR.

————— PROPOSED  
 - - - - - EXISTING

10-MCP-1  
MAIN CONTROL PANEL (PARTIAL)

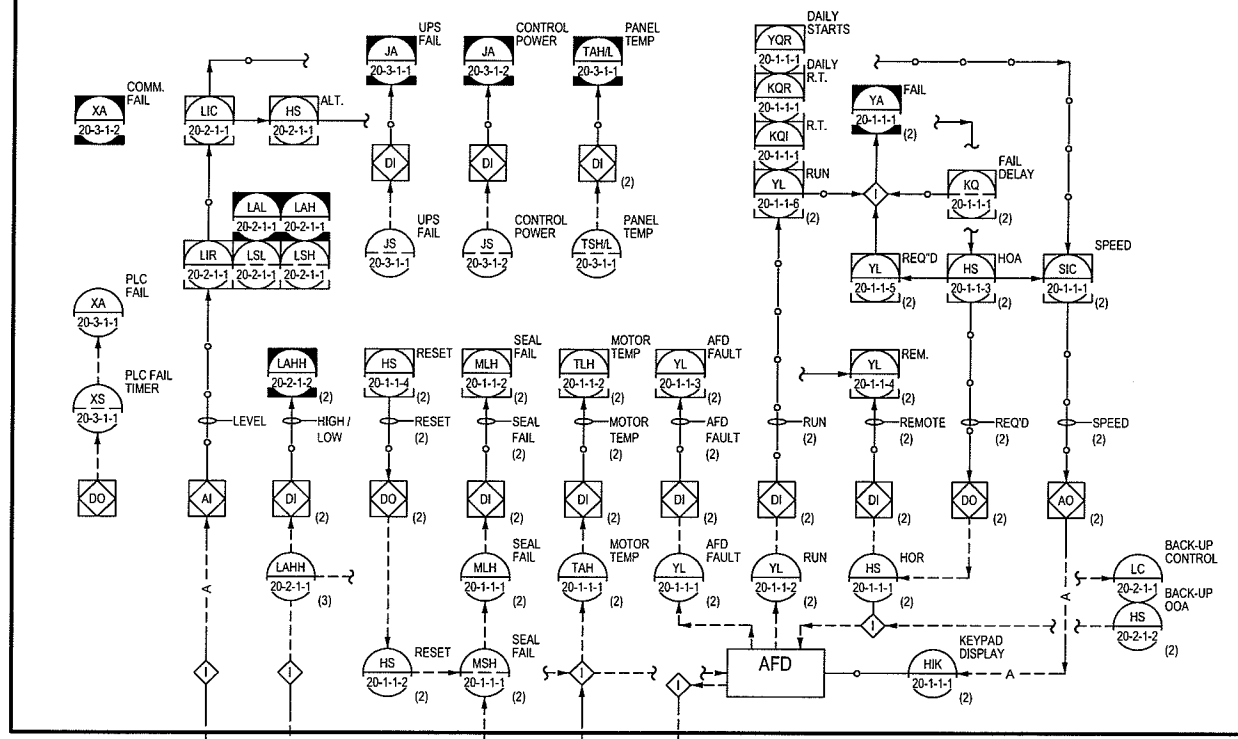


PLOT TIME: 12:56pm  
 FILEPATH: N:\Parkland Sanitary District 2009502\Muermann Drawings\Electrical\E-12\_P&ID No.1.dwg

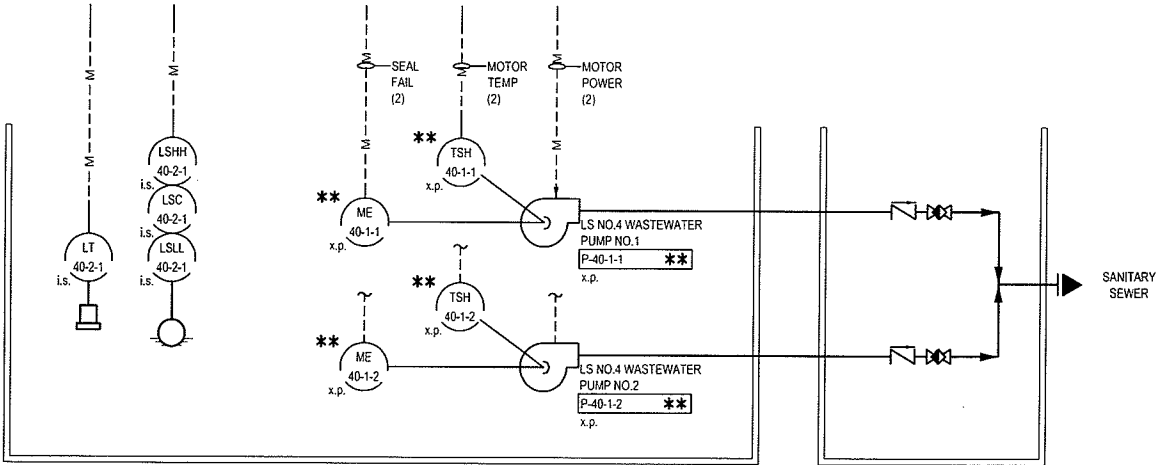
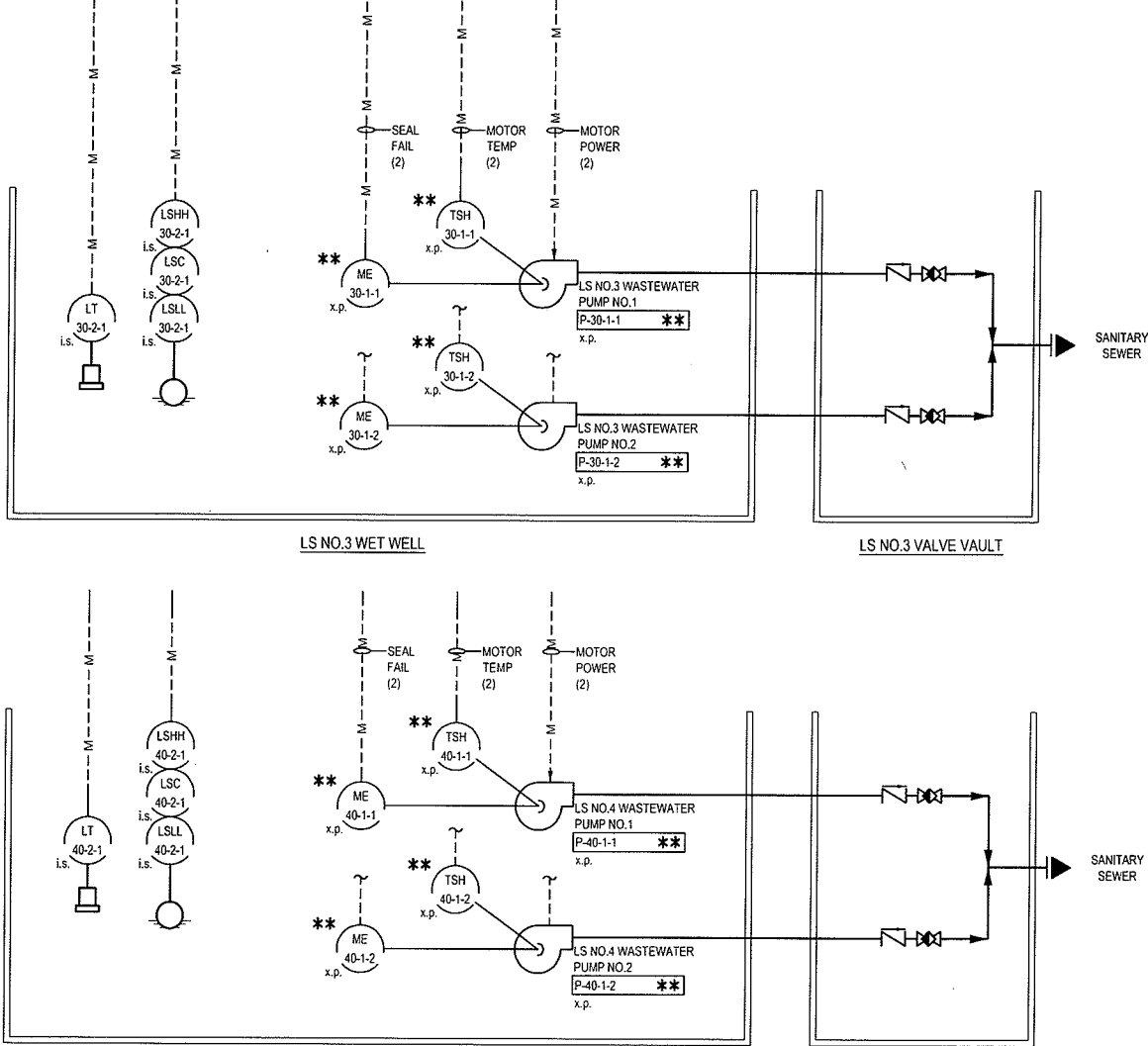
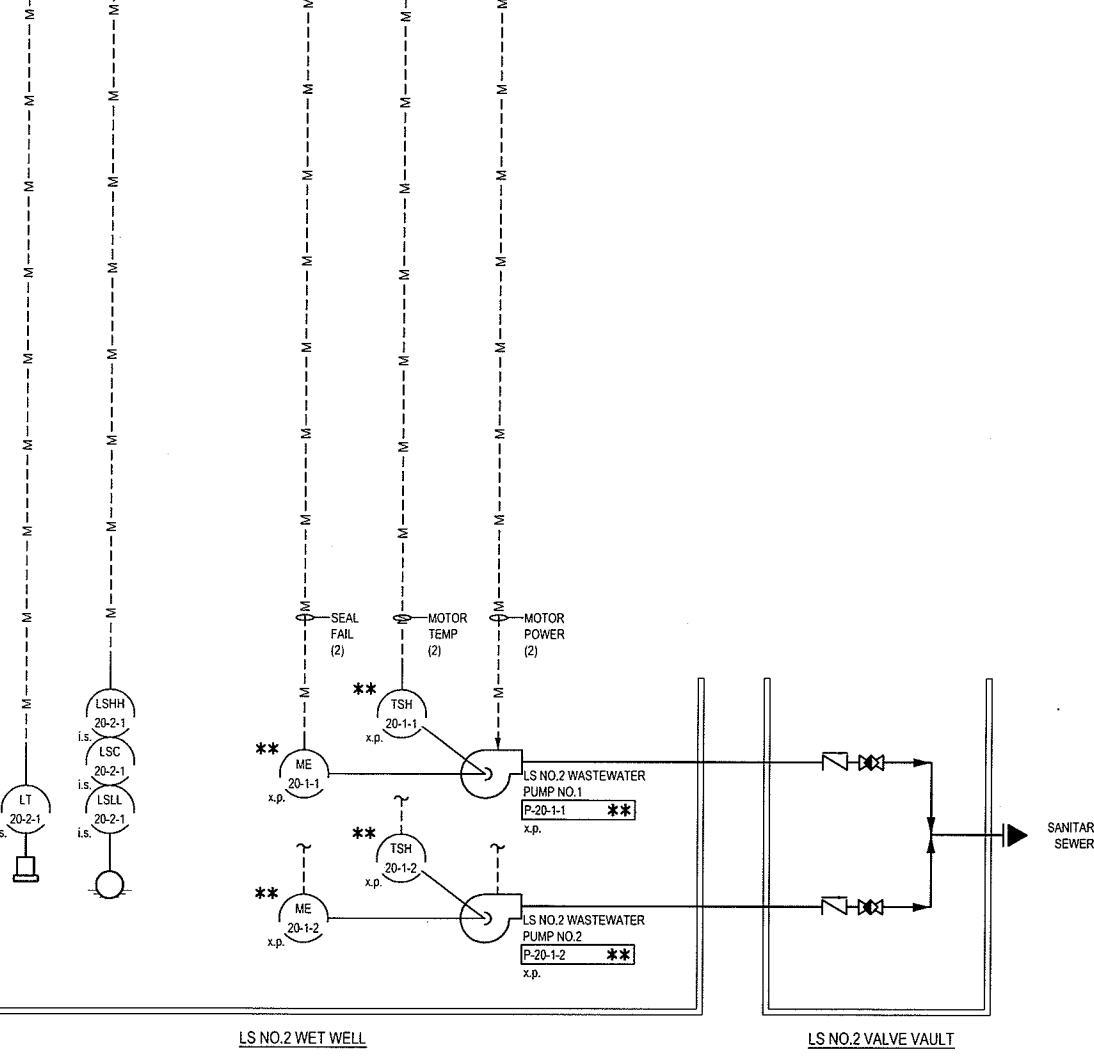
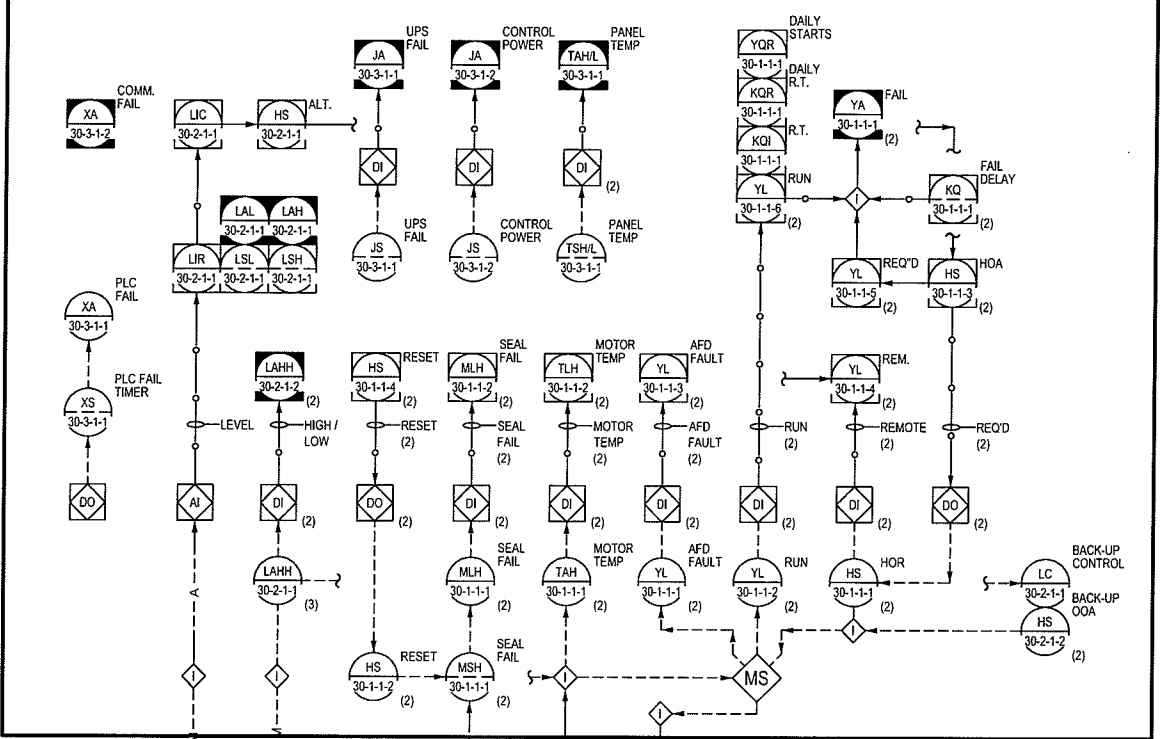
TRANSPORTATION - MUNICIPAL DEVELOPMENT - ENVIRONMENTAL 301 West First Street, Duluth, MN 55802 218-722-3915 1-800-777-7300 Fax: 218-722-1548 © MSA PROFESSIONAL SERVICES	
<b>MSA</b> PROFESSIONAL SERVICES	
PROJECT NO.:	00626000
DATE:	OCTOBER 2009
SCALE:	AS SHOWN
P&ID No. 1	
<b>PARKLAND SANITARY DISTRICT NO. 1</b> WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN	
FILE NO.	626-001
SHEET	E-12



20-LSCP-1  
LS NO.2 CONTROL PANEL

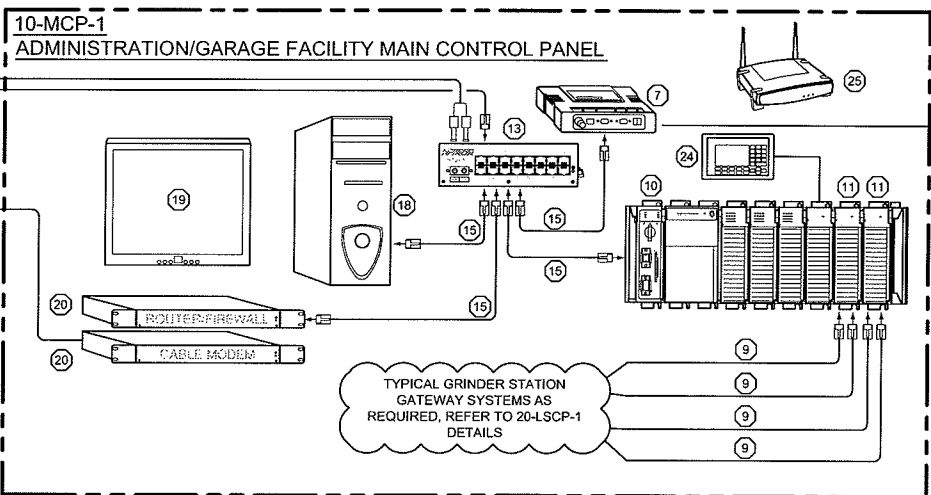
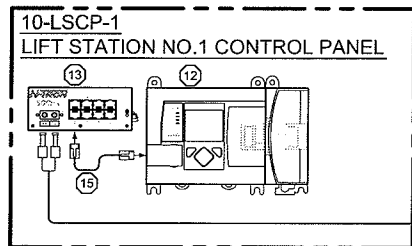


30-LSCP-1 (40-LSCP-1)  
LS NO.3 (NO.4) CONTROL PANEL

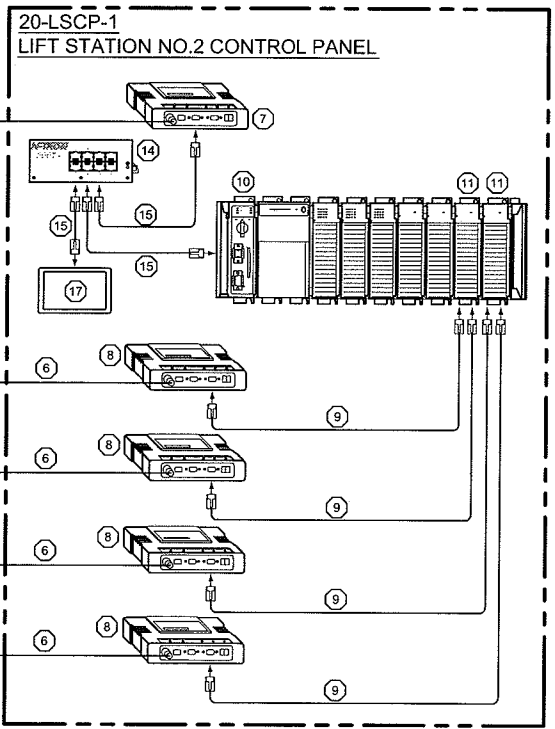
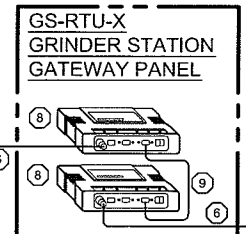
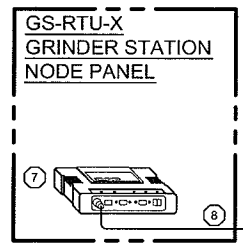
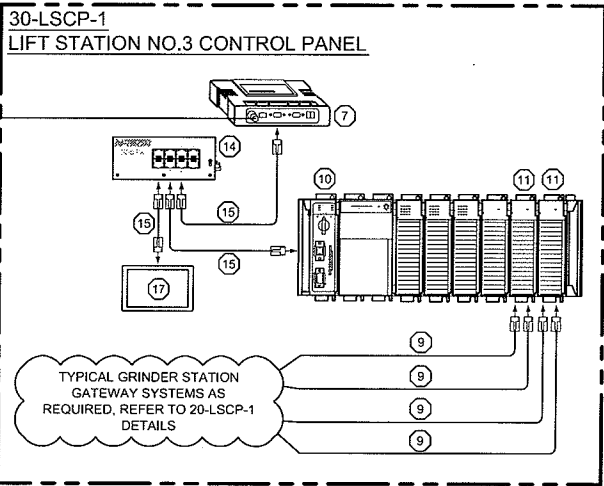
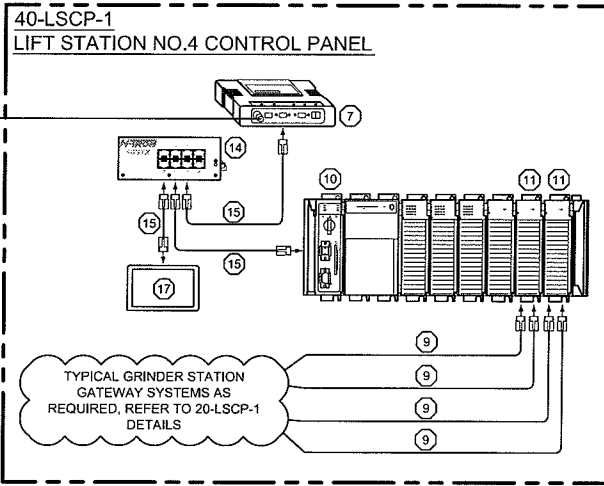
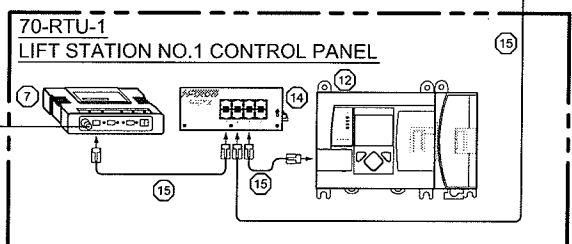
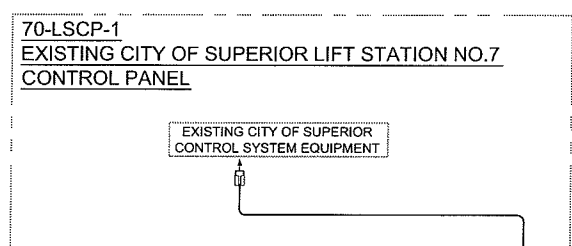


PLOT TIME: 12:56pm  
 FILEPATH: N:\Parkland Sanitary District 2009502\Muermann Drawings\Electrical\E-14 P&ID No.3.dwg

TRANSPORTATION - MUNICIPAL DEVELOPMENT - ENVIRONMENTAL 301 West First Street Duluth, MN 55802 218-722-3915 1-800-777-7380 FAX: 218-722-4548 O USA PROFESSIONAL SERVICES	
<b>MSA</b> PROFESSIONAL SERVICES	
PROJECT NO. 00626000	DATE: OCTOBER 2009
SCALE AS SHOWN	CHECKED BY: SRC
<b>P&amp;ID No.3</b> <b>PARKLAND SANITARY DISTRICT NO.1</b> WASTEWATER COLLECTION SYSTEM PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN	
FILE NO. 626-001	SHEET E-14



PROVIDE AND INSTALL (5) ETHERNET CONNECTION TO MCC (POWER, RWW P-1, RWW P-2, BLOWER #1, & BLOWER #2)



GS-RTU-X TYPICAL FOR EACH GRINDER STATION NODE OR GATEWAY REQUIRED

GS-RTU-X TYPICAL FOR EACH GRINDER STATION NODE OR GATEWAY REQUIRED

GS-RTU-X TYPICAL FOR EACH GRINDER STATION NODE OR GATEWAY REQUIRED

GS-RTU-X TYPICAL FOR EACH GRINDER STATION NODE OR GATEWAY REQUIRED

GS-RTU-X TYPICAL FOR EACH GRINDER STATION NODE OR GATEWAY REQUIRED

GS-RTU-X TYPICAL FOR EACH GRINDER STATION GATEWAY REQUIRED

GS-RTU-X TYPICAL FOR EACH GRINDER STATION GATEWAY REQUIRED

GS-RTU-X TYPICAL FOR EACH GRINDER STATION GATEWAY REQUIRED

**GENERAL NOTES:**

- REFER TO I-O SCHEDULES ON DRAWING E-15 FOR PROGRAMMABLE LOGIC CONTROLLER SYSTEM REQUIREMENTS.
- REFER TO DRAWING \_\_\_\_\_ FOR ANTENNA TOWER HEIGHT AND INSTALLATION REQUIREMENTS.
- THE GRINDER STATION NETWORK IS INTENDED TO MONITOR 310 GRINDER PUMP STATIONS. THE NETWORK CONFIGURATION WILL VARY BASED UPON SELECTED RADIO EQUIPMENT MANUFACTURER. IT IS ANTICIPATED THAT FOUR GATEWAY SYSTEMS WILL BE REQUIRED AT EACH OF 10-MCP-1, 20-LSCP-1, 30-LSCP-1, AND 40-LSCP-1 AND THAT EACH OF THESE GATEWAY SYSTEM WILL COMMUNICATE WITH A VARYING NUMBER OF NODES AS NEEDED TO ENCOMPASS ALL 310 GRINDER STATIONS. ADJUST NETWORK CONFIGURATIONS AS NEEDED TO INTERFACE WITH THE SELECTED RADIO EQUIPMENT MANUFACTURER.

**PLAN NOTES:**

- SCADA SYSTEM DIRECTIONAL ANTENNA, COMPLETE WITH SURGE PROTECTION AT PANEL ENTRANCE.
- SCADA SYSTEM OMNI-DIRECTIONAL ANTENNA, COMPLETE WITH SURGE PROTECTION AT PANEL ENTRANCE.
- GRINDER STATION NETWORK ANTENNA, COMPLETE WITH SURGE PROTECTION AT PANEL ENTRANCE.
- ANTENNA TOWER.
- SCADA SYSTEM ANTENNA CABLE.
- GRINDER STATION NETWORK ANTENNA CABLE.
- SCADA SYSTEM RADIO.
- GRINDER STATION NETWORK RADIO WITH SERIAL MODBUS OR A-B DF1 COMMUNICATION CAPABILITY AND I-O AS INDICATED ON THE P&IDS AND AS SPECIFIED.
- SERIAL COMMUNICATION CABLE COMPATIBLE WITH GRINDER STATION NETWORK RADIO EQUIPMENT.

**PLAN NOTES (CONTINUED):**

- A-B COMPACTLOGIX PROGRAMMABLE LOGIC CONTROLLER WITH I-O AS SCHEDULED.
- PROSOFT TECHNOLOGY COMPACTLOGIX SERIAL COMMUNICATION MODULE WITH TWO SERIAL COMMUNICATION PORTS. PROTOCOL SHALL BE COORDINATED WITH GRINDER STATION NETWORK RADIO EQUIPMENT REQUIREMENTS AND SHALL BE SELECTED TO SUPPORT MODBUS OR A-B DF1 COMMUNICATION PROTOCOLS.
- A-B MICROLOGIX 1400 PROGRAMMABLE LOGIC CONTROLLER WITH I-O AS SCHEDULED.
- INDUSTRIAL ETHERNET SWITCH (8-TX, 1-FX) COMPLETE WITH POWER SUPPLY.
- ETHERNET CAT 6 PATCH CABLE.
- 6-STRAND INDOOR/OUTDOOR RATED MULTI-MODE FIBER OPTIC CABLE.
- A-B PANELVIEW+ 700, COMPLETE WITH MEMORY CARD CONFIGURED FOR TEMPORARY BACK-UP STORAGE OF GRINDER STATION NETWORK DATA.

**PLAN NOTES (CONTINUED):**

- CONTROL PANEL MOUNTED SCADA SYSTEM PC COMPLETE WITH 1 TB EXTERNAL HARD DRIVE FOR STORAGE OF GRINDER STATION NETWORK DATA.
- CONTROL PANEL MOUNTED TOUCH SCREEN DISPLAY FOR PANEL MOUNTED SCADA SYSTEM PC.
- MODEM AND ROUTER/FIREWALL AS NEEDED FOR INTERFACE WITH BROADBAND INTERNET SERVICE PROVIDER.
- REPORTING AND BILLING WORKSTATION PC.
- REPORTING AND BILLING PRINTER.
- PORTABLE SCADA, REPORTING, AND BILLING PC.
- BACKUP AUTO DIALER.
- WIRELESS PC ACCESS POINT.
- COMMERCIAL SWITCH.

FILE NO. 12:56pm  
 N:\Parkland Sanitary District\2009502\Muermann Drawings\Electrical\E-15 SCADA Overview.dwg  
 PROJECT NO. 00626000  
 DATE: OCTOBER 2009  
 SCALE: AS SHOWN  
 DRAWN BY: JLC  
 CHECKED BY: SRC  
 SCADA Overview

**TRANSPORTATION - MUNICIPAL DEVELOPMENT - ENVIRONMENTAL**  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-7380 FAX: 218-722-4488  
**MSA**  
 PROFESSIONAL SERVICES  
 PARKLAND SANITARY DISTRICT NO.1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN  
 SHEET E-15



LS NO.1 CONTROL PANEL 10-LSCP-1 MICROLOGIX 1400 I-O SCHEDULE					
RACK	SLOT	POINT	TYPE	DESCRIPTION	NOTES
0	O.B.	0	DO	LS NO.1 WASTEWATER PUMP NO.1 RUN	
0	O.B.	1	DO	LS NO.1 WASTEWATER PUMP NO.1 RESET	
0	O.B.	2	DO	LS NO.1 WASTEWATER PUMP NO.2 RUN	
0	O.B.	3	DO	LS NO.1 WASTEWATER PUMP NO.2 RESET	
0	O.B.	4	DO	SPARE	
0	O.B.	5	DO	SPARE	
0	O.B.	6	DO	SPARE	
0	O.B.	7	DO	SPARE	
0	O.B.	8	DO	SPARE	
0	O.B.	9	DO	SPARE	
0	O.B.	10	DO	SPARE	
0	O.B.	11	DO	SPARE	
0	O.B.	0	DI	LS NO.1 WET WELL HIGH LEVEL	
0	O.B.	1	DI	LS NO.1 WET WELL LOW LEVEL	
0	O.B.	2	DI	LS NO.1 WASTEWATER PUMP NO.1 SEAL FAIL	
0	O.B.	3	DI	LS NO.1 WASTEWATER PUMP NO.1 MOTOR HIGH TEMPERATURE	
0	O.B.	4	DI	LS NO.1 WASTEWATER PUMP NO.1 HAND	
0	O.B.	5	DI	LS NO.1 WASTEWATER PUMP NO.1 AUTO	
0	O.B.	6	DI	LS NO.1 WASTEWATER PUMP NO.2 SEAL FAIL	
0	O.B.	7	DI	LS NO.1 WASTEWATER PUMP NO.2 MOTOR HIGH TEMPERATURE	
0	O.B.	8	DI	LS NO.1 WASTEWATER PUMP NO.2 HAND	
0	O.B.	9	DI	LS NO.1 WASTEWATER PUMP NO.2 AUTO	
0	O.B.	10	DI	LS NO.1 EFFLUENT FLOW TOTAL	
0	O.B.	11	DI	LS NO.1 FLOW METER VAULT FLOOD	
0	O.B.	12	DI	SPARE	
0	O.B.	13	DI	SPARE	
0	O.B.	14	DI	SPARE	
0	O.B.	15	DI	SPARE	
0	O.B.	16	DI	SPARE	
0	O.B.	17	DI	SPARE	
0	O.B.	18	DI	SPARE	
0	O.B.	19	DI	SPARE	
0	1	0	AI	LS NO.1 WET WELL LEVEL	
0	1	1	AI	LS NO.1 EFFLUENT FLOW RATE	
0	1	2	AI	HOLDING BASIN LEVEL	
0	1	3	AI	SPARE	

NOTES:

ADMINISTRATION/GARAGE FACILITY CONTROL PANEL 10-MCP-1 I-O SCHEDULE					
RACK	SLOT	POINT	TYPE	DESCRIPTION	NOTES
0	0	N/A	N/A	A-B COMPACT LOGIX PROCESSOR	
0	1	N/A	N/A	A-B COMPACT LOGIX POWER SUPPLY	
0	2	0	DI	SPARE	
0	2	1	DI	AERATION BLOWER NO.1 AFD FAULT	
0	2	2	DI	AERATION BLOWER NO.1 RUN	
0	2	3	DI	AERATION BLOWER NO.1 REMOTE CONTROL AVAILABLE	
0	2	4	DI	AERATION BLOWER NO.1 HIGH MOTOR TEMPERATURE	
0	2	5	DI	AERATION BLOWER NO.1 HIGH AIR TEMPERATURE	
0	2	6	DI	AERATION BLOWER NO.2 AFD FAULT	
0	2	7	DI	AERATION BLOWER NO.2 RUN	
0	2	8	DI	AERATION BLOWER NO.2 REMOTE CONTROL AVAILABLE	
0	2	9	DI	AERATION BLOWER NO.2 HIGH MOTOR TEMPERATURE	
0	2	10	DI	AERATION BLOWER NO.2 HIGH AIR TEMPERATURE	
0	2	11	DI	SPARE	
0	2	12	DI	10-MCP-1 CONTROL PANEL HIGH TEMPERATURE	
0	2	13	DI	10-MCP-1 CONTROL PANEL LOW TEMPERATURE	
0	2	14	DI	10-MCP-1 CONTROL POWER FAIL	
0	2	15	DI	10-MCP-1 UPS FAIL	
0	3	0	DI	LS NO.1 WASTEWATER PUMP NO.1 AFD FAULT	
0	3	1	DI	LS NO.1 WASTEWATER PUMP NO.1 RUN	
0	3	2	DI	LS NO.1 WASTEWATER PUMP NO.1 REMOTE CONTROL AVAILABLE	
0	3	3	DI	LS NO.1 WASTEWATER PUMP NO.2 AFD FAULT	
0	3	4	DI	LS NO.1 WASTEWATER PUMP NO.2 RUN	
0	3	5	DI	LS NO.1 WASTEWATER PUMP NO.2 REMOTE CONTROL AVAILABLE	
0	3	6	DI	SPARE	
0	3	7	DI	SPARE	
0	3	8	DI	SPARE	
0	3	9	DI	SPARE	
0	3	10	DI	SPARE	
0	3	11	DI	SPARE	
0	3	12	DI	SPARE	
0	3	13	DI	SPARE	
0	3	14	DI	SPARE	
0	3	15	DI	SPARE	
0	4	0	DO	AERATION BLOWER NO.1 REQUIRED	
0	4	1	DO	AERATION BLOWER NO.2 REQUIRED	
0	4	2	DO	LS NO.1 WASTEWATER PUMP NO.1 REQUIRED	
0	4	3	DO	LS NO.1 WASTEWATER PUMP NO.2 REQUIRED	
0	4	4	DO	PLC ACTIVITY	
0	4	5	DO	SPARE	
0	4	6	DO	SPARE	
0	4	7	DO	SPARE	
0	4	8	DO	SPARE	
0	4	9	DO	SPARE	
0	4	10	DO	SPARE	
0	4	11	DO	SPARE	
0	4	12	DO	SPARE	
0	4	13	DO	SPARE	
0	4	14	DO	SPARE	
0	4	15	DO	SPARE	
0	5	0	AI	SPARE	
0	5	1	AI	SPARE	
0	5	2	AI	SPARE	
0	5	3	AI	SPARE	
0	6	N/A	N/A	PROSOFT TECHNOLOGY SERIAL COMMUNICATION MODULE	
0	7	N/A	N/A	PROSOFT TECHNOLOGY SERIAL COMMUNICATION MODULE	

NOTES:

LS NO.2 CONTROL PANEL 20-LSCP-1 I-O SCHEDULE					
RACK	SLOT	POINT	TYPE	DESCRIPTION	NOTES
0	0	N/A	N/A	A-B COMPACT LOGIX PROCESSOR	
0	1	N/A	N/A	A-B COMPACT LOGIX POWER SUPPLY	
0	2	0	DO	LS NO.2 WASTEWATER PUMP NO.1 REQUIRED	
0	2	1	DO	LS NO.2 WASTEWATER PUMP NO.1 RESET	
0	2	2	DO	LS NO.2 WASTEWATER PUMP NO.2 REQUIRED	
0	2	3	DO	LS NO.2 WASTEWATER PUMP NO.2 RESET	
0	2	4	DO	20-LSCP-1 PLC SCAN FAIL TIMER RESET	
0	2	5	DO	SPARE	
0	2	6	DO	SPARE	
0	2	7	DO	SPARE	
0	2	8	DO	SPARE	
0	2	9	DO	SPARE	
0	2	10	DO	SPARE	
0	2	11	DO	SPARE	
0	2	12	DO	SPARE	
0	2	13	DO	SPARE	
0	2	14	DO	SPARE	
0	2	15	DO	SPARE	
0	3	0	DI	LS NO.2 WET WELL HIGH LEVEL	
0	3	1	DI	LS NO.2 WET WELL LOW LEVEL	
0	3	2	DI	LS NO.2 WASTEWATER PUMP NO.1 SEAL FAIL	
0	3	3	DI	LS NO.2 WASTEWATER PUMP NO.1 HIGH MOTOR TEMPERATURE	
0	3	4	DI	LS NO.2 WASTEWATER PUMP NO.1 AFD FAULT	
0	3	5	DI	LS NO.2 WASTEWATER PUMP NO.1 RUN	
0	3	6	DI	LS NO.2 WASTEWATER PUMP NO.1 REMOTE CONTROL AVAILABLE	
0	3	7	DI	LS NO. BACKUP PUMP ON	
0	3	8	DI	20-LSCP-1 PANEL HIGH TEMPERATURE	
0	3	9	DI	20-LSCP-1 PANEL LOW TEMPERATURE	
0	3	10	DI	20-LSCP-1 UPS FAIL	
0	3	11	DI	20-LSCP-1 CONTROL POWER FAIL	
0	3	12	DI	SPARE	
0	3	13	DI	SPARE	
0	3	14	DI	SPARE	
0	3	15	DI	SPARE	
0	4	0	DI	LS NO.2 WASTEWATER PUMP NO.2 SEAL FAIL	
0	4	1	DI	LS NO.2 WASTEWATER PUMP NO.2 HIGH MOTOR TEMPERATURE	
0	4	2	DI	LS NO.2 WASTEWATER PUMP NO.2 AFD FAULT	
0	4	3	DI	LS NO.2 WASTEWATER PUMP NO.2 RUN	
0	4	4	DI	LS NO.2 WASTEWATER PUMP NO.2 REMOTE CONTROL AVAILABLE	
0	4	5	DI	SPARE	
0	4	6	DI	SPARE	
0	4	7	DI	SPARE	
0	4	8	DI	SPARE	
0	4	9	DI	SPARE	
0	4	10	DI	SPARE	
0	4	11	DI	SPARE	
0	4	12	DI	SPARE	
0	4	13	DI	SPARE	
0	4	14	DI	SPARE	
0	4	15	DI	SPARE	
0	5	0	AI	LS NO.2 WET WELL LEVEL	
0	5	1	AI	SPARE	
0	5	2	AI	SPARE	
0	5	3	AI	SPARE	
0	6	0	AO	LS NO.2 WASTEWATER PUMP NO.1 SPEED COMMAND	
0	6	1	AO	LS NO.2 WASTEWATER PUMP NO.2 SPEED COMMAND	
0	6	2	AO	SPARE	
0	6	3	AO	SPARE	
0	7	N/A	N/A	PROSOFT TECHNOLOGY SERIAL COMMUNICATION MODULE	
0	8	N/A	N/A	PROSOFT TECHNOLOGY SERIAL COMMUNICATION MODULE	

NOTES:

LS NO.3 CONTROL PANEL 30-LSCP-1 I-O SCHEDULE (PARTIAL)					
RACK	SLOT	POINT	TYPE	DESCRIPTION	NOTES
0	0	N/A	N/A	A-B COMPACT LOGIX PROCESSOR	
0	1	N/A	N/A	A-B COMPACT LOGIX POWER SUPPLY	
0	2	0	DO	LS NO.3 WASTEWATER PUMP NO.1 REQUIRED	
0	2	1	DO	LS NO.3 WASTEWATER PUMP NO.1 RESET	
0	2	2	DO	LS NO.3 WASTEWATER PUMP NO.2 REQUIRED	
0	2	3	DO	LS NO.3 WASTEWATER PUMP NO.2 RESET	
0	2	4	DO	30-LSCP-1 PLC SCAN FAIL TIMER RESET	
0	2	5	DO	SPARE	
0	2	6	DO	SPARE	
0	2	7	DO	SPARE	
0	2	8	DO	SPARE	
0	2	9	DO	SPARE	
0	2	10	DO	SPARE	
0	2	11	DO	SPARE	
0	2	12	DO	SPARE	
0	2	13	DO	SPARE	
0	2	14	DO	SPARE	
0	2	15	DO	SPARE	
0	3	0	DI	LS NO.3 WET WELL HIGH LEVEL	
0	3	1	DI	LS NO.3 WET WELL LOW LEVEL	
0	3	2	DI	LS NO.3 WASTEWATER PUMP NO.1 SEAL FAIL	
0	3	3	DI	LS NO.3 WASTEWATER PUMP NO.1 HIGH MOTOR TEMPERATURE	
0	3	4	DI	LS NO.3 WASTEWATER PUMP NO.1 FAULT	
0	3	5	DI	LS NO.3 WASTEWATER PUMP NO.1 RUN	
0	3	6	DI	LS NO.3 WASTEWATER PUMP NO.1 REMOTE CONTROL AVAILABLE	
0	3	7	DI	LS NO.3 BACKUP PUMP ON	
0	3	8	DI	30-LSCP-1 PANEL HIGH TEMPERATURE	
0	3	9	DI	30-LSCP-1 PANEL LOW TEMPERATURE	
0	3	10	DI	30-LSCP-1 UPS FAIL	
0	3	11	DI	30-LSCP-1 CONTROL POWER FAIL	
0	3	12	DI	SPARE	
0	3	13	DI	SPARE	
0	3	14	DI	SPARE	
0	3	15	DI	SPARE	

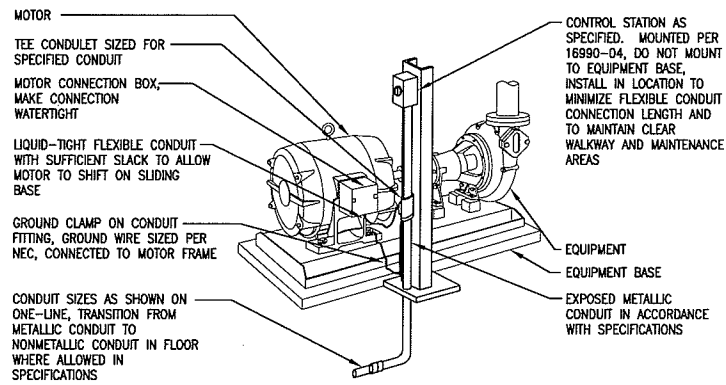
NOTES:

LS NO.3 CONTROL PANEL 30-LSCP-1 I-O SCHEDULE (CONTINUED)					
RACK	SLOT	POINT	TYPE	DESCRIPTION	NOTES
0	4	0	DI	LS NO.3 WASTEWATER PUMP NO.2 SEAL FAIL	
0	4	1	DI	LS NO.3 WASTEWATER PUMP NO.2 HIGH MOTOR TEMPERATURE	
0	4	2	DI	LS NO.3 WASTEWATER PUMP NO.2 FAULT	
0	4	3	DI	LS NO.3 WASTEWATER PUMP NO.2 RUN	
0	4	4	DI	LS NO.3 WASTEWATER PUMP NO.2 REMOTE CONTROL AVAILABLE	
0	4	5	DI	SPARE	
0	4	6	DI	SPARE	
0	4	7	DI	SPARE	
0	4	8	DI	SPARE	
0	4	9	DI	SPARE	
0	4	10	DI	SPARE	
0	4	11	DI	SPARE	
0	4	12	DI	SPARE	
0	4	13	DI	SPARE	
0	4	14	DI	SPARE	
0	4	15	DI	SPARE	
0	5	0	AI	LS NO.3 WET WELL LEVEL	
0	5	1	AI	SPARE	
0	5	2	AI	SPARE	
0	5	3	AI	SPARE	
0	6	N/A	N/A	PROSOFT TECHNOLOGY SERIAL COMMUNICATION MODULE	
0	7	N/A	N/A	PROSOFT TECHNOLOGY SERIAL COMMUNICATION MODULE	

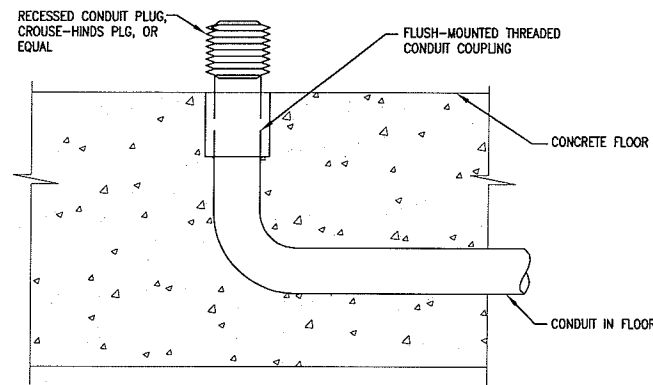
NOTES:

LS NO.4 CONTROL PANEL 40-LSCP-1 I-O SCHEDULE					
RACK	SLOT	POINT	TYPE	DESCRIPTION	NOTES
0	0	N/A	N/A	A-B COMPACT LOGIX PROCESSOR	
0	1	N/A	N/A	A-B COMPACT LOGIX POWER SUPPLY	
0	2	0	DO	LS NO.4 WASTEWATER PUMP NO.1 REQUIRED	
0	2	1	DO	LS NO.4 WASTEWATER PUMP NO.1 RESET	
0	2	2	DO	LS NO.4 WASTEWATER PUMP NO.2 REQUIRED	
0	2	3	DO	LS NO.4 WASTEWATER PUMP NO.2 RESET	
0	2	4	DO	40-LSCP-1 PLC SCAN FAIL TIMER RESET	
0	2	5	DO	SPARE	
0	2	6	DO	SPARE	
0	2	7	DO	SPARE	
0	2	8	DO	SPARE	
0	2	9	DO	SPARE	
0	2	10	DO	SPARE	
0	2	11	DO	SPARE	
0	2	12	DO	SPARE	
0	2	13	DO	SPARE	
0	2	14	DO	SPARE	
0	2	15	DO	SPARE	
0	3	0	DI	LS NO.4 WET WELL HIGH LEVEL	
0	3	1	DI	LS NO.4 WET WELL LOW LEVEL	
0	3	2	DI	LS NO.4 WASTEWATER PUMP NO.1 SEAL FAIL	
0	3	3	DI	LS NO.4 WASTEWATER PUMP NO.1 HIGH MOTOR TEMPERATURE	
0	3	4	DI	LS NO.4 WASTEWATER PUMP NO.1 FAULT	
0	3	5	DI	LS NO.4 WASTEWATER PUMP NO.1 RUN	
0	3	6	DI	LS NO.4 WASTEWATER PUMP NO.1 REMOTE CONTROL AVAILABLE	
0	3	7	DI	LS NO.4 BACKUP PUMP ON	
0	3	8	DI	40-LSCP-1 PANEL HIGH TEMPERATURE	
0	3	9	DI	40-LSCP-1 PANEL LOW TEMPERATURE	
0	3	10	DI	40-LSCP-1 UPS FAIL	
0	3	11	DI	40-LSCP-1 CONTROL POWER FAIL	
0	3	12	DI	SPARE	
0	3	13	DI	SPARE	
0	3	14	DI	SPARE	
0	3	15	DI	SPARE	
0	4	0	DI	LS NO.4 WASTEWATER PUMP NO.2 SEAL FAIL	
0	4	1	DI	LS NO.4 WASTEWATER PUMP NO.2 HIGH MOTOR TEMPERATURE	
0	4	2	DI	LS NO.4 WASTEWATER PUMP NO.2 FAULT	
0	4	3	DI	LS NO.4 WASTEWATER PUMP NO.2 RUN	
0	4	4	DI	LS NO.4 WASTEWATER PUMP NO.2 REMOTE CONTROL AVAILABLE	
0	4				

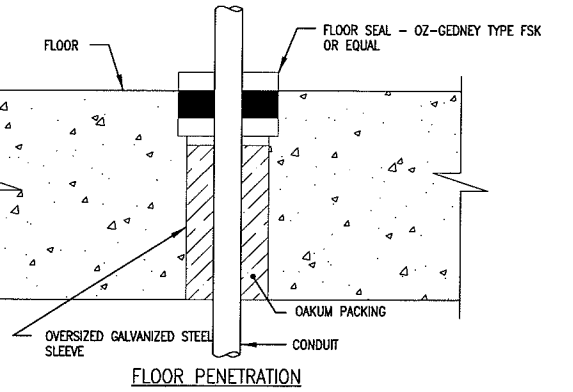
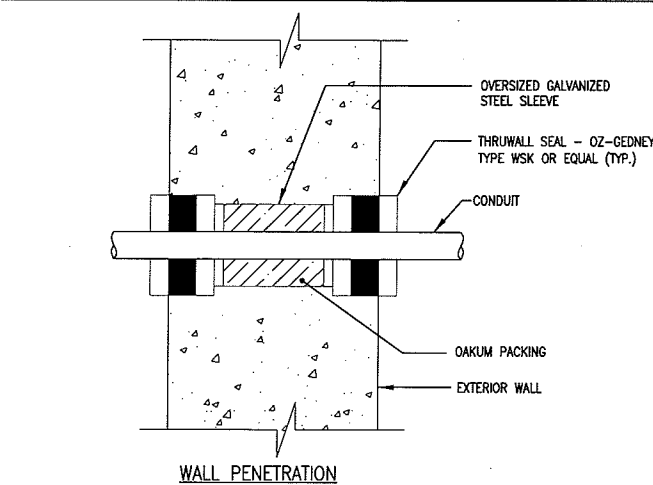




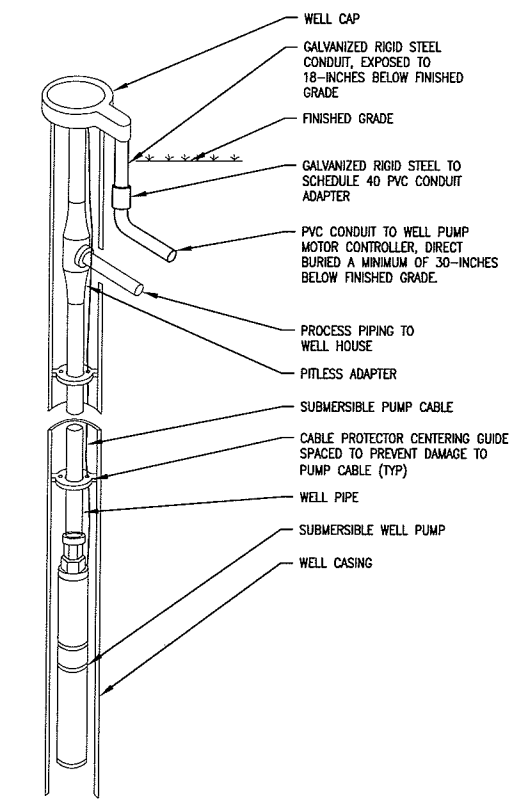
26 11 02 EQUIPMENT CONNECTION WITH CONCEALED CONDUIT  
NTS



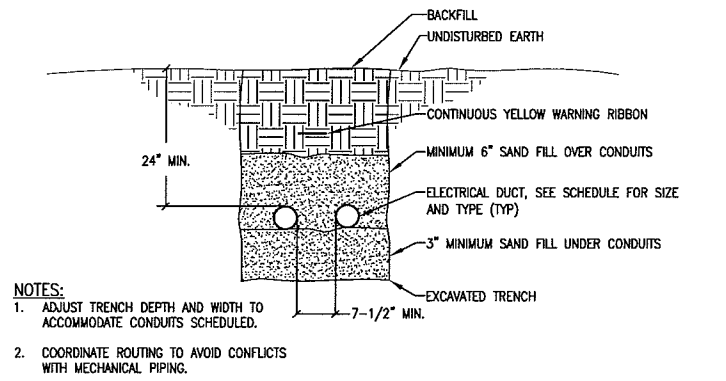
26 11 04 IN-FLOOR CONDUIT FUTURE EQUIPMENT  
NTS



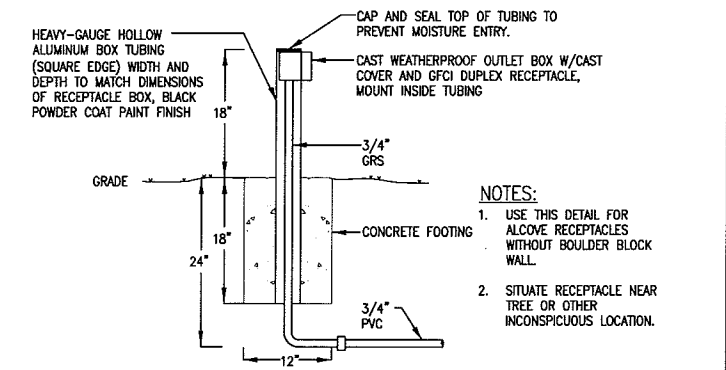
26 11 10 CONDUIT/WALL PENETRATION  
NTS



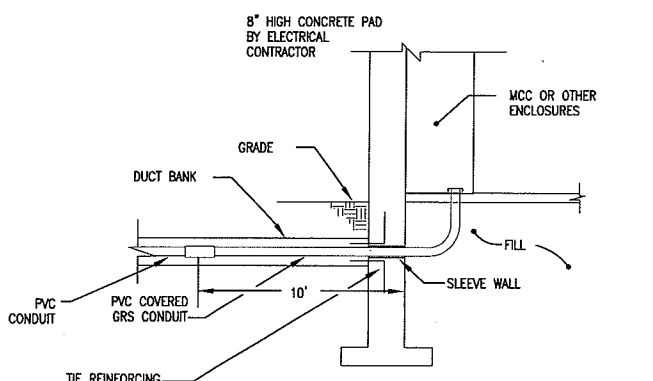
26 11 12 PITLESS ADAPTER WELL PUMP ELECTRICAL INSTALLATION  
NTS



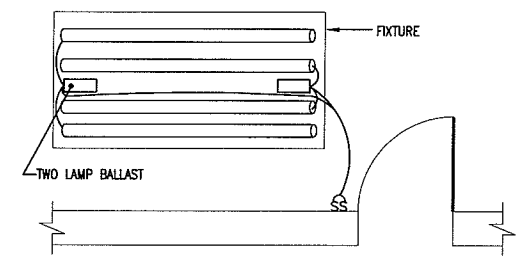
26 18 05 DIRECT BURIED UNDERGROUND CONDUIT  
NTS



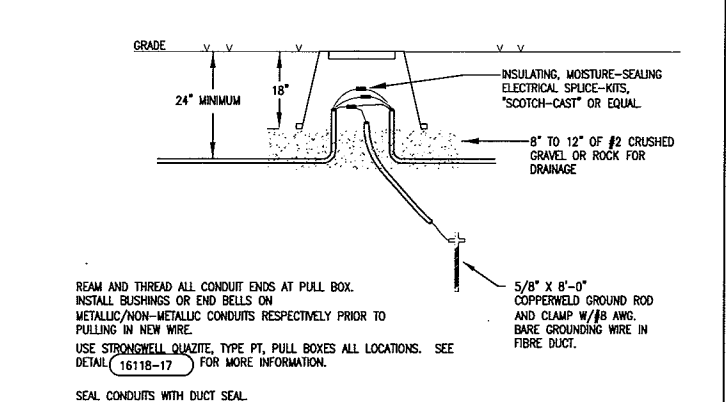
26 18 50 PEDESTAL RECEPTACLE INSTALLATION DETAIL  
NTS



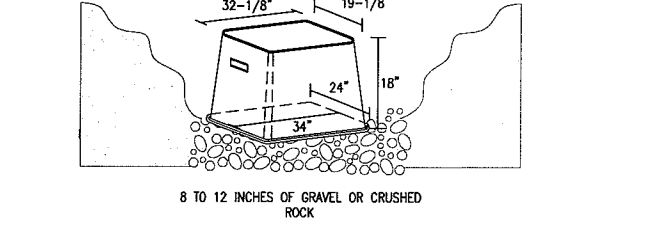
26 20 01 FLUORESCENT FIXTURE PENDANT MOUNTING  
NTS



26 20 04 FOUR LAMP FIXTURE INSTALLATION  
NTS

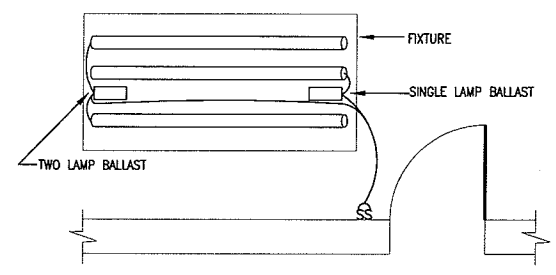


26 18 15 EXTERIOR PULL BOX INSTALLATION  
NTS

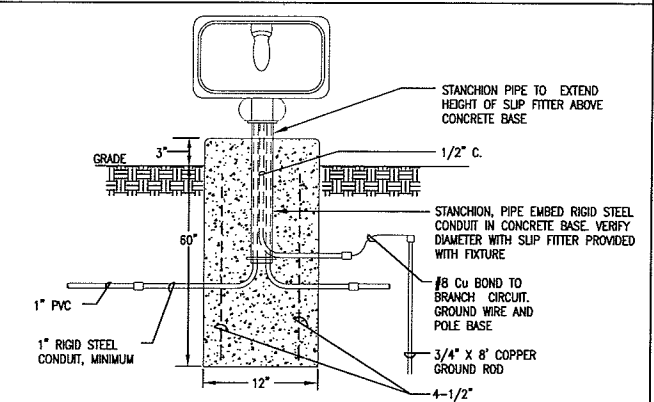


NOTES:  
1. USE QUAZITE TYPE PT PREFABRICATED PULL-BOX MINIMUM DIMENSIONS AS SHOWN. SIZE BOX LARGER AS REQUIRED TO ACCOMMODATE TOTAL NUMBER OF SPLICES AT EACH PULL-BOX LOCATION.  
2. USE QUAZITE PREFABRICATED COVER WITH STAINLESS STEEL BOLTS FOR TYPE PT PULL-BOX SHOWN. COVER MINIMUM DIMENSIONS AS SHOWN. SIZE LARGER AS REQUIRED FOR LARGER BOX.

26 18 18 PULL BOX ASSEMBLY  
NTS



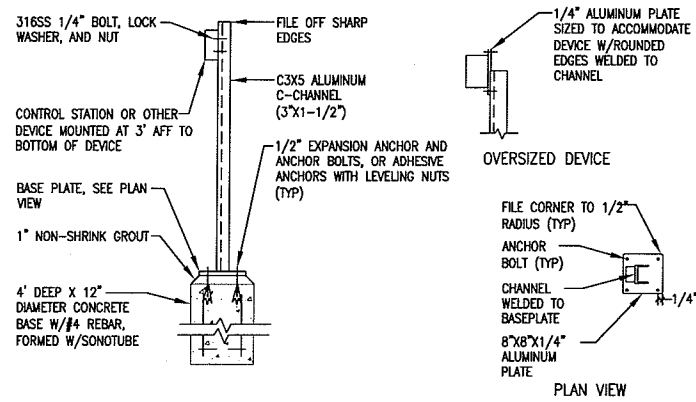
26 20 03 THREE LAMP FIXTURE INSTALLATION  
NTS



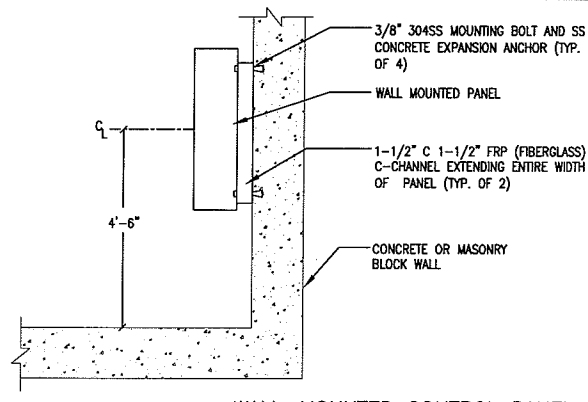
26 30 02 GROUND MOUNTED FIXTURE BASE  
NTS

PLOT TIME: 12:57pm  
 FILEPATH: N:\Parkland Sanitary District, 2009\02\Muermann Drawings\Electrical\E-18 Typical Details - Electrical.dwg

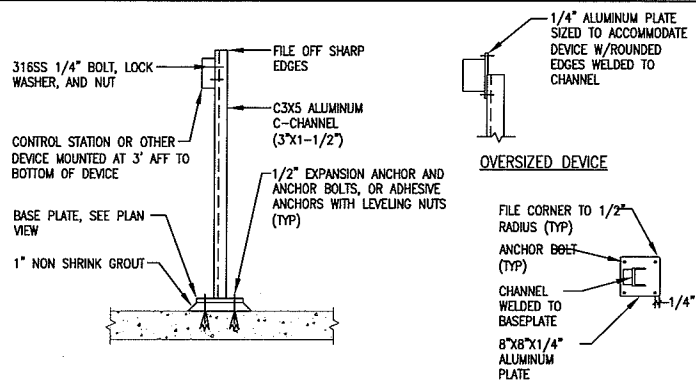
TRANSPORTATION - MUNICIPAL  
 DEVELOPMENT - ENVIRONMENTAL  
 301 West First Street Duluth, MN 55802  
 218-722-3915 1-800-777-1380 Fax: 218-722-4548  
 © MSA PROFESSIONAL SERVICES  
**MSA**  
 PROFESSIONAL SERVICES  
 PROJECT NO.: 00626000  
 DATE: OCTOBER 2009  
 SCALE: AS SHOWN  
 DRAWN BY: JLG  
 CHECKED BY: SRC  
 DATE: XXXX  
 REVISION: \_\_\_\_\_  
 FILE NO.: 626-001  
 SHEET: E-18



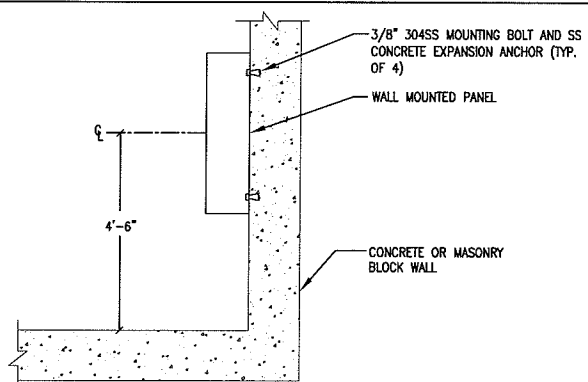
26 90 04 EXTERIOR PEDESTAL MOUNTED DEVICE NTS



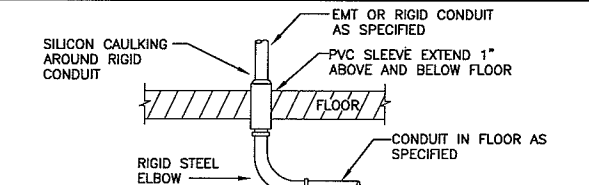
26 80 03 WALL-MOUNTED CONTROL PANEL INSTALLATION (EXTERIOR WALL) NTS



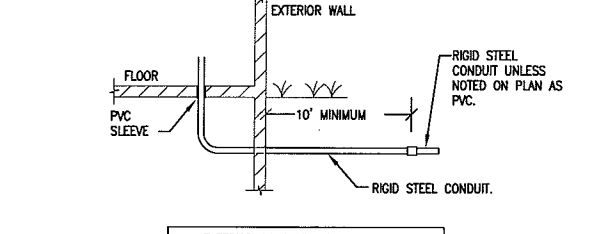
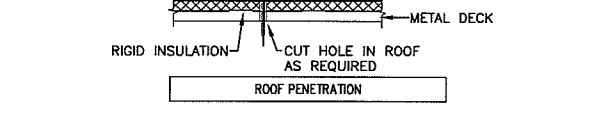
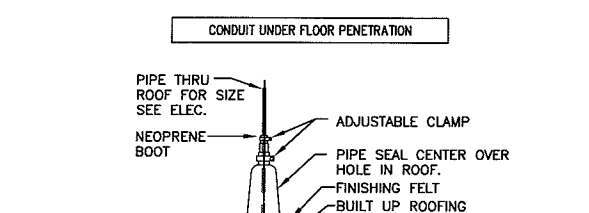
26 90 03 INTERIOR PEDESTAL MOUNTED DEVICE NTS



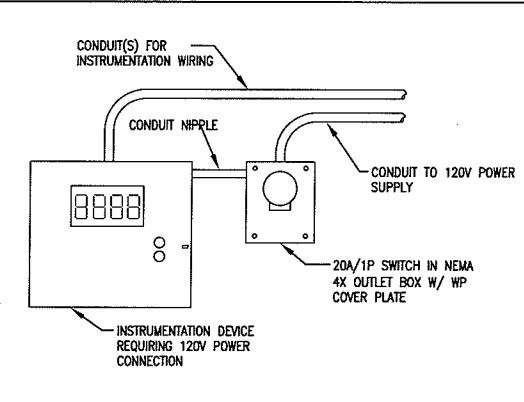
26 98 04 WALL-MOUNTED CONTROL PANEL INSTALLATION (INTERIOR WALL) NTS



NOTES:  
 1. E.C. MAY USE PVC COATED RIGID STEEL CONDUIT IN LIEU OF RIGID CONDUIT AND PVC SLEEVE.  
 2. PVC SLEEVE TO BE AS SNUG AS POSSIBLE ON RIGID CONDUIT.

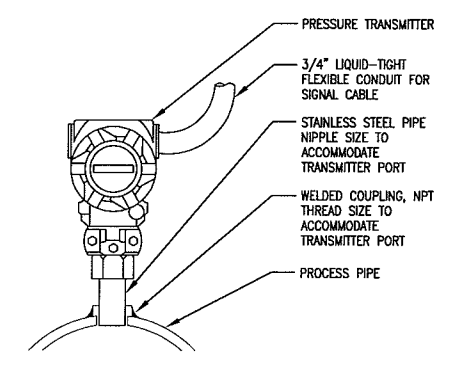


26 11 07 CONDUIT ROUTING DETAIL NTS

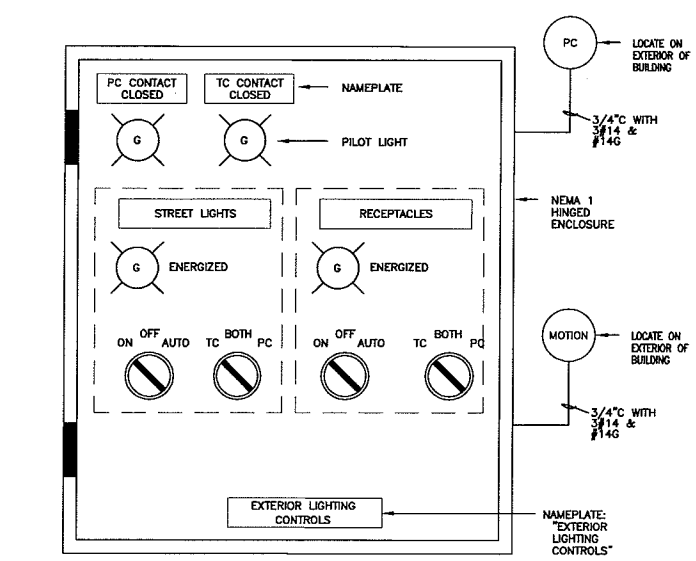


26 90 05 FIELD INSTRUMENT 120V POWER CONNECTION NTS

NOTES:  
 1. DIRECT-MOUNTING SUITABLE FOR POTABLE WATER OR AIR SERVICE ONLY.  
 2. COORDINATE PIPE FITTING REQUIREMENTS WITH MANUFACTURER.

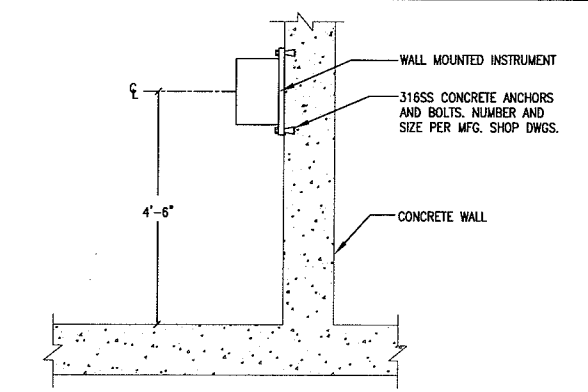


26 93 51 PRESSURE TRANSMITTER DIRECT-MOUNTED INSTALLATION NTS

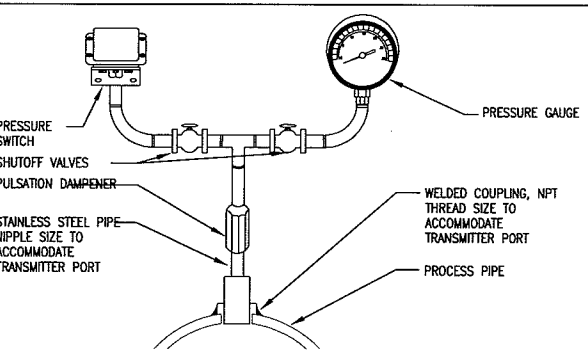


COMPONENTS:  
 TIMECLOCK: PARAGON EL72/120 ELECTRONIC SEVEN DAY  
 PHOTOCONTROL: INTERMATIC-K4221 ON NORTH SIDE OF PEDESTAL.  
 CONTACTORS: "SQUARE D" 8903-L040-V02 MINIMUM CONFIGURATION, PROVIDE ADDITIONAL CONTACTOR POLES IF REQUIRED.  
 PILOT LIGHTS: 120 VOLT LED TYPE. PROVIDE ENGRAVED LABELS AS INDICATED ON DRAWINGS.  
 3-POSITION SWITCHES: CENTER OFF TYPE, HEAVY DUTY SELECTOR SWITCH. PROVIDE ENGRAVED LABEL FOR EACH SWITCH AS INDICATED.

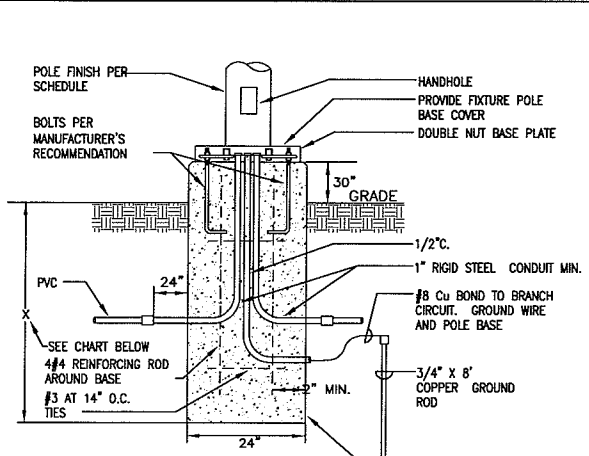
26 52 02 EXT. LIGHTING CONTROL PANEL DETAIL NTS



26 99 01 WALL-MOUNTED INSTRUMENT INSTALLATION NTS

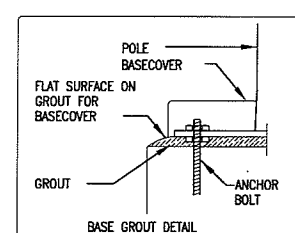


26 90 04 PRESSURE SWITCH/GAUGE INSTALLATION NTS



NOTES:  
 1. IN UNDISTURBED EARTH, EXCLUDING FILL MATERIAL, A 2'-0" DIA. HOLE WHICH SHALL BE USED AS THE FORM FOR THE CONCRETE BASE SHALL BE DRILLED.  
 2. IN EXCAVATED AREAS OR IN EXISTING SOIL CONTAINING FILL OF OBJECTIONABLE MATERIAL, BACKFILL AROUND CONCRETE BASE WITH COMPACTED GRANULAR BACKFILL A MIN. OF 2'-0" IN ALL DIRECTIONS.

POLE HEIGHT IN FEET	BASE DEPTH IN INCHES BELOW GRADE
10'-0"	X = 60" (INCHES)
15'-0"	X = 60" (INCHES)
20'-0"	X = 60" (INCHES)
25'-0"	X = 72" (INCHES)
30'-0"	X = 72" (INCHES)
35'-0"	X = 72" (INCHES)
40'-0"	X = 96" (INCHES)
45'-0"	X = 96" (INCHES)
50'-0"	X = 108" (INCHES)



26 52 10 EXTERIOR MOUNTED FIXTURE BASE DETAIL NTS

FILE TIME: 12:58pm  
 FILEPATH: N:\Parkland Sanitary District 2009502\Muermann Drawings\Electrical\19 Typical Details - Electrical.dwg

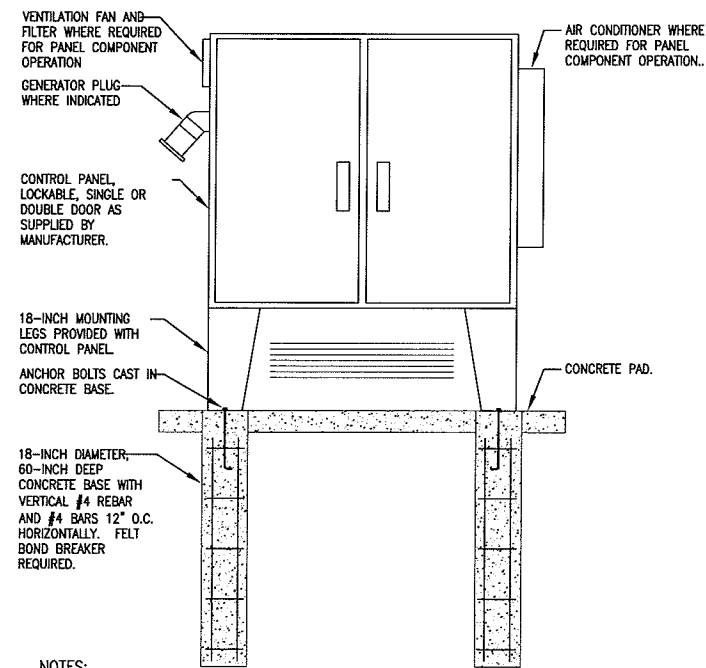
TRANSPORTATION - MUNICIPAL  
 DEVELOPMENT - ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-725-3915 FAX: 218-725-4548  
 © USA PROFESSIONAL SERVICES

**MSA**  
 PROFESSIONAL SERVICES

PROJECT NO. 00626000  
 DATE: OCTOBER 2009  
 SCALE: AS SHOWN

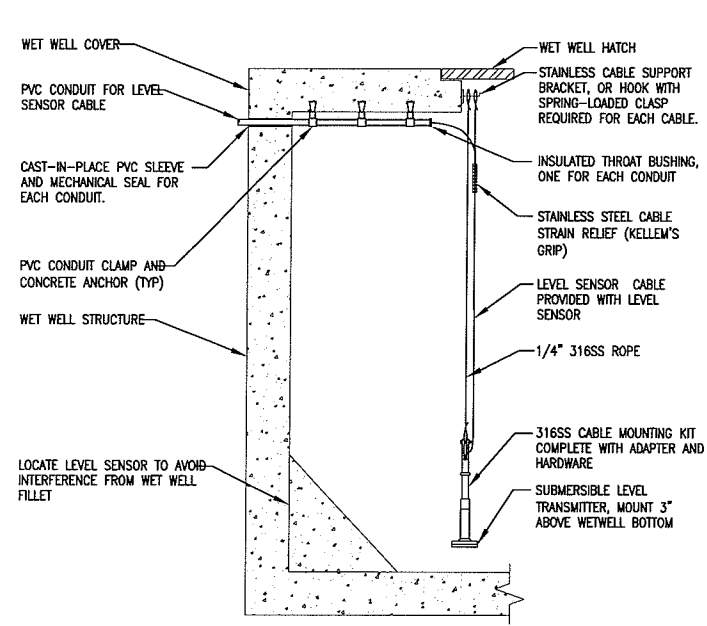
PARKLAND SANITARY DISTRICT NO. 1  
 WASTEWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

FILE NO. 626-001  
 SHEET E-19



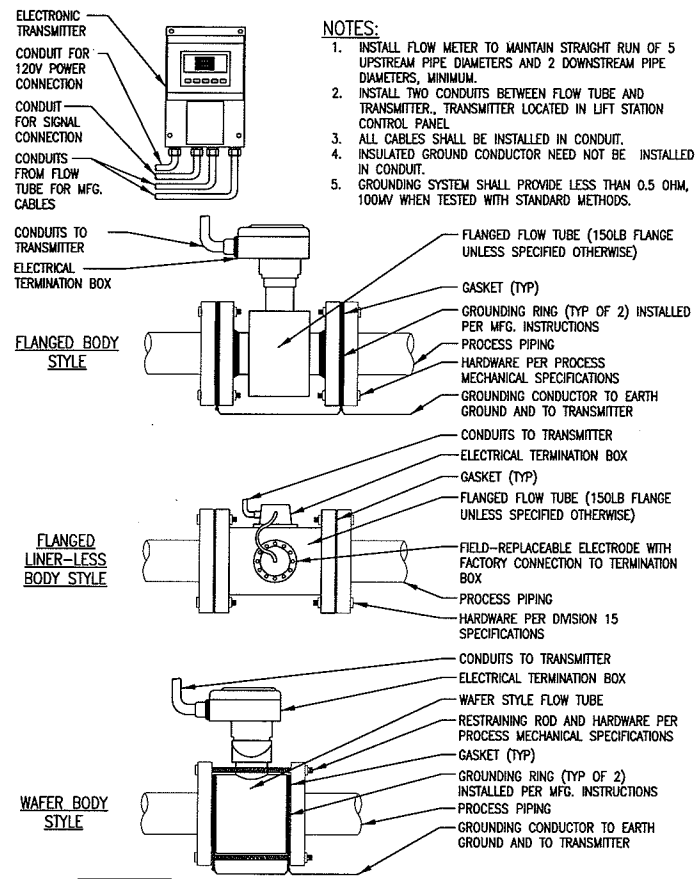
- NOTES:
1. REFER TO SITE PLAN FOR LOCATION AND ORIENTATION.
  2. ALL HARDWARE SHALL BE CONSTRUCTED OF STAINLESS STEEL.

26 13 01 LIFT STATION CONTROL PANEL INSTALLATION NTS

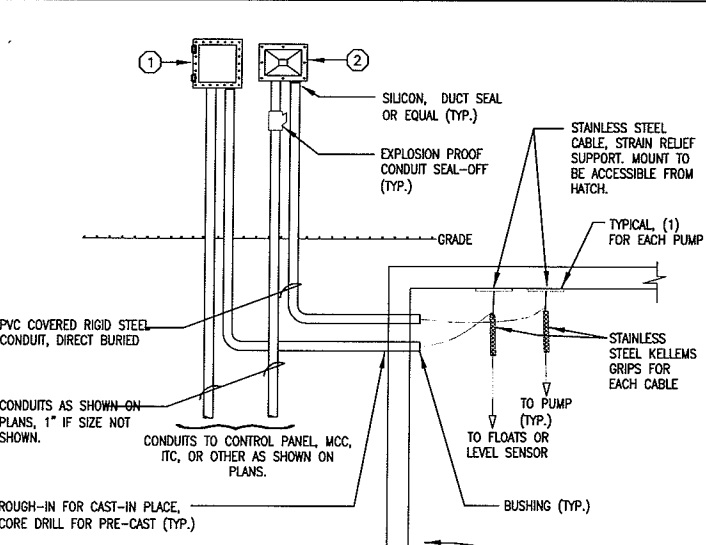


- NOTES:
1. INSTALL LEVEL SENSOR IN LOCATION WHERE, SUSPENSION HOOKS, CABLES, AND CONDUIT ENDS ARE ACCESSIBLE FROM THE WET WELL HATCH WITHOUT ENTERING THE WET WELL.
  2. CONNECT LEVEL SENSOR BREATHING TUBE (IF PROVIDED) PER MANUFACTURER'S INSTRUCTIONS.
  3. PROVIDED SUFFICIENT SLACK CABLE, COILED AND SUSPENDED FROM HOOK, TO ALLOW ADJUSTMENT +/- 3 FT. FROM SPECIFIED ELEVATION.

26 90 15 SUBMERSIBLE LEVEL TRANSMITTER INSTALLATION NTS



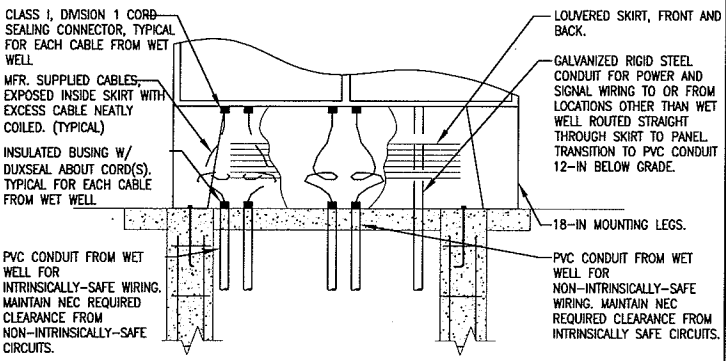
26 91 51 ELECTROMAGNETIC FLOW METER AND TRANSMITTER INSTALLATION NTS



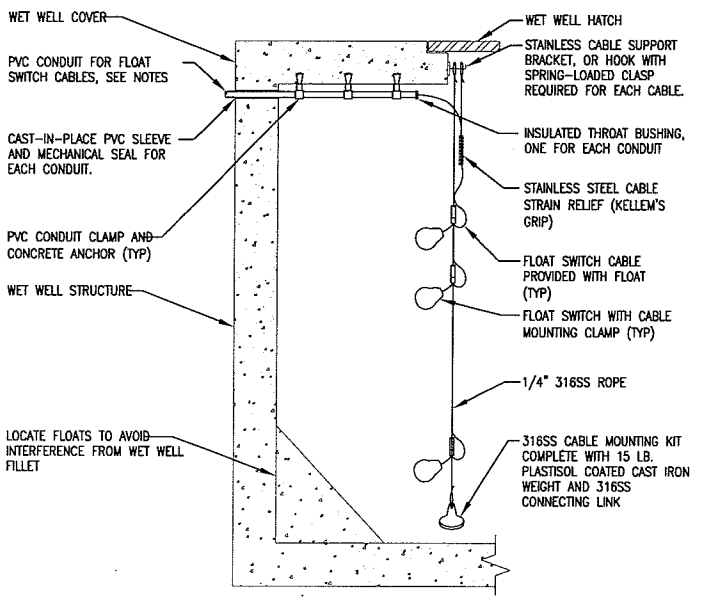
- GENERAL NOTES:
1. SPLICE ALL WIRES IN J-BOXES.
  2. LOCATE CONTROL PANEL/J-BOX MINIMUM OF 3 FEET FROM STATIC VENT. ONE CONDUIT FOR EACH PUMP POWER CABLE, SIZE PER ONE-LINE.
  3. CONDUIT(S) FOR LEVEL SENSING EQUIPMENT, SIZE AND QUANTITY PER DETAILS 16900-01 & 16900-51.
  4. MOUNT BOXES PER DETAIL AS SHOWN ON DRAWINGS.

- PLAN NOTES: (X)
1. GASKETED, WATERTIGHT J-BOX CROUSE-HINDS WJB OR EQUAL. BOX FOR INTRINSICALLY SAFE CIRCUIT WIRING (FLOATS, LEVEL SENSOR, ETC.). PROVIDE BONDING BUSHING ON ALL CONDUITS, BOND TO GROUNDING BUS. PROVIDE CONDENSATE DRAIN, CROUSE-HINDS ECD-384 OR EQUAL.
  2. HINGED, GASKETED, WATERTIGHT J-BOX SUITABLE FOR CLASS 1 DIVISION 1 ATMOSPHERE CROUSE-HINDS EJB OR EQUAL. BOX FOR PUMP POWER AND SENSOR CABLES. PROVIDE BONDING BUSHING ON ALL CONDUITS, BOND TO GROUNDING BUS. PROVIDE CONDENSATE DRAIN, CROUSE-HINDS ECD-384 OR EQUAL.

26 13 04 WET WELL JUNCTION BOXES NTS

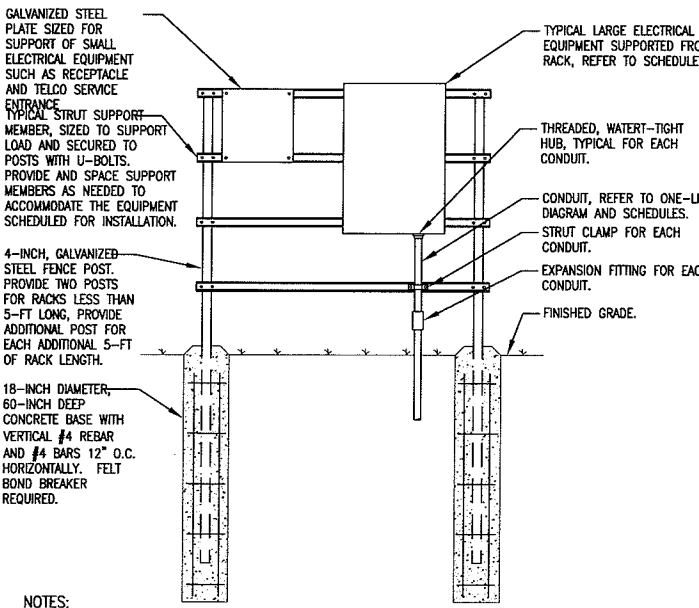


26 13 02 LIFT STATION CONTROL PANEL CABLE AND CONDUIT ENTRANCE INSTALLATION NTS



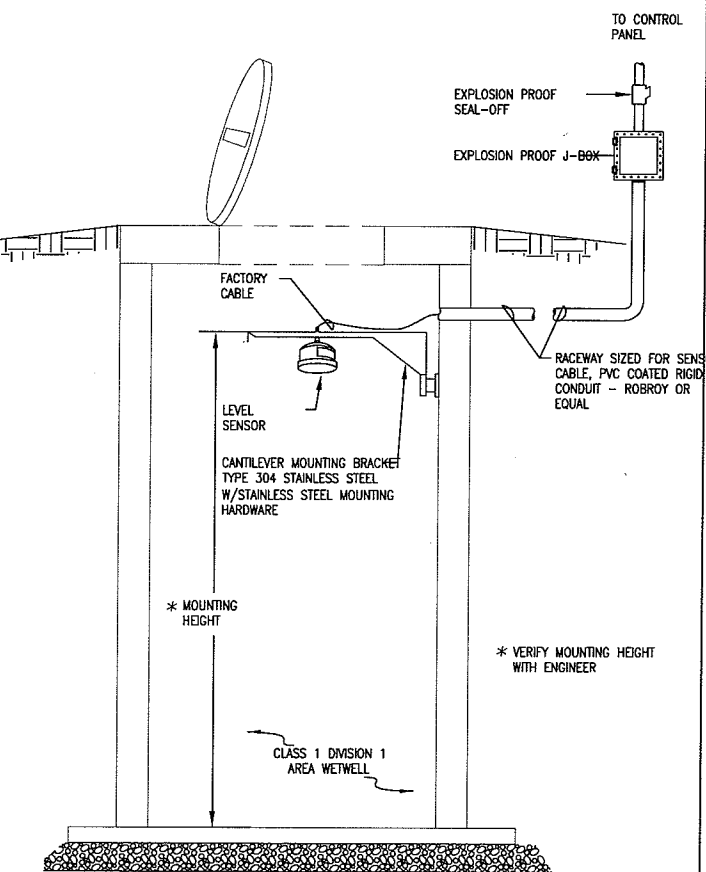
- NOTES:
1. INSTALL FLOAT SWITCHES IN LOCATION WHERE, SUSPENSION HOOKS, CABLES, AND CONDUIT ENDS ARE ALL ACCESSIBLE FROM THE WET WELL HATCH WITHOUT ENTERING THE WET WELL.
  2. INSTALL NO MORE THAN THREE FLOAT SWITCH CABLES IN EACH 2-1/2" CONDUIT. PROVIDE MULTIPLE CONDUITS IF MORE THAN THREE FLOATS ARE SPECIFIED.
  3. REFER TO PLANS AND SPECIFICATIONS FOR THE NUMBER OF FLOAT SWITCHES REQUIRED. ADJUST FLOAT SWITCH MOUNTING TO ACHIEVE ACTIVATION ELEVATIONS AS SPECIFIED, SHOWN ON PLANS, OR DIRECTED IN THE FIELD BY THE ENGINEER.
  4. FLOAT SWITCH GROUND CONDUCTOR SHALL BE SOLIDLY GROUNDING.
  5. PROVIDED SUFFICIENT SLACK CABLE, COILED AND SUSPENDED FROM HOOK, TO ALLOW ADJUSTMENT +/- 3 FT. FROM SPECIFIED ELEVATION.

26 90 01 CABLE SUSPENDED FLOAT SWITCH INSTALLATION NTS



- NOTES:
1. REFER TO SITE PLAN FOR LOCATION AND ORIENTATION.
  2. CONTRACTOR SHALL VERIFY THAT SELECTED COMPONENTS ARE SUITABLE FOR THE WEIGHT OF THE MOUNTED EQUIPMENT.
  3. SUPPORT MEMBERS SHALL BE CONSTRUCTED OF GALVANIZED STEEL. ALL HARDWARE SHALL BE CONSTRUCTED OF STAINLESS STEEL.
  4. THE FOLLOWING EQUIPMENT SHALL BE MOUNTED ON THE SUPPORT RACK:
    - UTILITY METER LOAD-BREAK SWITCH
    - UTILITY APPROVED SELF-CONTAINED METER SOCKET
    - SERVICE DISCONNECT SWITCH
    - AUTOMATIC TRANSFER SWITCH
    - EXTERNAL CONTROL POWER TRANSFORMER
    - EXTERIOR RECEPTACLE
    - TELEPHONE SERVICE

26 99 07 LIFT STATION ELECTRICAL EQUIPMENT RACK INSTALLATION NTS



26 90 06 LEVEL SENSOR WETWELL INSTALLATION NTS

PLAN TIME: 12:56pm  
 FILEPATH: N:\Parkland Sanitary District, 2009502\Muermann Drawings\Electrical\E-20 Typical Details - Electrical.dwg

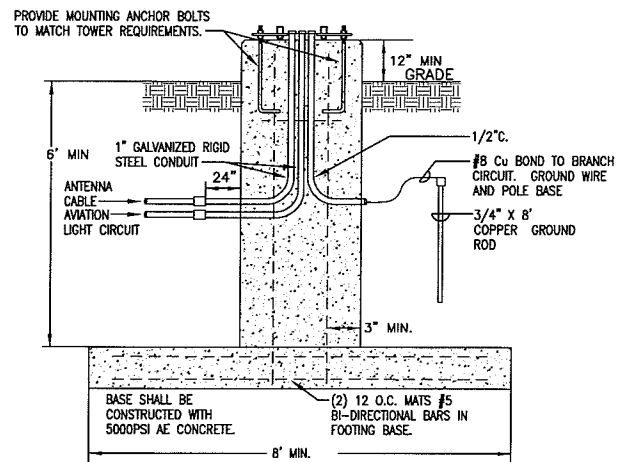
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL  
 301 West First Street, Duluth, MN 55802  
 218-722-9115 1-800-777-2300 Fax: 218-722-1448  
 O U.S. PROFESSIONAL SERVICES

**MSA**  
 PROFESSIONAL SERVICES

Typical Details - Electrical  
 PROJECT NO.: 00626000  
 DATE: OCTOBER 2009  
 SCALE: AS SHOWN  
 PARKLAND SANITARY DISTRICT NO.1  
 WAS TEAWATER COLLECTION SYSTEM  
 PARKLAND TOWNSHIP, DOUGLAS COUNTY, WISCONSIN

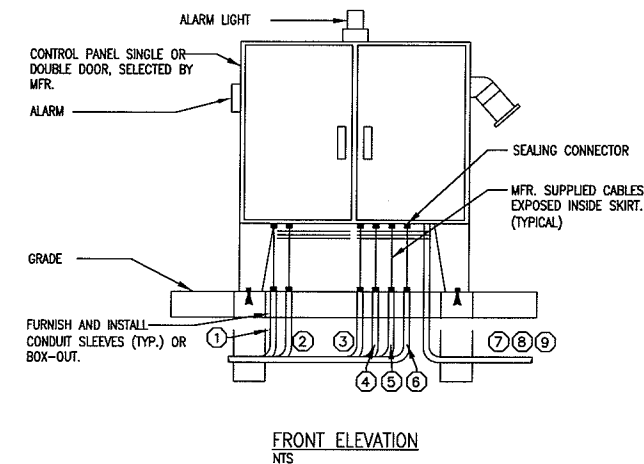
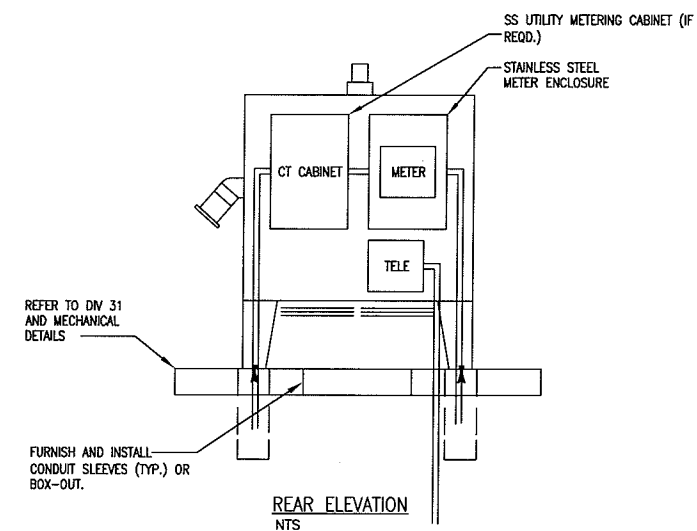
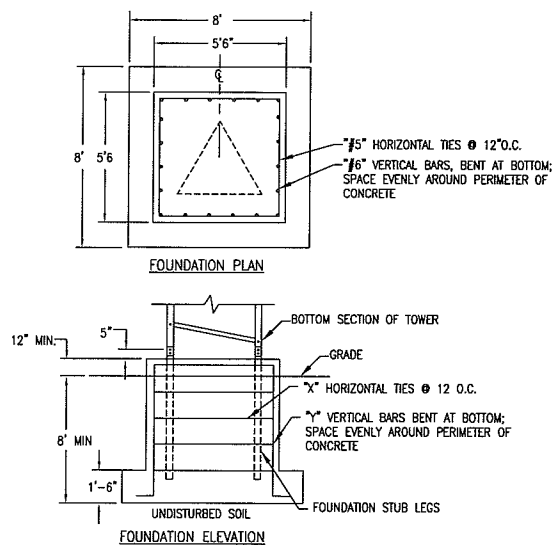
DATE: \_\_\_\_\_  
 NO.: \_\_\_\_\_  
 E.B. XXX  
 DRAWN BY: JLG  
 CHECKED BY: SRC

SHEET  
 E-20



- NOTES**
1. DETAIL SHOWS MINIMUM PROJECT REQUIREMENTS. CONTRACTOR AND TOWER MANUFACTURER SHALL ADJUST DESIGN TO MEET ACTUAL INSTALLATION REQUIREMENTS. DESIGN SHALL BE SEALED BY P.E.
  2. GENERAL AND TYPICAL DETAIL. ACTUAL INSTALLATION MAY VARY.

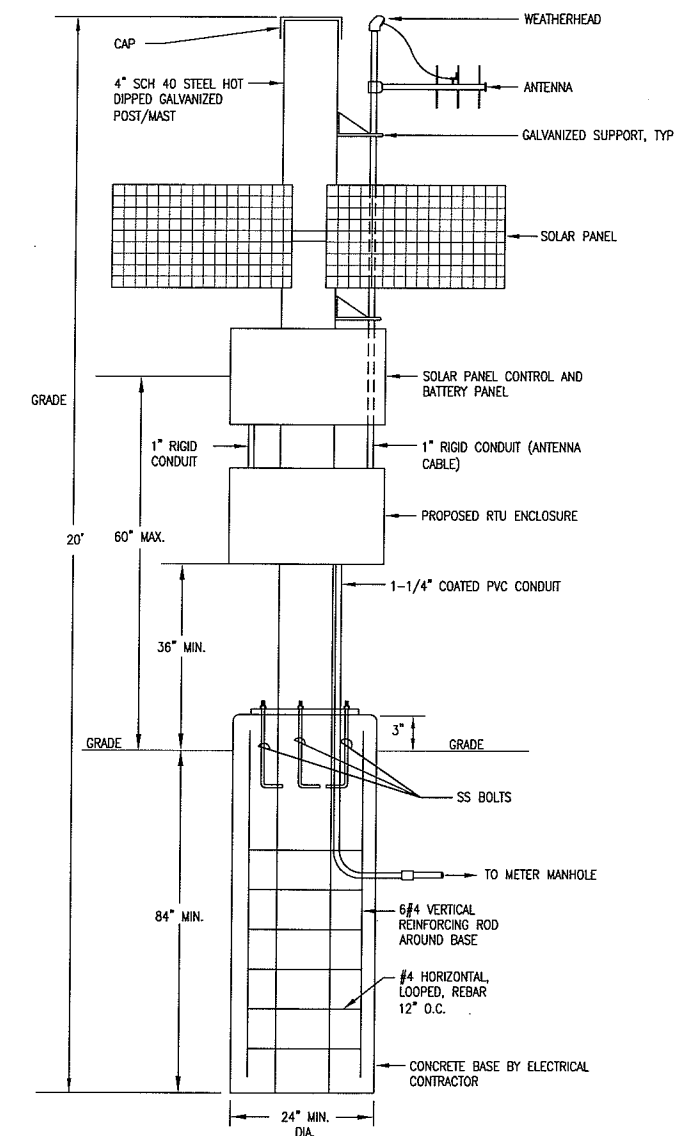
26 90 90 GENERAL CONCRETE ANTENNA FOUNDATION DETAIL  
NTS



- GENERAL NOTES:**
1. BURIED CONDUITS W/AVE PVC.
  2. EXPOSED CONDUITS SHALL BE GALVANIZED RIGID.
  3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFIRMING THE NUMBER AND SIZE OF RACEWAYS AND CONDUCTORS.
  4. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXACT UTILITY REQUIREMENTS FOR SERVICE ENTRANCE. (COMPLETE)

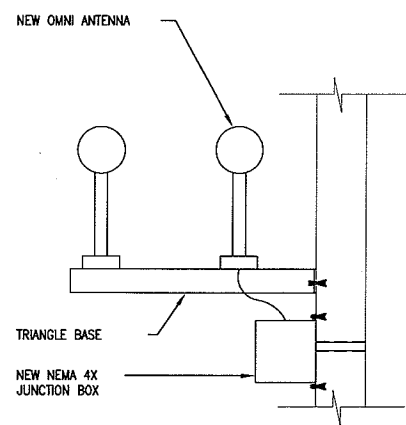
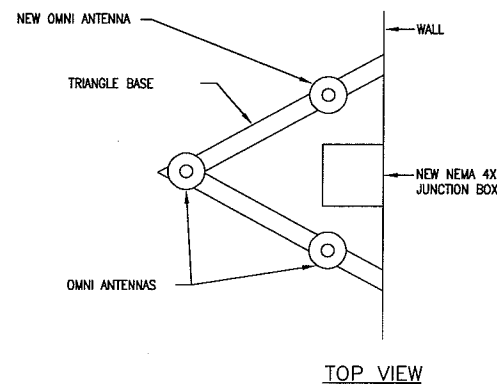
- CONDUIT SCHEDULE:** (X)
1. FLOAT SWITCH RACEWAY (INTRINSICALLY SAFE) (2) 2" REQUIRED.
  2. LEVEL SENSOR RACEWAY (INTRINSICALLY SAFE).
  3. PUMP NO.1 POWER CABLE RACEWAY.
  4. PUMP NO.1 SIGNAL CABLE RACEWAY (IF SIGNAL AND POWER CONDUCTORS ARE SUPPLIED IN SEPARATE CABLES).
  5. PUMP NO.2 POWER CABLE RACEWAY.
  6. PUMP NO.2 SIGNAL CABLE RACEWAY (IF SIGNAL AND POWER CONDUCTORS ARE SUPPLIED IN SEPARATE CABLES).
  7. SERVICE LATERAL CONDUIT FROM CT.
  8. SERVICE LATERAL FROM TELEPHONE.
  9. POWER CONDUIT TO YARD LIGHT.

26 90 12 LIFT STATION CONTROL PANEL INSTALLATION - TYPICAL  
NTS

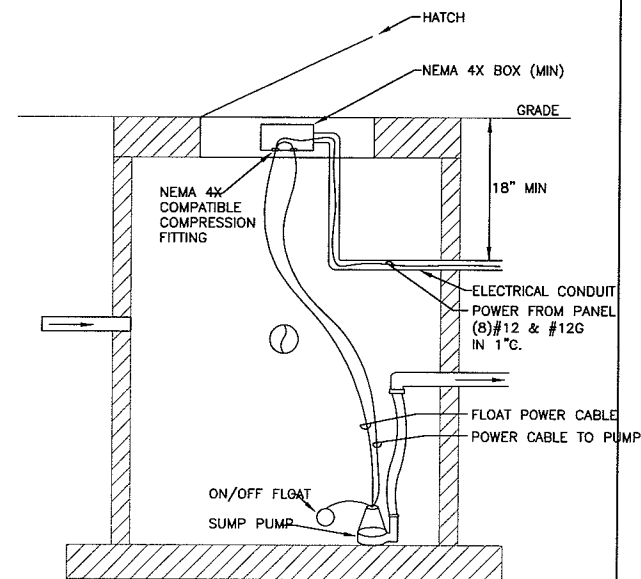


- GENERAL NOTES:**
1. IN UNDISTURBED EARTH, EXCLUDING FILL MATERIAL, A 2'-0" DIA. HOLE WHICH SHALL BE USED AS THE FORM FOR THE CONCRETE BASE SHALL BE DRILLED.
  2. IN EXCAVATED AREAS OR IN EXISTING SOIL CONTAINING FILL OR OBJECTIONABLE MATERIAL, BACKFILL AROUND CONCRETE BASE WITH COMPACTED GRANULAR BACKFILL A MIN. OF 2'-0" IN ALL DIRECTIONS.
  3. ALL SUPPORT & MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
  4. GENERAL AND TYPICAL DETAIL. ACTUAL INSTALLATION MAY VARY.

26 05 03 NON-SITE REPEATER INSTALLATION DETAIL  
NTS



26 05 31 MINOR ANTENNA INSTALLATION  
NTS



- ELECTRICIAN MAY EITHER:
1. SPLICE WIRES INSIDE 4X ENCLOSURE.

26 90 65 SUMP PUMP INSTALLATION  
NTS