NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

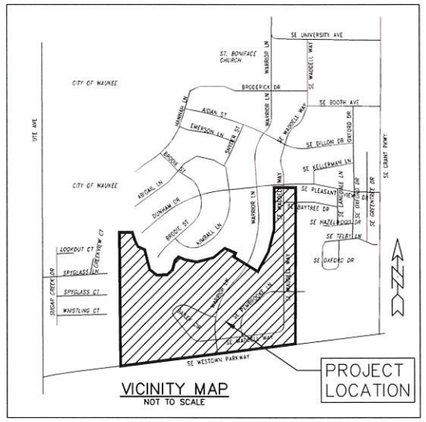
OWNER/DEVELOPER

HUBBELL METROPOLITAN DEVELOPMENT
FUND I, LLC (SERIES E)
6900 WESTOWN PARKWAY
WEST DES MOINES, IOWA 50266
515/243-3228

ABBREVIATIONS

NOTE: ALL ARE WITH OR WITHOUT PERIODS.
℄ = CENTERLINE
℄ = FLOWLINE
℄ = PROPERTY LINE
B/WALL = BOTTOM OF WALL (AT GROUND/FACE)
BOC = BACK OF CURB
CIP = CAST-IN-PLACE (CONCRETE)
DHWL = DESIGN HIGH WATER LEVEL
DIP = DUCTILE IRON PIPE
DWY. = DRIVEWAY
EASE OR ESMT = EASEMENT
EL OR ELEV = ELEVATION
ENT. = ENTRANCE
EOP = EDGE OF PAVEMENT
FES = FLARED END SECTION
FOC = FACE OF CURB
G = GUTTER
GND = GROUND
HOR OR HORIZ = HORIZONTAL
HWL = HIGH WATER LEVEL
INV = INVERT/FLOWLINE
P = PAVEMENT
PVC = POLYVINYL CHLORIDE (PIPE)
PKWY = PARKWAY
RCB = REINFORCED CONCRETE BOX
RCP = REINFORCED CONCRETE PIPE
ROW OR R/W = RIGHT-OF-WAY
S/W = SIDEWALK
SAN = SANITARY SEWER OR SERVICE
SMF = STORMWATER MANAGEMENT FACILITY
SWFE = STORMWATER FLOWAGE EASEMENT
SWPPP = STORMWATER POLLUTION PREVENTION PLAN
STM = STORM SEWER OR SERVICE
T/C = TOP OF CURB
T/W = TOP OF WALK
T/WALL = TOP OF WALL
TYP = TYPICAL
VCP = VITRIFIED CLAY PIPE
VER OR VERT = VERTICAL
WTR = WATERMAIN OR WATER SERVICE

CONSTRUCTION PLANS
OF
GLYNN VILLAGE PLAT 10
CITY OF WAUKEE
DALLAS COUNTY, IOWA
FOR
HUBBELL REALTY COMPANY



VICINITY MAP
NOT TO SCALE

PROJECT BENCHMARK:
SE TAB BOLT ON HYDRANT AT SW CORNER WARRIOR LANE & SE UNIVERSITY AVENUE
ELEVATION = 1028.39 (NAVD 88 – IOWA STATE PLANE COORDINATE SYSTEM)

UTILITY CONTACTS:

ELECTRIC:
MIDAMERICAN ENERGY; JIM KEISLAR; 515/252-6472; JAKEISLAR@MIDAMERICAN.COM

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SANITARY:
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WATER:
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CAUTION – INDICATES THAT UNDERGROUND UTILITIES WILL LIKELY BE ENCOUNTERED IN THE SHOWN AREA

PREPARED BY:

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A. INITIAL SWPPP-EROSION CONTROL PLAN
B. SWPPP SITE PLAN
C. SWPPP & STABILIZATION SITE PLAN

APPROVED
APPROVED BY Waukee City Council
DATE 1-18-2016
SIGNED [signature]

PROJECT MANAGER CONTACT
ANDREW HUBBELL
515/221-6656

NOTE: SEE 'STORMWATER POLLUTION PREVENTION PLAN' (SWPPP SHEETS) FOR EROSION CONTROL MEASURES.

LICENSED PROFESSIONAL ENGINEER DOUGLAS J. SALTSGAVER 11993 IOWA

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

DOUGLAS J. SALTSGAVER 03/08/16
DATE
LICENSE NUMBER 11993
MY LICENSE RENEWAL DATE IS DECEMBER 31, 2016
PAGES OR SHEETS COVERED BY THIS SEAL:
1 – 100, INCLUSIVE; AND INITIAL A – C, INCLUSIVE

PLANS APPROVED
BY CITY OF WAUKEE
DATE: JANUARY 18, 2016

GLYNN VILLAGE PLAT 10

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GENERAL NOTES:

1. ALL CONSTRUCTION SHALL CONFORM TO THE MOST RECENT EDITION OF THE CITY OF WAUKEE STANDARD SPECIFICATIONS FOR PUBLIC IMPROVEMENTS, WITH APPLICABLE SUPPLEMENTAL SPECIFICATIONS; AND THE LATEST EDITION OF IOWA SUDAS STANDARDS AND SPECIFICATIONS. THE CITY OF WAUKEE STANDARD SPECIFICATIONS SHALL GOVERN IF ANY DISCREPANCIES ARE FOUND.
2. THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR(S). IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.
3. ALL DEBRIS SPILLED ON THE STREETS OR ADJACENT PROPERTY SHALL BE PROMPTLY REMOVED BY THE CONTRACTOR – AT LEAST AT THE END OF EACH WORK DAY; PRIOR TO ANY RAIN EVENT; AND AS DIRECTED.
4. ALL CONSTRUCTION PROCEDURES AND MATERIALS SHALL MEET OR EXCEED MINIMUM REQUIREMENTS OF THE CITY. THE CONTRACTOR(S) SHALL SUBMIT SHOP DRAWINGS, CUT SHEETS, OR MATERIAL SPECIFICATIONS TO CITY PUBLIC WORKS ON ALL CONSTRUCTION MATERIALS USED PRIOR TO CONSTRUCTION.
5. ALL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT OSHA CODES AND STANDARDS. NOTHING INDICATED ON THESE PLANS SHALL RELIEVE THE CONTRACTOR(S) FROM COMPLYING WITH ANY AND ALL APPROPRIATE SAFETY REGULATIONS.
6. THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR ALL REQUIRED WORK ZONE TRAFFIC CONTROL (VEHICULAR, BICYCLE, AND/OR PEDESTRIAN) REQUIRED DURING ANY AND ALL OPERATIONS. THESE SHALL BE INSTALLED PRIOR TO BEGINNING WORK ON THE SITE.
7. THE CONTRACTOR(S) SHALL FURNISH AND PLACE ALL NECESSARY TEMPORARY SIGNS AND BARRICADES DURING CONSTRUCTION IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS. ALL ROADS SHALL BE BARRICADED UNTIL ACCEPTANCE BY CITY. COORDINATE WITH CITY ON REMOVAL OF ANY CONFLICTING SIGNAGE. REMOVE ALL TEMPORARY BARRICADES, SIGNAGE, AND TURNAROUNDS AT THE EXISTING TERMINI OF SE WADDELL WAY, WARRIOR LANE, SE BAYTREE DRIVE, AND SE PEMBROOKE LANE AFTER ALL CONSTRUCTION HAS BEEN ACCEPTED.
8. THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR GIVING THE CITY AND OTHER INSPECTION AGENCIES PROPER NOTICE FOR THEIR REQUIRED INSPECTIONS.
9. THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL REQUIRED PERMITS FOR PERFORMING THE WORK.
10. ALL PERMITS FROM IDNR, IDOT, COUNTY, CITY, AND/OR OTHER PERMITTING AGENCIES SHALL BE OBTAINED PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR(S) SHALL HAVE PAPER COPY ON SITE BEFORE COMMENCING CONSTRUCTION.
11. ANY DAMAGE DONE TO THE EXISTING AND/OR PROPOSED FENCES, YARDS, OR OTHER IMPROVEMENTS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
12. THE CONTRACTOR(S) SHALL NOTIFY THE CITY PUBLIC WORKS/ENGINEERING DEPARTMENT 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION, WEEKEND WORK, AND/OR HOLIDAY WORK.
13. THE CONTRACTOR(S) SHALL PROVIDE SUBMITTALS OF CONSTRUCTION MATERIALS PRIOR TO CONSTRUCTION.
14. ALL DISTURBED AREAS SHOULD BE RESTORED BY SEEDING OR SODDING. ANY EXISTING ESTABLISHED LAWNS SHALL BE REPLACED WITH SOD. SOD MAINTENANCE PERIOD SHALL BE WHEN SOD IS DEEMED ESTABLISHED BY THE CITY, BUT SHALL NOT EXTEND BEYOND ONE (1) YEAR.
15. ALL CONSTRUCTION STAKING TO BE DONE UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER OR LAND SURVEYOR.
16. NPDES NOI GENERAL PERMIT HOLDER IDENTIFIED IN CURRENT SWPPP SHALL PROVIDE WRITTEN VERIFICATION TO THE CITY ON COMPLIANCE WITH THE GENERAL PERMIT #2 TOPSOIL REQUIREMENTS UPON COMPLETION OF THE PROJECT.
17. ANY CHANGES TO THE PROPOSED PLAN SHALL BE SUBMITTED TO THE CITY OF WAUKEE ENGINEERING DEPARTMENT IN WRITING PRIOR TO IMPLEMENTATION. CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS ASSOCIATED WITH CHANGES MADE WITHOUT CITY APPROVAL.
18. SOILS REPORT PREPARED BY TERRACON (DATED FEBRUARY 19, 2004) IS REFERENCED FOR THIS PROJECT. SUBBASE AND SOIL RECOMMENDATIONS SHALL SUPERCEDE ANY CONTRADICTORY NOTES OR DETAILS IN THIS PLAN SET.
   18.1. IN LOCATIONS WHERE ORGANIC SOILS WERE OBSERVED (OR MAY BE ENCOUNTERED), THE CONTRACTOR SHALL PROVIDE AT LEAST 24 INCHES OF CRUSHED STONE BELOW THE PAVEMENT WITH GEOTEXTILE FABRIC ON THE BOTTOM AND SIDES; AND SUBDRAIN ALONG THE CURBS.
19. THE LOCATION AND NUMBER OF CLUSTER MAILBOX UNITS WILL BE COORDINATED AND FINALIZED WITH THE CITY AND USPS. SEE SHEET 87 FOR CLUSTER MAILBOX NOTES AND CITY STANDARD DETAIL.
20. OUTLOTS S, T, U, V, W, X, Y, AND Z ARE AREAS THAT WILL BE PRIMARILY OPEN SPACE; AND OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION.
21. THE CITY SHALL FURNISH AND PLACE ALL NECESSARY STREET SIGNS AT ALL STREET CORNERS.
22. ON SE WESTOWN PARKWAY, ACCESS SHALL BE MAINTAINED TO ALL EXISTING ENTRANCES AT ALL TIMES – SPECIFICALLY RESIDENCES AND THE GUN CLUB TO THE SOUTH.
23. THE POOL HOUSE/CLUBHOUSE, POOL, AND ASSOCIATED PARKING WILL BE SUBMITTED SEPARATELY AND AT A LATER DATE.
24. THE ENTRANCE MONUMENT SIGN FEATURE WILL BE SUBMITTED SEPARATELY AND AT A LATER DATE.
25. SEE ALL OTHER PLAN SHEETS FOR ADDITIONAL NOTES AND INFORMATION.
26. MAINTENANCE/PERFORMANCE BONDS SHALL BE PROVIDED AS REQUIRED BY CITY ORDINANCE OR CODE.
27. ALL TESTING SHALL BE TO CITY OF WAUKEE STANDARDS AND CITY STAFF SHALL PRESENT DURING AND WITNESS ALL TESTING.

PCC PAVING NOTES:

1. ALL SUBGRADE UNDER SLAB TO BE COMPACTED TO AT LEAST 95 PERCENT STANDARD PROCTOR DENSITY FOR A MINIMUM OF 12 INCHES – INSTALLED IN AT LEAST TWO (2) SIX (6") INCH COMPACTED LIFTS. RECOMMENDED MOISTURE CONTENT RANGE 0% TO +4% OF OPTIMUM.
2. MOISTEN SUBGRADE PRIOR TO PLACING CONCRETE.
3. ALL CONCRETE SHALL HAVE MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI.
4. AGGREGATE SHALL BE CLASS 4.
5. CONCRETE SURFACES SHALL BE BURLAP FINISH. CHECK SURFACE WITH TEMPLATE. NO DEVIATION OVER 1/8" IN TEN (10') FEET IS PERMITTED. ALL CONCRETE SHALL SLOPE TO DRAIN.
6. ALL CONCRETE SHALL BE CURED WITH AN ASTM C309 TYPE 2, WATER BASED WHITE PIGMENTED CURING COMPOUND PER IDOT SEC. 4105.
7. SAW CUT JOINTS AS SOON AS CONCRETE HAS SET ENOUGH TO PREVENT RAVELING AND PRIOR TO ANY CRACKING.
8. SAW CUTS TO BE 1/8" TO 1/4" WIDE; AND DEPTH: LONGITUDINAL T/3, TRANSVERSE T/4.
9. LONGITUDINAL JOINT SPACING SHALL NOT BE GREATER THAN 12 FEET. JOINT LAYOUT SHALL BE PER SUDAS, OR AS APPROVED BY THE ENGINEER AND CITY. ADDITIONALLY, TRANSVERSE SPACING SHALL NOT BE GREATER THAN 15 FEET.
10. BARS AT LONGITUDINAL JOINTS TO BE 5/8" (#5) X 30" DEFORMED AT 30 INCHES O.C. ALL BARS SHALL BE EPOXY COATED.
11. ALL JOINTS SHALL BE FILLED WITH W-R MEADOWS D-164 HOT POUR RUBBER BASE JOINT SEALER OR APPROVED EQUAL.
12. THE CONTRACTOR SHALL BARRICADE SLAB(S) FOR AT LEAST 14 DAYS AFTER PLACING CONCRETE.
13. PAVING THICKNESS SHALL BE PER THE TYPICAL SECTIONS, OR AS NOTED.
   13.1. ALL ROADWAYS SHALL INCLUDE 12 INCHES OF SUBGRADE PREPARATION – INSTALLED IN AT LEAST TWO (2) SIX (6") INCH COMPACTED LIFTS.
   13.2. ANY AND ALL PATCHES SHALL MATCH THE EXISTING PAVEMENT SECTION.
   13.3. ALL STREET PAVEMENTS SHALL BE SEVEN (7") INCHES NON-REINFORCED PCC PAVEMENT, UNLESS OTHERWISE NOTED.
      13.3.1. INSTALL TYPE 'L' JOINTS ALONG CURBING AND AT SHOWN LOCATIONS.
      13.3.2. INSTALL TYPE 'BT', KT', OR 'L' JOINTS ALONG CENTERLINE AND AT SHOWN LOCATIONS DEPENDING ON PAVEMENT THICKNESS AND CONSTRUCTION STAGING.
   13.4. WARRIOR LANE SHALL USE NINE (9") INCHES NON-REINFORCED PCC PAVEMENT WITH 'CD' BASKETS.
   13.5. SE WESTOWN PARKWAY SHALL USE NINE (9") INCHES NON-REINFORCED PCC PAVEMENT WITH 'CD' BASKETS.
   13.6. SIDEWALKS SHALL BE FOUR (4") INCHES PCC AND FIVE (5) FEET WIDE, UNLESS OTHERWISE NOTED (WHERE NOT THROUGH DRIVE). SIDEWALKS SHALL AT LEAST MATCH DEPTH OF DRIVEWAY/ENTRY WHEN SHOWN IN DRIVEWAY/ENTRY.
   13.7. TRAILS SHALL BE PAVED WITH SIX (6") INCHES PCC AND SHALL BE EIGHT (8) FEET WIDE, UNLESS OTHERWISE NOTED.
14. OTHERWISE: ENTRANCES/DRIVES AT SEVEN (7") INCHES NON-REINFORCED PCC PAVEMENT (INCLUDING SIDEWALK IN DRIVE); PARKING SPACES AT FIVE (5") INCHES NON-REINFORCED PCC PAVEMENT; AND RESIDENTIAL LOT DRIVES AT SIX (6") INCHES NON-REINFORCED PCC PAVEMENT.
15. ALL ROADWAY PAVEMENT IN 50 FEET ROW SHALL BE 26 FEET BOC-BOC WITH INTEGRAL SLOPED CURB (AS DETAILED), UNLESS OTHERWISE NOTED.
   15.1. WARRIOR LANE ROADWAY PAVEMENT SHALL MATCH PREVIOUS SECTION FOR ROADWAY TO THE NORTH – DUAL 18.5 FEET BOC-BOC WITH STANDARD CURB AND GUTTER AND 33 FEET LANDSCAPED MEDIAN.
      15.1.1. MODIFIED TO DUAL 26.0 FEET BOC-BOC WITH STANDARD CURB AND GUTTER AND 18 FEET LANDSCAPED MEDIAN BETWEEN SE WESTOWN PARKWAY AND BAILEY CIRCLE/SE WADDELL WAY.
   15.2. SE WESTOWN PARKWAY SHALL BE PARTIALLY PAVED – 15.5 FEET CENTERLINE-TO-BOC WITH STANDARD CURB AND GUTTER TO THE NORTH; AND 12 FEET CENTERLINE-TO EDGE OF PAVEMENT AND 4.5 FOOT AGGREGATE SHOULDER TO THE SOUTH.
16. THE CONTRACTOR(S) SHALL SUBMIT DESIGN MIX AS DESIGNED BY INDEPENDENT TESTING LABORATORY PRIOR TO PLACING ANY CONCRETE.
17. ALL WORK TO COMPLY WITH CURRENT ACI STANDARDS.
18. FULL DEPTH SAW CUT (TO SQUARE ENDS) AND TIE INTO EXISTING PAVEMENT, AS REQUIRED.
19. SAWCUTTING SLURRY SHALL BE CONTAINED TO AVOID DISCHARGE INTO THE STORM SEWER SYSTEM.
20. ALL PAVEMENT REPLACEMENT SHALL COMPLY WITH CITY OF WAUKEE STANDARD SPECIFICATIONS.

DEMOLITION:

1. THE CONTRACTOR(S) WILL BE RESPONSIBLE FOR CLEARING & GRUBBING THE SITE; AND THE REMOVAL & DISPOSAL OF ANY DELETERIOUS AND EXCESS MATERIALS LEGALLY FROM THE SITE.
2. ALL EXISTING BUILDINGS, FENCES, AND RELATED FEATURES WITHIN THE LIMITS OF THE BOUNDARY FOR PLAT 10 SHALL BE REMOVED AS PART OF THE PLAT IMPROVEMENTS.
3. ALL MATERIALS SHALL BE LEGALLY DISPOSED OF AT A CONTRACTOR(S) SUPPLIED DISPOSAL SITE THAT IS APPROVED TO ACCEPT REMOVED MATERIALS.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL FEES, CHARGES, TESTING, AND TRANSPORTATION ASSOCIATED WITH THE REMOVED MATERIALS. ALL LOADS SHALL BE COVERED.
5. ANY AND ALL EXISTING SEPTIC SYSTEMS SHALL BE REMOVED (NOT ABANDONED) COMPLETELY AND SHALL COMPLY WITH DALLAS COUNTY ENVIRONMENTAL HEALTH DEPARTMENT REGULATIONS.
6. ANY AND ALL EXISTING WELLS SHALL BE REMOVED AND PLUGGED TO A DEPTH AT LEAST 20 FEET BELOW LOWEST LOT ELEVATION AND SHALL COMPLY WITH DALLAS COUNTY ENVIRONMENTAL HEALTH DEPARTMENT REGULATIONS.
7. ONLY FULL DEPTH SAW CUTS TO NEAREST JOINT LINE(S) SHALL BE USED PRIOR TO REMOVAL OF PAVEMENT, DRIVEWAYS, AND SIDEWALKS.
8. THE CONTRACTOR IS TO IDENTIFY AND COORDINATE REMOVAL AND/OR TRIMMING OF TREES ALONG THE PROJECT BOUNDARY WITH CITY STAFF. THE CONTRACTOR SHOULD ALSO IDENTIFY NOTIFICATION AND COORDINATION OF ANY FENCE REMOVALS WITH THE CITY AND AFFECTED LANDOWNERS.
9. SAWCUTTING SLURRY SHALL BE CONTAINED TO AVOID DISCHARGE INTO THE STORM SEWER SYSTEM.

H.C. STALLS, RAMPS, AND SIDEWALK NOTES:

1. ALL INTERSECTION SIDEWALK RAMPS AND RELATED TURNING SPACE/CONNECTIONS SHALL BE INSTALLED AS PART OF THE PLAT/ROADWAY IMPROVEMENTS; AND AT LOCATIONS AND/OR LIMITS AS NOTED.
2. GENERAL SIDEWALK CONSTRUCTION IS THE RESPONSIBILITY OF INDIVIDUAL LOT OWNERS. SEE 'PCC PAVING NOTES' FOR DEPTHS.
3. ANY SIDEWALKS AND/OR TRAIL FRONTING OPEN AND/OR PUBLIC SPACES WHICH WILL NOT BE DEVELOPED INTO BUILDABLE LOTS IN THE FUTURE WILL HAVE SIDEWALK AND/OR TRAIL INSTALLED BY THE DEVELOPER WITH THE PUBLIC IMPROVEMENTS. SEE 'PCC PAVING NOTES' FOR DEPTHS.
4. THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR FOLLOWING THE PROPOSED SPOT ELEVATIONS. SPOT ELEVATIONS GOVERN OVER CONTOURS AND NOTED SLOPES.
5. ALL PEDESTRIAN FACILITIES – INCLUDING, BUT NOT LIMITED TO: SIDEWALK SLOPES, DROP CURBS, GRADING, STRIPING, SIGNAGE, AND RAMP DETAILS – SHALL BE CONSTRUCTED TO MEET THE CURRENT REQUIREMENTS/STANDARDS OF SUDAS, MUTCD, DOJ, ADAAG, AND PROWAG.
6. THE CONTRACTOR(S) SHALL VERIFY WITH THE ENGINEER THAT THE RAMP, SIDEWALK, AND PARKING AREAS ARE CONSTRUCTED PROPERLY TO MEET STANDARDS.
7. SHOULD DISCREPANCIES OCCUR ON THE PLAN OR WHAT IS REQUIRED BY THE INSPECTOR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
8. PERFORMING THE WORK THE WAY THE CONTRACTOR HAS FOR THE LAST XX YEARS ON OTHER APPROVED PROJECTS WILL NOT BE AN EXCUSE FOR NON-COMPLIANCE WITH THESE REQUIREMENTS.
9. THE TRAIL/PATH INSTALLATION IS REQUIRED THROUGH THE ADJOINING OPEN SPACE AS IDENTIFIED BY THE PLANS, AND SIDEWALK SHALL BE INSTALLED ADJACENT TO OUTLOTS.

UTILITIES, GENERAL:

1. WORK SHALL INCLUDE CONNECTION TO EXISTING PUBLIC UTILITIES AND ANY AND ALL FITTINGS, CLEANOUTS, AND APPURTENANCES REQUIRED BY CODES.
2. ALL UTILITY STATIONS IN PLAN VIEW ARE TIED TO CENTERLINE STREET STATIONS, UNLESS OTHERWISE NOTED.
3. STORM AND SANITARY SEWER LENGTHS AND LINEWORK ARE SHOWN FROM THE SUDAS REFERENCE POINT LOCATIONS. CONTRACTOR SHALL MODIFY THE PIPE LENGTHS DUE TO OPEN AREA INSIDE OF STRUCTURE AND CONNECTION LOCATIONS.
4. ALL TRENCHES SHALL BE COMPACTED TO AT LEAST 95 PERCENT STANDARD PROCTOR.
5. TRACER WIRE SHALL BE ADDED TO ALL NON-METALLIC WATERMAIN. A GROUNDING ROD SHALL BE PLACED AS PER SUDAS.
6. ALL TERMINI OF MAINS AND SERVICES SHOULD BE MARKED WITH A PAINTED STEEL POST. (PER CITY OF WAUKEE STANDARDS WITH WATER = BLUE, STORM = GREEN, SANITARY = RED). POSTS SHOULD BE AT LEAST SIX (6) FOOT STEEL IN LENGTH WITH FOUR (4) FEET EXPOSED ABOVE GROUND.
7. MAINTAIN A MINIMUM HORIZONTAL SEPARATION OF TEN (10) FEET BETWEEN SANITARY AND STORM SEWERS WITH WATERMAINS.
8. MAINTAIN A MINIMUM VERTICAL CLEARANCE OF 18 INCHES BETWEEN SANITARY SEWER AND WATERMAIN, AND STORM SEWER AND WATERMAIN. O-RING GASKET JOINTS ARE TO BE INSTALLED IN SITUATIONS LESS THAN 18 INCHES OR ANY TIME SANITARY SEWER OR STORM SEWER CROSSES OVER ANY WATERMAIN.
9. FULL DEPTH COMPACTION REQUIRED AT ALL STREET CROSSINGS. NOTE THAT DENSITY TEST REPORTS FROM TESTING LAB WILL BE PROVIDED BY THE CONTRACTOR(S).
10. THE UTILITY CONTRACTOR(S) SHALL PROVIDE TO THE DEVELOPER THE MEASUREMENTS OF ALL SANITARY AND STORM SEWER, WATER, AND FOOTING DRAIN SERVICES FROM LOT CORNERS.
11. ALL UTILITY CONTRACTOR(S) AND/OR OWNERS SHALL BE RESPONSIBLE TO PROVIDE THE CITY WITH "AS-BUILT" DRAWINGS OF ALL IMPROVEMENTS.
12. ALL SERVICES LINES TO THE BUILDING AND ALL UTILITY LINES IN THE ADJOINING RIGHT-OF-WAY SHALL BE LOCATED UNDERGROUND. THE UTILITY CONTRACTOR(S) SHALL BE RESPONSIBLE FOR ENSURING REQUIRED SEPARATIONS OF SERVICES TO MAINS; AVOID CONFLICTS; AND/OR ENSURE POSITIVE DRAINAGE (GRAVITY FLOW SERVICES) WHEN CROSSING OTHER ITEMS.
13. ALL CASTING(S) ARE PER THE RESPECTIVE SUDAS DETAIL, UNLESS OTHERWISE NOTED.
14. THE CONTRACTOR(S) SHALL COORDINATE ALL UTILITY TIE-INS WITH THE CITY OF WAUKEE ENGINEERING DEPARTMENT.
15. ALL NOTED UTILITIES SHALL BE TESTED TO CITY OF WAUKEE STANDARDS AND THE CITY SHALL WITNESS ALL TESTING.
16. PER CITY OF WAUKEE REQUIREMENTS, ALL MANHOLES OUTSIDE OF THE ROADWAY PAVEMENT AND WITHIN ROW SHALL HAVE A MINIMUM OF ONE (1) FOUR (4") INCH ADJUSTING RING TO ALLOW FOR FUTURE ADJUSTMENT SHOULD THE MANHOLE BE LOCATED IN A DRIVEWAY.
17. SEE SHEET 4 FOR MIDAMERICAN ENERGY ELECTRICAL CONDUIT NOTES.
18. SEE OTHER PLAN SHEETS; RELATED IDNR AND/OR CITY PERMIT APPLICATION AND PERMIT; SUDAS DESIGN MANUAL AND SPECIFICATIONS; RELATED SPECIFICATIONS ON FILE WITH THE IDNR; AND CITY STANDARD SPECIFICATIONS FOR WORK REQUIREMENTS; ANY ADDITIONAL REQUIREMENTS; AND ANY COORDINATION ITEMS.

WATERMAINS:

1. THE CONTRACTOR(S) SHALL ARRANGE AND PAY FOR THE REQUIRED TAPS TO THE PUBLIC WATERMAIN; AND SHALL SCHEDULE WITH THE CITY TO OBSERVE TAPPING AND TESTING.
2. ALL PROPOSED WATERMAINS SHALL BE EIGHT (8") INCHES, UNLESS OTHERWISE NOTED.
3. ALL WATERMAINS SHALL HAVE A MINIMUM OF FIVE AND ONE-HALF (5.5) FEET COVER OVER THE TOP OF THE PIPE.
4. ALL WATERMAINS SHALL BE CONSTRUCTED AND TESTED AS SPECIFIED ON IDNR PERMIT APPLICATION.
5. ALL PROPOSED HYDRANTS SHALL HAVE STORZ FITTINGS.
6. ANY RELOCATED HYDRANTS SHALL BE RETROFITTED WITH STORZ FITTINGS.
7. THE CONTRACTOR(S) SHALL VERIFY BEFORE PLACING FIRE HYDRANT'S THAT NO PART OF THE FIRE HYDRANT SHALL BE CLOSER THAN 24 INCHES TO A PROPOSED SIDEWALK OR TRAIL (OR 12 INCHES WITH SUDAS WM-201 ALTERNATE PLAN). FIRE HYDRANTS SHALL ALSO BE PLACED ON THE EXTENSION OF LOT LINES AS SHOWN ON THE PLANS. ADDITIONAL STAKES FOR LOT CORNERS, TRAILS AND SIDEWALKS SHALL BE SET AS REQUESTED.
8. THE CONTRACTOR(S) SHALL PROVIDE AND INSTALL NECESSARY CONNECTIONS, FITTINGS, BENDS, TEES, BLOCKING, SUPPORTS, ETC. NOTED PIPE LENGTHS DO NOT INCLUDE VERTICAL AND/OR FITTING ADJUSTMENTS.
9. SITE WATERMAIN PIPING SHALL BE PVC, C900 DR14, UNLESS OTHERWISE LABELED.
10. SITE WATER SERVICE PIPING SHALL BE TYPE K COPPER, UNLESS OTHERWISE LABELED.
11. ALL VALVES SHALL BE LOCATED OUTSIDE OF STREET PAVEMENT AND SIDEWALK RAMPS.
12. ALL SHOWN TEES, CROSSES, VALVES, FIRE HYDRANTS, ETC. STATIONING AND OFFSETS ARE LOCATIONS BASED ON AN ENLARGED CAD SYMBOL TO SEEN ON THESE CONSTRUCTION PLANS. THE CONTRACTOR(S) MAY SHIFT THE LOCATION(S) IN RELATION THE THE SHOWN ROADWAY CENTERLINE OF THESE TEES, CROSSES, VALVES, FIRE HYDRANTS, ETC. – PROVIDE REVISED STATIONING ON AS-BUILT DRAWINGS. NOTED OFFSETS MAY ONLY BE ADJUSTED WITH THE APPROVAL OF THE CITY.

SANITARY SEWERS:

1. THE SANITARY SEWER PIPE BEDDING SHALL BE GRANULAR ENCASEMENT.
2. ALL PROPOSED SANITARY SEWER LINES SHALL BE EITHER EIGHT (8") INCHES OR TEN (10") INCHES, UNLESS OTHERWISE NOTED.
3. ALL PIPE SHALL BE PVC, TRUSS.
4. ALL SANITARY SEWER SHALL BE CLEANED AND TELEVISED WITH COPIES OF THE VIDEO INSPECTION PROVIDED TO THE CITY OF WAUKEE ENGINEERING DEPARTMENT. IN ADDITION, ALL PROPOSED SANITARY MANHOLES SHALL BE VACUUM TESTED.
5. ALL SANITARY SEWER SHALL BE CONSTRUCTED AND TESTED AS SPECIFIED ON IDNR PERMIT APPLICATION; AND IN THE CITY OF WAUKEE STANDARD SPECIFICATIONS.
6. THE ADJUSTMENT OF EXISTING MANHOLE RIM SHALL INCLUDE NEW BARREL SECTION(S), NEW RISER(S), AND VACUUM TESTING.
7. ALL CONNECTIONS TO EXISTING SANITARY MANHOLES SHALL BE CORE DRILLED AND USE A LINK SEAL.

STORM SEWER:

1. THE CONTRACTOR(S) SHALL PLACE SILT FENCE AROUND ALL STORM SEWER INLET LOCATIONS, STEEP SLOPES, OR AS DIRECTED BY THE CITY. ALL EROSION AND SEDIMENTATION CONTROL SHALL BE SET UP PRIOR TO CONSTRUCTION.
2. ANY STORM PIPE LOCATED UNDER PAVEMENT WITH LESS THAN TWO (2) FEET OF COVER SHALL PROVIDE 24"X24" REINFORCEMENT ABOVE AND USE CLASS V RCP.
3. ALL INTAKE CASTINGS SHALL BE BICYCLE SAFE.
4. ALL PROPOSED STORM SEWER LINES SHALL BE AS NOTED FOR SIZE.
5. RCP STORM SEWER TO BE 2000D (MINIMUM), USE STRENGTH REQUIRED BY SUDAS.
4. ALL STORM SEWER AND CULVERTS OVER 15 INCHES IN SIZE SHALL BE RCP. ALL OTHERS SHALL BE PVC, SDR35 (MINIMUM).
5. ALL STORM SEWERS ARE TO BE CLEANED AND TELEVISED WITH COPIES OF THE VIDEO INSPECTION PROVIDED TO THE CITY OF WAUKEE ENGINEERING DEPARTMENT.
6. ANY FIELD TILE DISCOVERED OR DAMAGED DURING CONSTRUCTION SHALL BE TIED INTO THE STORM SEWER SYSTEM OR REPAIRED/REPLACED; WITH THE ENGINEER NOTIFIED; AND THE LOCATION SHALL BE NOTED ON THE AS-BUILTS.
7. THE LAST THREE (3) PIPE SECTIONS AND THE FLARED END SECTION ON ALL CULVERTS SHALL BE TIED. ALL STORM SEWER JOINTS SHALL BE WRAPPED WITH ENGINEERING FABRIC.
8. THE CONTRACTOR(S) WILL LAY SEWER PIPE AS SHOWN WITHIN THE PLAN SET.
9. ALL PIPE SLOPES EQUAL TO OR GREATER THAN TEN (10%) PERCENT SHALL REQUIRE RESTRAINED JOINTS.
10. ALL STORM SEWER RUNS HAVE BEEN DESIGNED TO CARRY THE 100-YEAR STORM EVENT HGL (HYDRAULIC GRADE LINE) BELOW THE ADJOINING STRUCTURE RIMS.
11. ALL RIPRAP SHALL BE PLACED OVER ENGINEERING FABRIC.

CITY OF WAUKEE UTILITY GENERAL NOTES:

1. ROW WIDTH VARIES.
2. WHEN UTILITIES ARE IN THE ROW, THE FOLLOWING SHOULD BE ADHERED TO, UNLESS OTHERWISE PROVIDED/APPROVED:
   2.1. ALL UTILITIES SHOULD BE BURIED. WHEN OVERHEAD UTILITIES ARE ALLOWED TO CROSS THE ROADWAY, THEN MINIMUM VERTICAL CLEARANCES ARE 20 FEET FOR THE MAIN CABLE, AND 18 FEET FOR SERVICES.
   2.2. TELEPHONE, CABLE TV, AND WATER: INSTALL ON THE EAST AND SOUTH SIDE OF THE ROAD, UNLESS OTHERWISE NOTED/SHOWN.
   2.3. GAS AND ELECTRIC: INSTALL ON THE WEST AND NORTH SIDE OF THE ROAD, UNLESS OTHERWISE NOTED/SHOWN.
      2.3.1. STREET LIGHTING: INSTALL FOOTINGS/FOUNDATIONS CENTERED THREE AND ONE-HALF (3.5) FEET FROM THE BACK OF CURB, UNLESS OTHERWISE NOTED/SHOWN. WITH RAISED MEDIANS, THE FOOTINGS/FOUNDATIONS ARE CENTERED ON ROADWAY CENTERLINE.
   2.4. SANITARY SEWER: INSTALL ON THE WEST AND NORTH SIDE OF THE ROAD, UNLESS OTHERWISE NOTED/SHOWN.
   2.5. STORM SEWERS: THE NORMAL LOCATION FOR A STORM SEWER IS ONE AND ONE-HALF (1.5) FEET FROM THE BACK OF CURB, UNLESS OTHERWISE NOTED/SHOWN. WHEN COMBINATION MANHOLES AND INTAKES ARE USED, THE LOCATION INCREASES TO FIVE (5) FEET.
   2.6. WATERMAINS, VALVES, AND HYDRANTS:
      2.6.1. THE NORMAL WATERMAIN LOCATION IS FOUR (4) FEET BEHIND THE BACK OF CURB. IN AREAS OF COMBINATION MANHOLES AND INTAKES, THIS DISTANCE IS INCREASED TO A MINIMUM OF SIX (6) FEET.
      2.6.2. FOR LOCAL STREETS AND MINOR COLLECTORS WITH LIMITED ROW, USE A 90 DEGREES ANCHORING ELBOW BETWEEN THE HYDRANT TEE AND THE VALVE. FOR MAINTENANCE PURPOSE, THE MINIMUM DISTANCE BETWEEN THE CENTERLINE OF THE VALVE BOX AND THE FACE OF THE HYDRANT IS 18 INCHES.
3. UTILITY EASEMENT: TELEPHONE, FIBER OPTIC, CABLE TV, ELECTRIC, AND GAS LINES SHOULD BE LOCATED IN FRONT OR REAR YARD EASEMENTS. NORMALLY TELEPHONE AND CABLE TV LINES ARE PLACED IN REAR YARD EASEMENTS AND FIBER OPTIC, ELECTRIC, AND GAS LINES IN FRONT YARD EASEMENTS. UPON APPROVAL OF THE JURISDICTION, THESE UTILITIES MAY BE PLACED IN THE ROW AT THE ALTERNATIVE LOCATION WHEN EASEMENTS DO NOT EXIST.
4. DEPTH OF BURY:
   4.1. CABLE TV (CATV): THREE (3) FEET MINIMUM.
   4.2. ELECTRIC (ELEC.): THE RECOMMENDED DEPTH OF BURY FOR ELECTRIC CABLE IS 4 FEET. THE MINIMUM DEPTH OF BURY FOR ELECTRIC LINES AS PER THE NATIONAL ELECTRIC SAFETY CODE IS:
      4.1.1. 8KV TO 5KV CABLE – 30 INCHES MINIMUM.
      4.1.2. UP TO 600-VOLT CABLE – 24 INCHES MINIMUM.
      4.1.3. STREET LIGHT CABLE – 18 INCHES MINIMUM.
   4.2. GAS: THREE (3) FEET MINIMUM.
   4.3. WATER: VARIES
   4.4. SANITARY SEWER: VARIES
   4.5. STORM SEWER: VARIES. APPROXIMATELY FOUR (4) FEET.
   4.6. TELEPHONE (TELE.)/FIBER OPTIC (F.O.): THREE (3) FEET MINIMUM.

ESTIMATED QUANTITIES

THE BELOW ARE NOT BID QUANTITIES. ALL QUANTITIES SHALL BE VERIFIED BY THE RESPECTIVE CONTRACTOR(S).

1. WATER SERVICE	140 EACH
2. WATERMAIN, 12"	2,625 LIN. FT.
3. WATER VALVE, 12"	3 EACH
4. WATERMAIN, 8"	7,753 LIN. FT.
5. WATER VALVE, 8"	23 EACH
6. WATER LINE/SERVICE, 4"	903 LIN. FT.
7. WATER VALVE, 4"	4 EACH
8. FIRE HYDRANT ASSEMBLY	36 EACH
9. CONNECTION TO EXISTING WATERMAIN/LINE	8 EACH
10. SANITARY SERVICE	140 EACH
11. SANITARY, 8"	4,226 LIN. FT.
12. SANITARY, 10"	3,902 LIN. FT.
13. SANITARY MANHOLE, SW-301, 48" DIA.	38 EACH
14. SANITARY MANHOLE, DROP CONNECTION	3 EACH
15. CONNECTION TO EXISTING SANITARY	1 EACH
16. SANITARY STRUCTURE ADJUSTMENT	7 EACH
17. STORM (SUMP) SERVICE	26 EACH
18. STORM, 15"	3,271 LIN. FT.
19. STORM, 15" SLOTTED CMP	260 LIN. FT.
20. STORM, 18"	522 LIN. FT.
21. STORM, 24"	1,776 LIN. FT.
22. STORM, 30"	1,193 LIN. FT.
23. STORM, 36"	783 LIN. FT.
24. STORM, 42"	150 LIN. FT.
25. STORM, 42" CMP CULVERT	40 LIN. FT.
26. STORM, 60"	541 LIN. FT.
27. STORM, 9' ARCHED CMP	36 LIN. FT
28. STORM, 15", ELBOW	6 EACH
29. STORM, 18", ELBOW	1 EACH
30. STORM FES, 15" (W/ CLAY WATERSTOP)	9 EACH
31. STORM FES, 18" (W/ CLAY WATERSTOP)	3 EACH
32. STORM FES, 24" (W/ CLAY WATERSTOP)	5 EACH
33. STORM FES, 30" (W/ CLAY WATERSTOP)	4 EACH
34. STORM FES, 36" (W/ CLAY WATERSTOP)	2 EACH
33. STORM FES, 36" CMP	2 EACH
34. STORM FES, 42" (W/ CLAY WATERSTOP)	2 EACH
35. STORM FES, 42" CMP	2 EACH
36. STORM FES, 60" (W/ CLAY WATERSTOP)	1 EACH
37. STORM FES, 9' ARCHED CMP	1 EACH
38. STORM MANHOLE, SW-401, 48" DIA.	8 EACH
39. STORM MANHOLE, SW-401, 60" DIA.	8 EACH
40. STORM MANHOLE, SW-401, 72" DIA.	2 EACH
41. STORM MANHOLE, SW-401, 96" DIA.	1 EACH
42. STORM MANHOLE, SW-401, 108" DIA.	1 EACH
43. STORM MANHOLE, SW-403	1 EACH
44. STORM MANHOLE, SW-405 (OPTIONAL)	5 EACH
45. STORM INTAKE, SW-501	23 EACH
46. STORM INTAKE, SW-502	3 EACH
47. STORM INTAKE, SW-503	7 EACH
48. STORM INTAKE, SW-505	15 EACH
49. STORM INTAKE, SW-511 (OPTIONAL)	1 EACH
50. STORM INTAKE, SW-512, 24" DIA.	4 EACH
51. STORM INTAKE, SW-513	7 EACH
52. AGGREGATE TRENCH	2,350 LIN. FT.
53. RIPRAP, CLASS A	124.1 TONS
54. RIPRAP, CLASS A (DITCH LINING, AS NEEDED)	587.0 TONS
55. SCOURSTOP, TYPE A (OR EQUIVALENT)	1,824 SQ. FT.
56. SUBGRADE PREPARATION, 12"	34,960 SQ. YDS.
57. PCC PAVEMENT, 7", NON-REINFORCED	17,363 SQ. YDS.
58. PCC PAVEMENT, 9", NON-REINFORCED	15,139 SQ. YDS.
59. PCC SIDEWALK, 4"	8,061 SQ. YDS.
60. PCC TRAIL, 6"	2,217 SQ. YDS.
61. AGGREGATE SHOULDER	510 TONS
62. AGGREGATE DRIVEWAY, 6"	58 TONS
63. TRAFFIC CONTROL	1 LUMP SUM

SEE SHEET 4 FOR PAVEMENT MARKING QUANTITIES.
SEE SHEETS 74 TO 76, INCLUSIVE, FOR 'LANDSCAPING' QUANTITIES.
SEE 'SWPPP' SHEETS A TO C, INCLUSIVE, FOR INITIAL EROSION CONTROL AND FINAL STABILIZATION QUANTITIES.

2

GLYNN VILLAGE PLAT 10 - GENERAL NOTES & EST. QUANTITIES

SCALE: AS NOTED	DESIGNED BY: JRK
DWG: 15-013-PRJ.dwg	CHECKED BY: DJS
FIELD BOOK:	SHEET 2 OF 100
DRAWN BY: PJV	DATE: 02/24/2016
FILE NO.: 15-013	LOCATION:
FOR:	

NO.	REVISION	DATE	BY

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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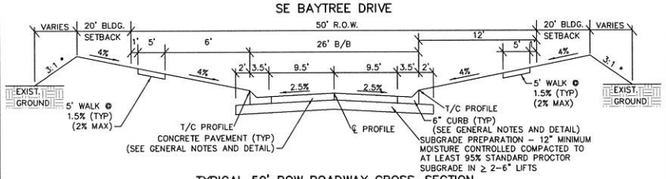
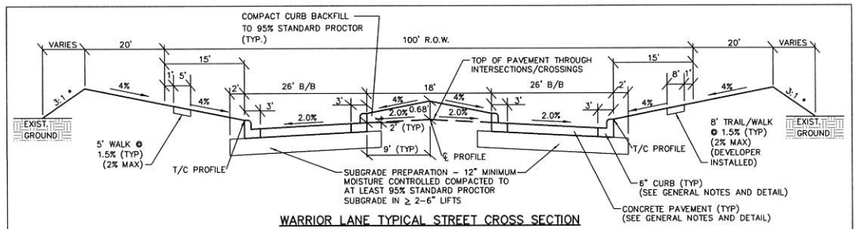
BAILEY CIRCLE
SE WADDELL WAY
SE PEMBROOKE DRIVE
SE BAYTREE DRIVE



* 3:1 OR FLATTER; WITH MINIMUM TWO (2%) PERCENT MAINTAINED ACROSS LOTS.

TYPICAL 50' ROW ROADWAY CROSS-SECTION
NOT TO SCALE

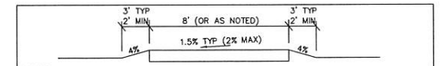
NOTES:
1. CENTERLINE 0.1875' BELOW TOP OF CURB (6").
2. TOP OF CURB ELEVATIONS SHOWN ON PROFILE VIEW.



WARRIOR LANE TYPICAL STREET CROSS SECTION
SE WESTON PARKWAY TO STA. 159+50
NOT TO SCALE

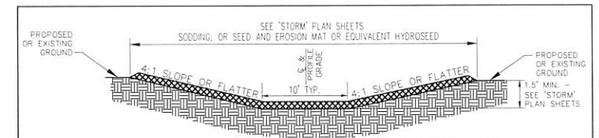
* 3:1 OR FLATTER; WITH MINIMUM TWO (2%) PERCENT MAINTAINED ACROSS LOTS.

NOTES:
1. CENTERLINE 0.18' ABOVE TOP OF CURB (6").
2. TOP OF CURB ELEVATIONS SHOWN ON PROFILE VIEW.
3. 30 FOOT FRONT YARD BUILDING SETBACK.

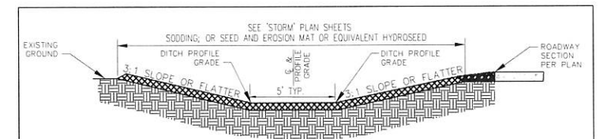


NOTES:
1. ALL TRAILS/PATHS WITHIN PROPOSED RIGHT-OF-WAY SHALL BE EIGHT (8) FEET IN WIDTH AND CONSTRUCTED WITH PCC PAVEMENT, OR AS NOTED. (DEVELOPER INSTALLED)
2. MINIMUM SIX (6") INCH DEPTH TO BE PROVIDED AT ALL DRIVEWAY CROSSINGS.
3. DEVELOPER AUTHORIZED USE FIVE (5") INCH ACC PAVEMENT. PROVIDE SHOULDERS AT ALL LOCATIONS.

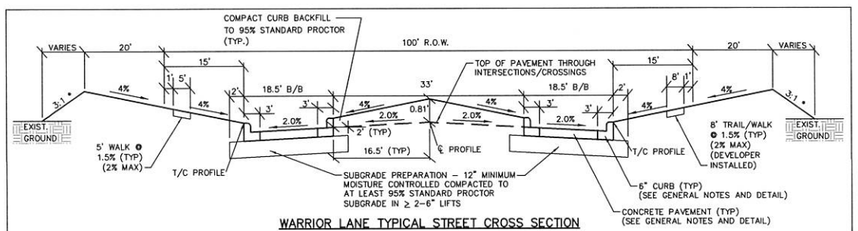
RECREATION SHARED USE PATH/TRAIL
NO SCALE



TYPICAL 10-FOOT WIDE BOTTOM DRAINAGE SWALE (GREENBELT) CROSS SECTION
N.T.S.



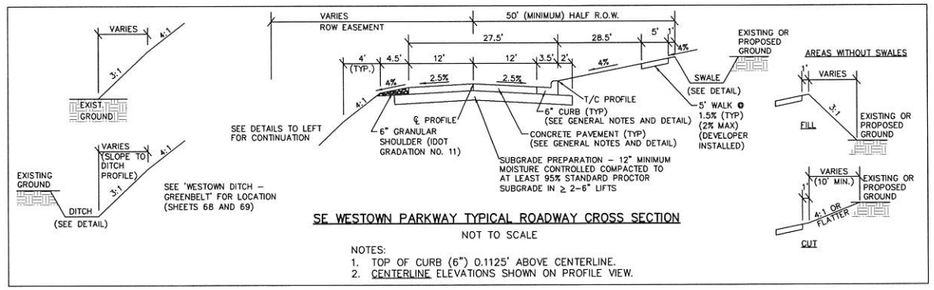
TYPICAL 5-FOOT WIDE BOTTOM DRAINAGE DITCH CROSS SECTION – SE WESTOWN PARKWAY
N.T.S.



WARRIOR LANE TYPICAL STREET CROSS SECTION
STA. 159+50 TO STA. 164+55
NOT TO SCALE

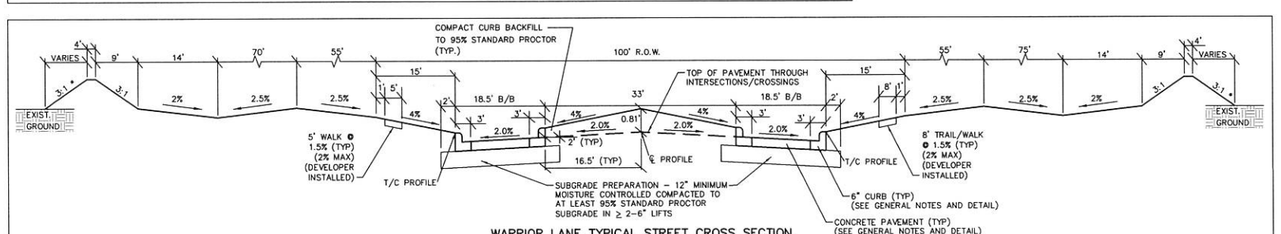
* 3:1 OR FLATTER; WITH MINIMUM TWO (2%) PERCENT MAINTAINED ACROSS LOTS.

NOTES:
1. CENTERLINE 0.18' ABOVE TOP OF CURB (6").
2. TOP OF CURB ELEVATIONS SHOWN ON PROFILE VIEW.
3. 30 FOOT FRONT YARD BUILDING SETBACK.



SE WESTOWN PARKWAY TYPICAL ROADWAY CROSS SECTION
NOT TO SCALE

NOTES:
1. TOP OF CURB (6") 0.1125' ABOVE CENTERLINE.
2. CENTERLINE ELEVATIONS SHOWN ON PROFILE VIEW.



WARRIOR LANE TYPICAL STREET CROSS SECTION
STA. 164+55 TO EXISTING PAVEMENT
NOT TO SCALE

* 3:1 OR FLATTER; WITH MINIMUM TWO (2%) PERCENT MAINTAINED ACROSS LOTS.

NOTES:
1. CENTERLINE 0.18' ABOVE TOP OF CURB (6").
2. TOP OF CURB ELEVATIONS SHOWN ON PROFILE VIEW.
3. 30 FOOT FRONT YARD BUILDING SETBACK.

GLYNN VILLAGE PLAT 10 - TYPICAL SECTIONS

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE:	AS NOTED	DESIGNED BY:	JRK
DWG:	15-013-PRJ.dwg	CHECKED BY:	DJS
FIELD BOOK:		SHEET 3	OF 100

DRAWN BY: PJV
DATE: 02/24/2016
FILE NO.: 15-013

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DES MOINES, IOWA 50312
(515) 288-4823

15-013

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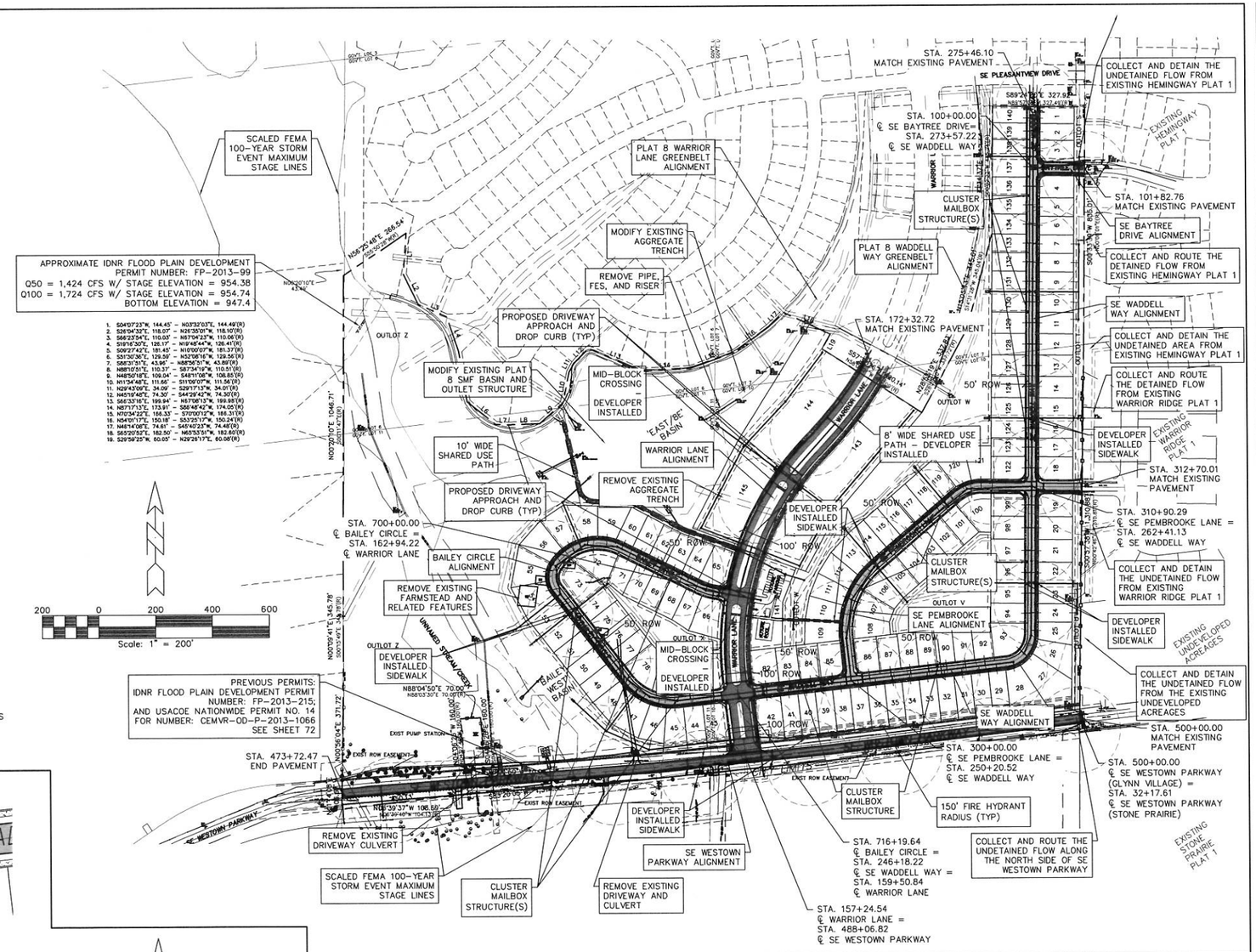
NOTE:

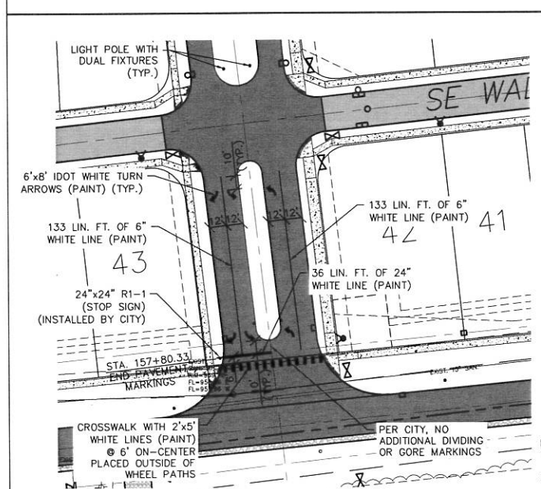
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR(S) TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

LOWEST LOT ELEVATION TABLE

LOT NO.	ELEVATION	LOT NO.	ELEVATION	LOT NO.	ELEVATION
1	1010.89	51	950.10	101	993.81
2	1010.21	52	950.10	102	991.19
3	1008.67	53	950.28	103	989.15
4	1006.36	54	952.00	104	987.91
5	1005.48	55	956.00	105	987.23
6	1003.94	56	961.00	106	987.23
7	1002.52	57	965.00	107	988.11
8	1001.61	58	964.33	108	989.09
9	1001.10	59	964.94	109	978.00
10	1001.10	60	965.13	110	977.01
11	1001.63	61	964.50	111	977.01
12	1002.70	62	967.00	112	977.99
13	1003.96	63	970.00	113	979.25
14	1005.23	64	972.00	114	980.50
15	1005.29	65	976.00	115	980.50
16	1005.29	66	978.00	116	981.50
17	1008.89	67	977.65	117	982.86
18	1009.99	68	977.00	118	983.10
19	1010.95	69	976.92	119	985.58
20	1010.34	70	975.87	120	987.00
21	1009.10	71	973.62	121	996.00
22	1008.32	72	971.80	122	1002.03
23	1008.32	73	966.95	123	996.98
24	1009.07	74	966.95	124	995.13
25	1010.38	75	967.50	125	994.99
26	1010.38	76	968.43	126	994.99
27	1012.00	77	969.44	127	996.00
28	1013.65	78	970.45	128	996.00
29	1013.00	79	972.72	129	995.50
30	1010.00	80	974.46	130	995.07
31	1006.90	81	975.55	131	995.07
32	1003.81	82	976.75	132	998.60
33	1000.79	83	977.25	133	999.00
34	997.61	84	977.25	134	999.28
35	994.50	85	983.50	135	1000.00
36	991.62	86	990.04	136	1000.05
37	988.51	87	990.00	137	1000.11
38	985.70	88	990.00	138	1000.55
39	982.69	89	993.00	139	1001.00
40	979.92	90	995.50	140	1003.54
41	977.00	91	998.00	141	**
42	971.00	92	999.00	142	**
43	966.24	93	1000.00	143	**
44	963.55	94	999.00	144	**
45	960.20	95	999.00	145	**
46	959.50	96	997.00		
47	956.54	97	997.00		
48	952.00	98	1000.70		
49	950.10	99	1003.77		
50	950.10	100	995.67		

** ELEVATIONS SHALL BE DETERMINED WHEN PLANS SUBMITTED SEPARATELY AND LATER.





WARRIOR LANE PAVEMENT MARKINGS

Scale: 1" = 50'

PAVEMENT MARKING NOTES:

1. SHOWN PAVEMENT MARKINGS ARE ONLY ONES TO BE INSTALLED ON THE PROJECT.
2. CITY OF WAUKEE SHALL INSTALL ANY AND ALL OTHER PAVEMENT MARKINGS AND SIGNAGE WHEN STOP/YIELD CONTROL SIGNS ARE INSTALLED BY THE CITY.

MIDAMERICAN ELECTRICAL CONDUIT NOTES:

1. SEE 'GENERAL NOTES' ON SHEET 2 FOR ADDITIONAL INFORMATION.
2. COORDINATE CONSTRUCTION ACTIVITIES WITH MIDAMERICAN ENERGY.
   - 2.1. INSTALL SIDEWALK AND/OR TRAIL, AND MAILBOX CLUSTERS AFTER UTILITY INSTALLATION(S); OR PROVIDE ADDITIONAL CONDUIT.
   - 2.2. ROADWAY PAVEMENT TYPICALLY INSTALLED PRIOR TO UTILITY; OR PROVIDE ADDITIONAL CONDUIT.
3. AS NECESSARY, CONTRACTOR(S) SHALL COORDINATE TO PROVIDE AN UNOBSTRUCTED CLEAR PATH FOR THE ELECTRICAL TRENCHER, OR CLEAR PAD FOR ELECTRICAL BORER, AND RELATED EQUIPMENT.
4. DEVELOPER AND/OR CONTRACTOR(S) IS RESPONSIBLE FOR THE NEEDS ASSESSMENT AND IMPLEMENTATION OF THE SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) AND OIL CONTAINMENT PLANS. REFERENCE APPENDIX B-1, PAGE 89 OF THE 2014 ELECTRIC SERVICE MANUAL.
5. ALL CONDUIT SHALL BE SCHEDULE 40 RIGID PVC PER NEMA TC-2; OR SCHEDULE 40 HDPE COILABLE CONDUIT.
   - 5.1. SIZE: FOUR (4") INCH DIAMETER, UNLESS OTHERWISE NOTED.
   - 5.2. APPROVED COLOR: GRAY OR BLACK, WITH RED STRIPE.
   - 5.3. INSTALL A SYNTHETIC, ONE-QUARTER (1/4") INCH DIAMETER PULL LINE OF MINIMUM 200 POUND TEST WITHIN EACH CONDUIT. PROVIDE A MINIMUM OF FIVE (5') FEET EXTRA PULL LINE PER CONDUIT END.
6. ALL CONDUIT SHALL EXTEND AT LEAST:
   - 6.1. TWO (2') FEET BEYOND THE EXTERIOR PIPE DIAMETER OF SANITARY SEWER, STORM SEWER, WATERMAIN, ETC.
   - 6.2. SIX (6") INCHES (12 INCHES PREFERRED) BEYOND THE GREATER OF ANY PAVEMENT EDGE OR ROW LINE.
7. ALL CONDUIT ENDS SHALL BE CAPPED; AND MARKED WITH A PAINTED STEEL POST (ELECTRICAL=RED). ALL POSTS SHOULD BE AT LEAST SIX (6) FOOT IN LENGTH WITH FOUR (4) FEET EXPOSED ABOVE GROUND. AS NECESSARY, PLACE A MINIMUM EIGHT (8') FOOT LONG 2X4 BOARD, IN ADDITION TO THE STEEL POST FOR BURY DEPTH.
8. ALL PRIMARY CONDUIT SHALL HAVE A MINIMUM COVER DEPTH OF 42 INCHES, AND A MAXIMUM DEPTH OF 48 INCHES. MAINTAIN NECESSARY SEPARATIONS.
9. ALL SECONDARY CONDUIT SHALL HAVE A MINIMUM COVER DEPTH OF 30 INCHES AND A MAXIMUM DEPTH OF 36 INCHES. MAINTAIN NECESSARY SEPARATIONS.
10. NO CONDUIT SHALL HAVE MORE THAN 270' (DEGREES) OF BENDS IN A PULL.
11. ALL SWEEPS FOUR (4") INCHES OR LESS IN DIAMETER, INCLUDING RISER POLE ELBOWS, ARE TO BE FIBERGLASS, STANDARD WALL PER NEMA TC14A, WITH FACTORY ASSEMBLED PLASTIC COUPLINGS ON EACH END TO MATE WITH DB SCHEDULE 40, OR HDPE SCHEDULE 40 COILABLE CONDUIT.
12. ALL SWEEPS GREATER THAN FOUR (4") INCHES IN DIAMETER, INCLUDING RISER POLE ELBOWS, ARE TO BE METAL. ALL EXPOSED METAL SWEEP ENDS WILL REQUIRE GROUNDING BUSHINGS.

GLYNN VILLAGE PLAT 10 - PROJECT MAP

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: AS NOTED	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PRJ.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 4 OF 100	FILE NO.: 15-013	

ERG
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Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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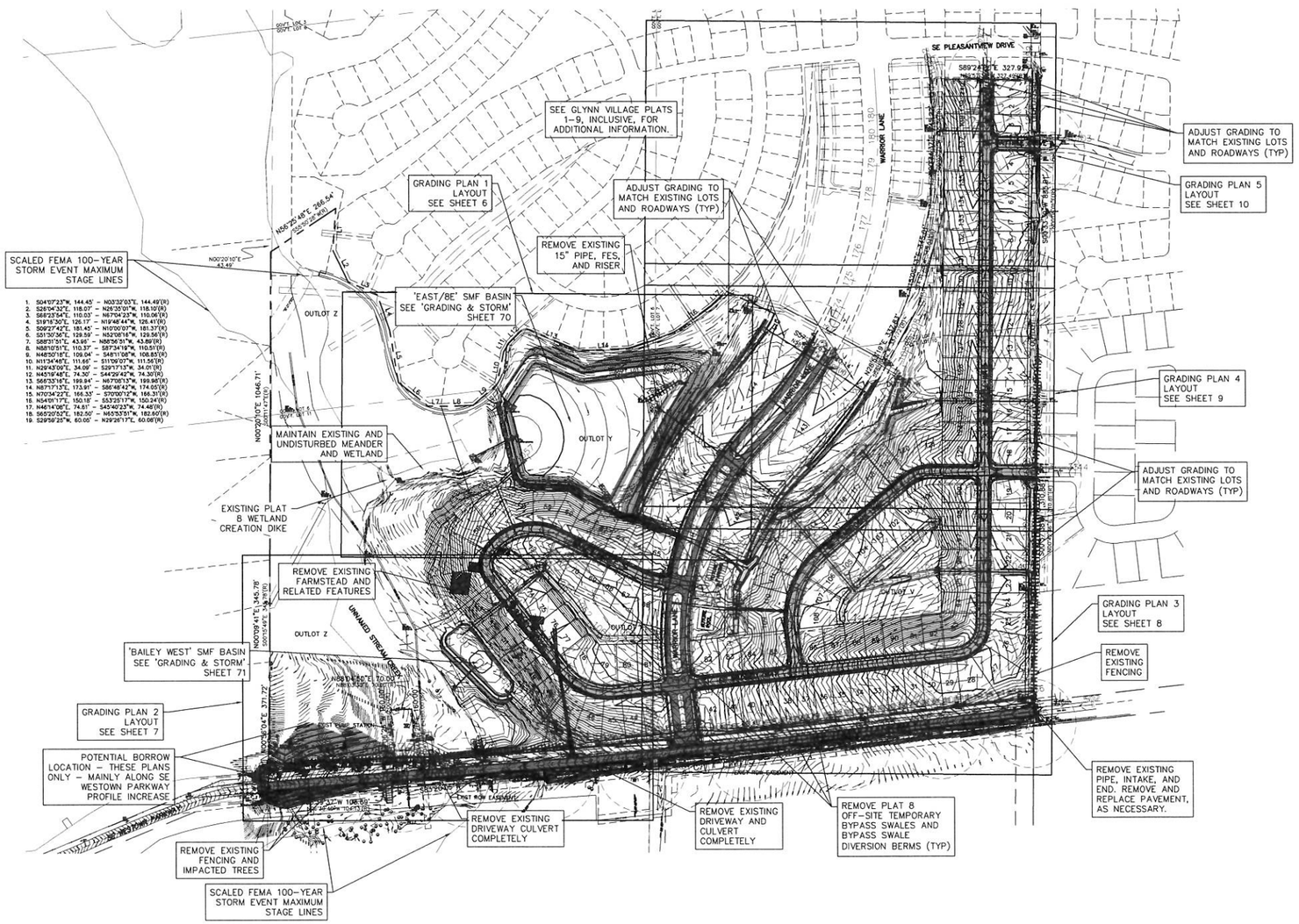
NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



GRADING NOTES (ALL SHEETS):

1. CITY OF WAUKEE STANDARD SPECIFICATIONS SHALL GOVERN IF DISCREPANCIES WITH NOTES.
2. THE CONTRACTOR SHALL CARRY OUT ALL OF THE TERMS AND CONDITIONS OF NPDES GENERAL PERMIT NO. 2; AND THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) WHICH IS PART OF THESE CONTRACT DOCUMENTS.
3. REMOVE AN ADEQUATE AMOUNT OF TOPSOIL FROM THE UPPER 12 INCHES OF THE EXISTING ONSITE ORGANIC MATERIAL TO ALLOW FOR A FINISHED GRADE OF A MINIMUM TOPSOIL DEPTH OF SIX (6") INCHES THROUGHOUT.
4. PROOF ROLL THE EXPOSED SUBGRADE AND REPLACE WITH COMPACTED FILL TO BOTTOM OF PAVEMENT, CONCRETE DRIVES, CURBS, WALKS, AND BUILDING FLOOR ELEVATIONS.
5. NATIVE OR EXISTING ON–SITE SOILS MAY BE REUSED FOR COMMON FILL AFTER THEY ARE SORTED TO REMOVE ALL DELETERIOUS MATERIALS SUCH AS CONCRETE, BRICKS, AND OTHER RUBBLE. DELETERIOUS MATERIALS SHALL BE REMOVED FROM THE PROJECT SITE. ALL EXCESS MATERIALS SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR(S). SEE DEMOLITION PLAN NOTES FOR DETAILS ON REMOVAL AND LEGAL DISPOSAL OF MATERIALS.
6. ANY SOFT SPOTS DISCOVERED DURING PROOF ROLLING SHALL BE UNDERCUT AND RECOMPACTED.
7. ALL PAVEMENTS SHALL HAVE A MINIMUM OF 12 INCHES OF MOISTURE–CONTROLLED, SELECT, AND COMPACTED MATERIAL OF CL OR ML ON THE UNIFIED SOIL CLASSIFICATION SYSTEM DIRECTLY BELOW THE BOTTOM OF SLAB, AND IN AT LEAST TWO (2) SIX (6") INCH LIFTS COMPACTED TO AT LEAST 95 PERCENT OF STANDARD PROCTOR (ASTM D–698) MAXIMUM DRY DENSITY; OR OTHER ACCEPTED MATERIAL BY THE ENGINEER. PROOF ROLL PRIOR TO PLACEMENT.
8. FILL SHALL BE PLACED IN UNIFORM LIFTS HAVING A MAXIMUM LOOSE THICKNESS OF NINE (9") INCHES. COMPACTION BELOW SLABS AND PAVING AND WALKS SHALL BE AT LEAST 95 PERCENT OF STANDARD PROCTOR (ASTM D–698) MAXIMUM DRY DENSITY. COMPACT TO AT LEAST 90 PERCENT AT ALL OTHER LOCATIONS. MAINTAIN MOISTURE CONTENT OF CONTROLLED FILL ABOVE OPTIMUM DURING PLACEMENT AND COMPACTION.
9. THE ENTIRE SITE SHALL BE FINE GRADED WITH ELEVATION TOLERANCE OF ONE–TENTH (0.10) FOOT; OR FIVE–HUNDREDTHS (0.05) FEET UNDER PAVED AREAS.
10. OBSERVATION AND TESTING OF FILL AND OVER–EXCAVATION OPERATIONS SHALL BE BY THE SOILS ENGINEER HIRED BY THE OWNER.
11. ALL CONTRACTORS SHALL ADHERE TO ALL RECOMMENDATIONS FROM THE GEOTECHNICAL ENGINEERING REPORT AS NOTED IN THE 'GENERAL NOTES'; AND INCLUDED THE THE STORMWATER CALCULATIONS, AND IN THE SWPPP PACKET.
12. EXISTING ONSITE FILL SHALL BE FREE OF CONCRETE, GRAVEL, BRICK, CINDERS, GLASS, ORGANICS, AND OTHER LOW DENSITY/DEGRADABLE OR FROZEN MATERIAL.
13. TOP OF WALL (T/WALL) AND BOTTOM OF WALL (B/WALL) LABELS ONLY REFERENCE EXPOSED FACE. RETAINING WALL SHALL BE DESIGNED BY A IOWA LICENSED PROFESSIONAL STRUCTURAL ENGINEER.
14. ALL SPOT ELEVATIONS ARE TO THE TOP OF THE FINISHED SURFACE, UNLESS OTHERWISE SPECIFIED.
    - 14.1. SPOT ELEVATIONS SHOWN IN THE PAVED AREAS ARE AT THE BOTTOM OF THE CURB. ADD SIX (6") INCHES TO COMPUTE THE TOP OF CURB ELEVATIONS.
    - 14.2. SPOT ELEVATIONS ARE TO TOP OF PAVEMENT OR TOP OF GROUND (INCLUDING SOD) UNLESS OTHERWISE NOTED.
    - 14.3. SPOT ELEVATIONS GOVERN OVER CONTOURS.
15. STRIP AND STOCKPILE ALL TOPSOIL FOR REUSE ON SITE. ALL AREAS NOT COVERED BY POND, PAVEMENT, OR BUILDINGS SHALL BE GRASS. SEEDED AREAS SHALL BE PREPARED AS SPECIFIED IN SUDAS, AND NO LESS THAN SIX (6) INCHES OF TOPSOIL SHALL BE IN PLACE BEFORE PERMANENT (FINAL STABILIZATION) SEEDING OPERATIONS COMMENCE. IF LESS THAN SIX (6) INCHES OF TOPSOIL IS LOCATED ON SITE AS DOCUMENTED BY SOILS REPORT, THEN RETAIN AND RESPREAD ALL AVAILABLE MATERIAL AT AN EQUAL DEPTH.
16. PROVIDE POSITIVE DRAINAGE FOR ALL LOCATIONS.
17. ADJUST TRAIL, SIDEWALK, AND SHARED USE PATH ELEVATIONS TO PROVIDE LABELED STORMWATER BASIN EMERGENCY OVERFLOW ROUTE AND WEIR ELEVATIONS.
18. PERMANENT SMF'S SHALL BE USED AS TEMPORARY SILTATION BASINS. SEE SWPPP AND DETAIL SHEETS FOR MORE INFORMATION.
19. PROVIDE A CERTIFIED GRADING PLAN TO THE CITY PRIOR TO PLAT 10 FINAL ACCEPTANCE.
20. ALL RIPRAP SHALL BE PLACED OVER ENGINEERING FABRIC. AS HATCHED IN CONSTRUCTION PLANS. ALL AREAS OF THE EXISTING DITCH BOTTOM AROUND END SECTIONS, AND EXISTING END SECTIONS DISCHARGING INTO DITCH SHALL BE COVERED WITH RIPRAP.
21. CITY OF WAUKEE STANDARD SPECIFICATIONS SHALL APPLY TO GRADING, EROSION CONTROL, AND ASSOCIATED WORK FOR THE PROJECT. THE CONTRACTOR(S) SHALL ESPECIALLY OBSERVE THE REQUIREMENTS OF THE SPECIFICATIONS (ALONG WITH THE EROSION CONTROL PLAN PREPARED FOR THE PROJECT) IN CONDUCTING GRADING AND SURFACE RESTORATION WORK.
    - 21.1. THE STORMWATER POLLUTION PREVENTION PLAN IS THE RESPONSIBILITY OF THE OWNER WHOM SHALL MAKE ALL CONSTRUCTION WORKERS AWARE OF THE MAJOR PROVISIONS OF SAID PLAN.
    - 21.2. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED REGULARLY, ESPECIALLY AFTER EACH SIGNIFICANT STORM, TO LOCATE DAMAGE AND CONDUCT MAINTENANCE OPERATIONS.
    - 21.3. EXCEPT AS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED ON ALL DISTURBED AREAS NO LATER THAN THE 14TH DAY AFTER NO CONSTRUCTION ACTIVITY HAS OCCURRED ON AREAS WHERE CONSTRUCTION ACTIVITY WILL NOT OCCUR FOR A PERIOD OF ANOTHER 21 CALENDAR DAYS.
22. ALL GRADING WORK SHALL BE DONE IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT. SEE 'GENERAL NOTES' ON SHEET 2.
23. SEE SHEET 4 FOR LOWEST LOT ELEVATIONS TABLE – LOT ELEVATIONS ARE SUBJECT TO CHANGE WHERE BUILDING AND LOT GRADING DEVIATE FROM DESIGN.
24. SEE OTHER PLAN SHEETS FOR ADDITIONAL UTILITY INFORMATION.
25. SEE PLAN SHEETS 26 TO 52, INCLUSIVE, FOR ROADWAY PROFILES.
26. SEE PLAN SHEETS 55 TO 71, INCLUSIVE, FOR ADDITIONAL GRADING INFORMATION.
27. SEE PLAN SHEET 74 FOR WARRIOR LANE – MEDIAN GROUND COVER PLAN.
28. SEE PLAN SHEETS 77 TO 78, INCLUSIVE, FOR INTERSECTION GRADING AND DETAILS.
29. SEE PLAN SHEETS 80 TO 83, INCLUSIVE, FOR CURB RAMP GRADING AND DETAILS.
30. SEE PLAN SHEETS 84 TO 85, INCLUSIVE, FOR EMERGENCY OVERFLOW LOCATION DETAILS ACROSS ROADWAYS.
31. SEE 'DETAIL' SHEET 100 FOR ADDITIONAL SCOURSTOP INFORMATION. ALTHOUGH SCOURSTOP IS LABELED AND SHOWN, ALTERNATE EQUIVALENT PRODUCTS (I.E., SHOREMAX, ETC.) MAY BE USED WHEN APPROVED BY THE CITY AND INSTALLED BY A CERTIFIED INSTALLER ON THIS PROJECT. ALL PRODUCTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND INSTALLATION INSTRUCTIONS.
32. SEE 'SWPPP' SHEET(S) FOR ADDITIONAL GROUND COVER INFORMATION; SEDIMENTATION BASIN LOCATIONS; AND QUANTITIES.
33. INSTALL AND MAINTAIN TREE/BUSH PROTECTION (FENCING) ALONG THE EASTERLY PROPERTY LINE TO PREVENT CROSSING INTO ADJACENT PROPERTIES – AS SHOWN ON THE SWPPP SHEETS. ANY TEMPORARY EASEMENTS WILL NEED TO BE OBTAINED BY THE CONTRACTOR AND/OR DEVELOPER IF ANY OFF–SITE WORK IS REQUIRED.

GLYNN VILLAGE PLAT 10 - GRADING PLAN OVERALL AND NOTES

LOCATION:	SCALE: 1" = 200'	DESIGNED BY: JRK	DRAWN BY: PJV
	DWG: 15-013-GRD.dwg	CHECKED BY: DJS	DATE: 02/24/2016
	FIELD BOOK:	SHEET 5 OF 100	FILE NO.: 15-013

NO.	REVISION	DATE	BY	FOR:

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1360 NE 81ST AVENUE
DES MOINES, IOWA 50313
(515) 288-4823

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NOTE:

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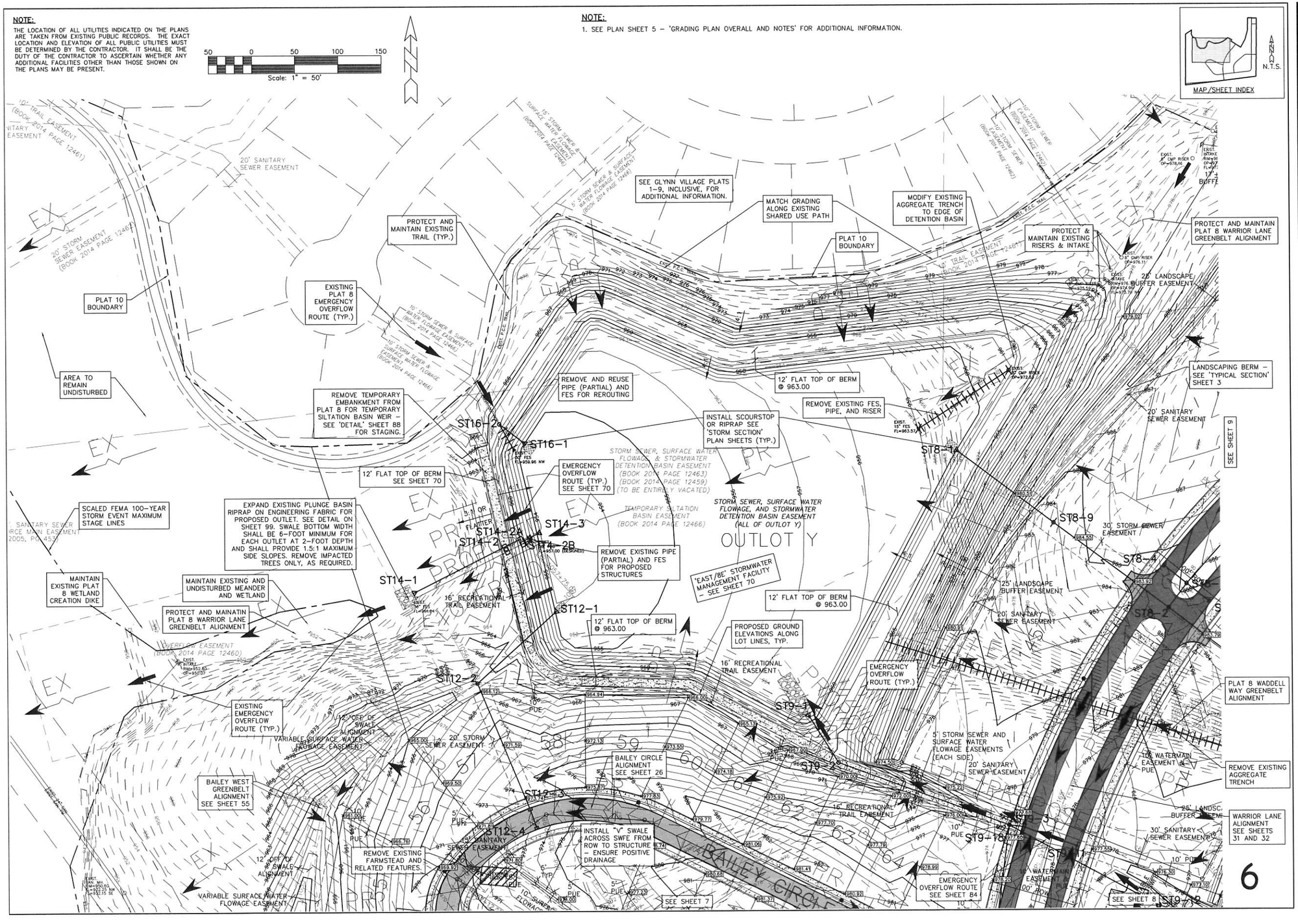
50 0 50 100 150

Scale: 1" = 50'

NOTE:

1. SEE PLAN SHEET 5 – 'GRADING PLAN OVERALL AND NOTES' FOR ADDITIONAL INFORMATION.



GLYNN VILLAGE PLAT 10 - GRADING PLAN I

LOCATION:		DRAWN BY:	PJV
SCALE:	1" = 50'	DESIGNED BY:	JRK
DWG:	15-013-GRD-1.dwg	CHECKED BY:	DJS
FIELD BOOK:		SHEET 6 OF 100	
		DATE:	02/24/2016
		FILE NO.:	15-013

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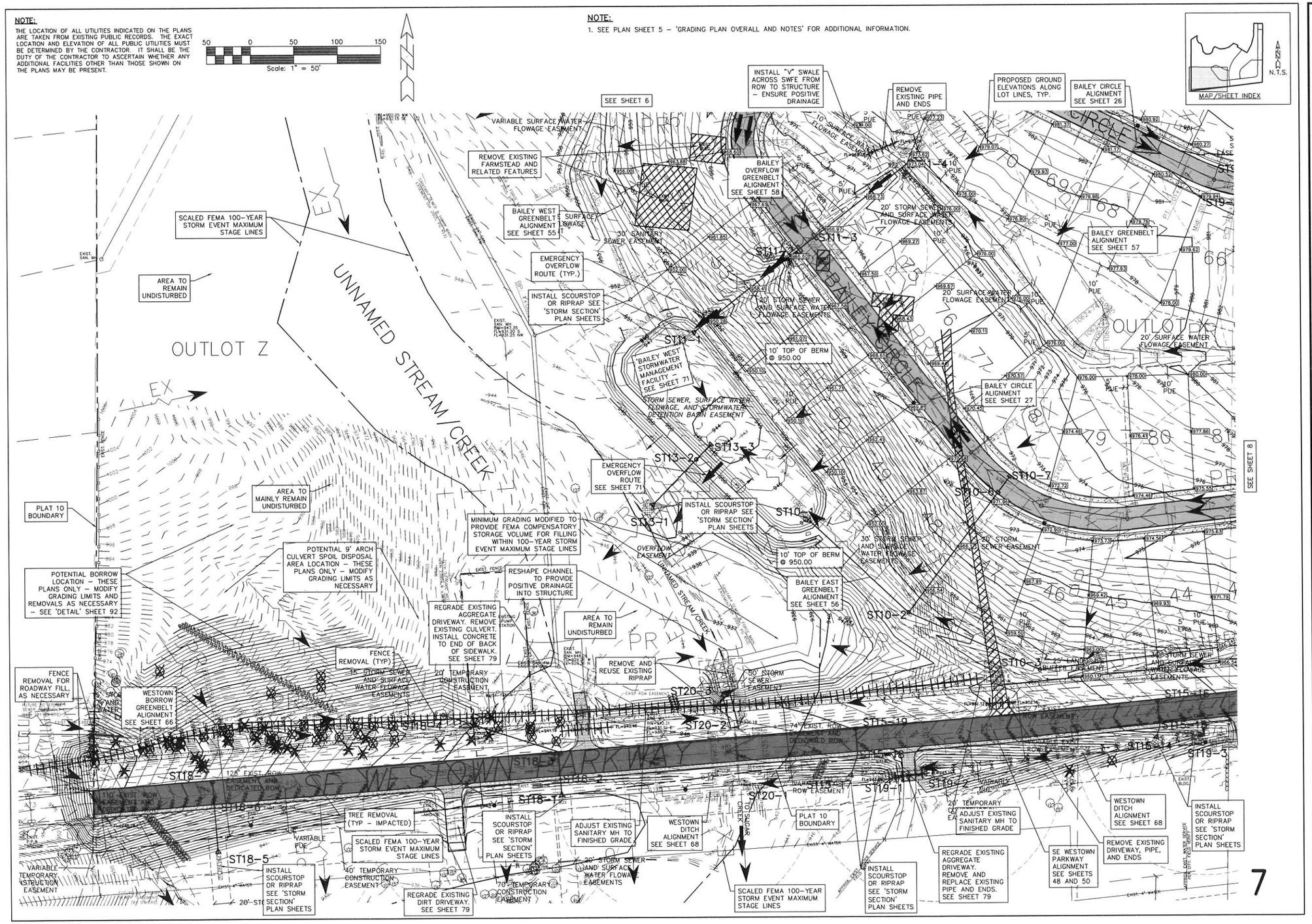
50 0 50 100 150

Scale: 1" = 50'

NOTE:

1. SEE PLAN SHEET 5 – 'GRADING PLAN OVERALL AND NOTES' FOR ADDITIONAL INFORMATION.



GLYNN VILLAGE PLAT 10 - GRADING PLAN 2

DRAWN BY:	PJV
DESIGNED BY:	JRK
CHECKED BY:	DJS
DATE:	02/24/2016
SCALE:	1" = 50'
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FILE NO.:	15-013
FIELD BOOK:	
SHEET	7 OF 100

LOCATION:

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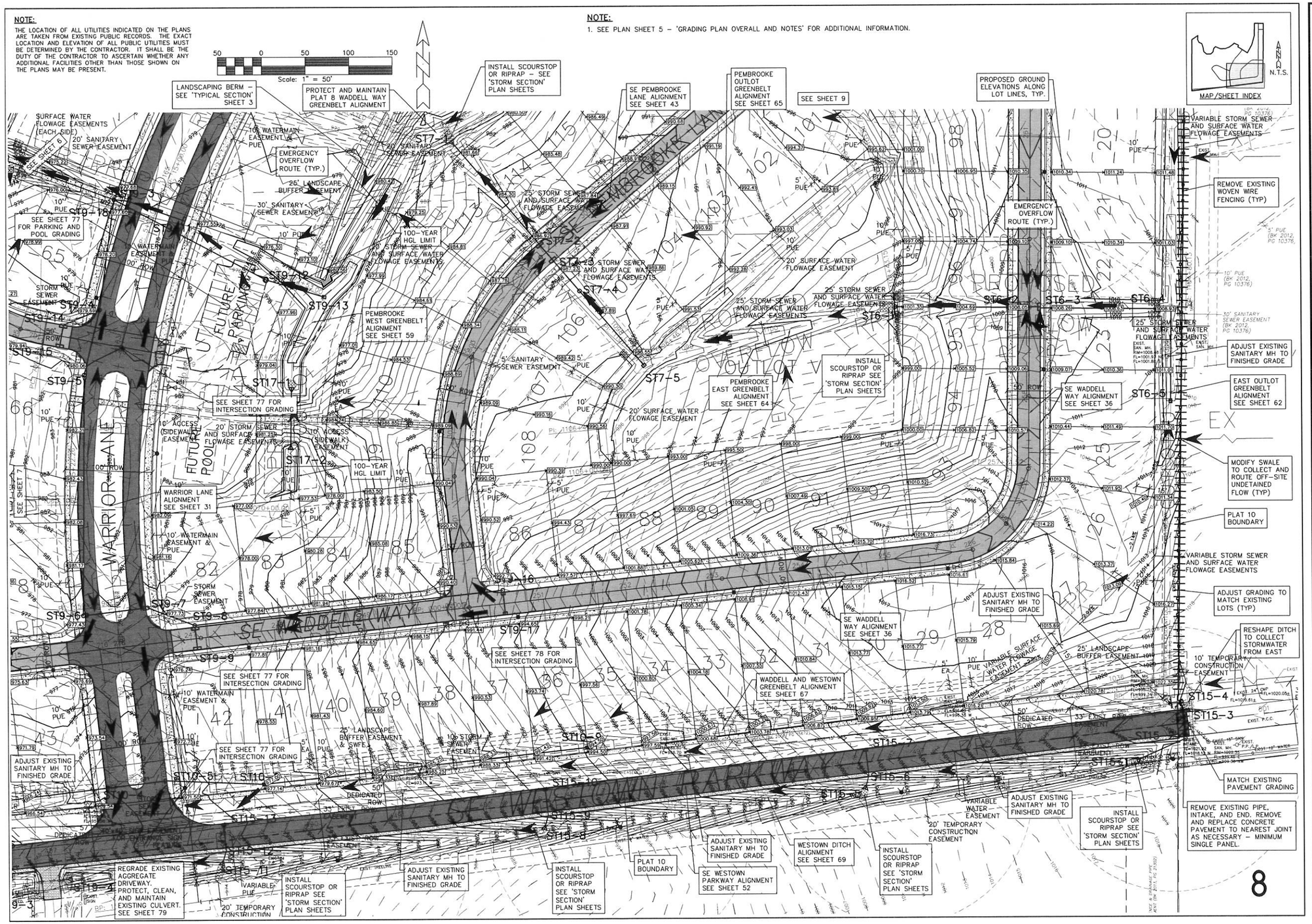
NOTE:

1. SEE PLAN SHEET 5 – 'GRADING PLAN OVERALL AND NOTES' FOR ADDITIONAL INFORMATION.



GLYNN VILLAGE PLAT 10 - GRADING PLAN 3

SCALE:	1" = 50'
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FIELD BOOK:	
DESIGNED BY:	JRK
CHECKED BY:	DJS
SHEET	8 OF 100
DRAWN BY:	PJV
DATE:	02/24/2016
FILE NO.:	15-013

LOCATION:

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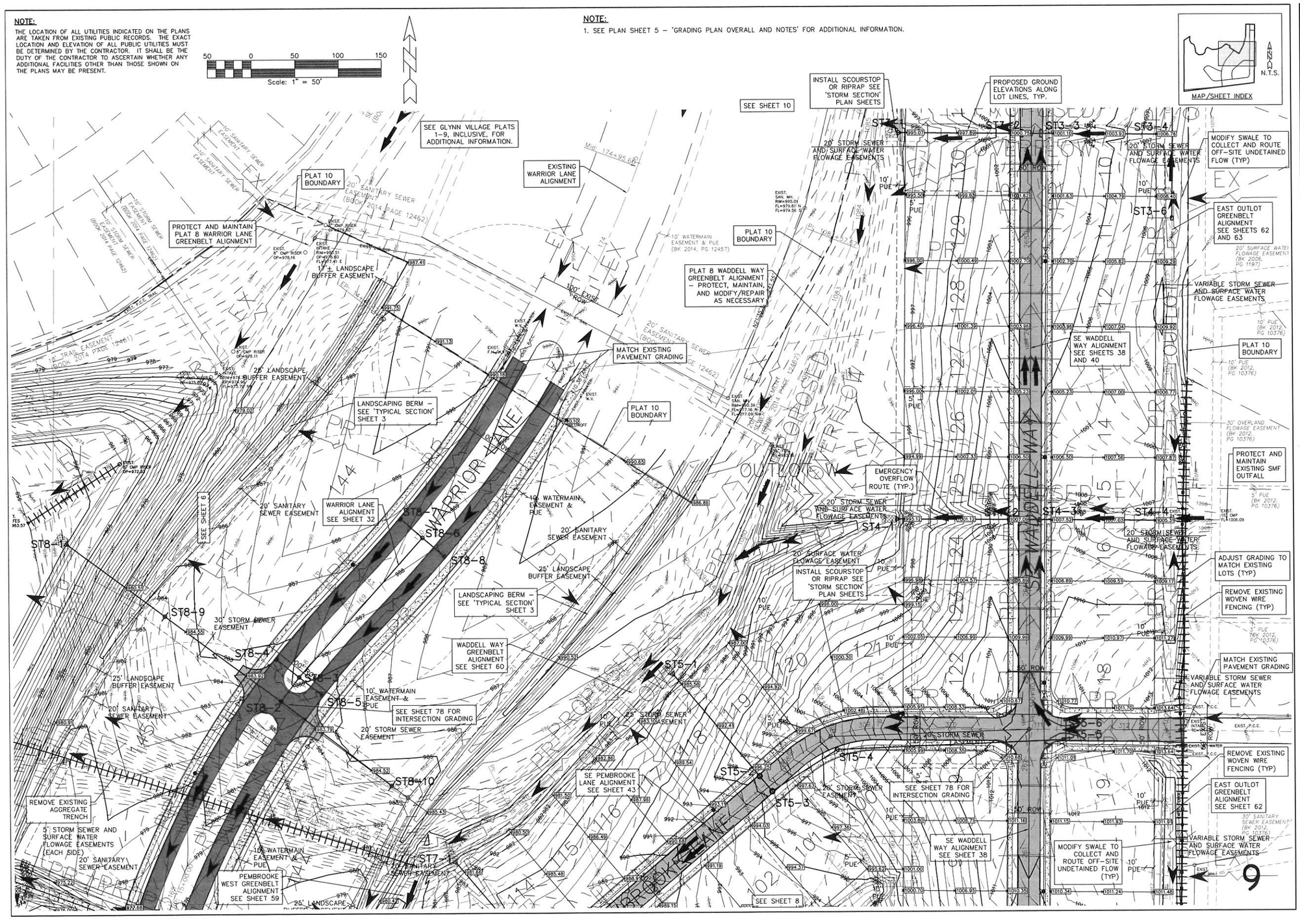
50 0 50 100 150

Scale: 1" = 50'

NOTE:

1. SEE PLAN SHEET 5 – 'GRADING PLAN OVERALL AND NOTES' FOR ADDITIONAL INFORMATION.



GLYNN VILLAGE PLAT 10 - GRADING PLAN 4

LOCATION:	
SCALE:	1" = 50'
DWG:	15-013-GRD-4.dwg
FIELD BOOK:	
DESIGNED BY:	JRK
CHECKED BY:	DJS
SHEET	9 OF 100
DRAWN BY:	PJV
DATE:	02/24/2016
FILE NO.:	15-013

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NOTE:

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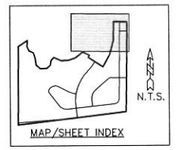
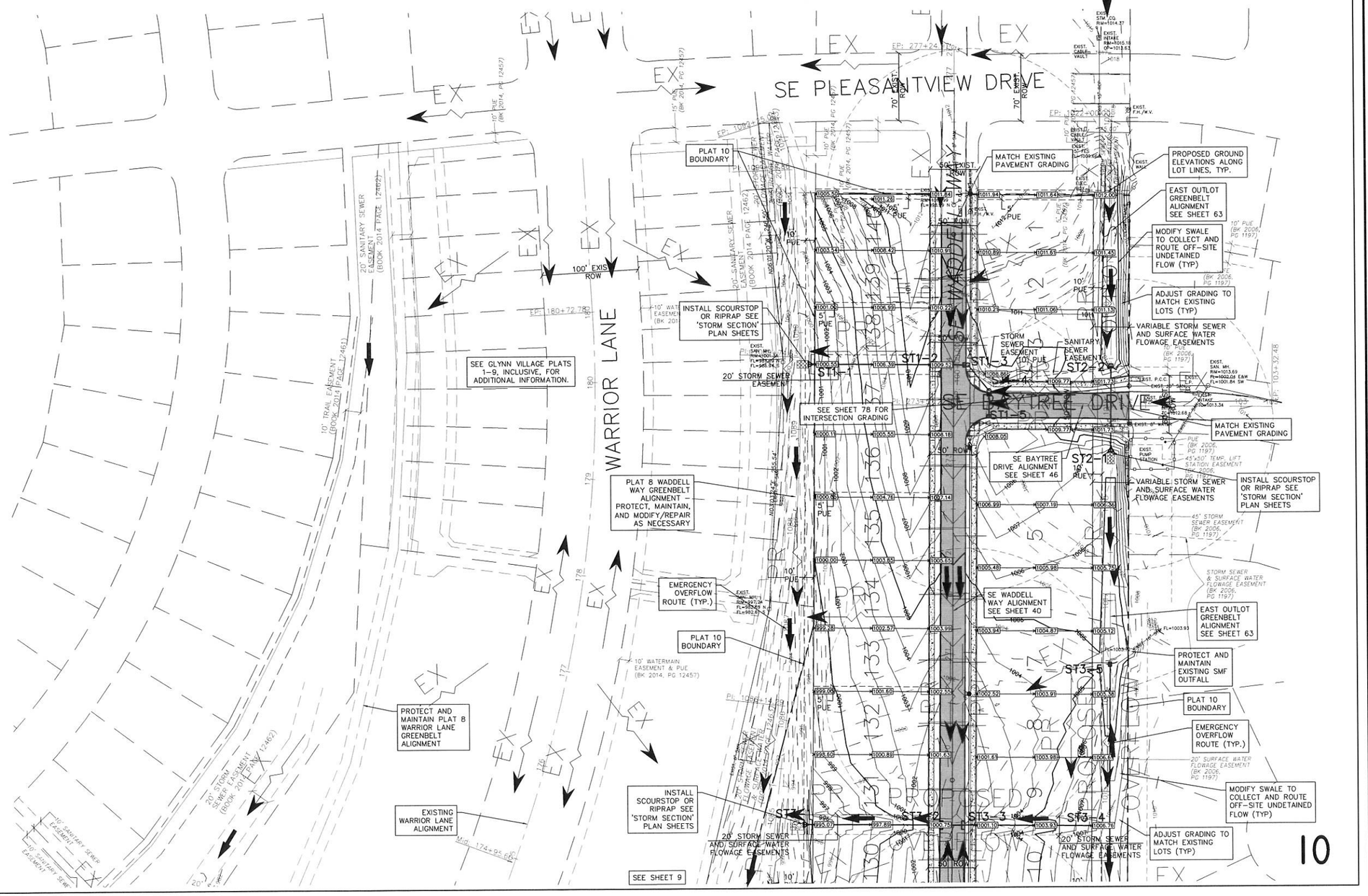
50 0 50 100 150

Scale: 1" = 50'

NOTE:

1. SEE PLAN SHEET 5 – 'GRADING PLAN OVERALL AND NOTES' FOR ADDITIONAL INFORMATION.





GLYNN VILLAGE PLAT 10 - GRADING PLAN 5

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-GRD-5.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 10 OF 100	FILE NO.: 15-013	

LOCATION:

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NOTE:

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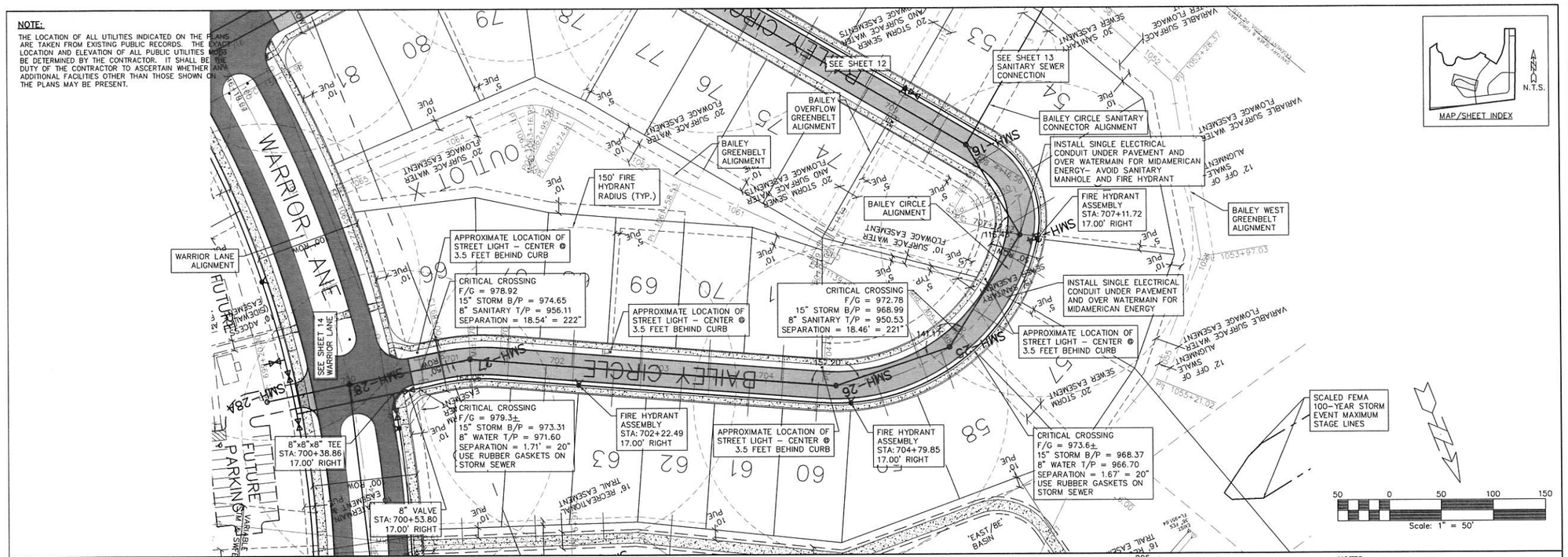
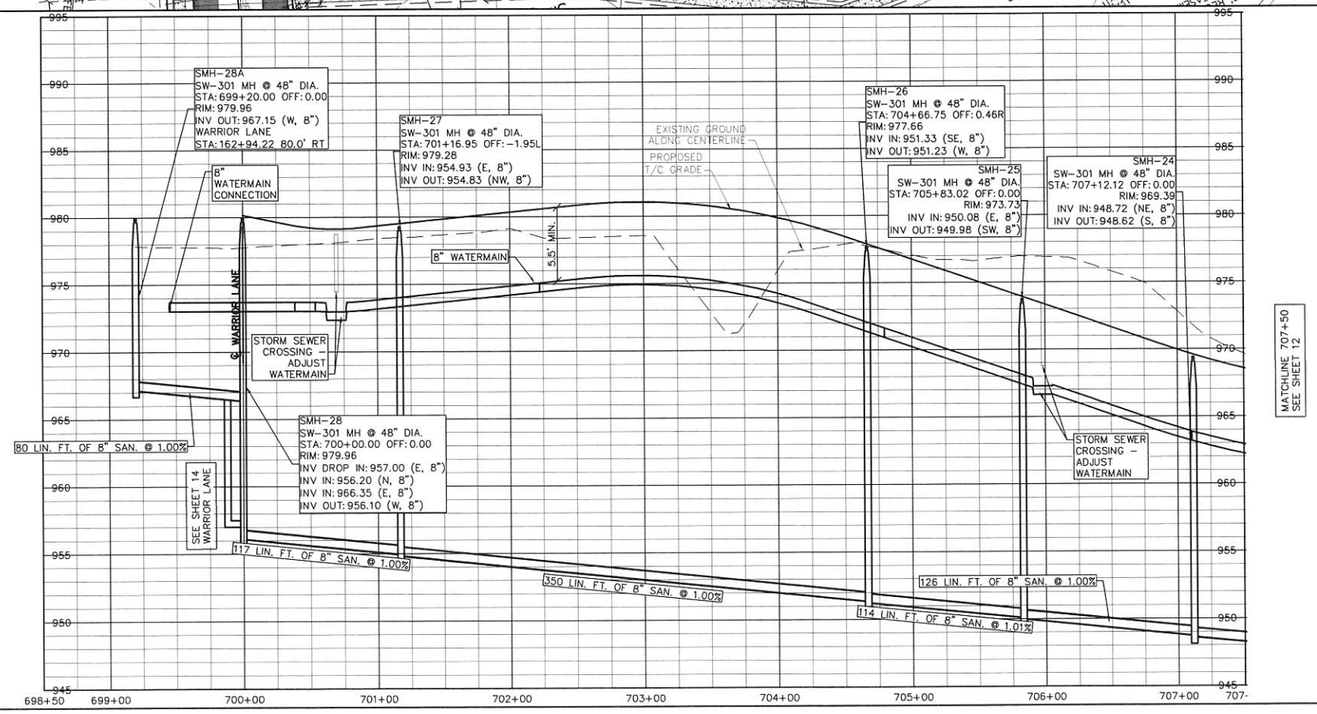


SCALES:
1" = 50' HOR
1" = 5' VER



NOTES:

1. SEE SHEET 26 FOR PROFILE AND STORM SEWER INFORMATION.
2. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT WATER AND SANITARY SERVICES.

GLYNN VILLAGE PLAT 10 - BAILEY CIRCLE - SANITARY & WATER I

SCALE:	1" = 50'
DWG:	15-013-PP3.dwg
FIELD BOOK:	
DESIGNED BY:	JRK
CHECKED BY:	DJS
SHEET 11 OF 100	
DRAWN BY:	PJV
DATE:	02/24/2016
FILE NO.:	15-013

LOCATION:

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11

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NOTE:
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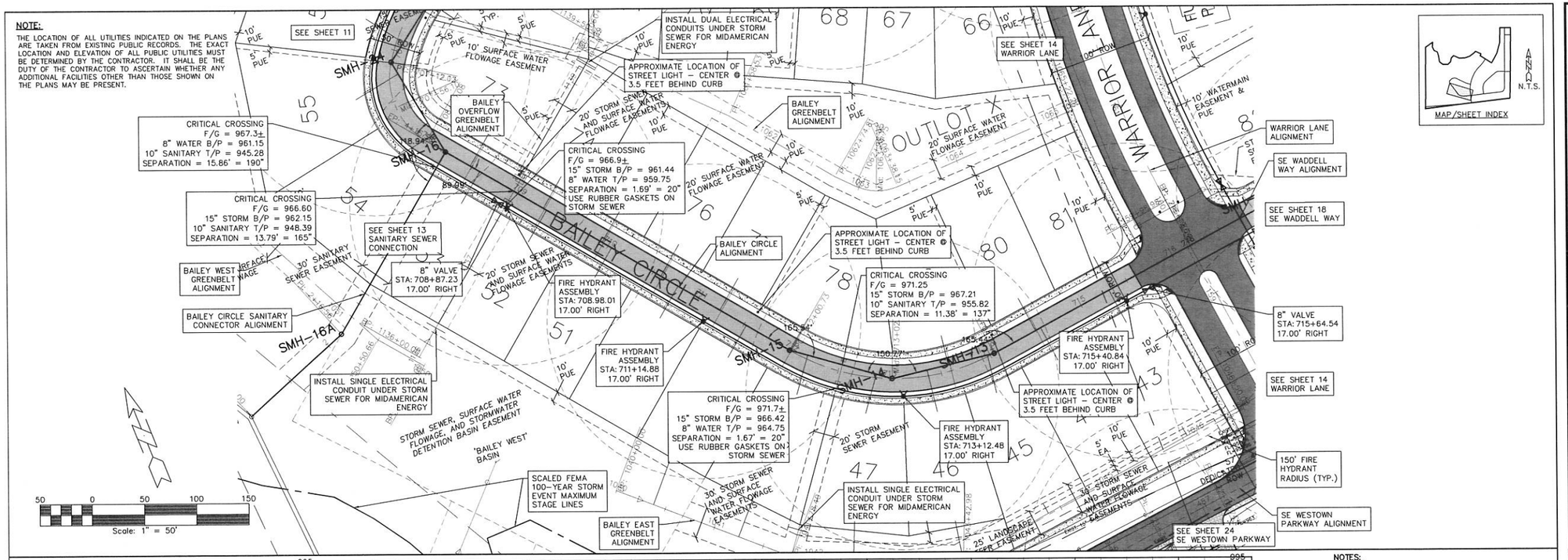
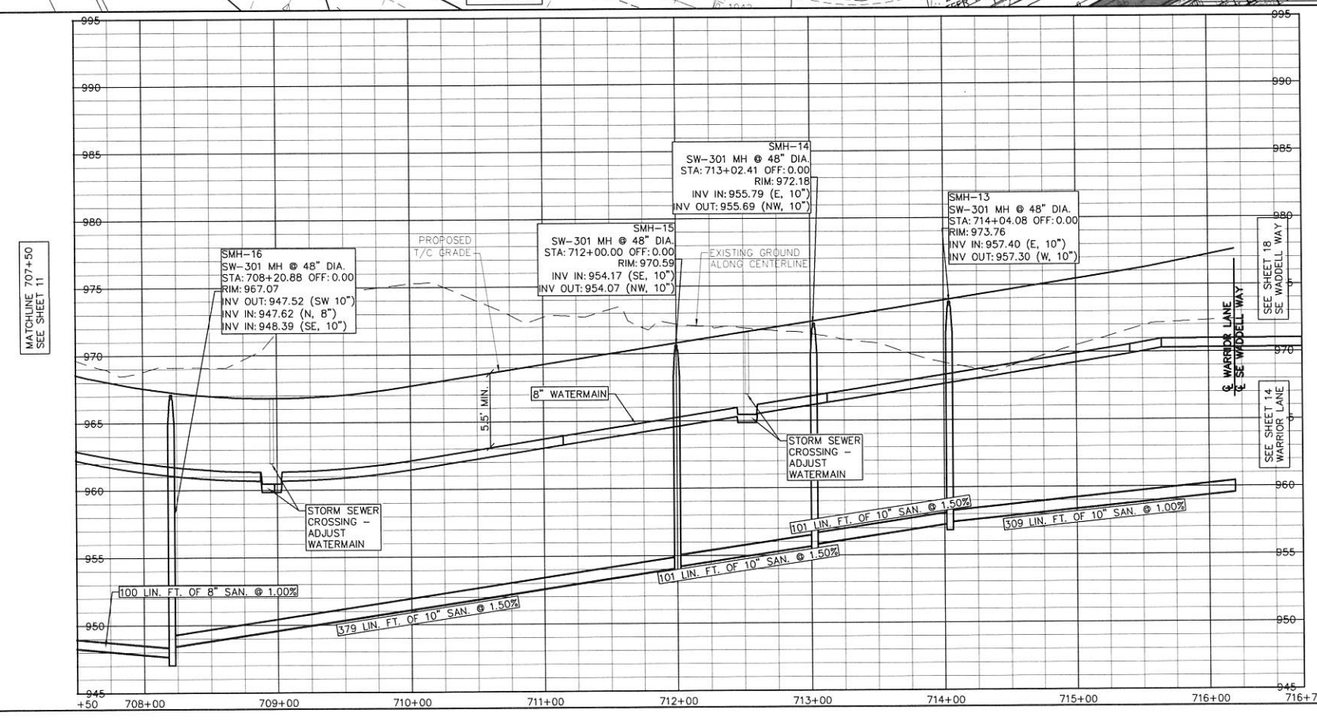


SCALES:
1" = 50' HOR
1" = 5' VER



NOTES:
1. SEE SHEET 27 FOR PROFILE AND STORM SEWER INFORMATION.
2. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT WATER AND SANITARY SERVICES.

GLYNN VILLAGE PLAT 10 - BAILEY CIRCLE - SANITARY & WATER 2

LOCATION:	SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV
	DWG: 15-013-PP2.dwg	CHECKED BY: DJS	DATE: 02/24/2016
	FIELD BOOK:	SHEET 12 OF 100	FILE NO.: 15-013

NO.	REVISION	DATE	BY	FOR:

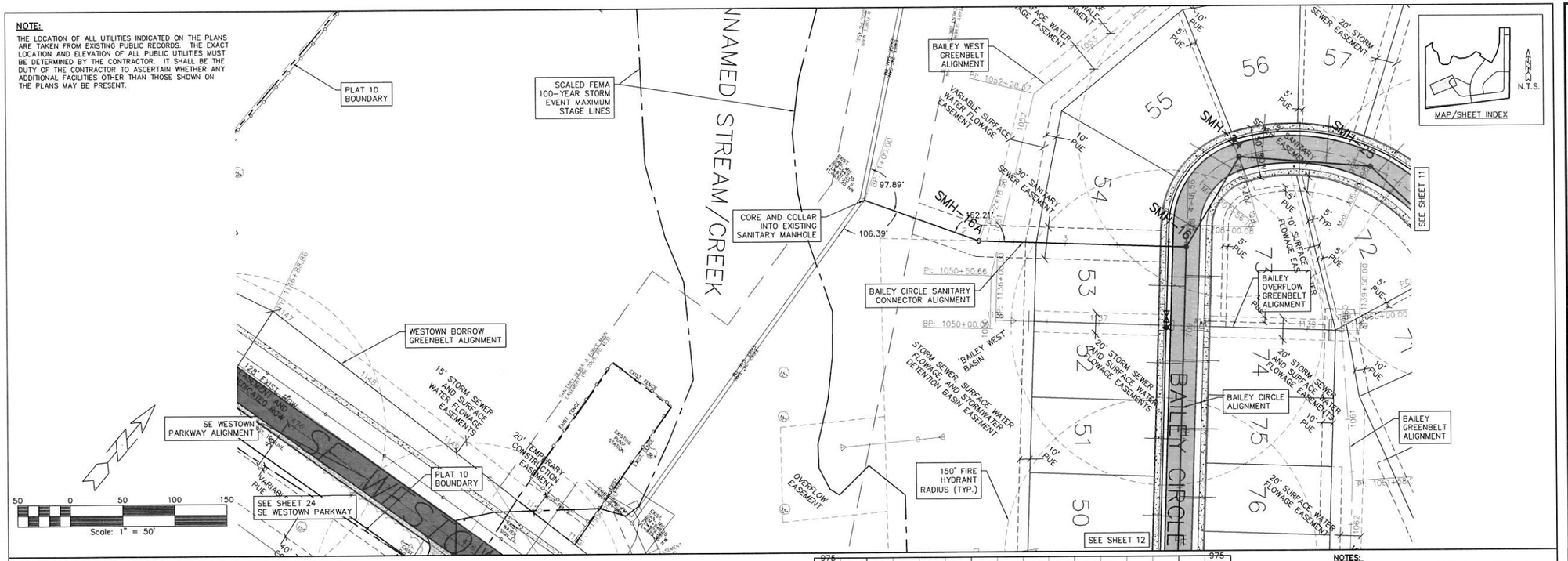
ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4862

15-013

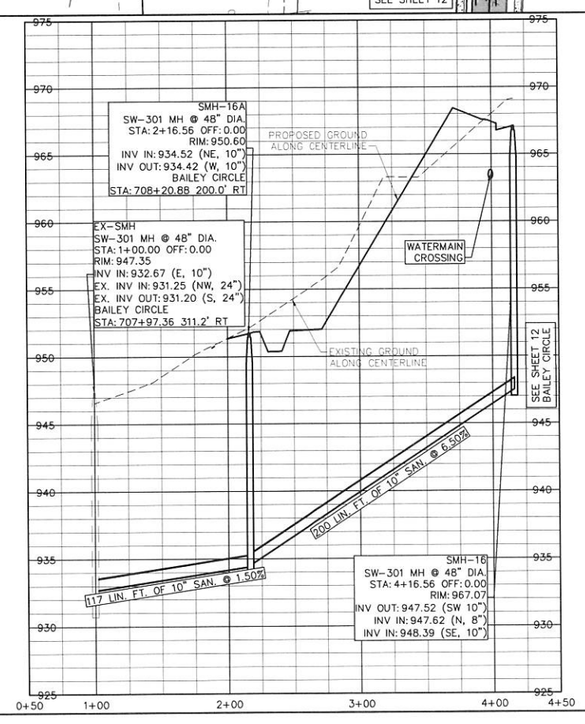
J:\2015 Proj\15-013\DESIGN\15-013-PP2.dwg 3/8/2016 2:40:00 PM Jay

NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



SCALES:
1" = 50' HOR
1" = 5' VER



NOTES:

1. SEE SHEET 27 FOR PROFILE AND STORM SEWER INFORMATION.
2. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT WATER AND SANITARY SERVICES.

GLYNN VILLAGE PLAT 10 - BAILEY CIRCLE - SANITARY SEWER EXTENSION

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP1.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 13 OF 100	FILE NO.: 15-013	

LOCATION:

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2410 GRANT AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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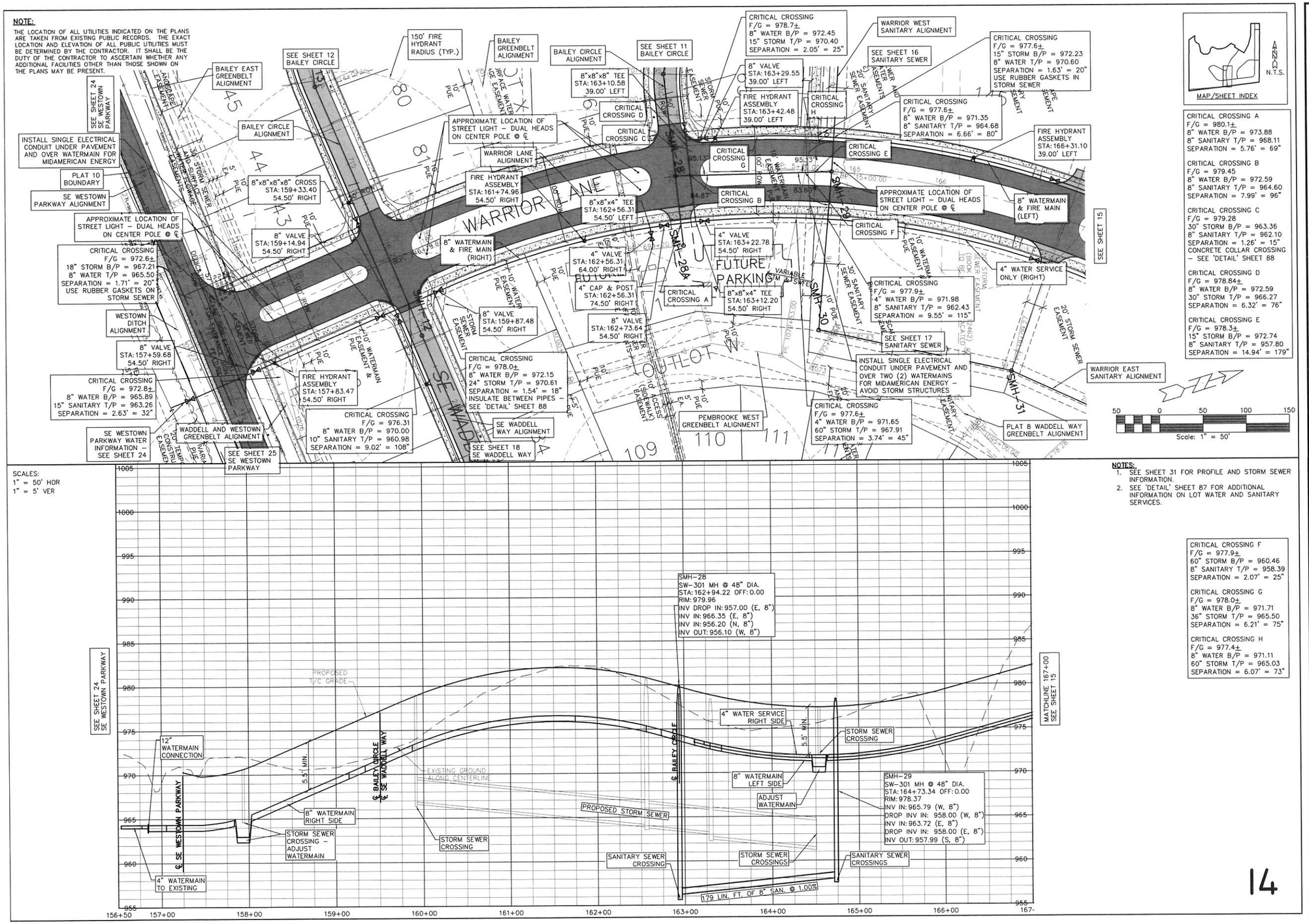
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



CRITICAL CROSSING A
F/G = 980.1±
8" WATER B/P = 973.88
8" SANITARY T/P = 968.11
SEPARATION = 5.76' = 69"

CRITICAL CROSSING B
F/G = 979.45
8" WATER B/P = 972.59
8" SANITARY T/P = 964.60
SEPARATION = 7.99' = 96"

CRITICAL CROSSING C
F/G = 979.28
30" STORM B/P = 963.36
8" SANITARY T/P = 962.10
SEPARATION = 1.26' = 15"
CONCRETE COLLAR CROSSING – SEE 'DETAIL' SHEET 88

CRITICAL CROSSING D
F/G = 978.84±
8" WATER B/P = 972.59
30" STORM T/P = 966.27
SEPARATION = 6.32' = 76"

CRITICAL CROSSING E
F/G = 978.3±
15" STORM B/P = 972.74
8" SANITARY T/P = 957.80
SEPARATION = 14.94' = 179"

SCALES:
1" = 50' HOR
1" = 5' VER

NOTES:
1. SEE SHEET 31 FOR PROFILE AND STORM SEWER INFORMATION.
2. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT WATER AND SANITARY SERVICES.

CRITICAL CROSSING F
F/G = 977.9±
60" STORM B/P = 960.46
8" SANITARY T/P = 958.39
SEPARATION = 2.07' = 25"

CRITICAL CROSSING G
F/G = 978.0±
8" WATER B/P = 971.71
36" STORM T/P = 965.50
SEPARATION = 6.21' = 75"

CRITICAL CROSSING H
F/G = 977.4±
8" WATER B/P = 971.11
60" STORM T/P = 965.03
SEPARATION = 6.07' = 73"

14

GLYNN VILLAGE PLAT 10 - WARRIOR LANE - SANITARY & WATER I

SCALE:	1" = 50'
DWG:	15-013-PP4.dwg
FIELD BOOK:	
DRAWN BY:	PJV
DATE:	02/24/2016
DESIGNED BY:	JRK
CHECKED BY:	DJS
SHEET	14 OF 100
FILE NO.:	15-013

LOCATION:

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2410 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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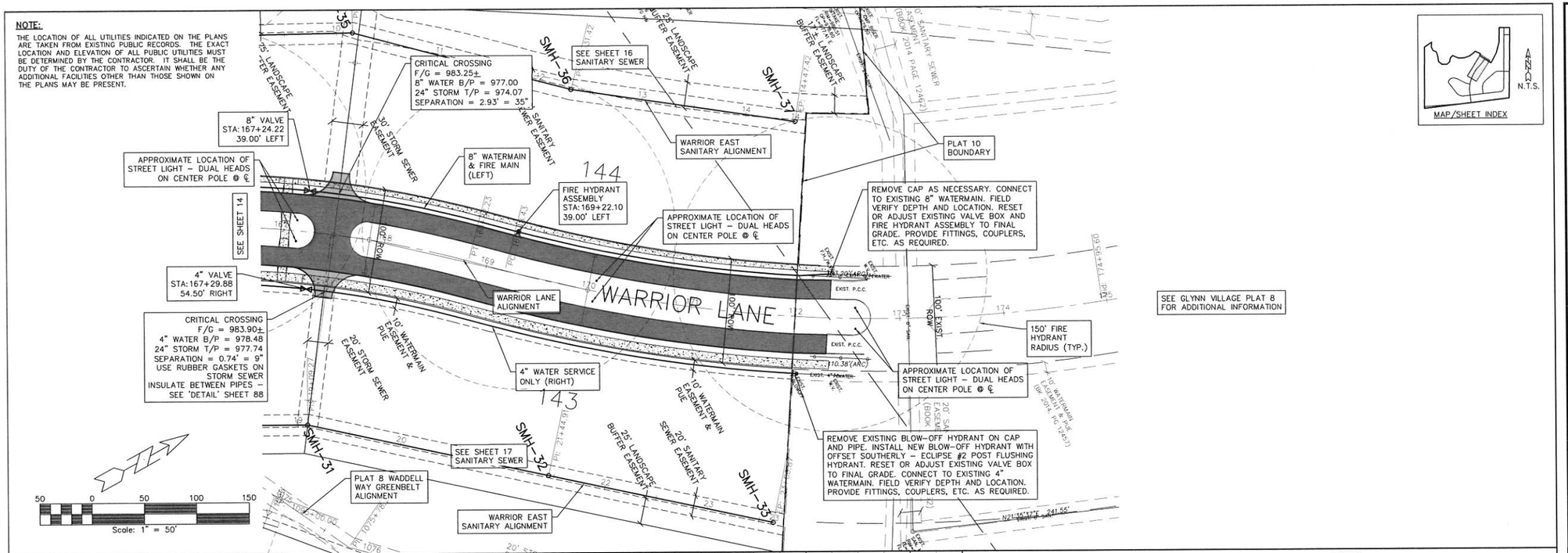
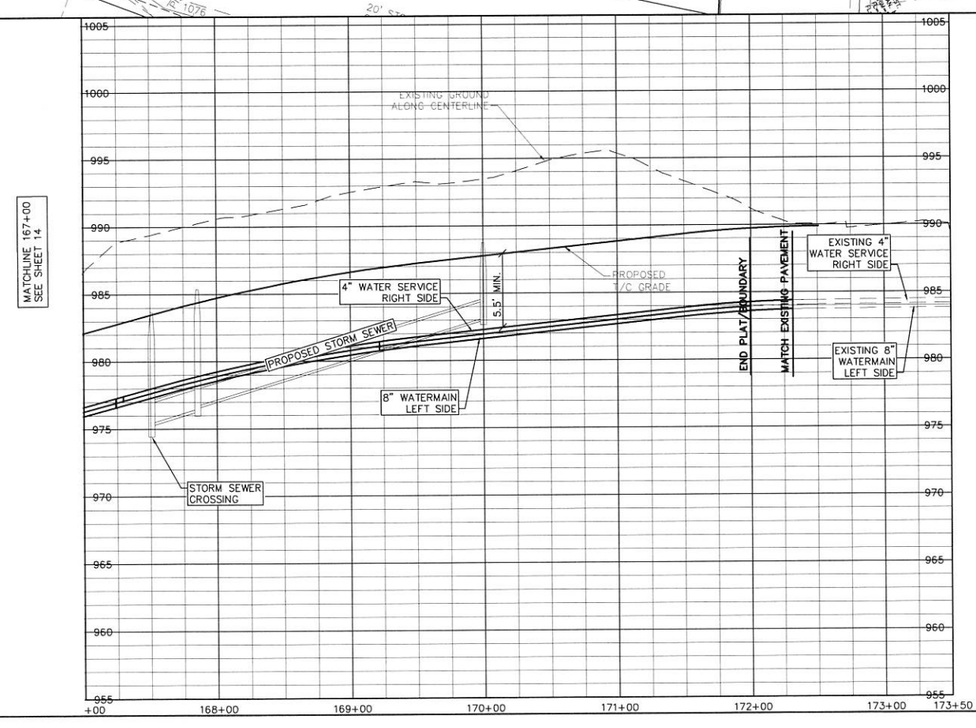
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



SCALES:
1" = 50' HOR
1" = 5' VER



NOTES:
1. SEE SHEET 35 FOR PROFILE AND STORM SEWER INFORMATION.
2. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT WATER AND SANITARY SERVICES.

GLYNN VILLAGE PLAT 10 - WARRIOR LANE - SANITARY & WATER 2

SCALE:	1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV
DWG:	15-013-PP5.dwg	CHECKED BY: DJS	DATE: 02/24/2016
FIELD BOOK:		SHEET 15 OF 100	FILE NO.: 15-013

LOCATION:

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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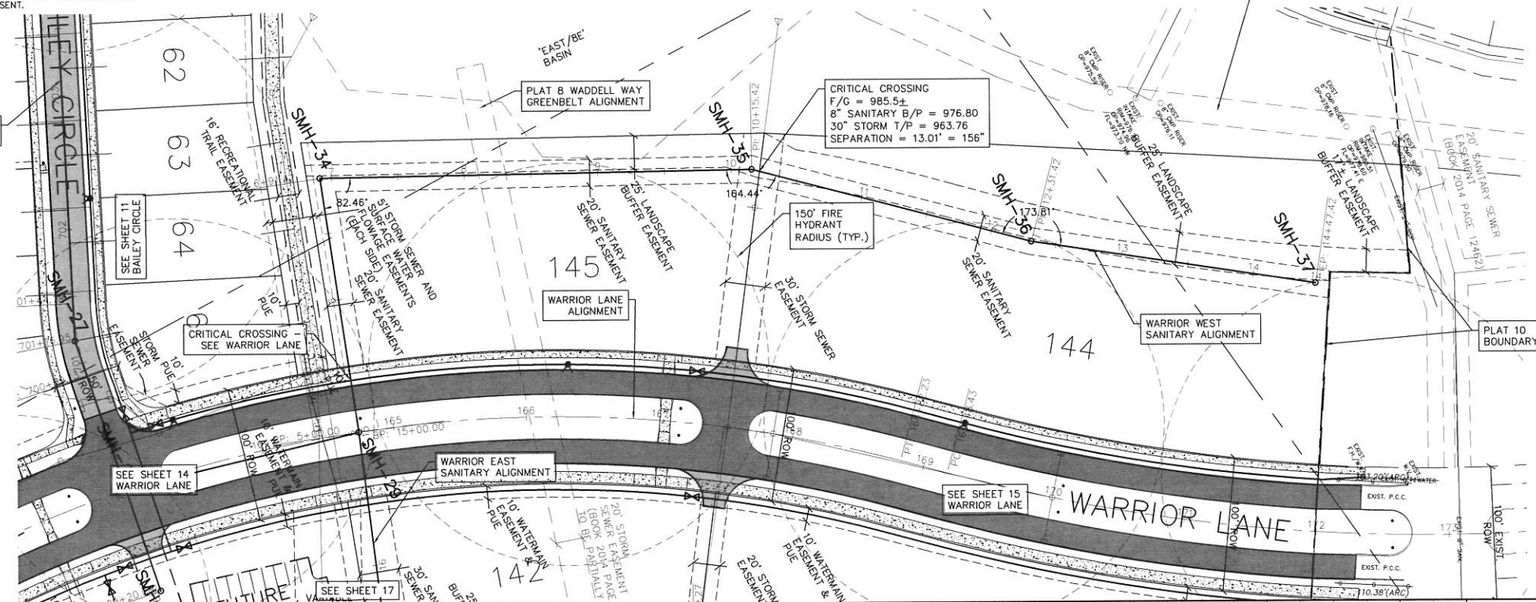
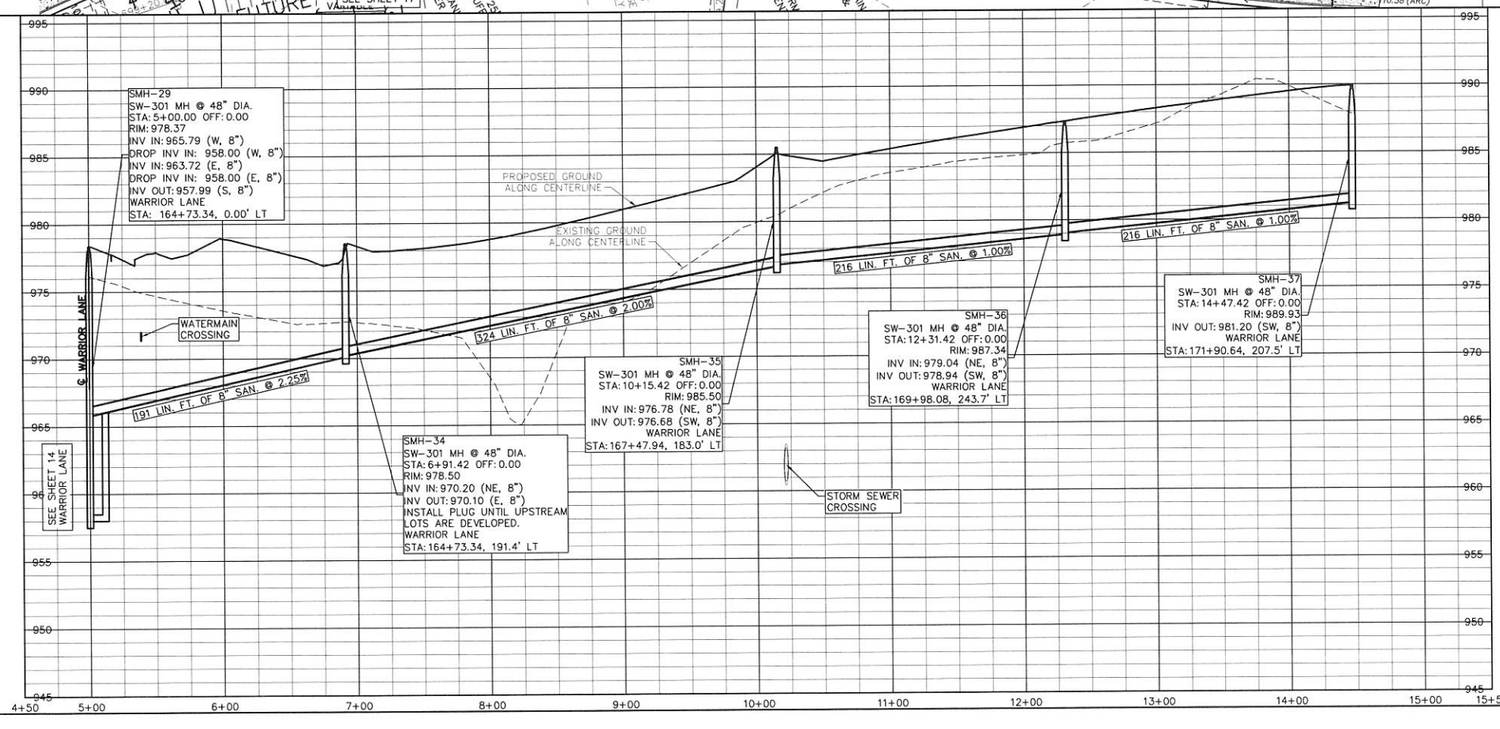
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



NOTE:
ROW HOUSE UTILITY CONNECTIONS WILL BE REQUIRED TO CONDUCT LIVE TESTING OF SERVICES AND MAINS IF COMPLETED AFTER CONSTRUCTION OF ANY UPSTREAM RESIDENTIAL STRUCTURES.

SCALES:
1" = 50' HOR
1" = 5' VER



NOTES:
1. SEE SHEETS 31 AND 35 FOR PROFILE AND STORM SEWER INFORMATION.
2. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT WATER AND SANITARY SERVICES.

GLYNN VILLAGE PLAT 10 - WARRIOR WEST - SANITARY

LOCATION:		DRAWN BY:	PJV
SCALE:	1" = 50'	DESIGNED BY:	JRK
DWG:	15-013-PP6.dwg	CHECKED BY:	DJS
FIELD BOOK:		SHEET 16 OF 100	FILE NO.: 15-013

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 283-4262

15-013

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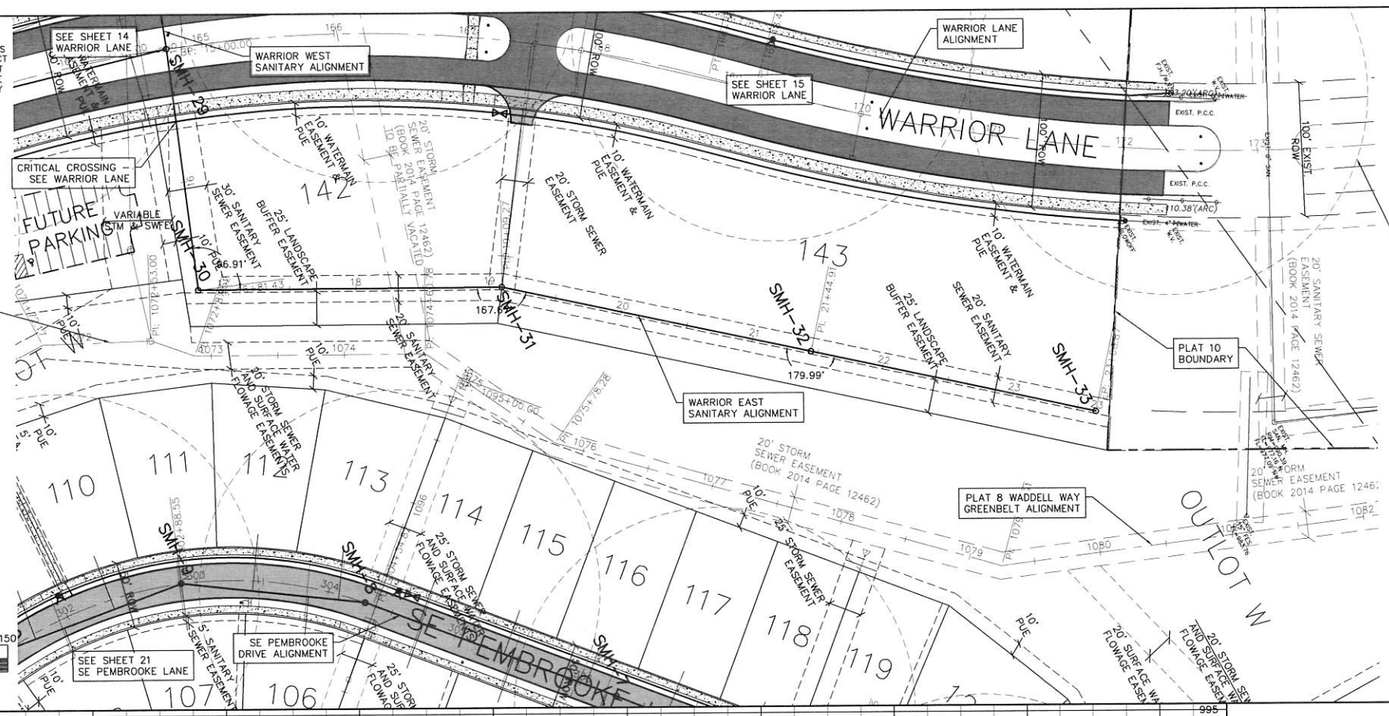
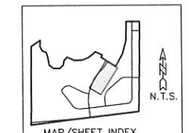
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

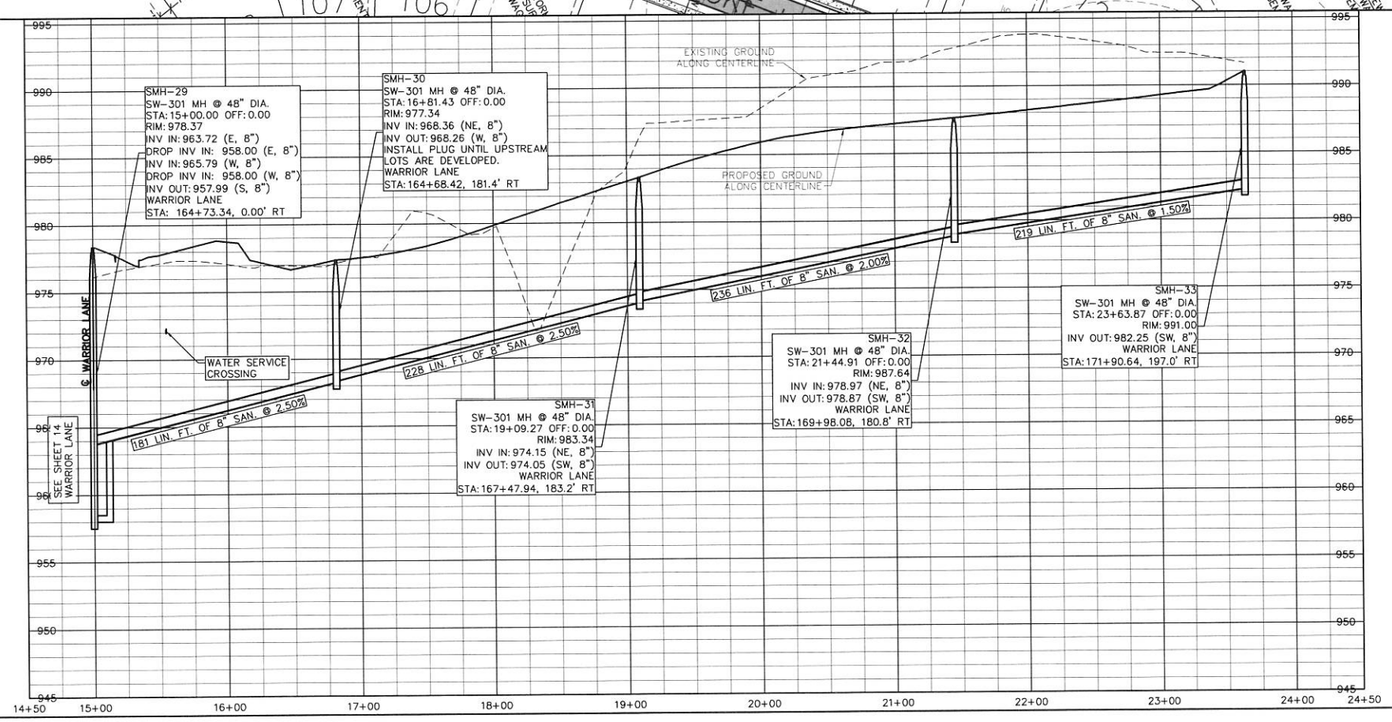




MAP/SHEET INDEX

NOTE:
ROW HOUSE UTILITY CONNECTIONS WILL BE REQUIRED TO CONDUCT LIVE TESTING OF SERVICES AND MAINS IF COMPLETED AFTER CONSTRUCTION OF ANY UPSTREAM RESIDENTIAL STRUCTURES.

SCALES:
1" = 50' HOR
1" = 5' VER



NOTES:
1. SEE SHEETS 31 AND 35 FOR PROFILE AND STORM SEWER INFORMATION.
2. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT WATER AND SANITARY SERVICES.

GLYNN VILLAGE PLAT 10 - WARRIOR EAST - SANITARY

NO.	REVISION	DATE	BY	FOR:

LOCATION:	DESIGNED BY: JRK	DRAWN BY: PJV	
SCALE: 1" = 50'	CHECKED BY: DJS	DATE: 02/24/2016	
DWG: 15-013-PP7.dwg	SHEET 17 OF 100	FILE NO.: 15-013	
FIELD BOOK:			

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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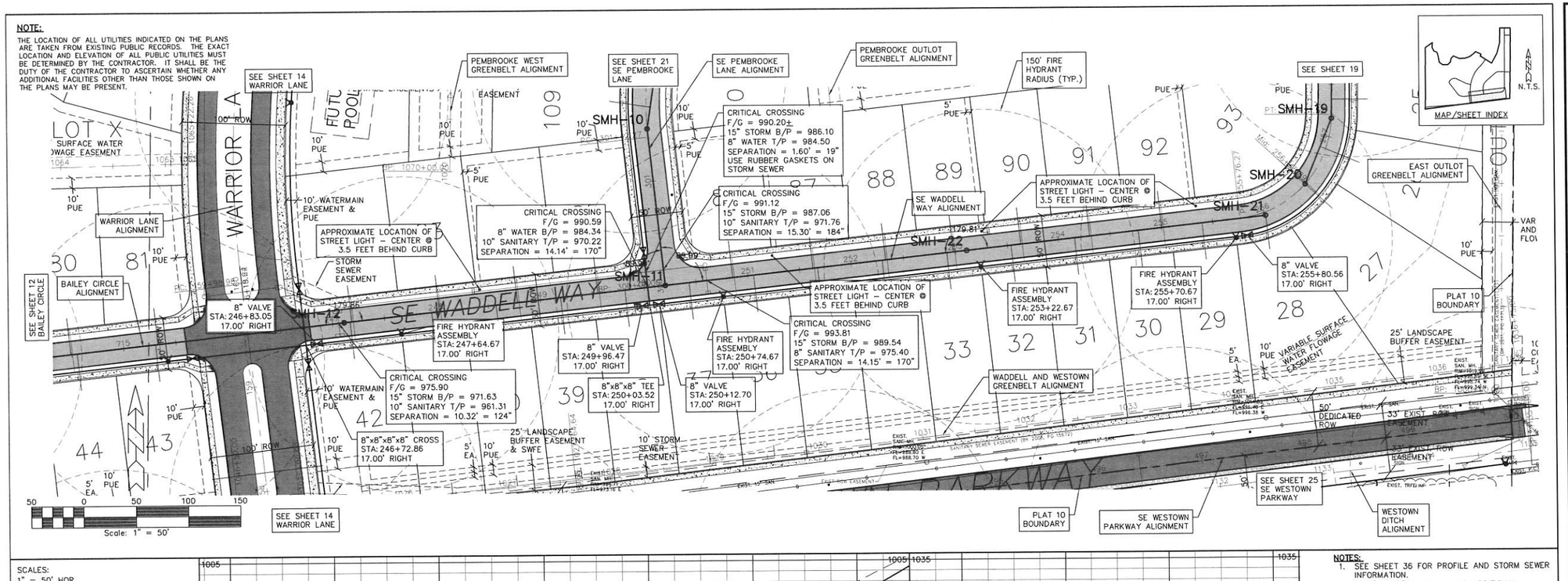
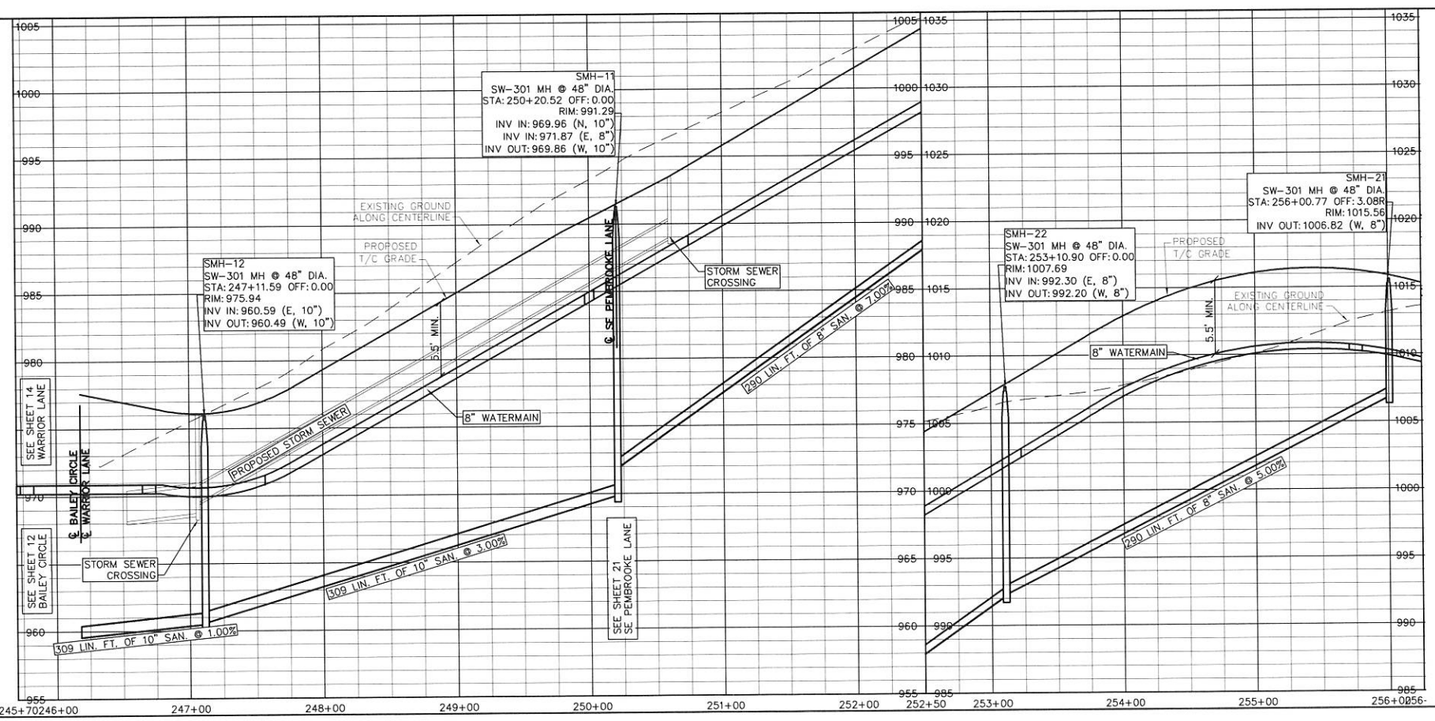
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



SCALES:
1" = 50' HOR
1" = 5' VER



NOTES:
1. SEE SHEET 36 FOR PROFILE AND STORM SEWER INFORMATION.
2. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT WATER AND SANITARY SERVICES.

GLYNN VILLAGE PLAT 10 - SE WADDELL WAY - SANITARY & WATER I

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP8.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 18 OF 100	FILE NO.: 15-013	

LOCATION:

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4053

15-013

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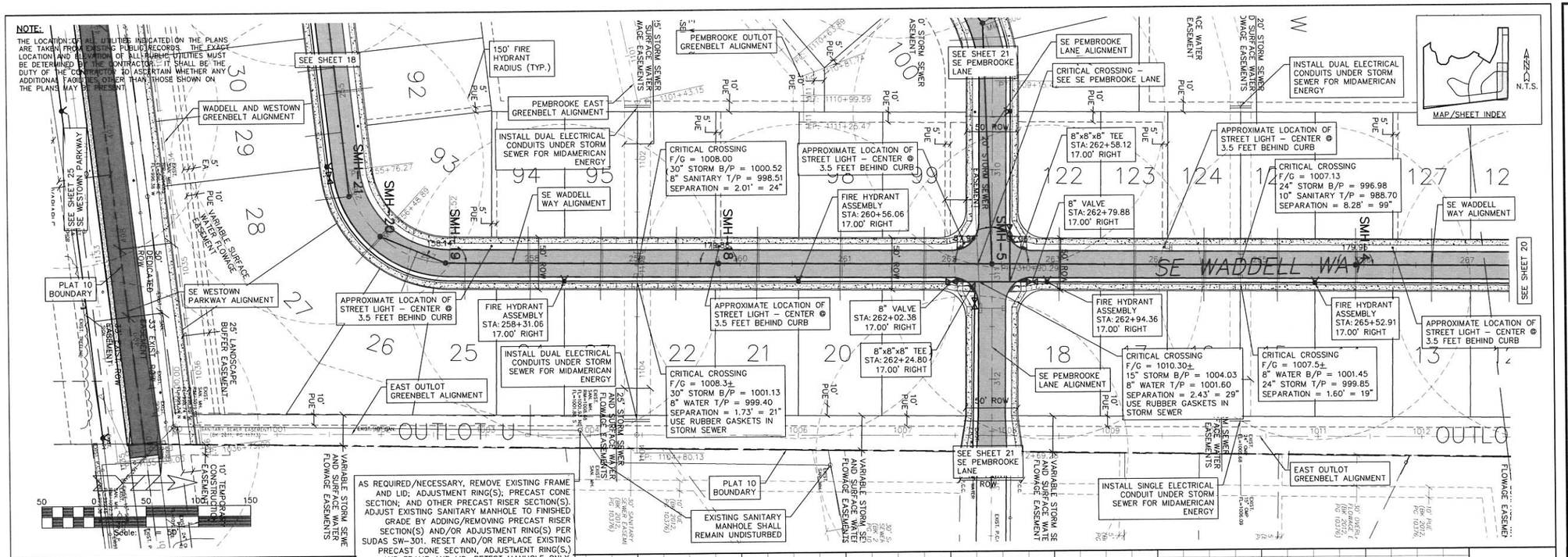
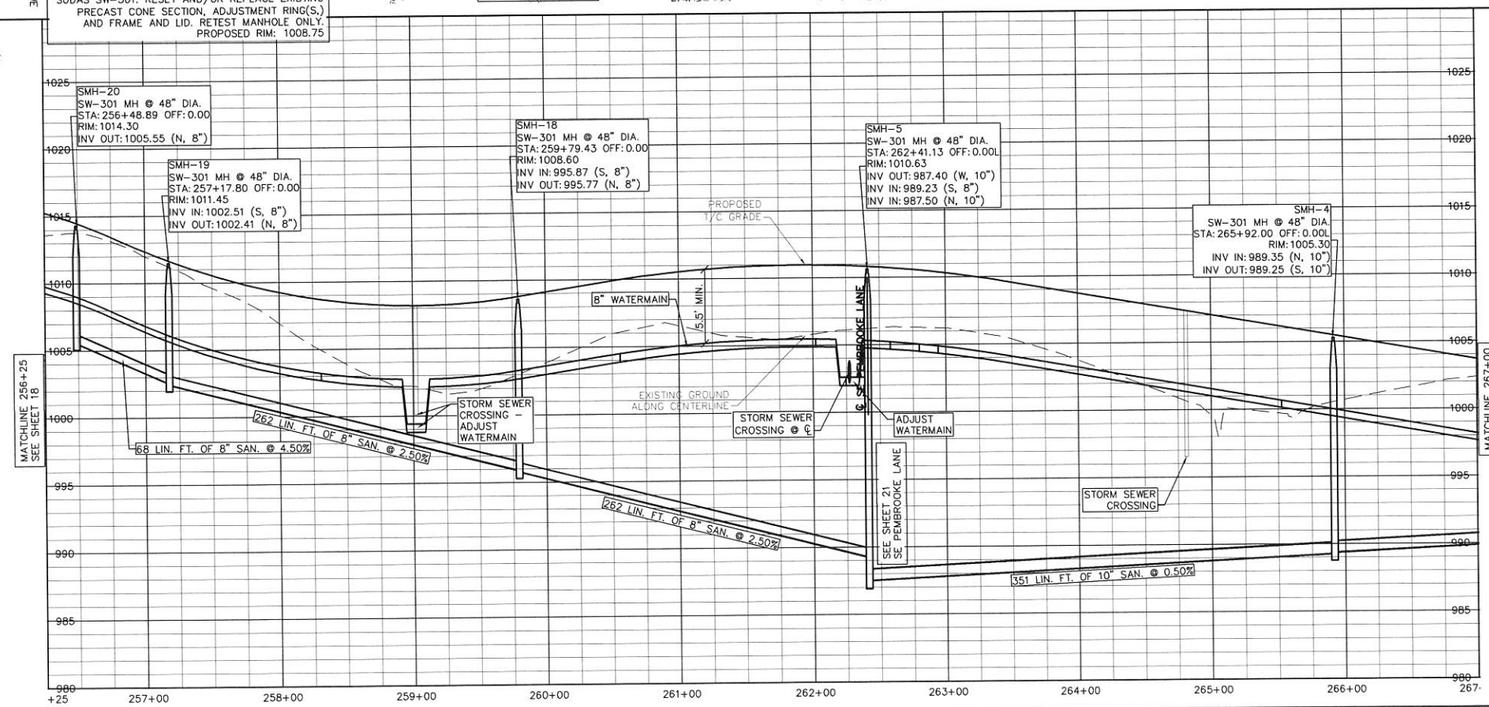
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES, OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



AS REQUIRED/NECESSARY, REMOVE EXISTING FRAME AND LID; ADJUSTMENT RING(S); PRECAST CONE SECTION; AND OTHER PRECAST RISER SECTION(S). ADJUST EXISTING SANITARY MANHOLE TO FINISHED GRADE BY ADDING/REMOVING PRECAST RISER SECTION(S) AND/OR ADJUSTMENT RING(S) PER SUDAS SW-301. RESET AND/OR REPLACE EXISTING PRECAST CONE SECTION, ADJUSTMENT RING(S,) AND FRAME AND LID. RETEST MANHOLE ONLY. PROPOSED RIM: 1008.75

SCALES:
1" = 50' HOR
1" = 5' VER

NOTES:
1. SEE SHEET 38 FOR PROFILE AND STORM SEWER INFORMATION.
2. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT WATER AND SANITARY SERVICES.



GLYNN VILLAGE PLAT 10 - SE WADDELL WAY - SANITARY & WATER 2

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP9.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 19 OF 100	FILE NO.: 15-013	

LOCATION:

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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NOTE:
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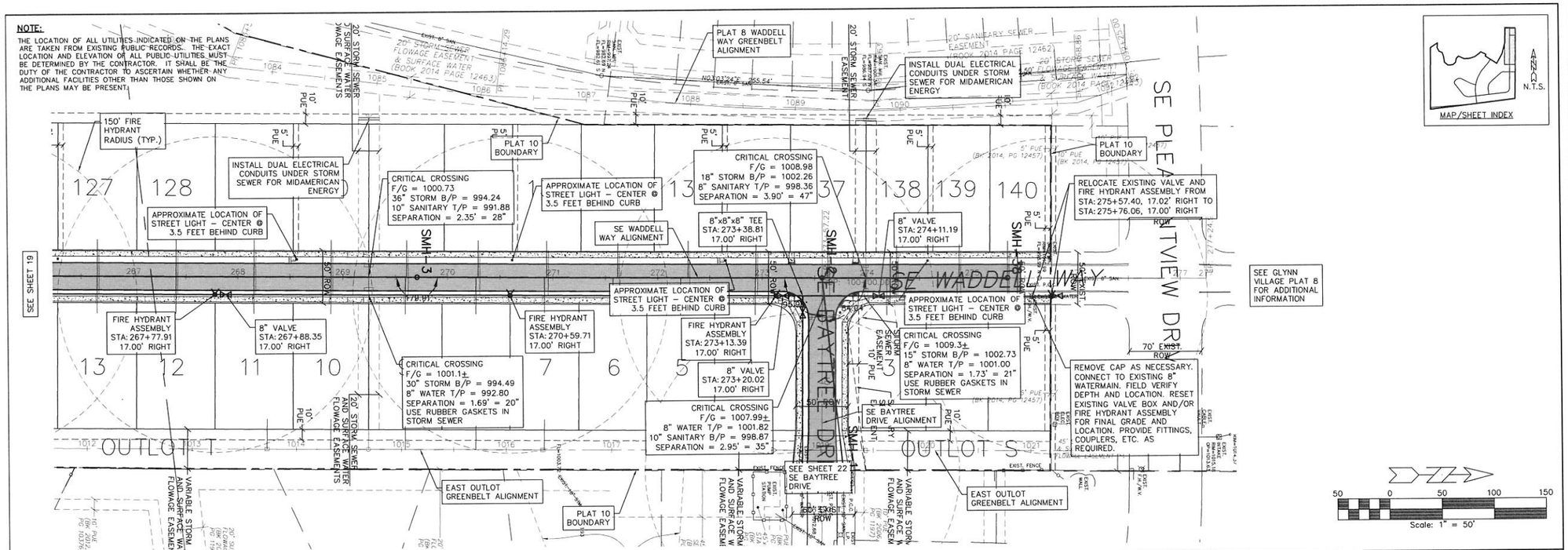
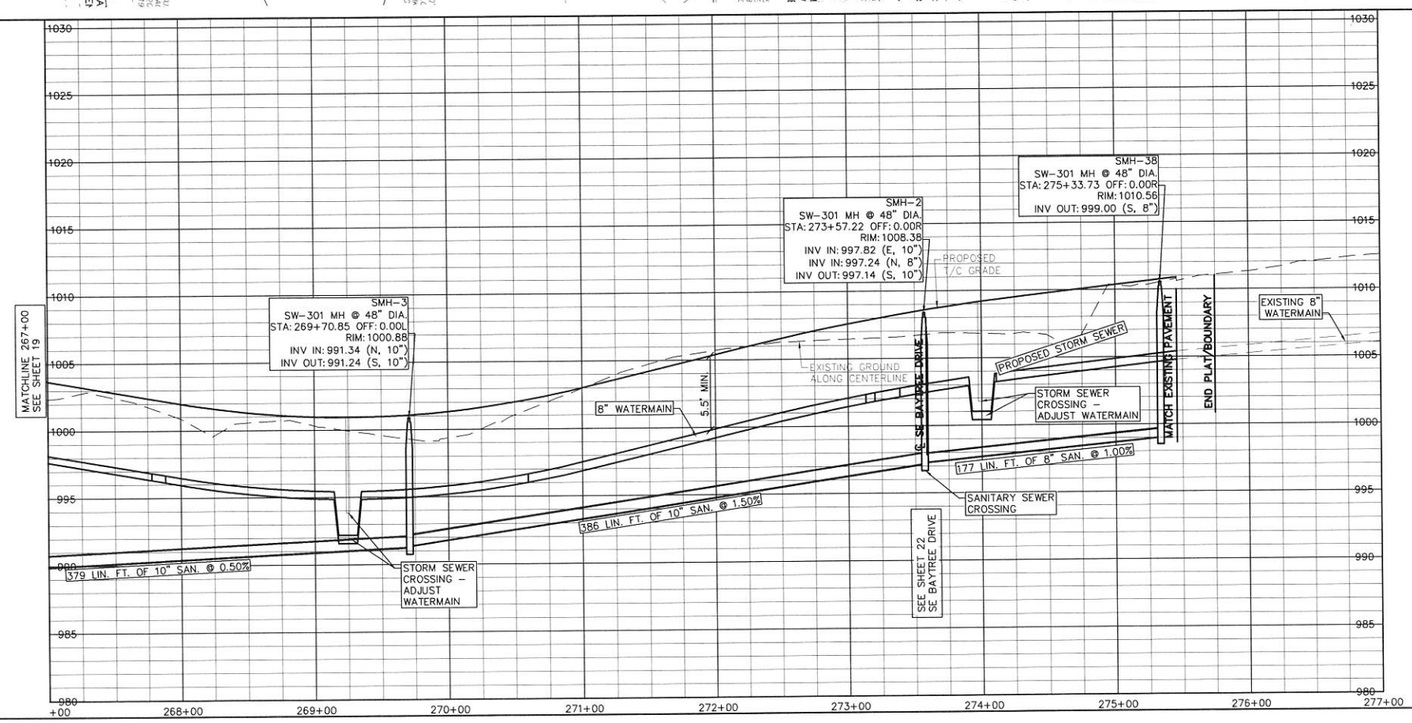


SCALES:
1" = 50' HOR
1" = 5' VER



NOTES:
1. SEE SHEET 40 FOR PROFILE AND STORM SEWER INFORMATION.
2. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT WATER AND SANITARY SERVICES.

GLYNN VILLAGE PLAT 10 - SE WADDELL WAY - SANITARY & WATER 3

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP10.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 20 OF 100	FILE NO.: 15-013	

LOCATION:

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 280-4823

15-013

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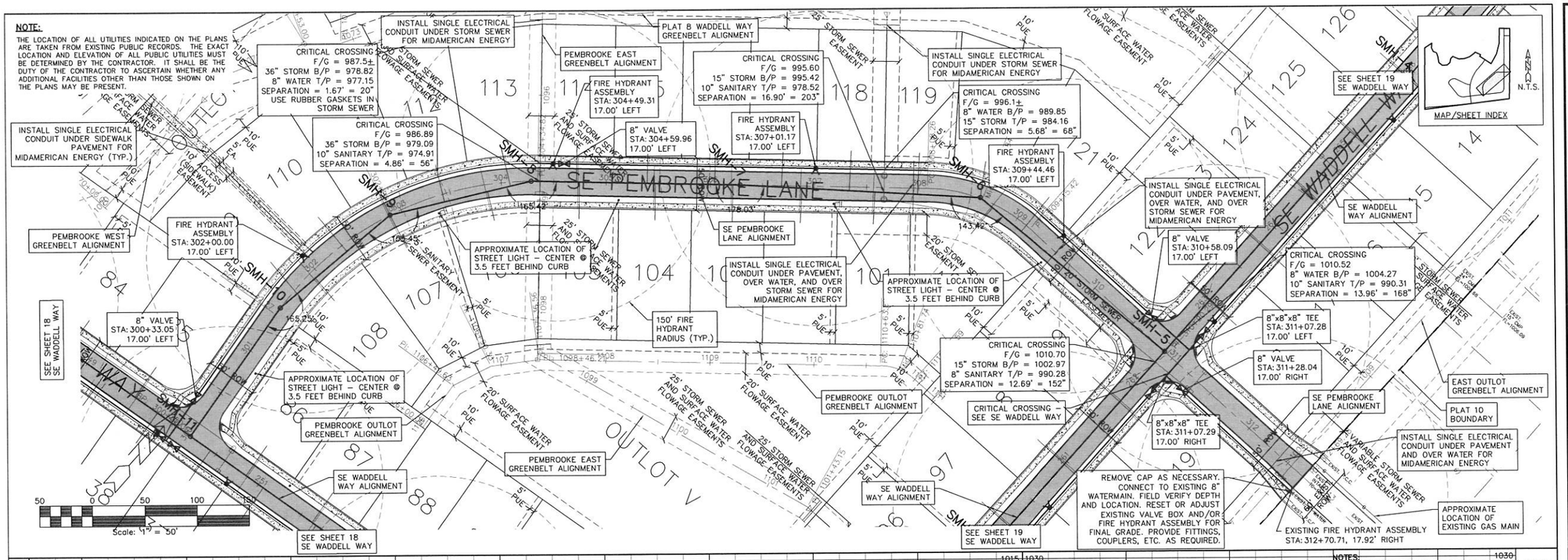
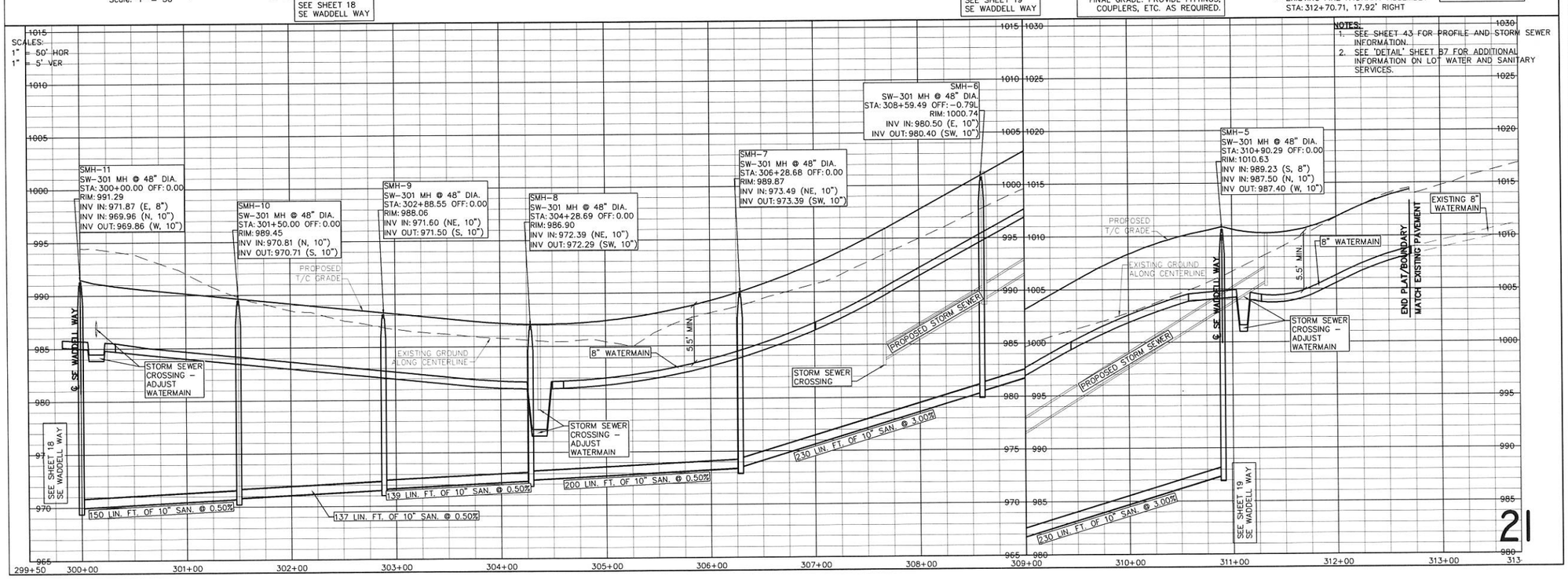
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



SCALES:
1" = 50' HOR
1" = 5' VER

NOTES:
1. SEE SHEET 43 FOR PROFILE AND STORM SEWER INFORMATION.
2. SEE 'DETAIL' SHEET B7 FOR ADDITIONAL INFORMATION ON LOT WATER AND SANITARY SERVICES.



21

GLYNN VILLAGE PLAT 10 - SE PEMBROOKE LANE - SANITARY & WATER

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP11.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 21 OF 100	FILE NO.: 15-013	
LOCATION:			

NO.	REVISION	DATE	BY	FOR:

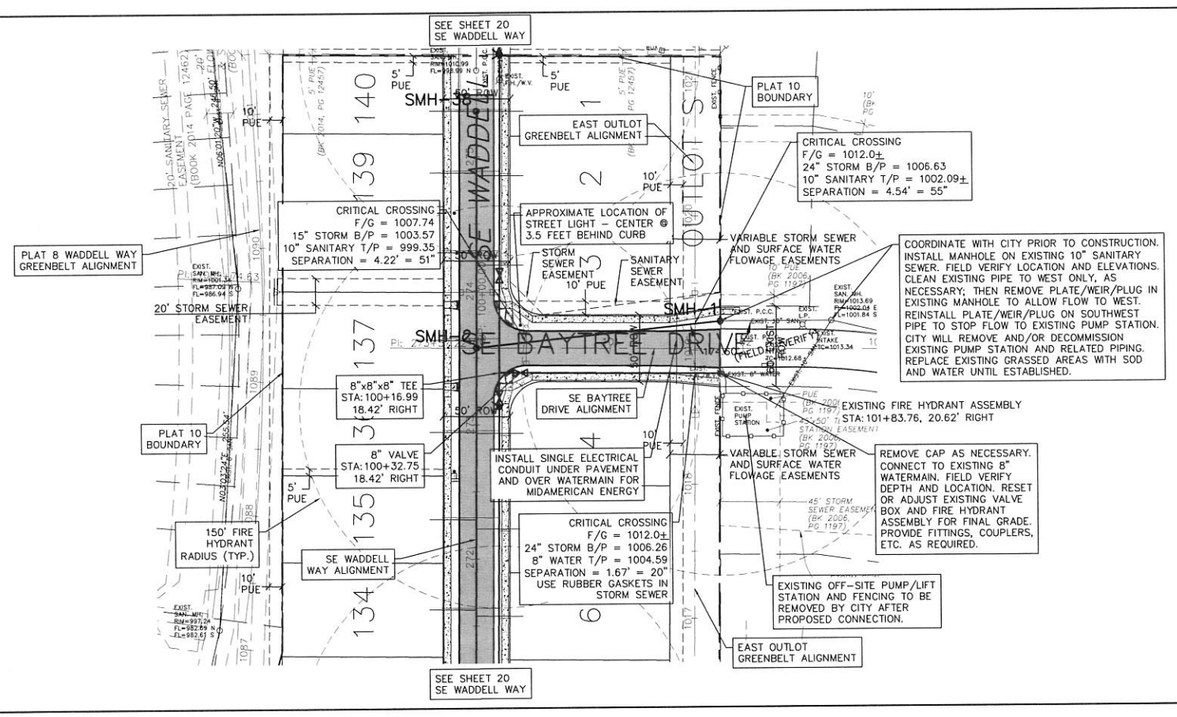
ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 280-4225

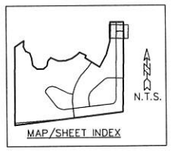
15-013

J:\2015 Proj\15-013\DESIGN\15-013-PP11.dwg, 3/8/2016 2:43:44 PM, Jay

NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

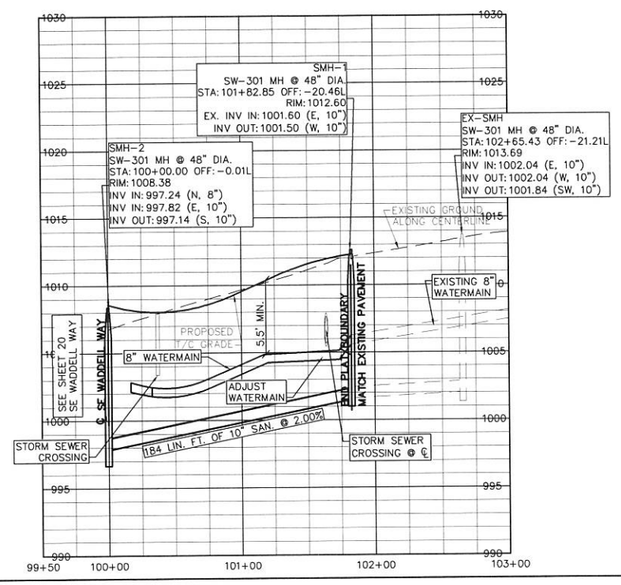




SCALES:
1" = 50' HOR
1" = 5' VER

NOTES:

1. SEE SHEET 46 FOR PROFILE AND STORM SEWER INFORMATION.
2. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT WATER AND SANITARY SERVICES.



GLYNN VILLAGE PLAT 10 - SE BAYTREE DRIVE - SANITARY & WATER

LOCATION:		DESIGNED BY: JRK	DRAWN BY: PJV
SCALE: 1" = 50'		CHECKED BY: DJS	DATE: 02/24/2016
DWG: 15-013-PP12.dwg		SHEET 22 OF 100	FILE NO.: 15-013
FIELD BOOK:			

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4023

15-013

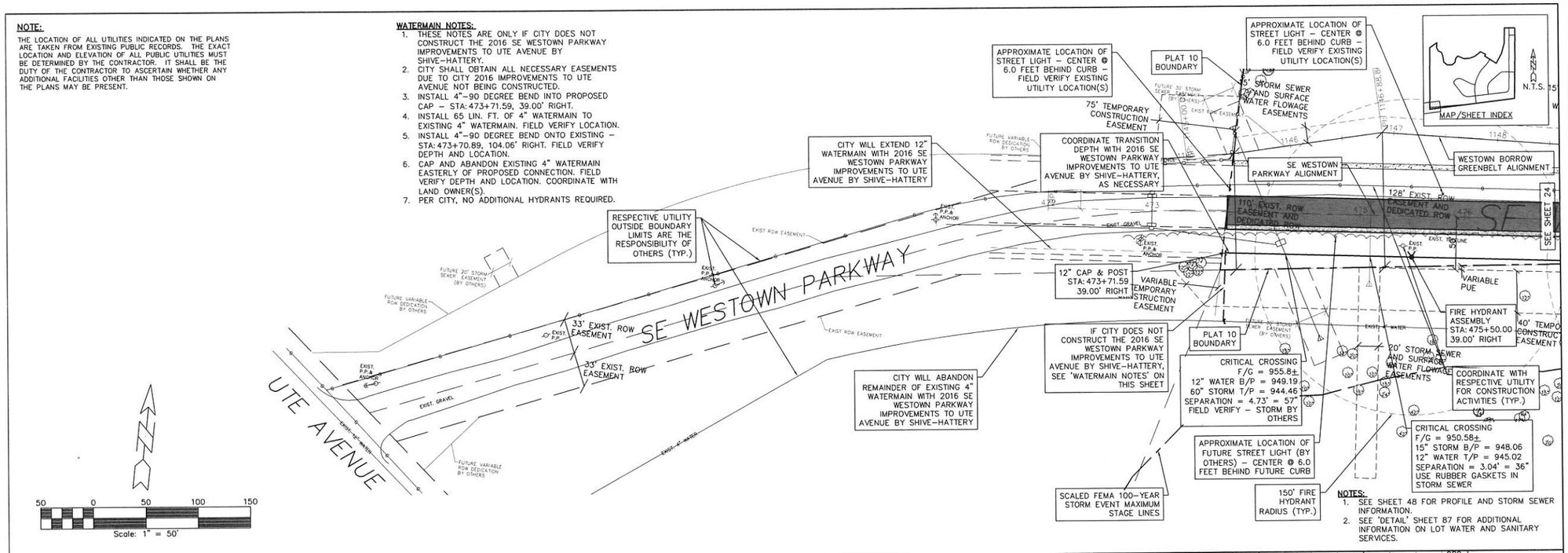
J:\2015 Proj\15-013\DESIGN\15-013-PP12.dwg, 3/8/2016 2:44:09 PM, Jay

NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

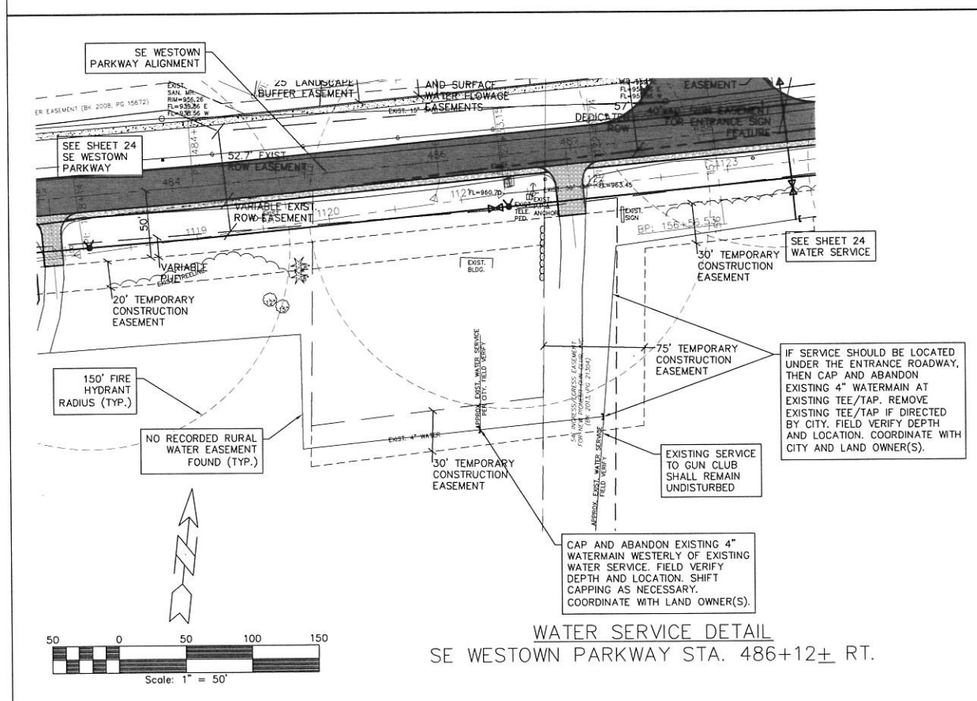
WATERMAIN NOTES:

1. THESE NOTES ARE ONLY IF CITY DOES NOT CONSTRUCT THE 2016 SE WESTOWN PARKWAY IMPROVEMENTS TO UTE AVENUE BY SHIVE-HATTERY.
2. CITY SHALL OBTAIN ALL NECESSARY EASEMENTS DUE TO CITY 2016 IMPROVEMENTS TO UTE AVENUE NOT BEING CONSTRUCTED.
3. INSTALL 4"-90 DEGREE BEND INTO PROPOSED CAP - STA: 473+71.59, 39.00' RIGHT.
4. INSTALL 65 LIN. FT. OF 4" WATERMAIN TO EXISTING 4" WATERMAIN. FIELD VERIFY LOCATION.
5. INSTALL 4"-90 DEGREE BEND ONTO EXISTING - STA: 473+70.89, 104.06' RIGHT. FIELD VERIFY DEPTH AND LOCATION.
6. CAP AND ABANDON EXISTING 4" WATERMAIN EASTERLY OF PROPOSED CONNECTION. FIELD VERIFY DEPTH AND LOCATION. COORDINATE WITH LAND OWNER(S).
7. PER CITY, NO ADDITIONAL HYDRANTS REQUIRED.



NOTES:

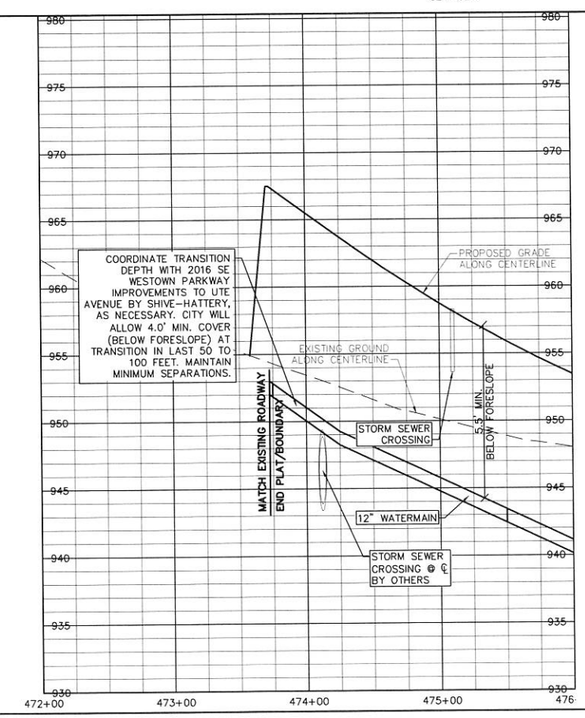
1. SEE SHEET 48 FOR PROFILE AND STORM SEWER INFORMATION.
2. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT WATER AND SANITARY SERVICES.



WATER SERVICE DETAIL

SE WESTOWN PARKWAY STA. 486+12± RT.

SCALES:
1" = 50' HOR
1" = 5' VER



23

GLYNN VILLAGE PLAT 10 - SE WESTOWN PARKWAY - SANITARY & WATER I

LOCATION:	SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV
	DWG: 15-013-PP21A.dwg	CHECKED BY: DJS	DATE: 02/24/2016
	FIELD BOOK:	SHEET 23 OF 100	FILE NO.: 15-013

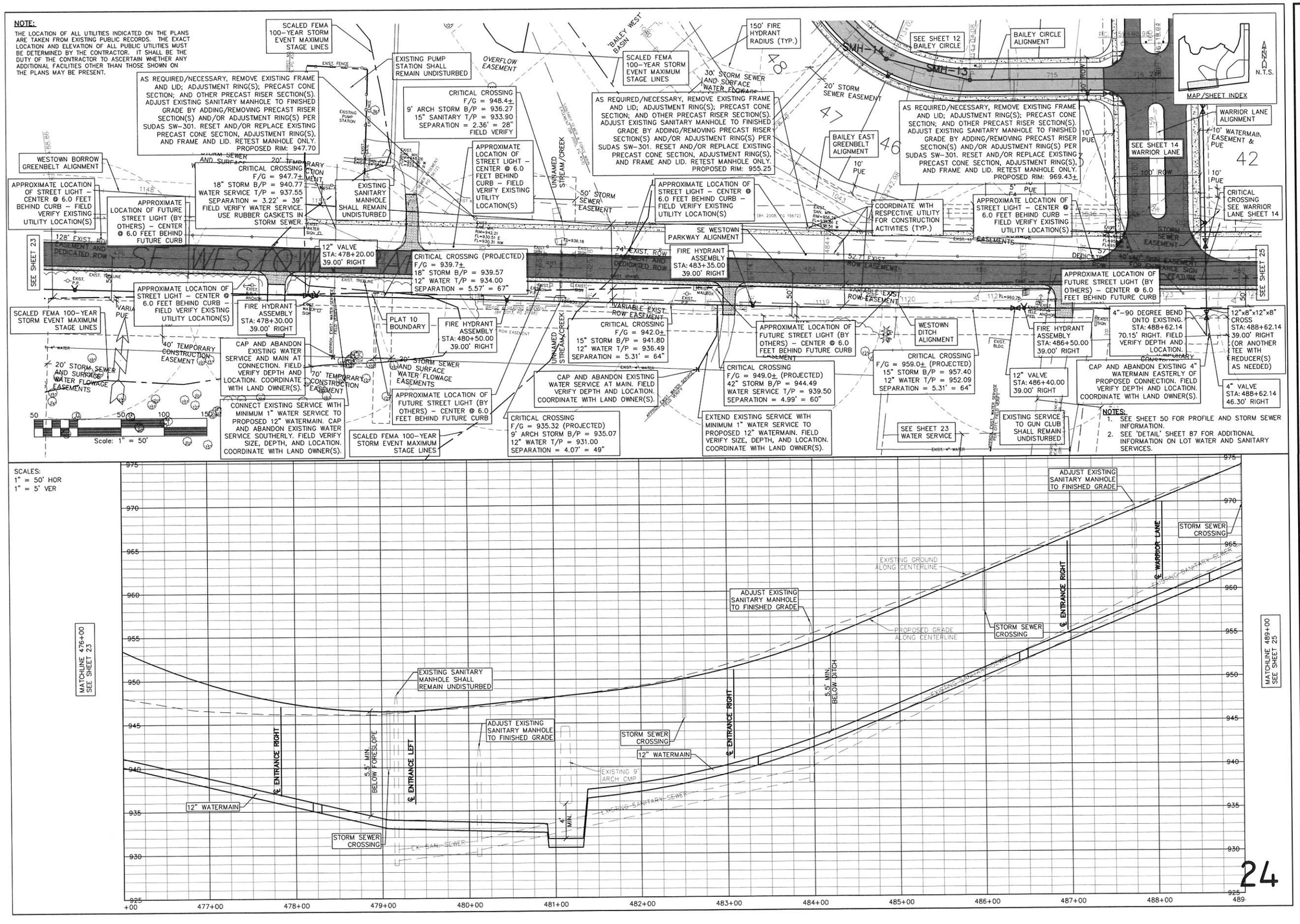
NO.	REVISION	DATE	BY	FOR:

ERG
Engineering, Research & Design Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

J:\2015 Proj\15-013\DESIGN\15-013-PP21A.dwg, 3/8/2016 2:44:38 PM, Jay

NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



24

GLYNN VILLAGE PLAT 10 - SE WESTOWN PARKWAY - SANITARY & WATER 2

SCALE:	1" = 50'
DWG:	15-013-PP22A.dwg
FIELD BOOK:	
DRAWN BY:	PJV
DESIGNED BY:	JRK
CHECKED BY:	DJS
DATE:	02/24/2016
SHEET	24 OF 100
FILE NO.:	15-013

LOCATION:

NO.	REVISION	DATE	BY	FOR:

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Engineering, Resources Group, Inc.
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2413 GRAND AVENUE
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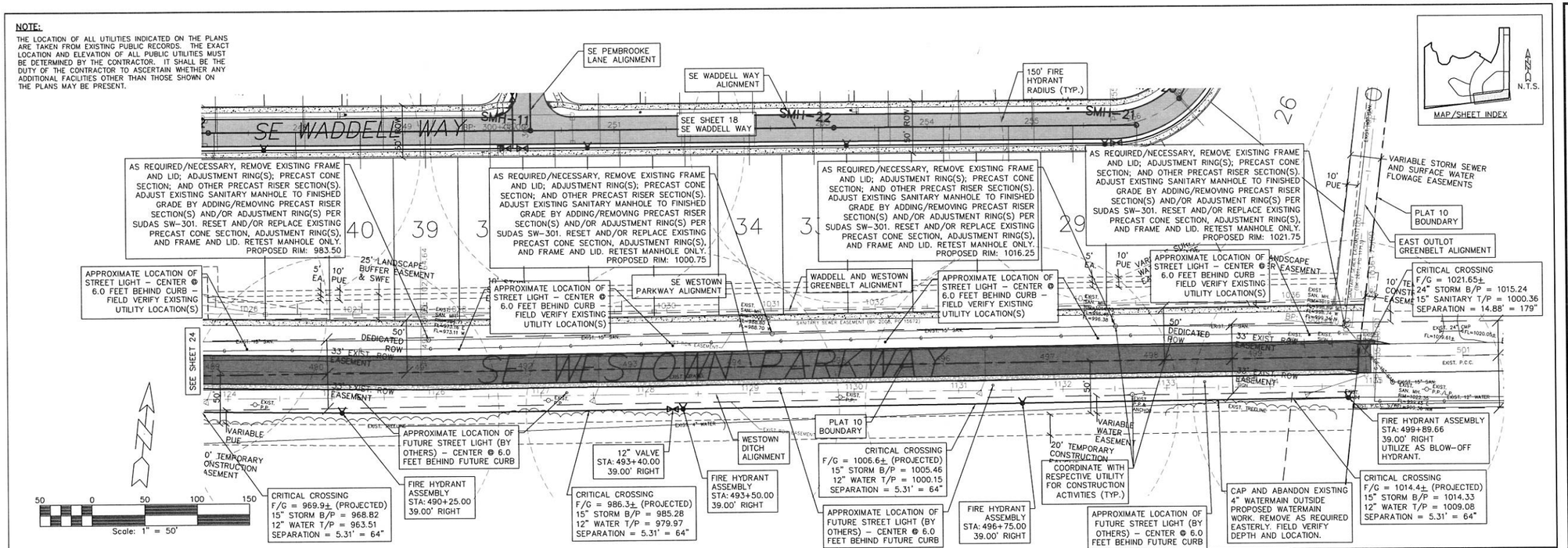
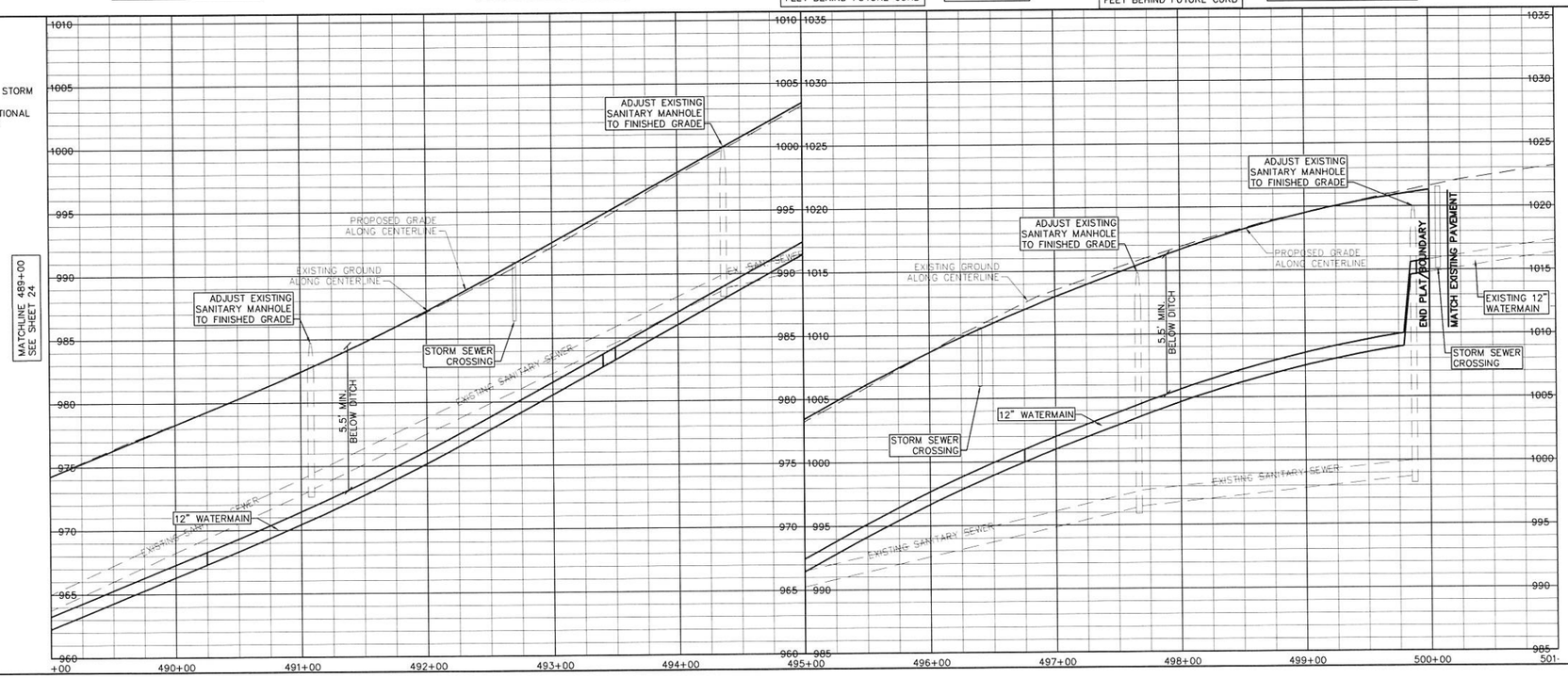
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



SCALES:
1" = 50' HOR
1" = 5' VER

NOTES:
1. SEE SHEET 52 FOR PROFILE AND STORM SEWER INFORMATION.
2. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT WATER AND SANITARY SERVICES.



GLYNN VILLAGE PLAT 10 - SE WESTOWN PARKWAY - SANITARY & WATER 3

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP23A.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 25 OF 100	FILE NO.: 15-013	

LOCATION:

NO.	REVISION	DATE	BY	FOR:

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2413 GRAND AVENUE
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NOTE:

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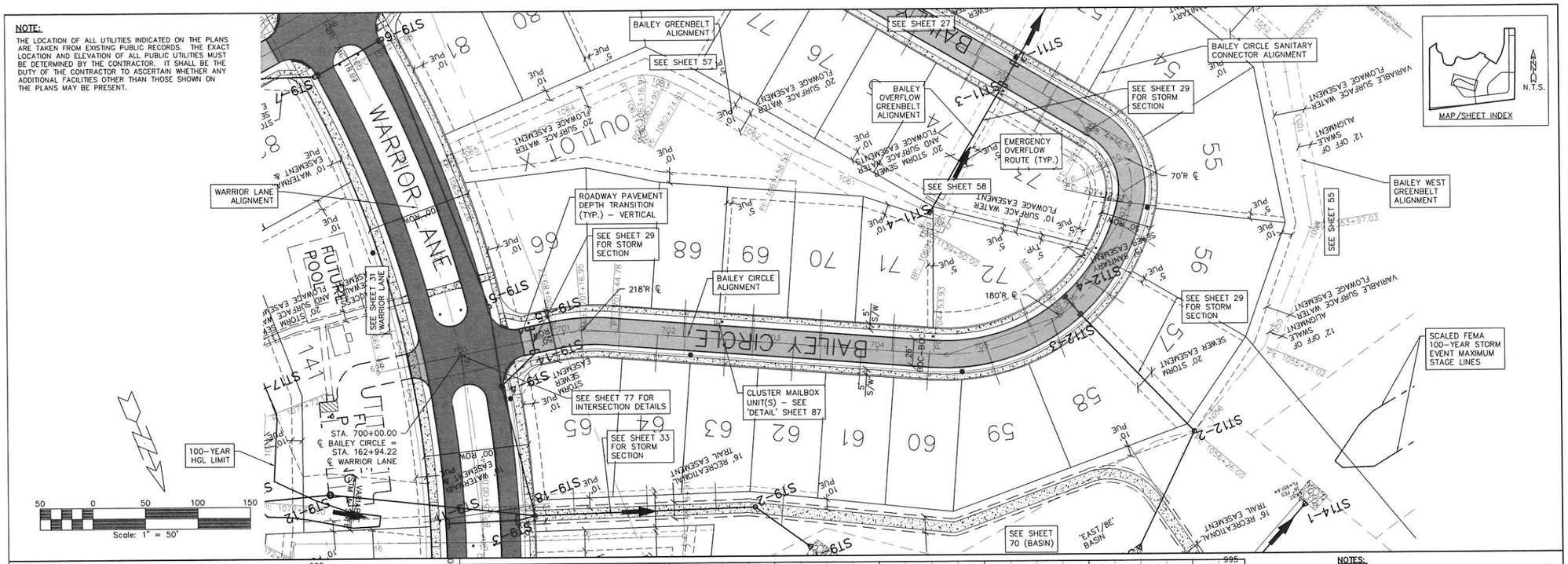
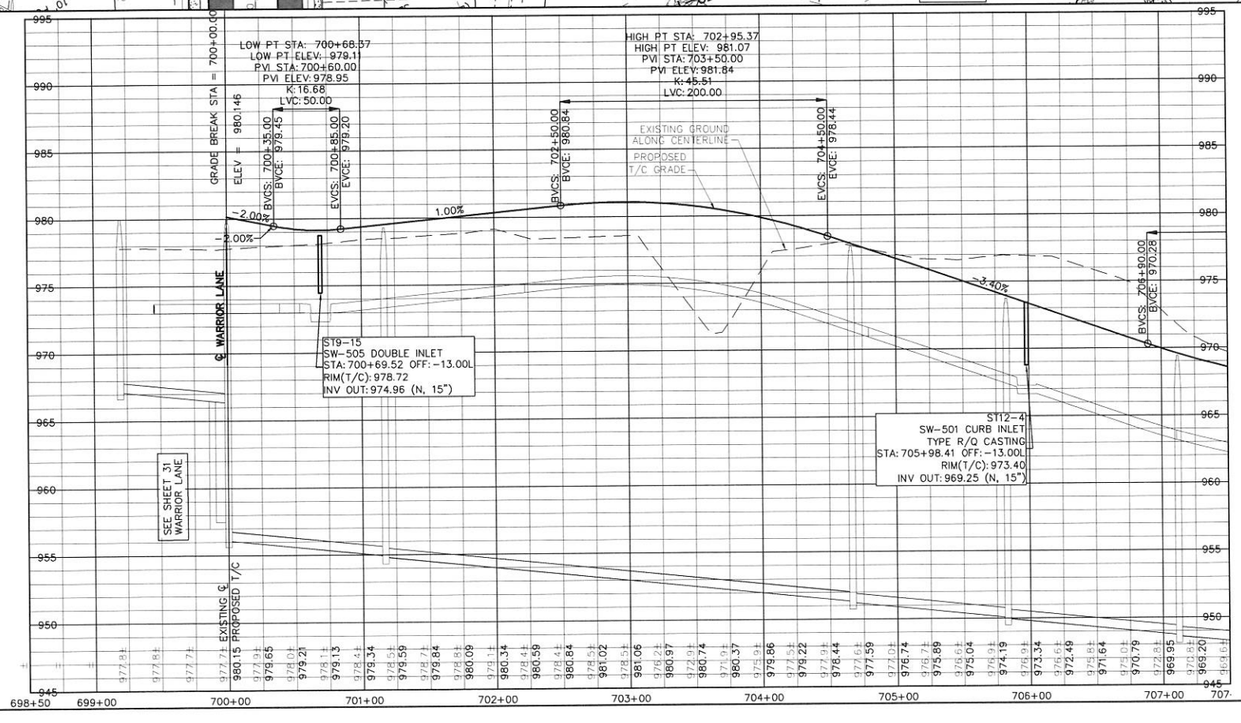


SCALES:
1" = 50' HOR
1" = 5' VER



NOTES:

1. SEE SHEET 2 FOR ADDITIONAL DIMENSIONS AND INFORMATION.
2. SEE SHEET 11 FOR WATERMAIN, SANITARY SEWER, AND CRITICAL CROSSING INFORMATION.
3. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
4. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

GLYNN VILLAGE PLAT 10 - BAILEY CIRCLE - PAVEMENT & STORM I

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP20.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 26 OF 100	FILE NO.: 15-013	

NO.	REVISION	DATE	BY	FOR:

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NOTE:

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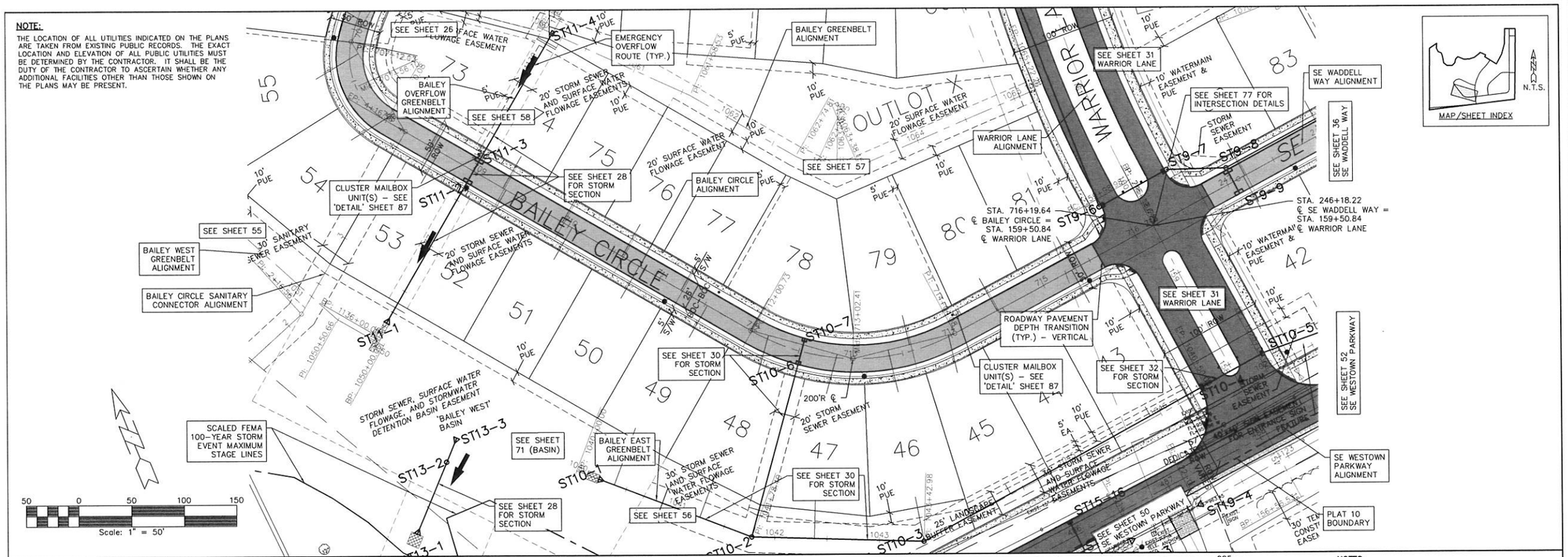
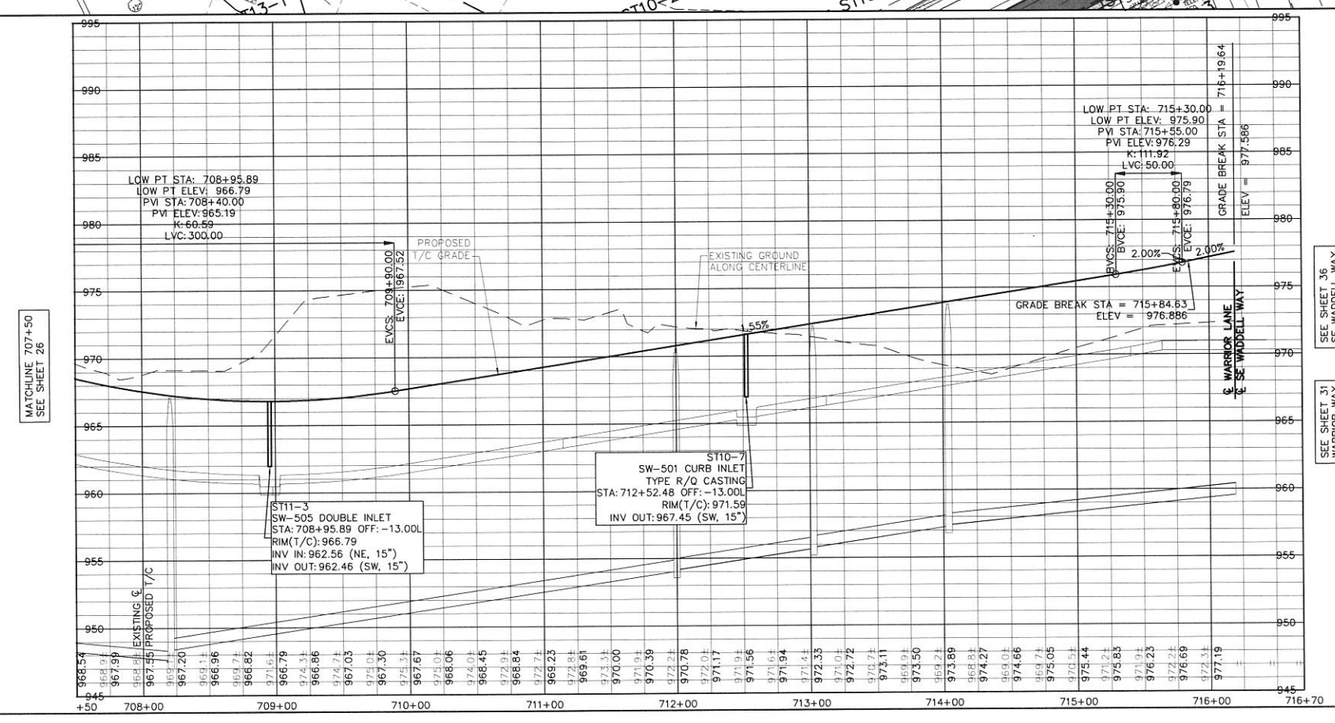


SCALES:
1" = 50' HOR
1" = 5' VER



NOTES:

1. SEE SHEET 2 FOR ADDITIONAL DIMENSIONS AND INFORMATION.
2. SEE SHEET 12 FOR WATERMAIN, SANITARY SEWER, AND CRITICAL CROSSING INFORMATION.
3. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
4. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

GLYNN VILLAGE PLAT 10 - BAILEY CIRCLE - PAVEMENT & STORM 2

LOCATION:	SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV
	DWG: 15-013-PP32.dwg	CHECKED BY: DJS	DATE: 02/24/2016
	FIELD BOOK:	SHEET 27 OF 100	FILE NO.: 15-013

NO.	REVISION	DATE	BY	FOR:

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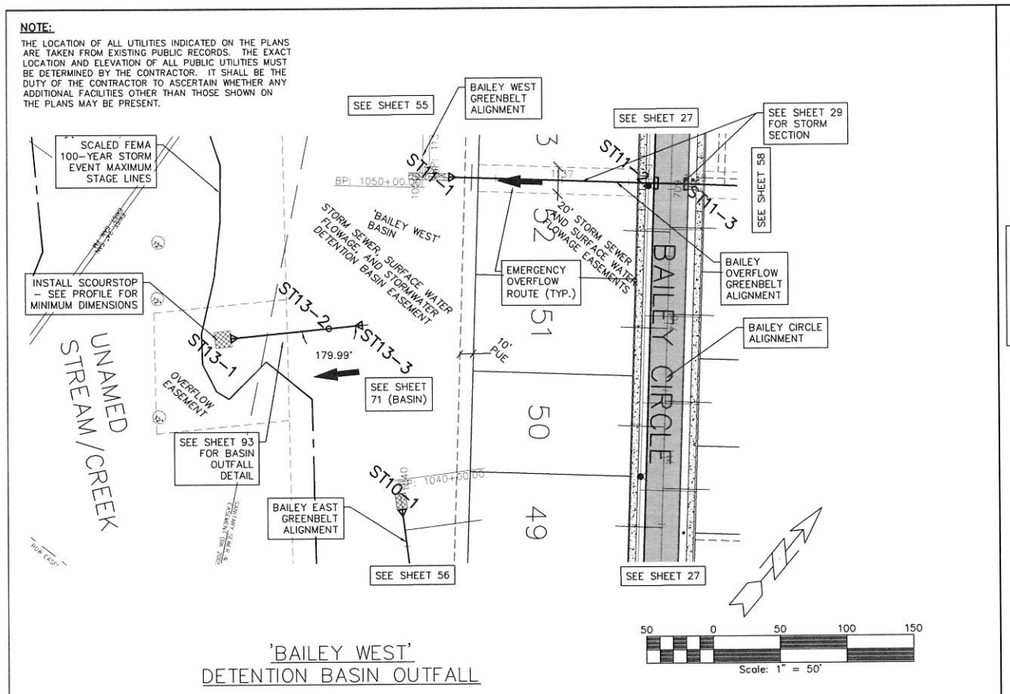
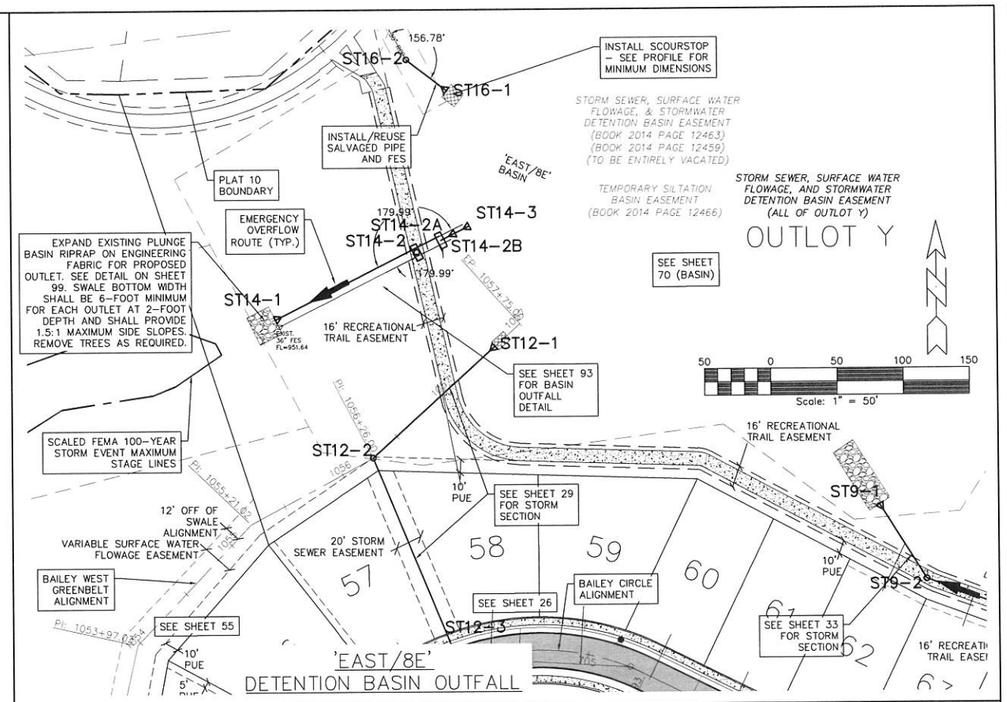
NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

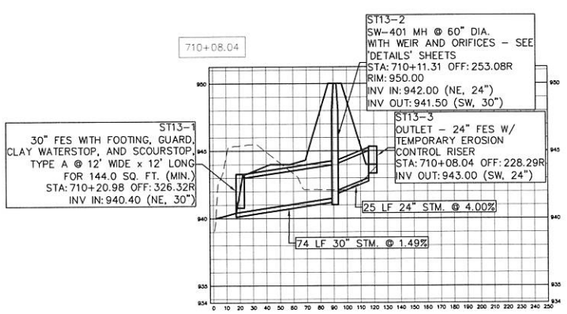


'BAILEY WEST'
DETENTION BASIN OUTFALL



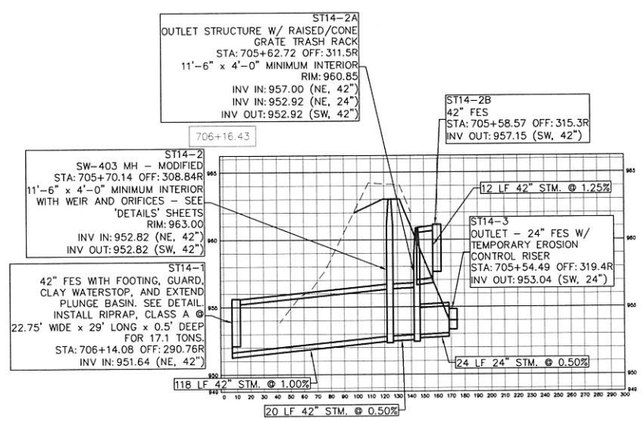
'EAST/8E'
DETENTION BASIN OUTFALL

SCALES:
1" = 50' HOR
1" = 5' VER



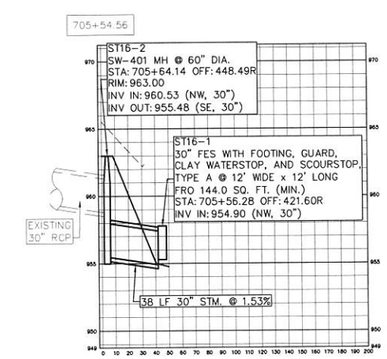
'BAILEY WEST'
DETENTION BASIN OUTFALL

SCALES:
1" = 50' HOR
1" = 5' VER



'EAST/8E'
DETENTION BASIN OUTFALL

SCALES:
1" = 50' HOR
1" = 5' VER



DETENTION BASIN
STORM MODIFICATION

GLYNN VILLAGE PLAT 10 - BASINS' OUTFALLS - STORM SEWER

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP24.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 28 OF 100	FILE NO.: 15-013	

LOCATION:

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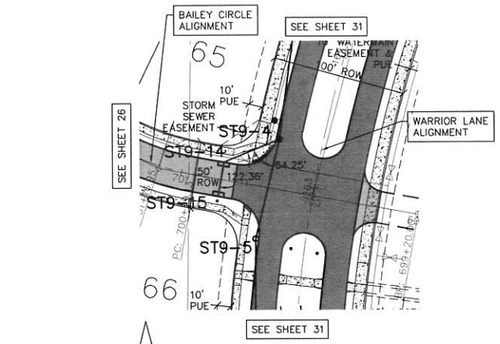
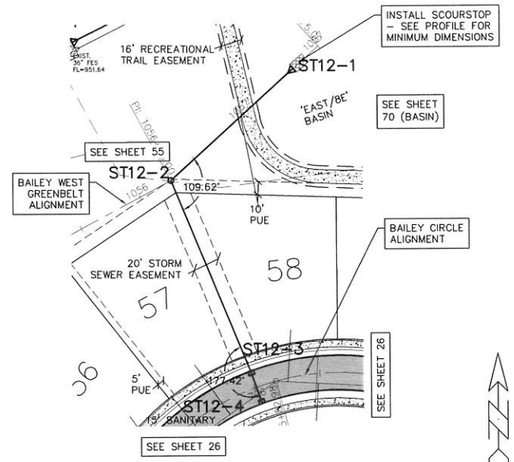
NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



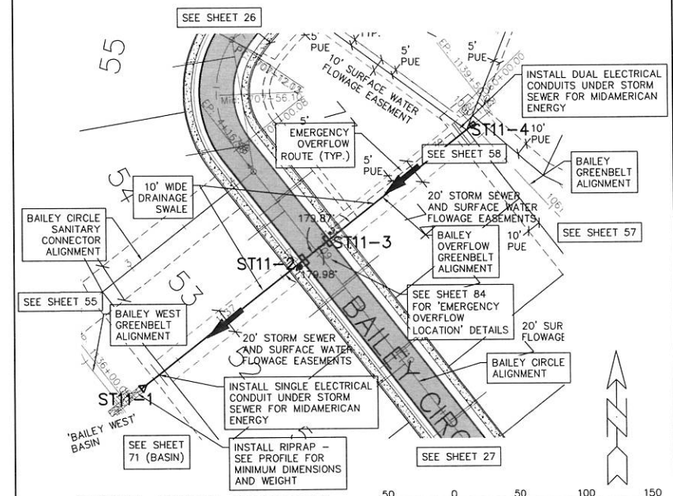
STORM SEWER CROSSING
BAILEY CIRCLE STA. 700+69.52

Scale: 1" = 50'



STORM SEWER CROSSING
BAILEY CIRCLE STA. 705+98.41

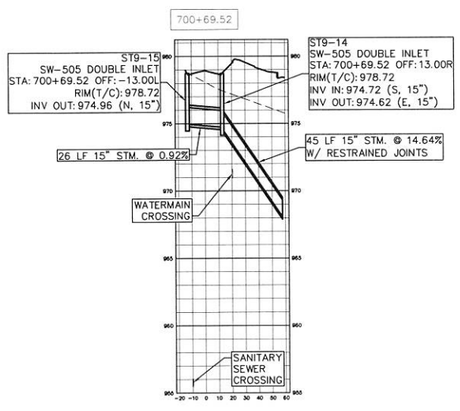
Scale: 1" = 50'



STORM SEWER CROSSING
BAILEY CIRCLE STA. 708+95.89

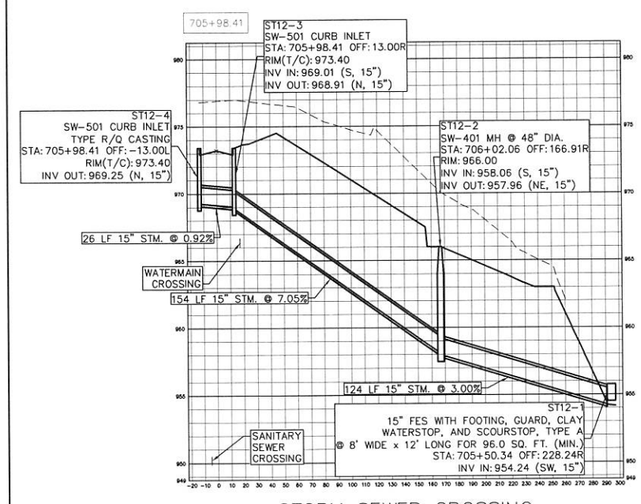
Scale: 1" = 50'

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
BAILEY CIRCLE STA. 700+69.52

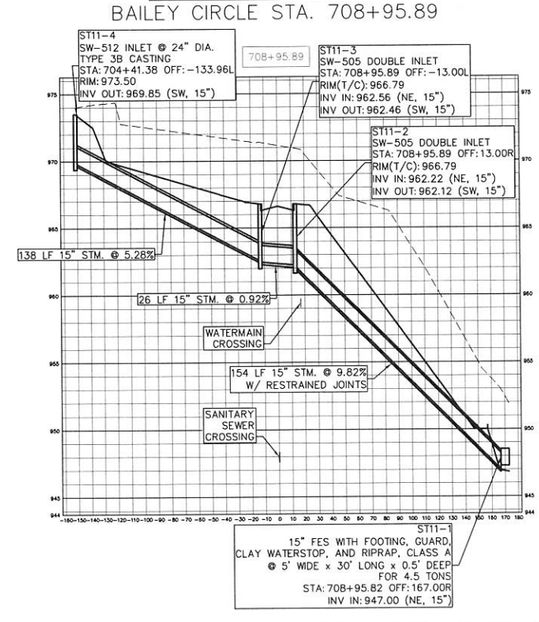
SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
BAILEY CIRCLE STA. 705+98.41

SCALES:
1" = 50' HOR
1" = 5' VER

STORM SEWER CROSSING
BAILEY CIRCLE STA. 708+95.89



GLYNN VILLAGE PLAT 10 - BAILEY CIRCLE - STORM SECTIONS A

LOCATION:	SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV
	DWG: 15-013-PP33.dwg	CHECKED BY: DJS	DATE: 02/24/2016
	FIELD BOOK:	SHEET 29 OF 100	FILE NO.: 15-013

NO.	REVISION	DATE	BY	FOR:

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2413 GRAND AVENUE
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(515) 285-4263

15-013

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NOTE:

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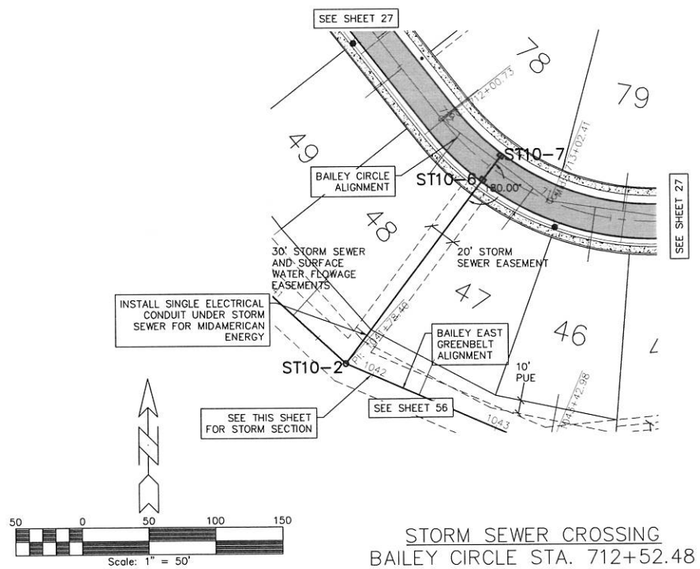
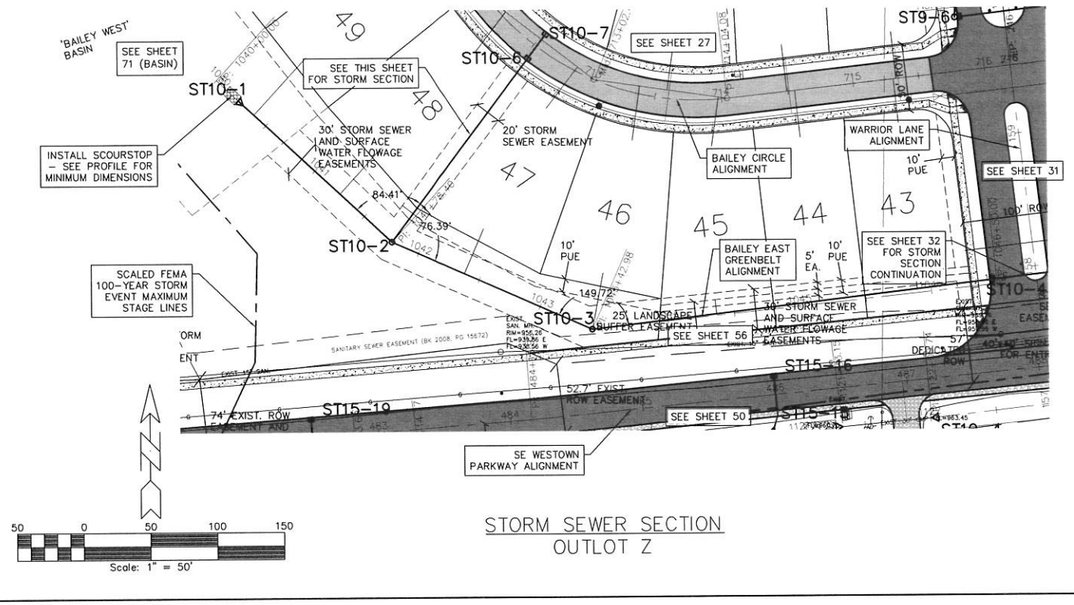
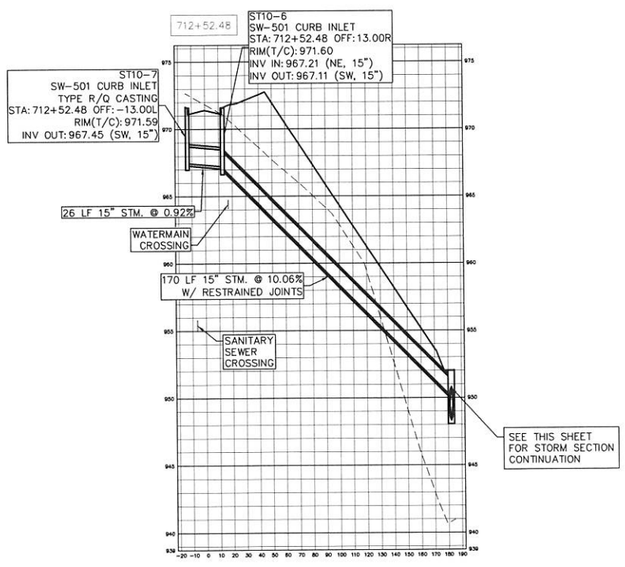


STORM SEWER CROSSING
BAILEY CIRCLE STA. 712+52.48



STORM SEWER SECTION
OUTLOT Z

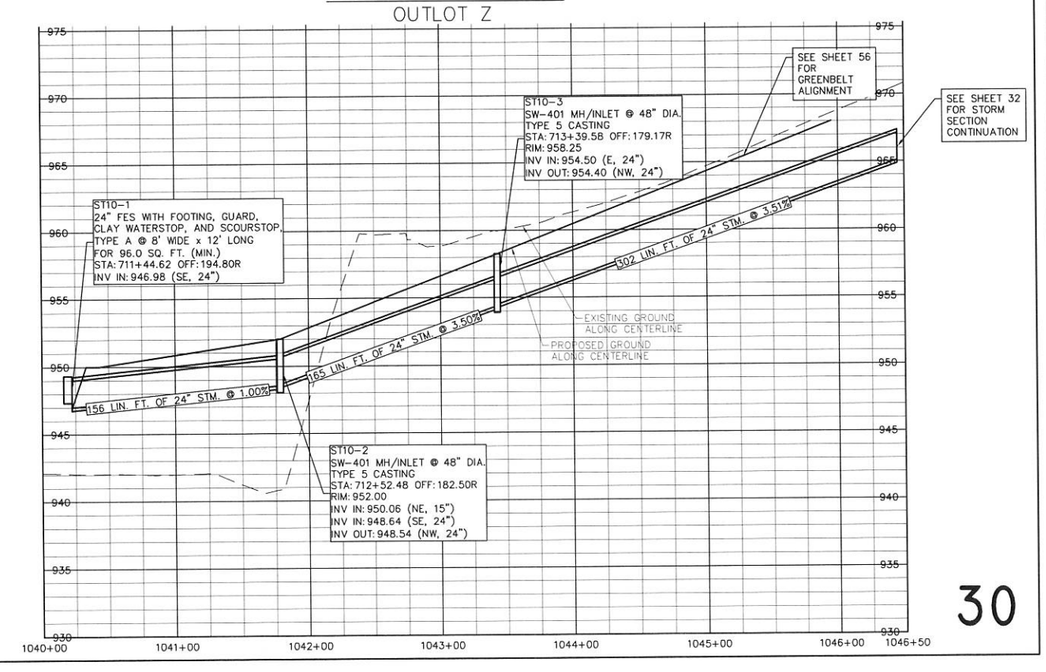
SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
BAILEY CIRCLE STA. 712+52.48

SCALES:
1" = 50' HOR
1" = 5' VER

STORM SEWER SECTION
OUTLOT Z



GLYNN VILLAGE PLAT 10 - BAILEY CIRCLE - STORM SECTIONS B

LOCATION:	SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV
	DWG: 15-013-PP34.dwg	CHECKED BY: DJS	DATE: 02/24/2016
	FIELD BOOK:	SHEET 30 OF 100	FILE NO.: 15-013

NO.	REVISION	DATE	BY	FOR:

ERG
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2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 280-4023

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NOTE:
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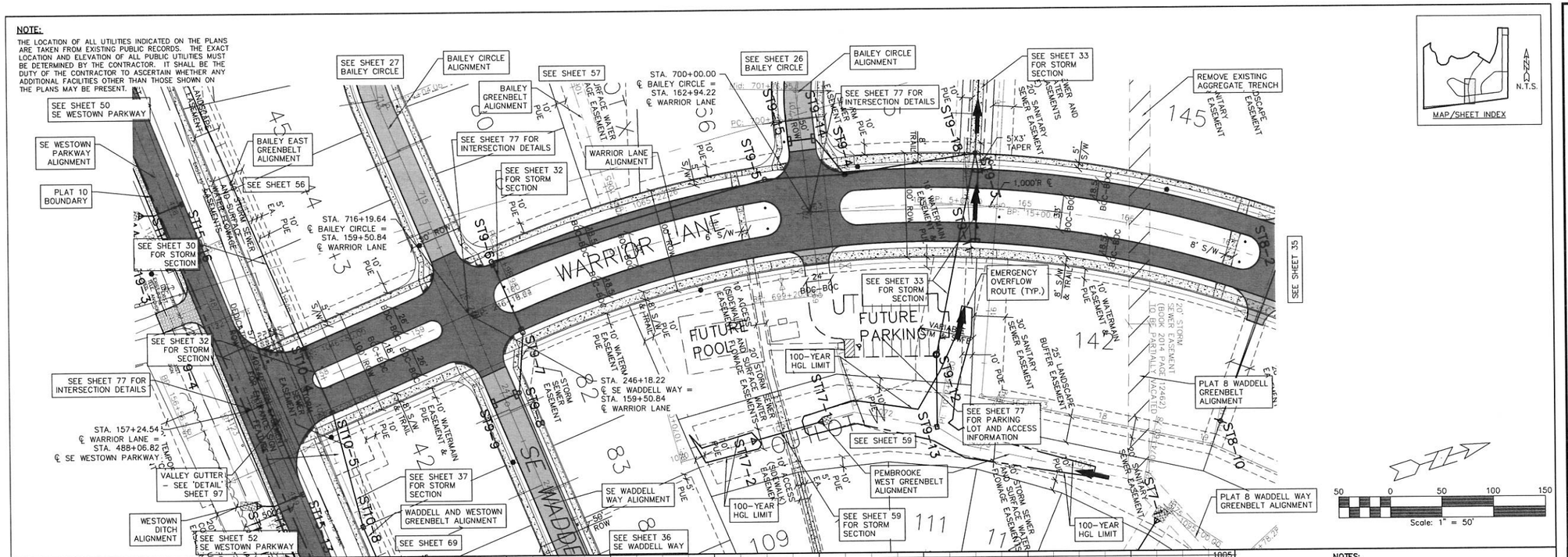
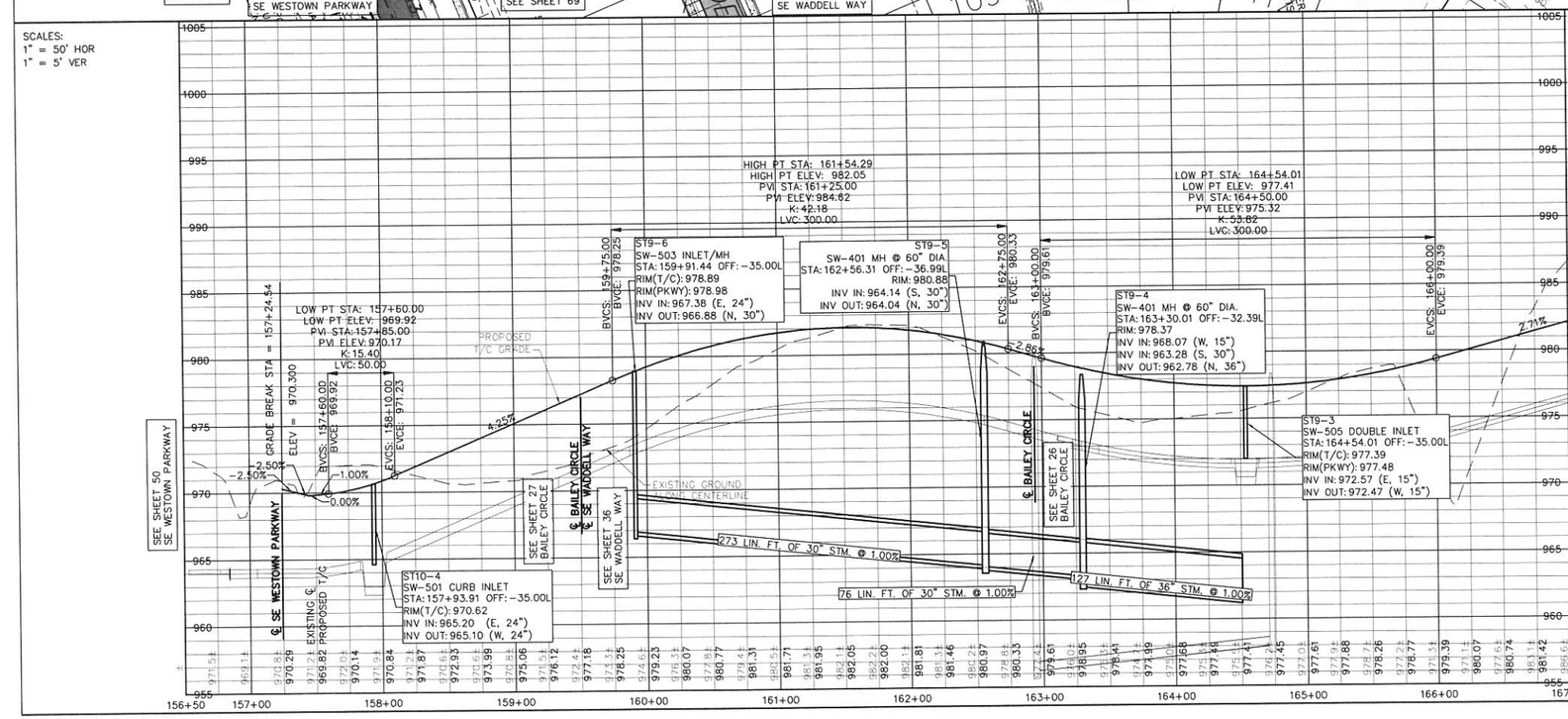


SCALES:
1" = 50' HOR
1" = 5' VER



NOTES:
1. SEE SHEET 2 FOR ADDITIONAL DIMENSIONS AND INFORMATION.
2. SEE SHEET 14 FOR WATERMAIN, SANITARY SEWER, AND CRITICAL CROSSING INFORMATION.
3. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
4. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.
5. STRUCTURE ST9-10 WAS OMITTED.

GLYNN VILLAGE PLAT 10 - WARRIOR LANE - PAVEMENT & STORM I

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP13.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 31 OF 100	FILE NO.: 15-013	

LOCATION:

NO.	REVISION	DATE	BY	FOR:

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2410 GRAND AVENUE
DES MOINES, IOWA 50312
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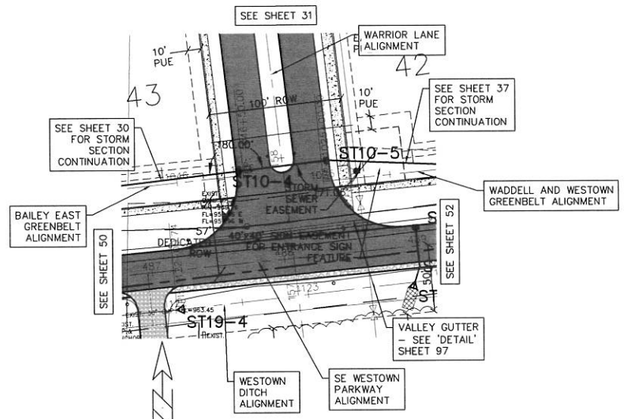
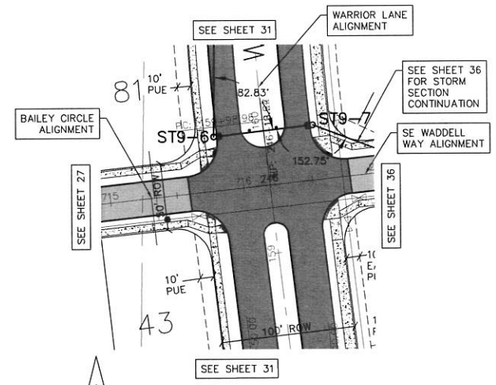
NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



STORM SEWER CROSSING
WARRIOR LANE STA. 157+93.91

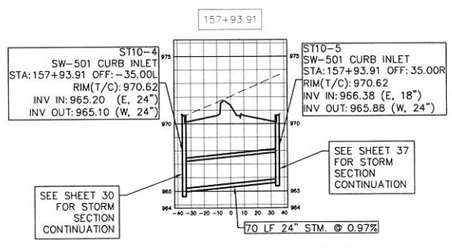
50 0 50 100 150
Scale: 1" = 50'



STORM SEWER CROSSING
WARRIOR LANE STA. 159+91.44

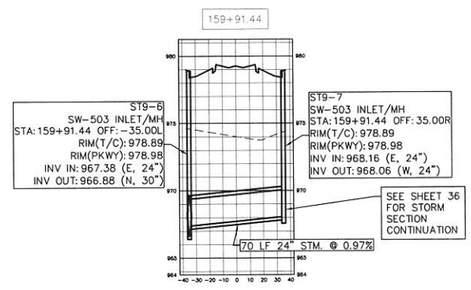
50 0 50 100 150
Scale: 1" = 50'

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
WARRIOR LANE STA. 157+93.91

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
WARRIOR LANE STA. 159+91.44

GLYNN VILLAGE PLAT 10 - WARRIOR LANE - STORM SECTIONS A

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 50'
DWG: 15-013-PP26.dwg
FIELD BOOK:
DESIGNED BY: JRK
CHECKED BY: DJS
SHEET 32 OF 100
DRAWN BY: PJV
DATE: 02/24/2016
FILE NO.: 15-013

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2410 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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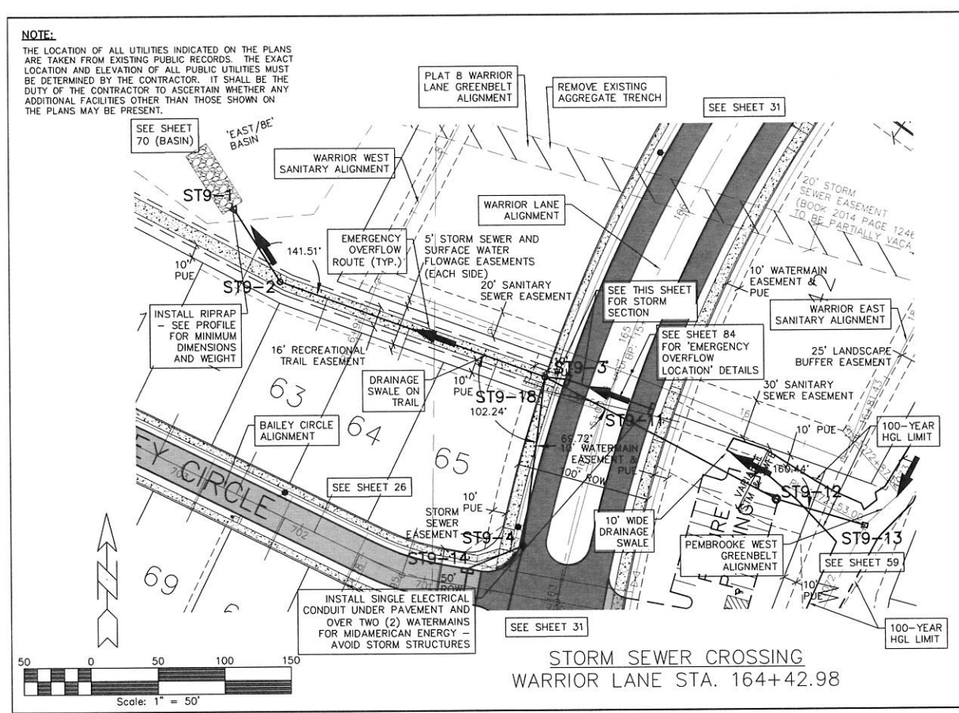
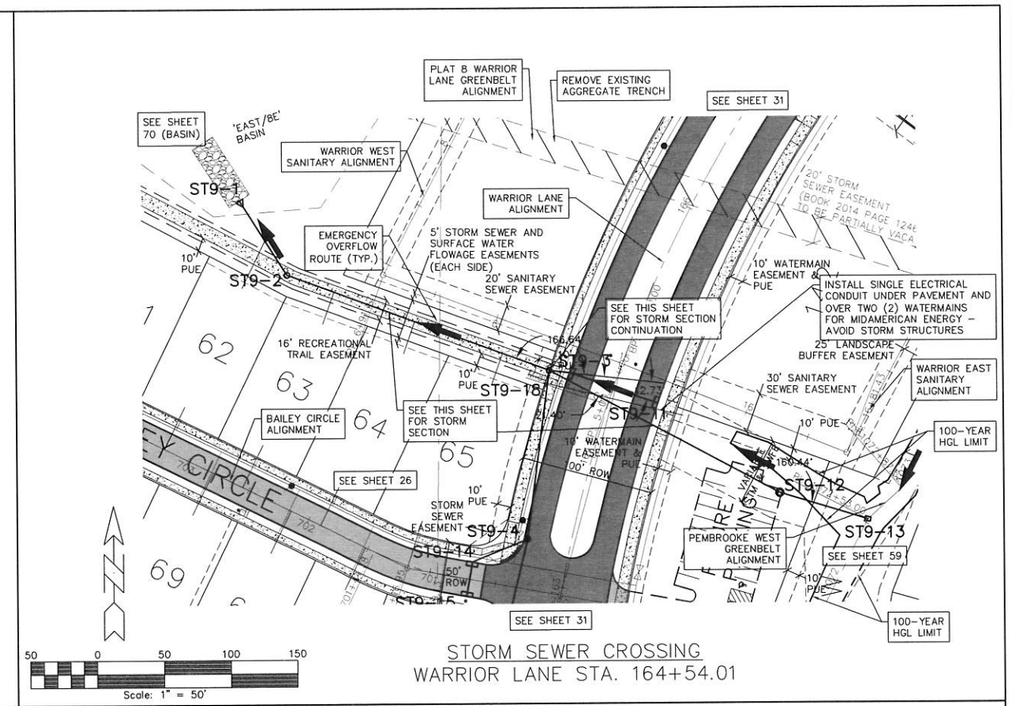
NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

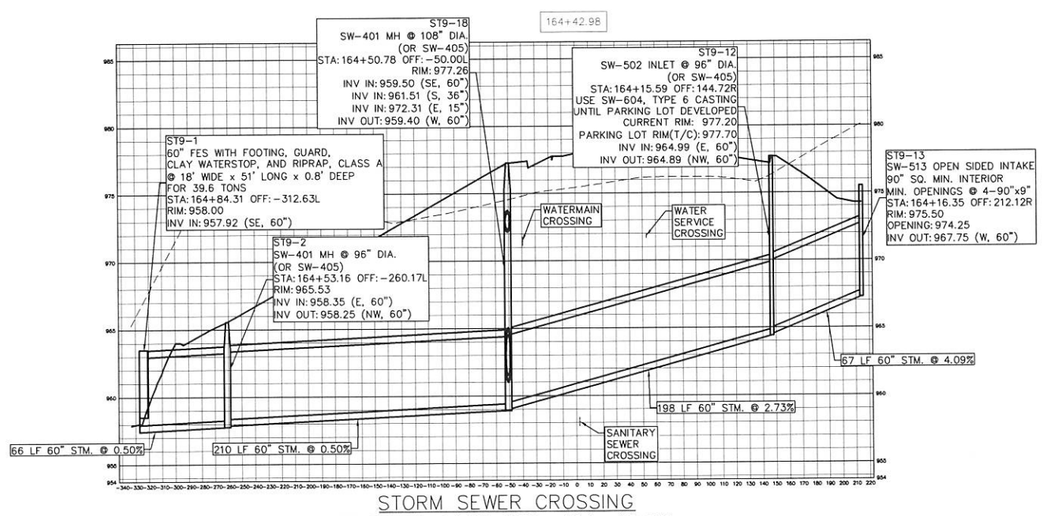


STORM SEWER CROSSING
WARRIOR LANE STA. 164+42.98

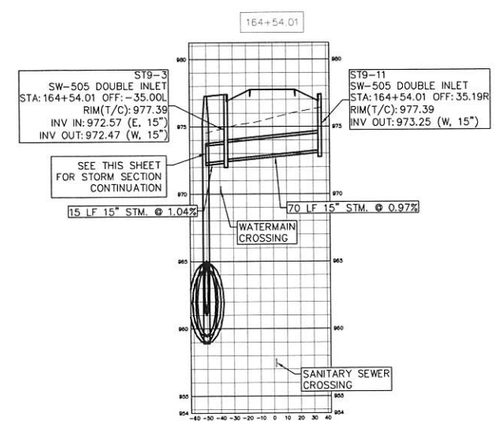


STORM SEWER CROSSING
WARRIOR LANE STA. 164+54.01

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
WARRIOR LANE STA. 164+42.98



STORM SEWER CROSSING
WARRIOR LANE STA. 164+54.01

33

GLYNN VILLAGE PLAT 10 - WARRIOR LANE - STORM SECTIONS B

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 50' | DESIGNED BY: JRK | DRAWN BY: PJV
DWG: 15-013-PP25.dwg | CHECKED BY: DJS | DATE: 02/24/2016
FIELD BOOK: | SHEET 33 OF 100 | FILE NO.: 15-013

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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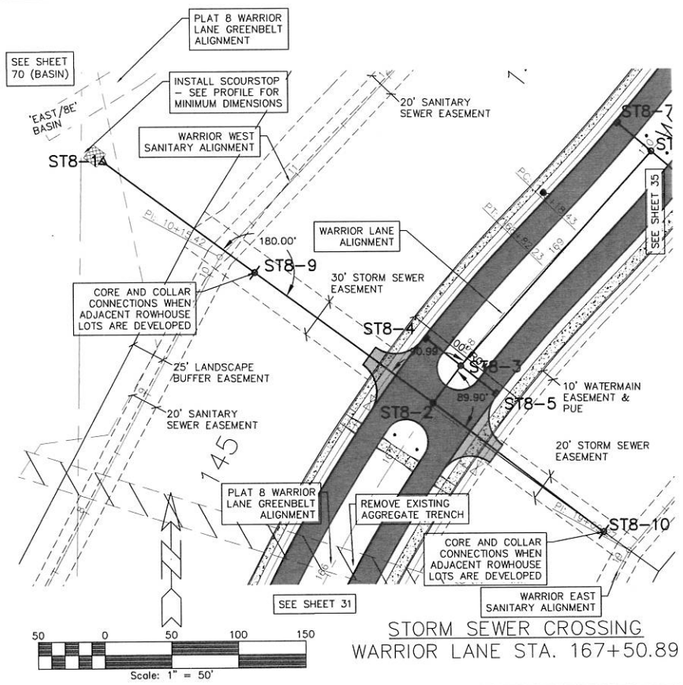
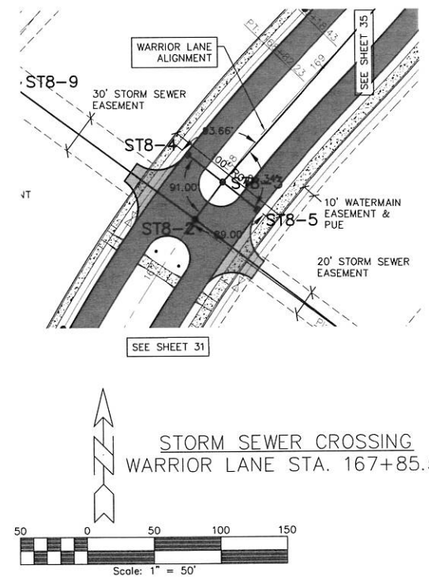
NOTE:

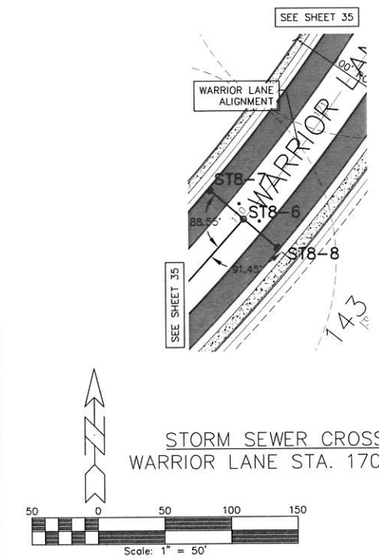
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



STORM SEWER CROSSING
WARRIOR LANE STA. 167+50.89

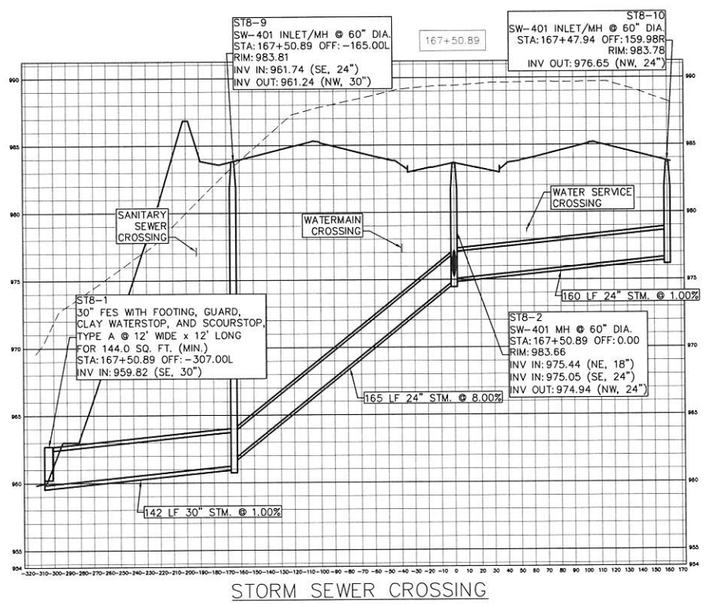


STORM SEWER CROSSING
WARRIOR LANE STA. 167+85.51



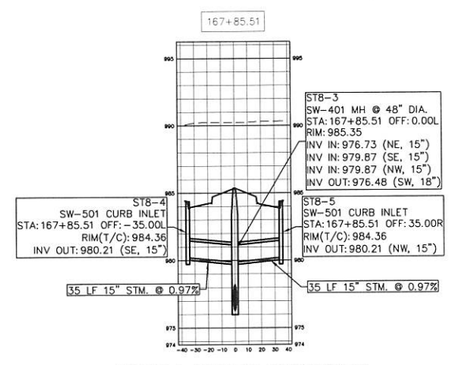
STORM SEWER CROSSING
WARRIOR LANE STA. 170+00.00

SCALES:
1" = 50' HOR
1" = 5' VER



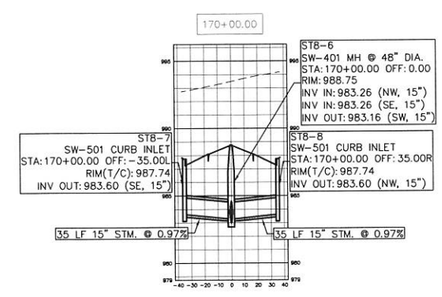
STORM SEWER CROSSING
WARRIOR LANE STA. 167+50.89

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
WARRIOR LANE STA. 167+85.51

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
WARRIOR LANE STA. 170+00.00

GLYNN VILLAGE PLAT 10 - WARRIOR LANE - STORM SECTIONS C

LOCATION:	SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV
	DWG: 15-013-PP25A.dwg	CHECKED BY: DJS	DATE: 02/24/2016
	FIELD BOOK:	SHEET 34 OF 100	FILE NO.: 15-013

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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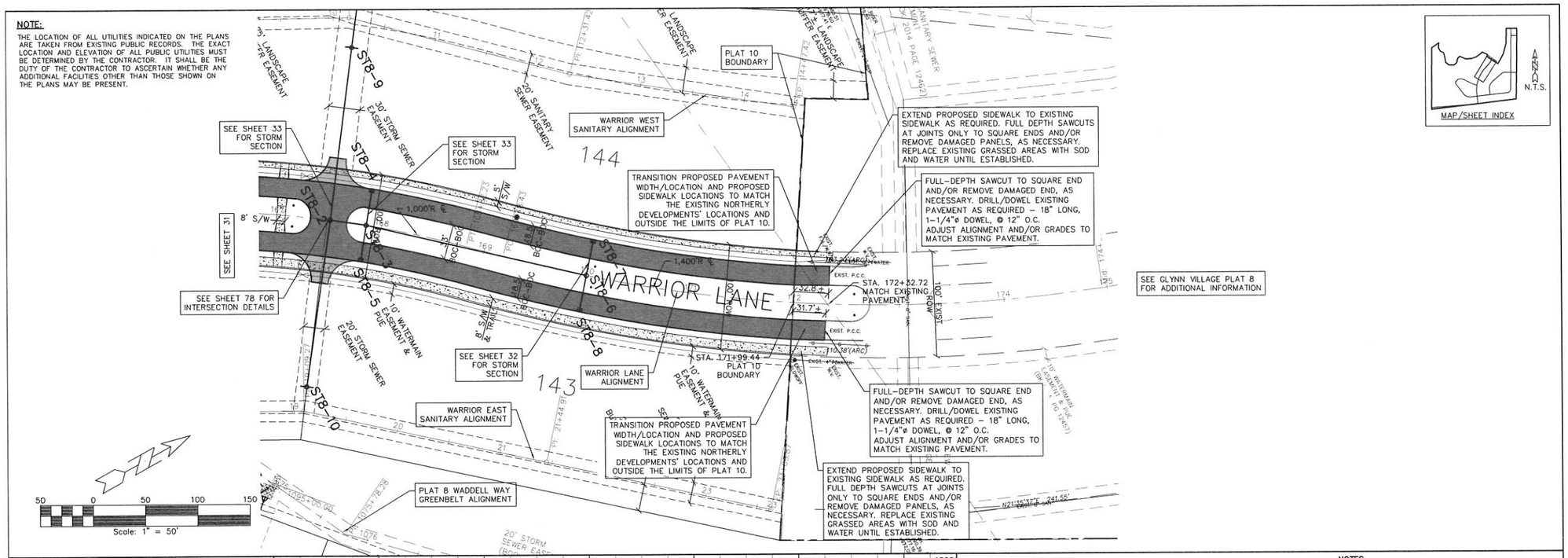
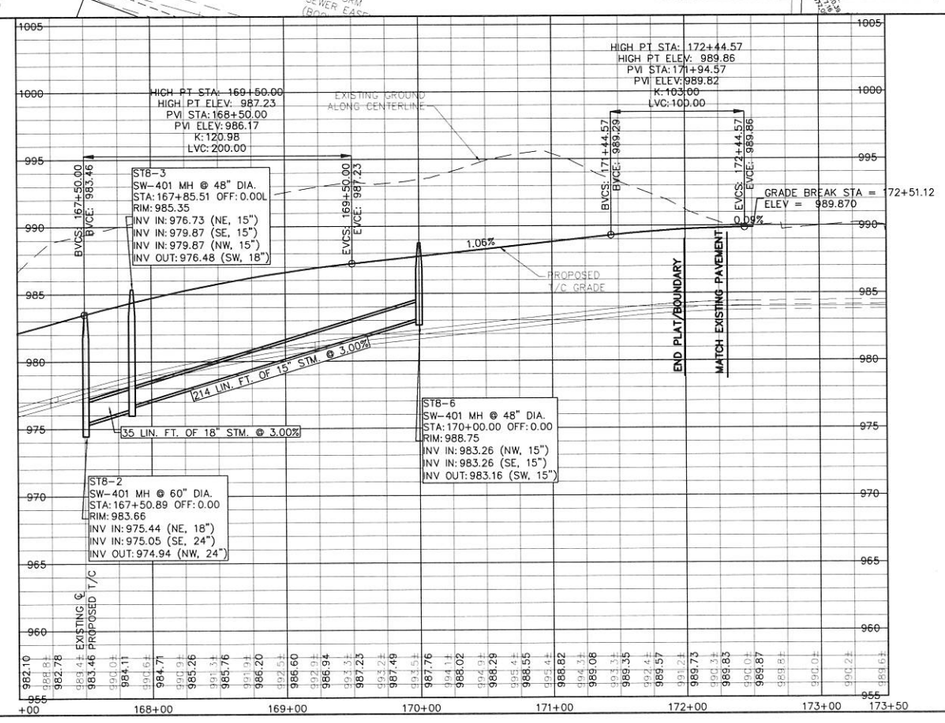
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



SCALES:
1" = 50' HOR
1" = 5' VER



NOTES:
1. SEE SHEET 2 FOR ADDITIONAL DIMENSIONS AND INFORMATION.
2. SEE SHEET 15 FOR WATERMAIN, SANITARY SEWER, AND CRITICAL CROSSING INFORMATION.
3. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
4. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

GLYNN VILLAGE PLAT 10 - WARRIOR LANE - PAVEMENT & STORM 2

LOCATION:	SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV
	DWG: 15-013-PP14.dwg	CHECKED BY: DJS	DATE: 02/24/2016
	FIELD BOOK:	SHEET 35 OF 100	FILE NO.: 15-013

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

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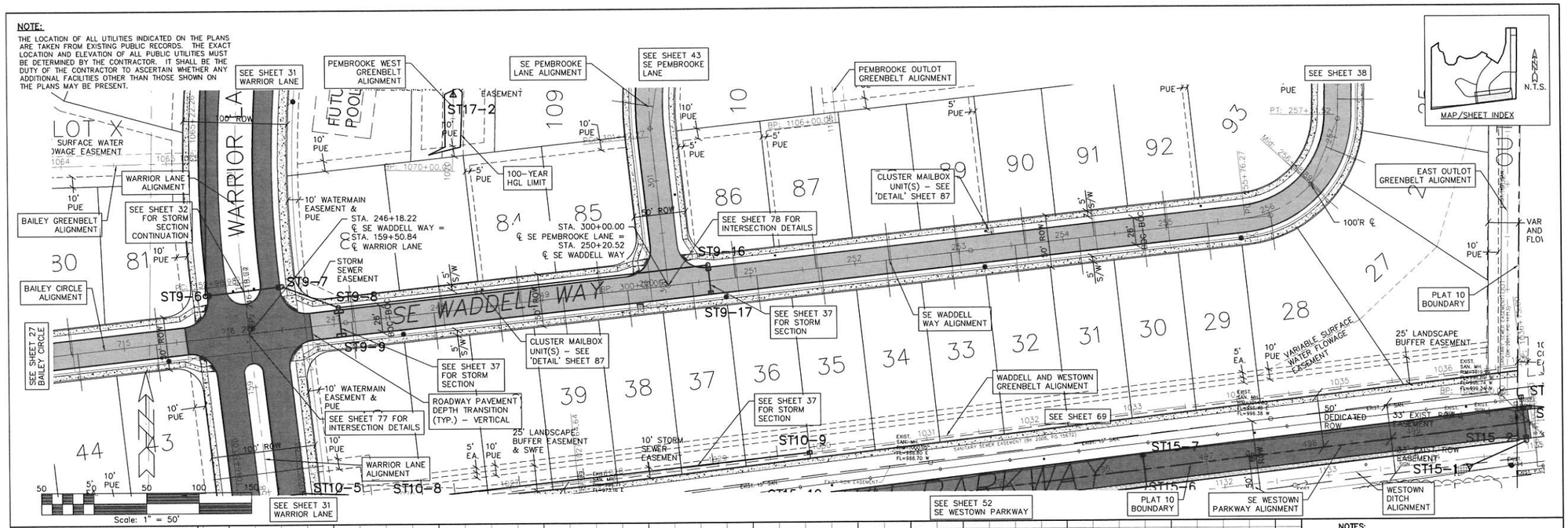
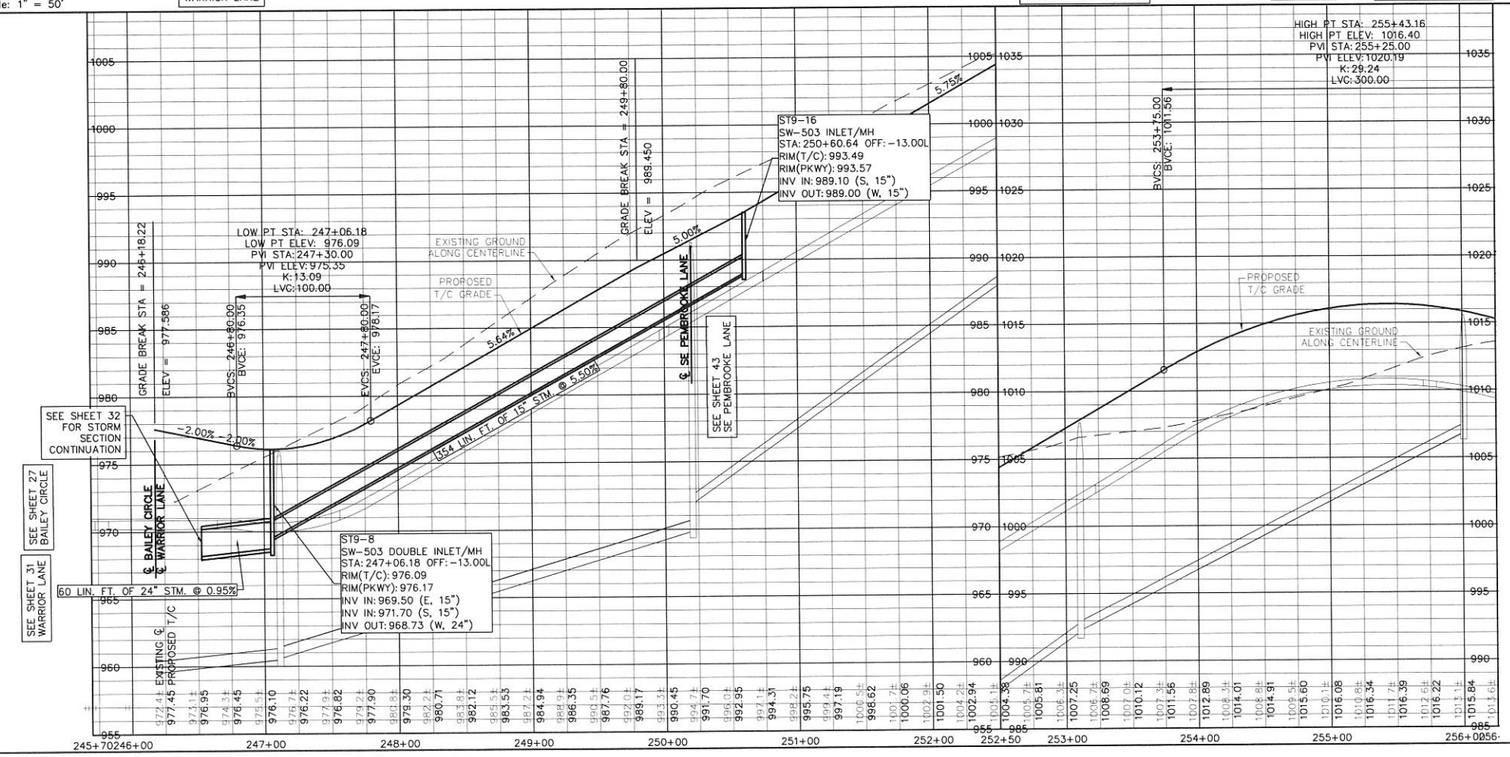
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



SCALES:
1" = 50' HOR
1" = 5' VER



NOTES:
1. SEE SHEET 2 FOR ADDITIONAL DIMENSIONS AND INFORMATION.
2. SEE SHEET 18 FOR WATERMAIN, SANITARY SEWER, AND CRITICAL CROSSING INFORMATION.
3. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
4. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

GLYNN VILLAGE PLAT 10 - SE WADDELL WAY - PAVEMENT & STORM I

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP15.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 36 OF 100	FILE NO.: 15-013	
LOCATION:			

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4523

15-013

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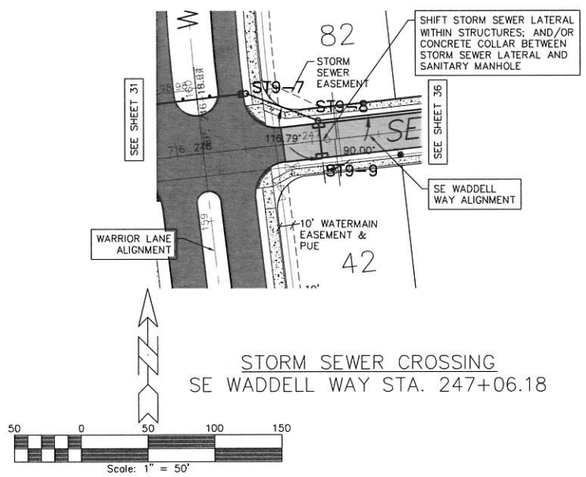
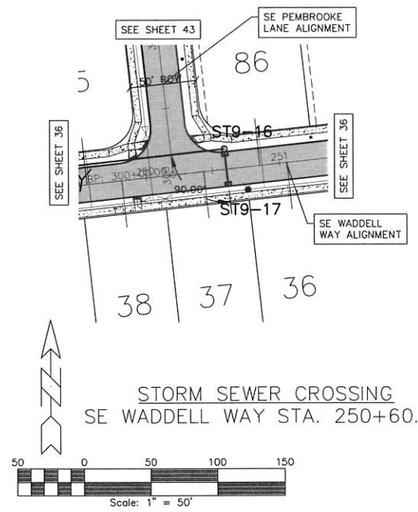
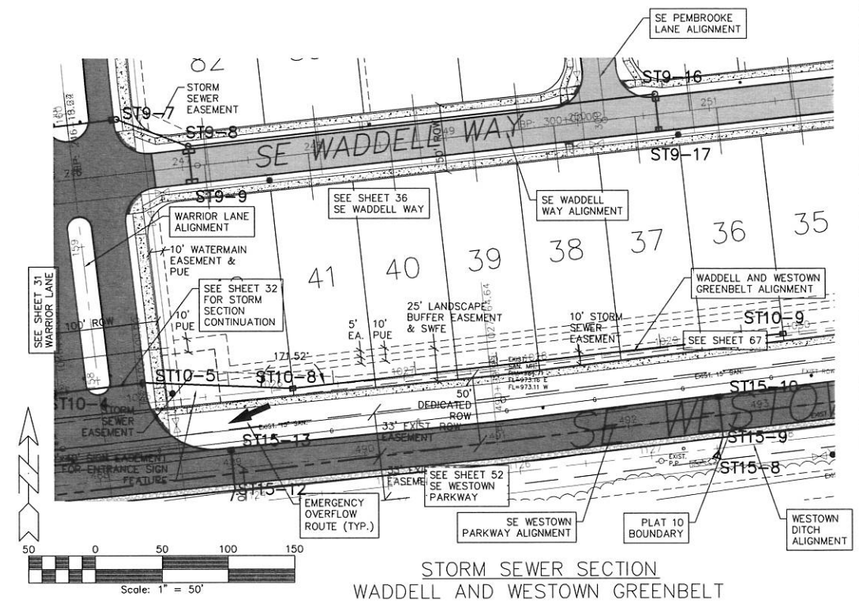
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



STORM SEWER CROSSING
SE WADDELL WAY STA. 247+06.18

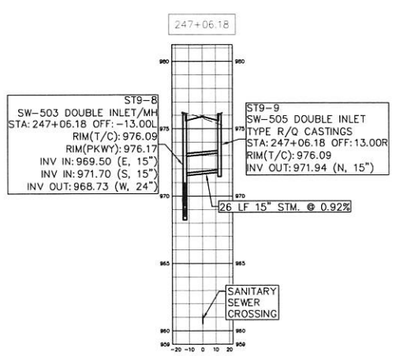


STORM SEWER CROSSING
SE WADDELL WAY STA. 250+60.64



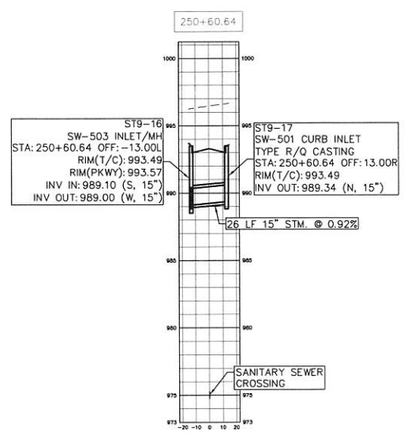
STORM SEWER SECTION
WADDELL AND WESTOWN GREENBELT

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE WADDELL WAY STA. 247+06.18

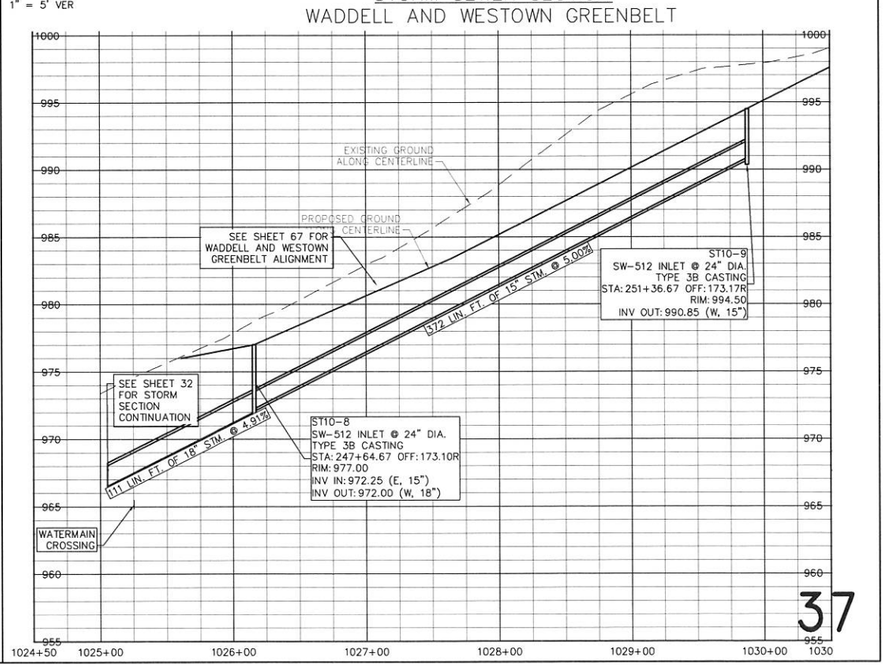
SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE WADDELL WAY STA. 250+60.64

SCALES:
1" = 50' HOR
1" = 5' VER

STORM SEWER SECTION
WADDELL AND WESTOWN GREENBELT



37

GLYNN VILLAGE PLAT 10 - SE WADDELL WAY - STORM SECTIONS A

LOCATION:	SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV
	DWG: 15-013-PP29.dwg	CHECKED BY: DJS	DATE: 02/24/2016
	FIELD BOOK:	SHEET 37 OF 100	FILE NO.: 15-013

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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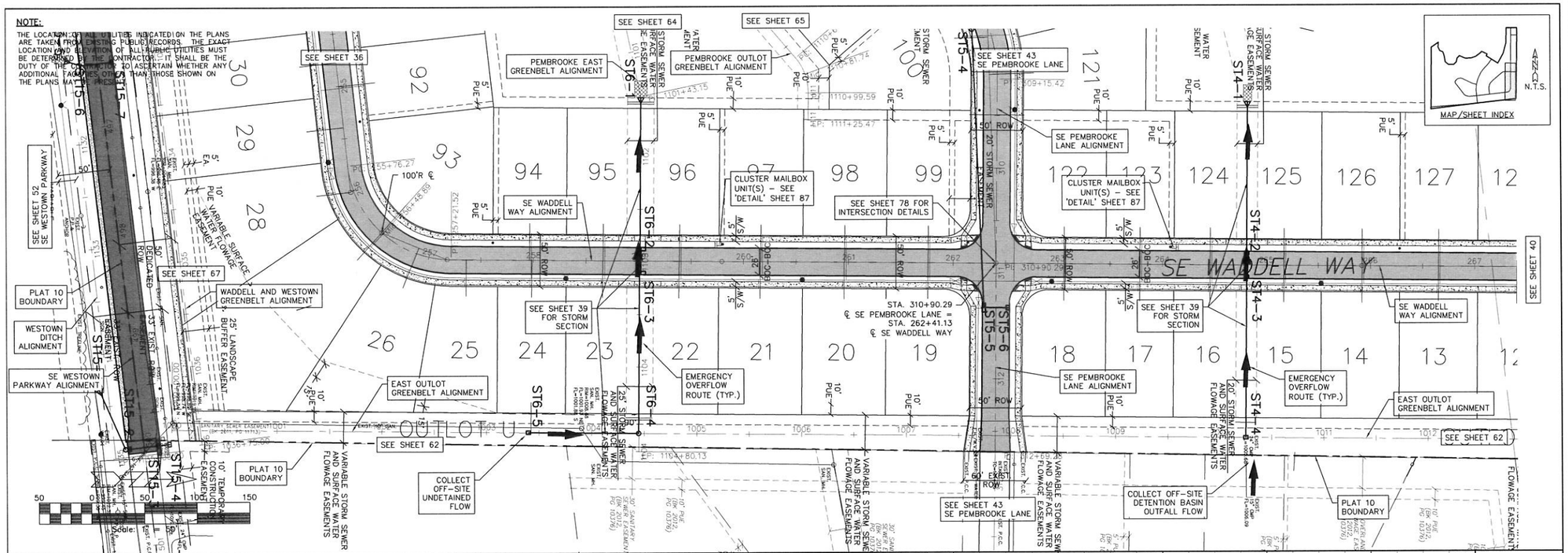
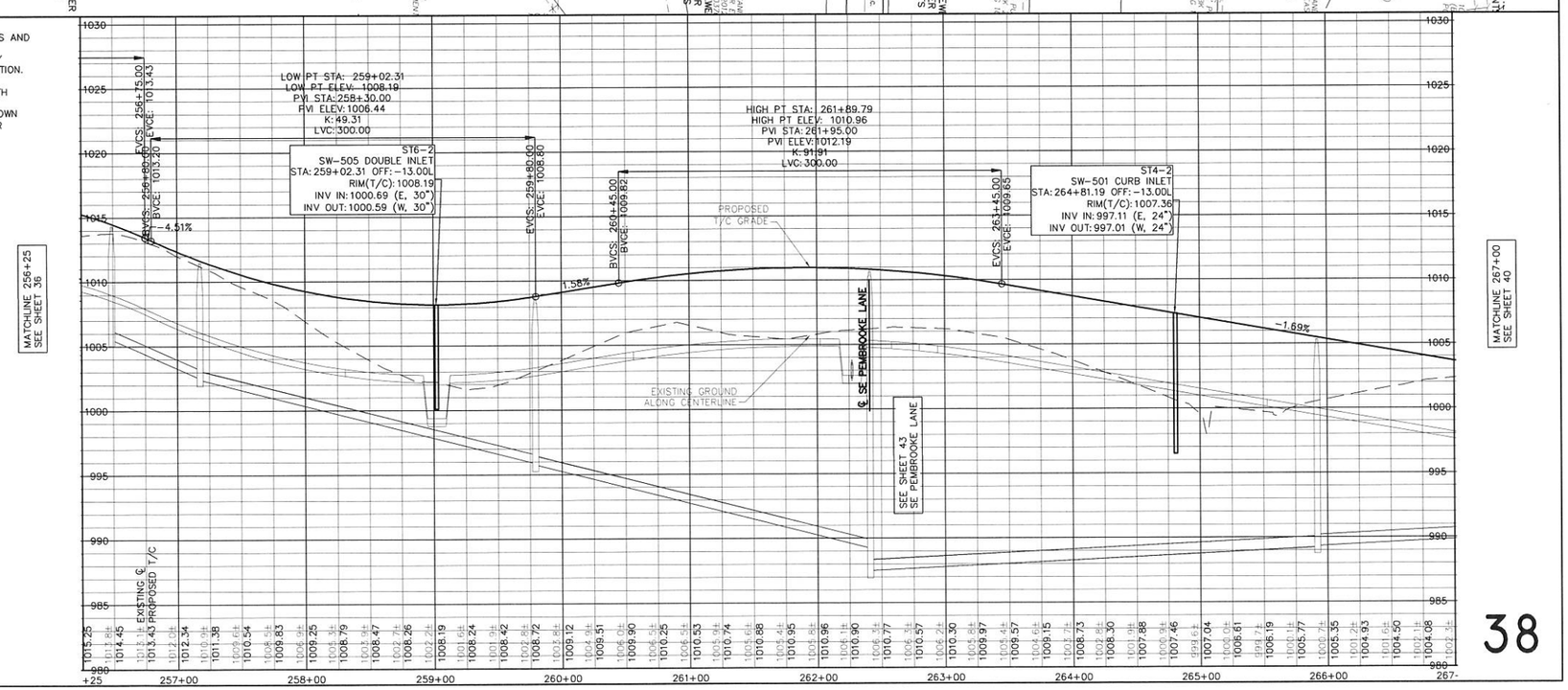
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



SCALES:
1" = 50' HOR
1" = 5' VER

NOTES:
1. SEE SHEET 2 FOR ADDITIONAL DIMENSIONS AND INFORMATION.
2. SEE SHEET 19 FOR WATERMAIN, SANITARY SEWER, AND CRITICAL CROSSING INFORMATION.
3. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
4. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.



38

GLYNN VILLAGE PLAT 10 - SE WADDELL WAY - PAVEMENT & STORM 2

SCALE: 1" = 50'	DRAWN BY: JRK
DESIGNED BY: JRK	PJV
DWG: 15-013-PP16.dwg	CHECKED BY: DJS
DATE: 02/24/2016	
FIELD BOOK:	SHEET 38 OF 100
FILE NO.: 15-013	
LOCATION:	

NO.	REVISION	DATE	BY	FOR:

ERG
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Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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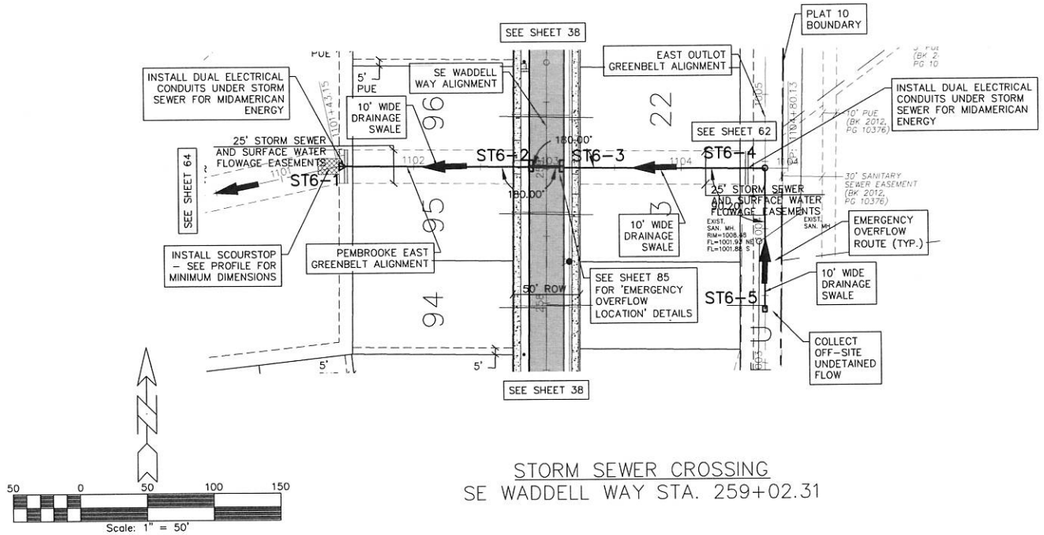
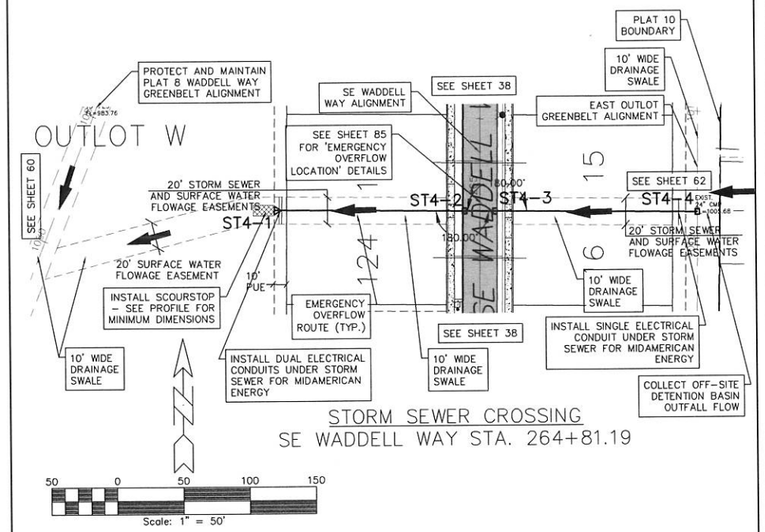
NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

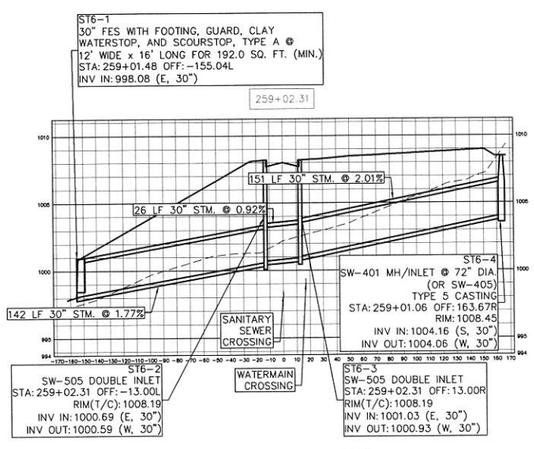


STORM SEWER CROSSING
SE WADDELL WAY STA. 259+02.31



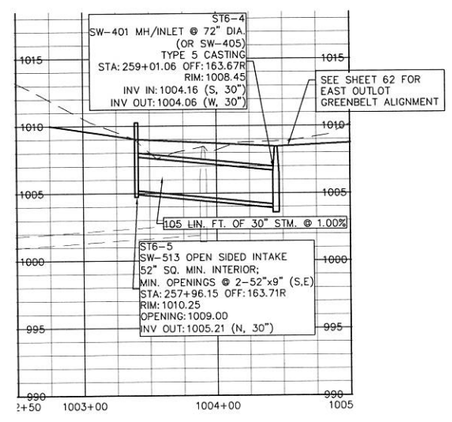
STORM SEWER CROSSING
SE WADDELL WAY STA. 264+81.19

SCALES:
1" = 50' HOR
1" = 5' VER



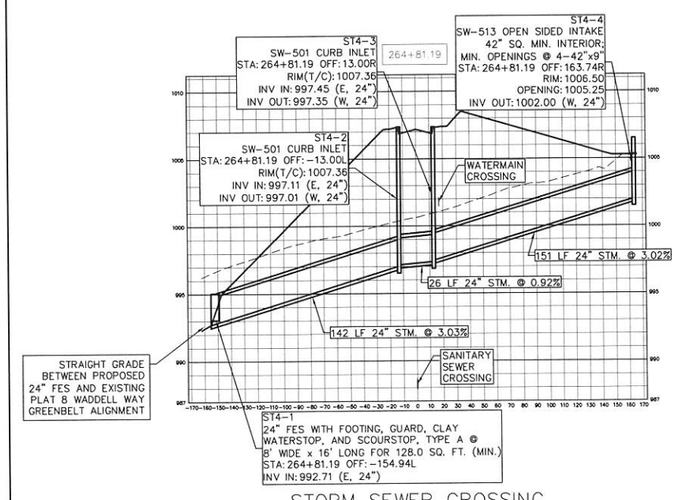
STORM SEWER CROSSING
SE WADDELL WAY STA. 259+02.31

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE WADDELL WAY STA. 259+02.31
OUTLOT U

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE WADDELL WAY STA. 264+81.19

GLYNN VILLAGE PLAT 10 - SE WADDELL WAY - STORM SECTIONS B

SCALE:	1" = 50'
DWG:	15-013-PP30.dwg
FIELD BOOK:	
DRAWN BY:	PJV
DESIGNED BY:	JRK
CHECKED BY:	DJS
DATE:	02/24/2016
FILE NO.:	15-013
SHEET	39 OF 100

LOCATION:

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IA 50312
(515) 282-1463

15-013

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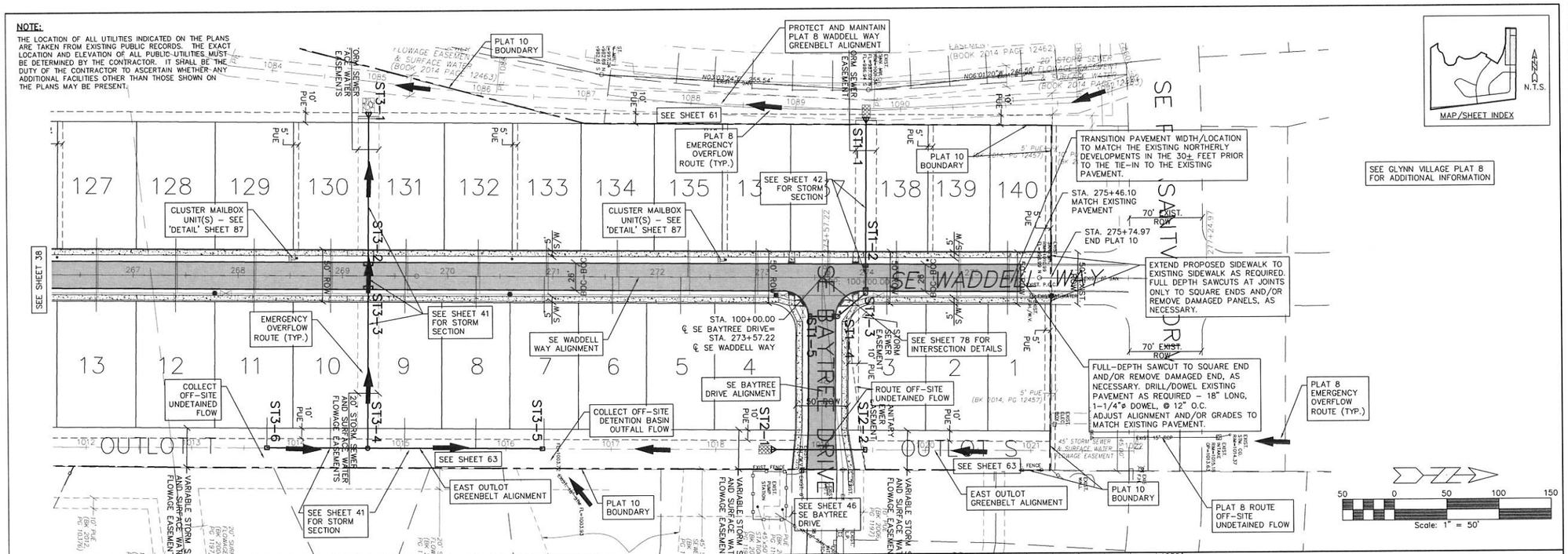
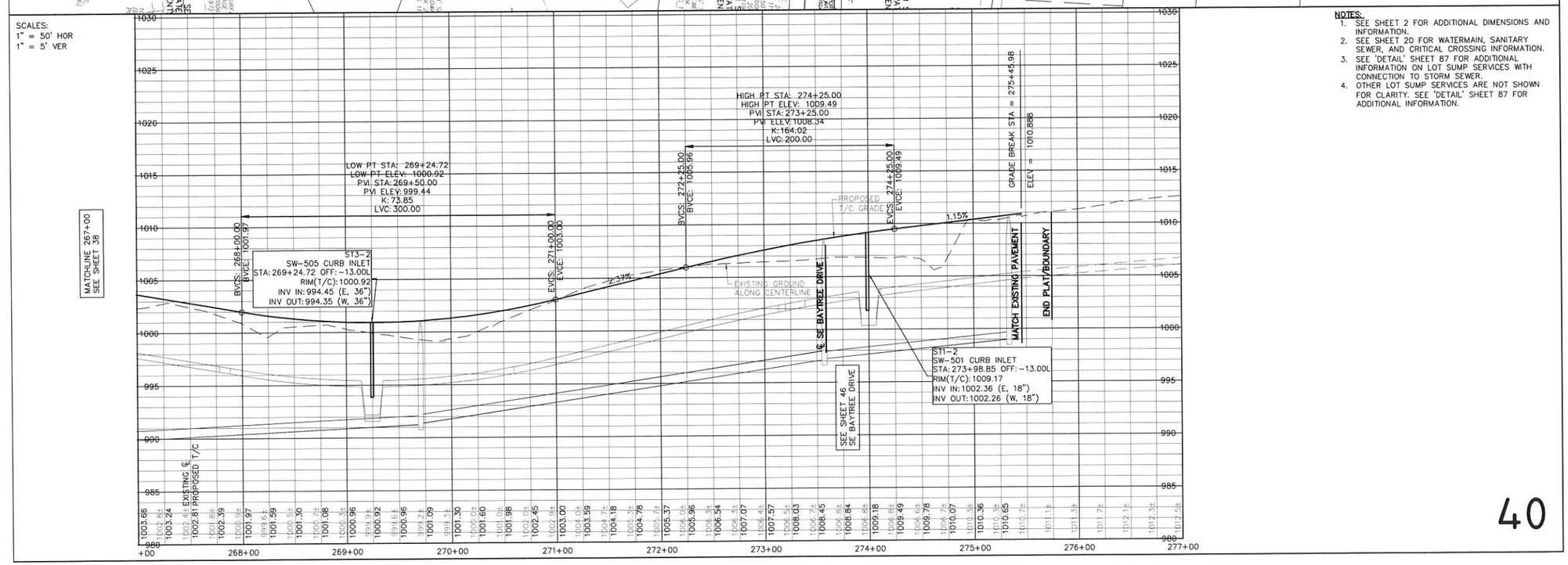
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.





NOTES:
1. SEE SHEET 2 FOR ADDITIONAL DIMENSIONS AND INFORMATION.
2. SEE SHEET 20 FOR WATERMAIN, SANITARY SEWER, AND CRITICAL CROSSING INFORMATION.
3. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
4. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

GLYNN VILLAGE PLAT 10 - SE WADDELL WAY - PAVEMENT & STORM 3

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP17.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 40 OF 100	FILE NO.: 15-013	

LOCATION:

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4822

15-013

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NOTE:

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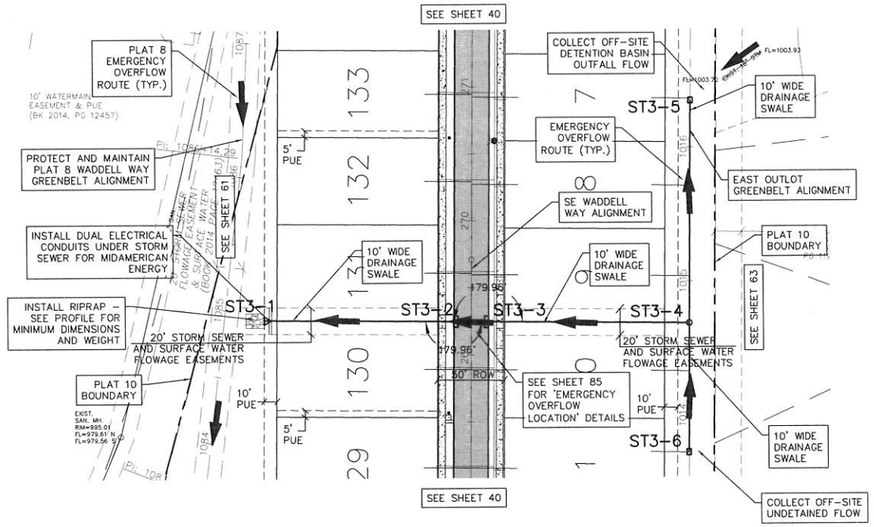
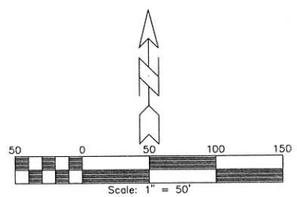
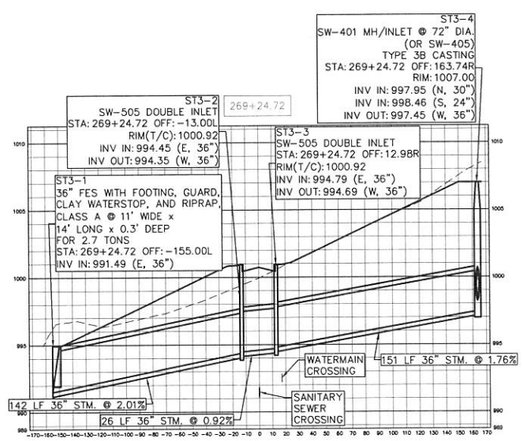


STORM SEWER CROSSING
SE WADDELL WAY STA. 269+24.72

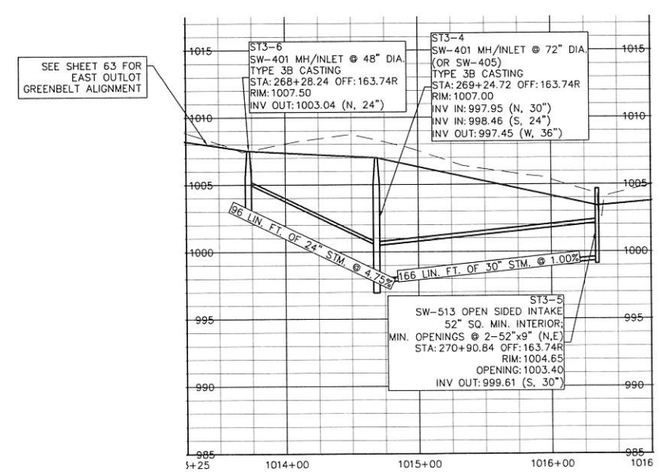


SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE WADDELL WAY STA. 269+24.72

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE WADDELL WAY STA. 269+24.72
OUTLOT T

GLYNN VILLAGE PLAT 10 - SE WADDELL WAY - STORM SECTIONS C

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP35.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 41 OF 100	FILE NO.: 15-013	

ERG
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2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4625

15-013

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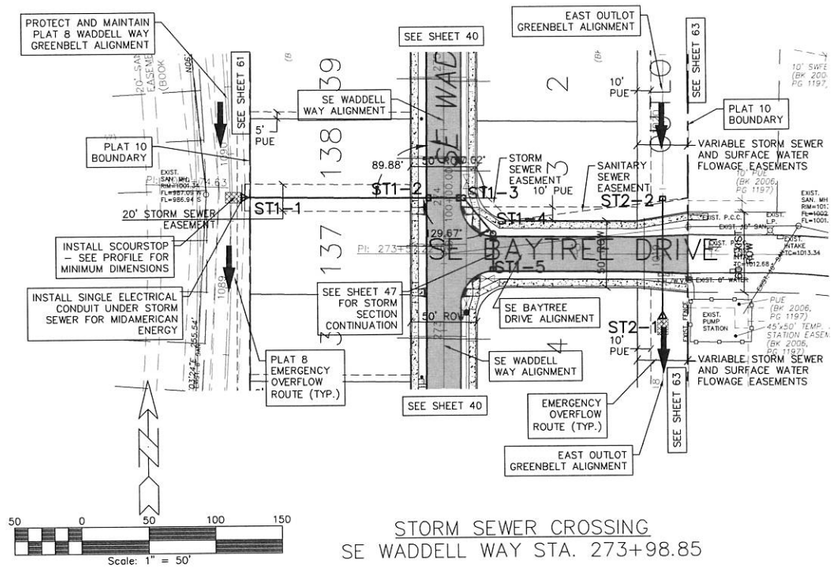
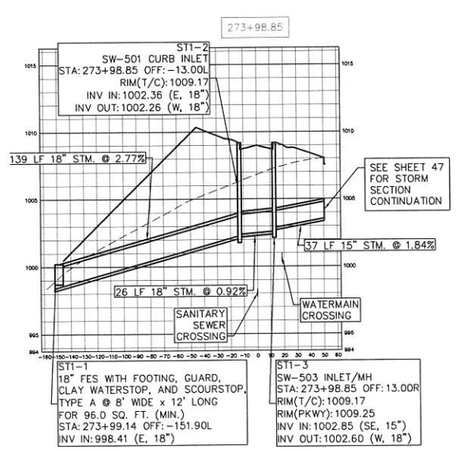
NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



STORM SEWER CROSSING
SE WADDELL WAY STA. 273+98.85

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE WADDELL WAY STA. 273+98.85

GLYNN VILLAGE PLAT 10 - SE WADDELL WAY - STORM SECTIONS D

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP36.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 42 OF 100	FILE NO.: 15-013	

ERG
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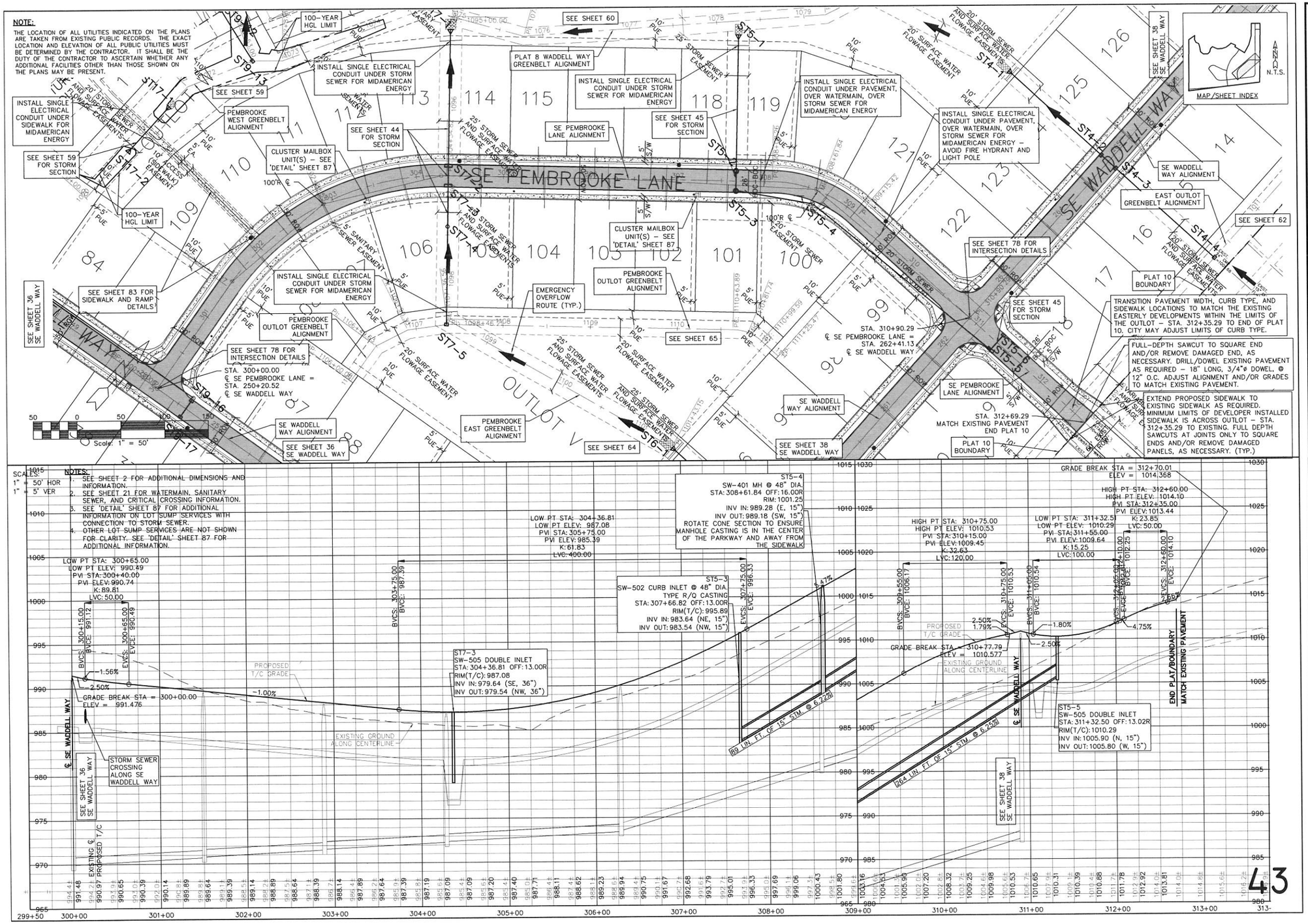
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



SCALES:
1" = 50' HOR
1" = 5' VER

NOTES:
1. SEE SHEET 2 FOR ADDITIONAL DIMENSIONS AND INFORMATION.
2. SEE SHEET 21 FOR WATERMAIN, SANITARY SEWER, AND CRITICAL CROSSING INFORMATION.
3. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON 'LOT SUMP' SERVICES WITH CONNECTION TO STORM SEWER.
4. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

43

GLYNN VILLAGE PLAT 10 - SE PEMBROOKE LANE - PAVEMENT & STORM

SCALE:	1" = 50'
DWG:	15-013-PP19.dwg
FIELD BOOK:	
DESIGNED BY:	JRK
CHECKED BY:	DJS
SHEET	43 OF 100
DRAWN BY:	PJV
DATE:	02/24/2016
FILE NO.:	15-013

LOCATION:

NO.	REVISION	DATE	BY	FOR:

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(515) 288-4823

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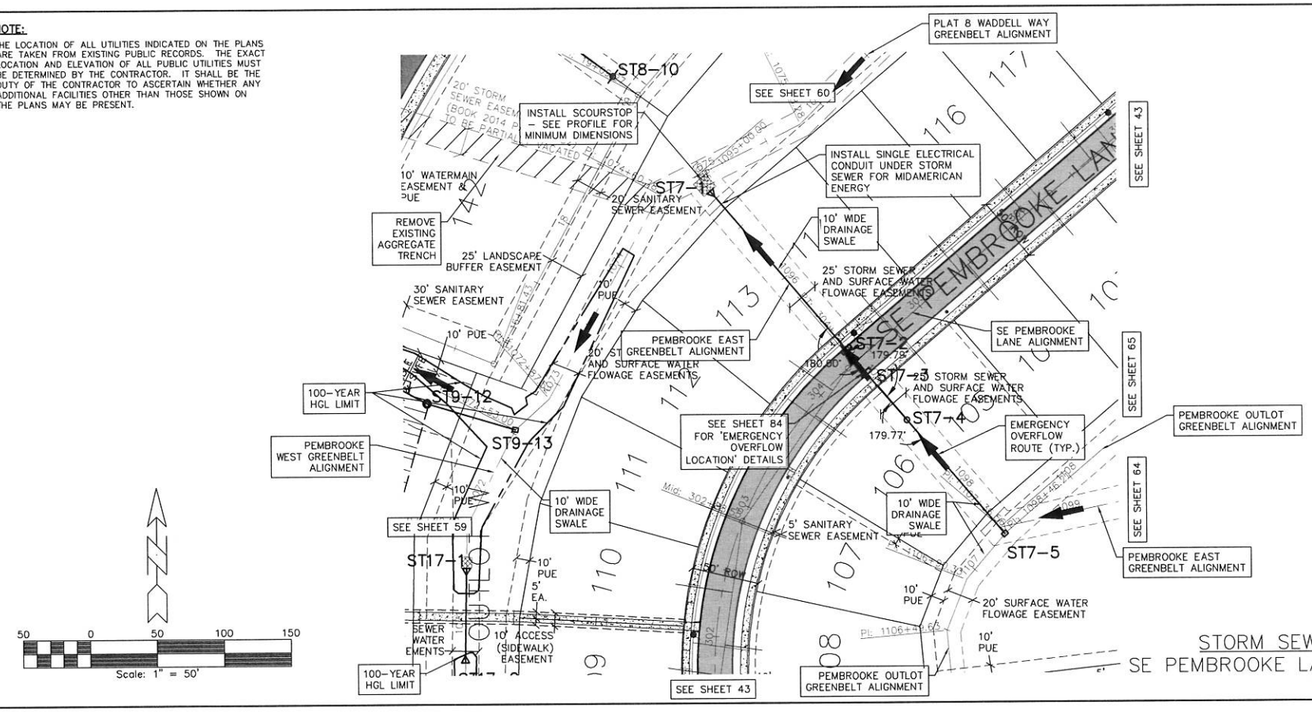
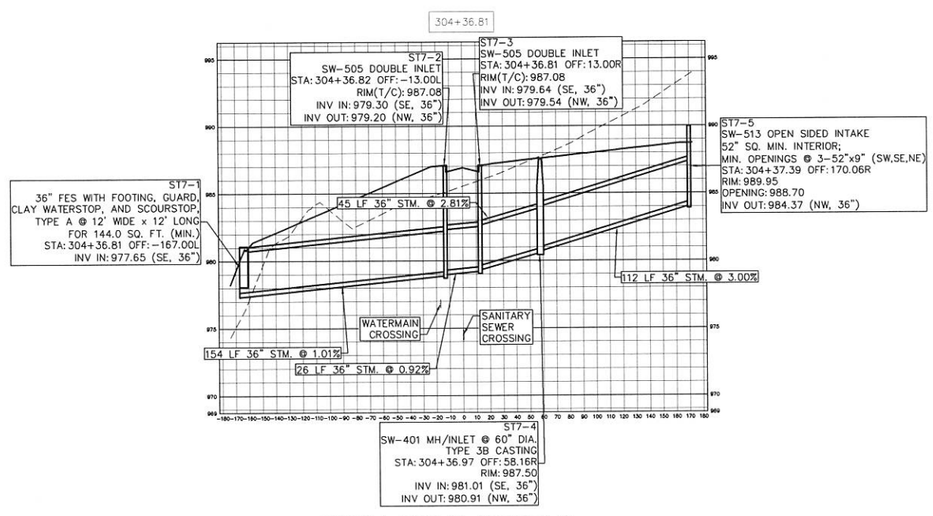
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



STORM SEWER CROSSING
SE PEMBROOKE LANE STA. 304+36.81

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE PEMBROOKE LANE STA. 304+36.81

GLYNN VILLAGE PLAT 10 - SE PEMBROOKE LANE - STORM SECTIONS A

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP27.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 44 OF 100	FILE NO.: 15-013	

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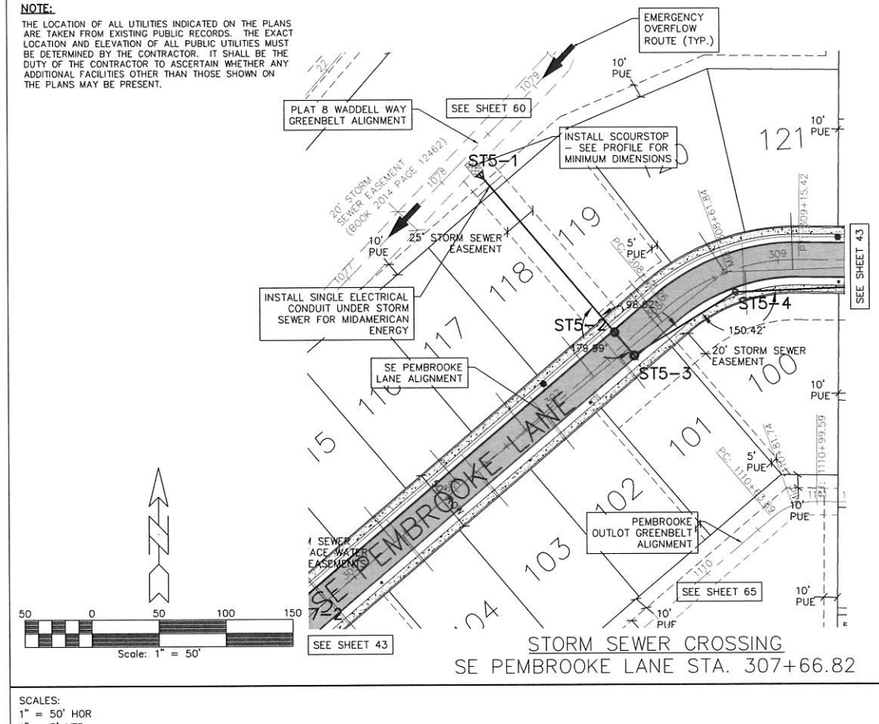
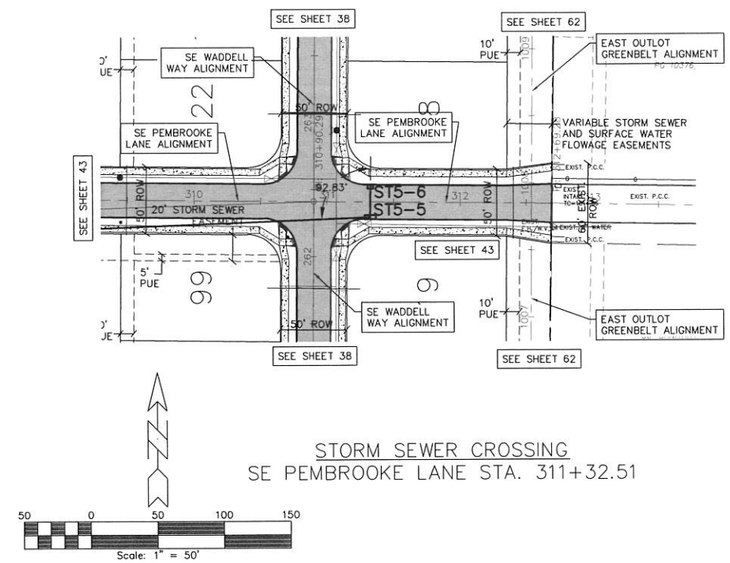
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

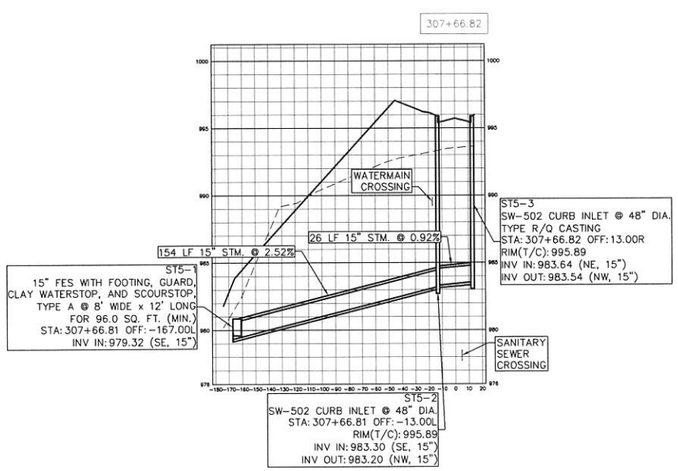


STORM SEWER CROSSING
SE PEMBROOKE LANE STA. 307+66.82



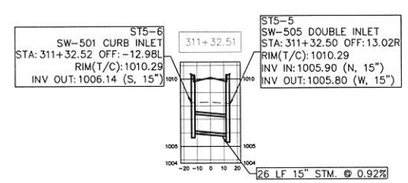
STORM SEWER CROSSING
SE PEMBROOKE LANE STA. 311+32.51

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE PEMBROOKE LANE STA. 307+66.82

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE PEMBROOKE LANE STA. 311+32.51

GLYNN VILLAGE PLAT 10 - SE PEMBROOKE LANE - STORM SECTIONS B

SCALE: 1" = 50'	DESIGNED BY: JRK
DWG: 15-013-PP37.dwg	CHECKED BY: DJS
FIELD BOOK:	SHEET 45 OF 100
DRAWN BY: PJV	DATE: 02/24/2016
FILE NO.: 15-013	

NO.	REVISION	DATE	BY	FOR:

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NOTE:

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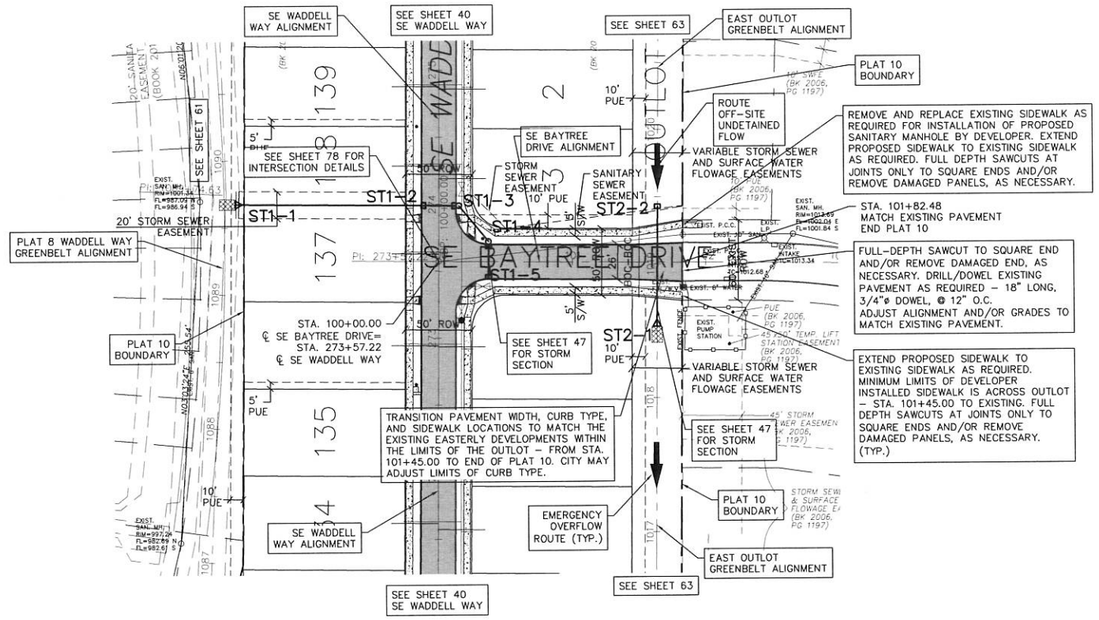
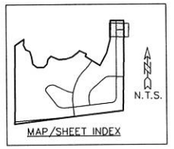
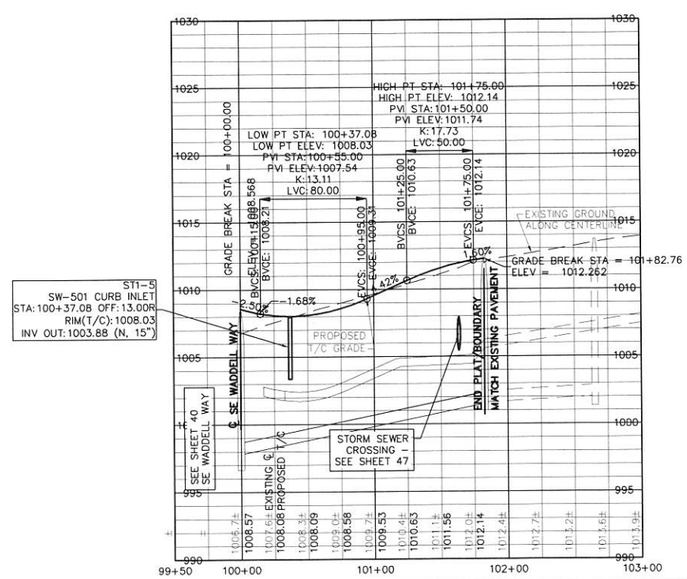




SCALES:
1" = 50' HOR
1" = 5' VER

NOTES:

1. SEE SHEET 2 FOR ADDITIONAL DIMENSIONS AND INFORMATION.
2. SEE SHEET 22 FOR WATERMAIN, SANITARY SEWER, AND CRITICAL CROSSING INFORMATION.
3. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
4. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.



46

GLYNN VILLAGE PLAT 10 - SE BAYTREE DRIVE - PAVEMENT & STORM

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP18.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 46 OF 100	FILE NO.: 15-013	

LOCATION:

NO.	REVISION	DATE	BY	FOR:

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NOTE:

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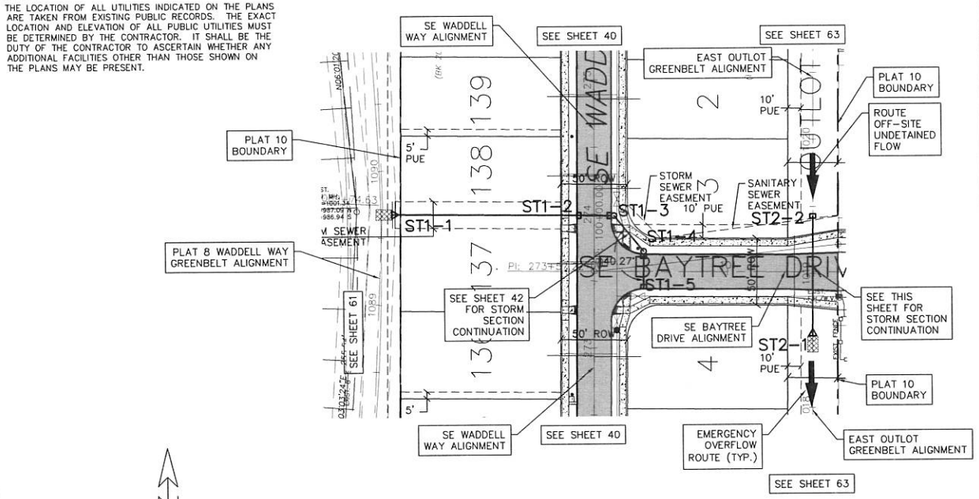
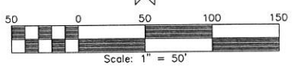
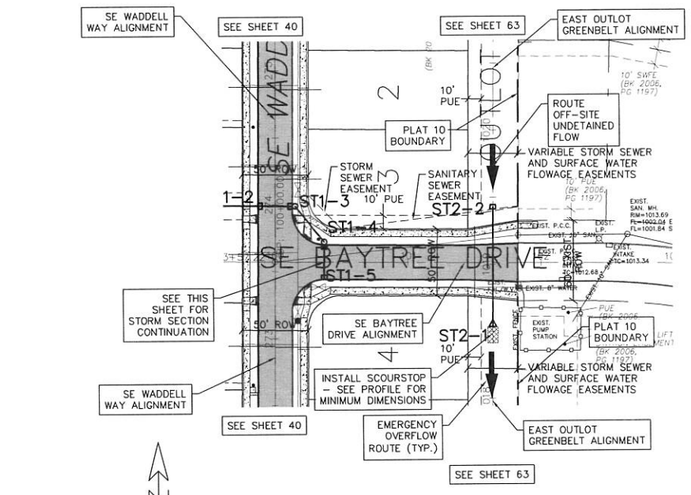
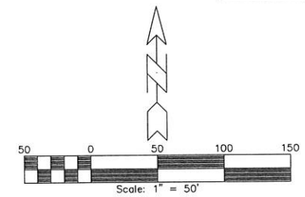


STORM SEWER CROSSING
SE BAYTREE DRIVE STA. 100+37.08

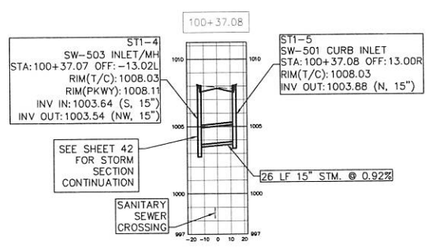




STORM SEWER CROSSING
SE BAYTREE DRIVE STA. 101+63.76

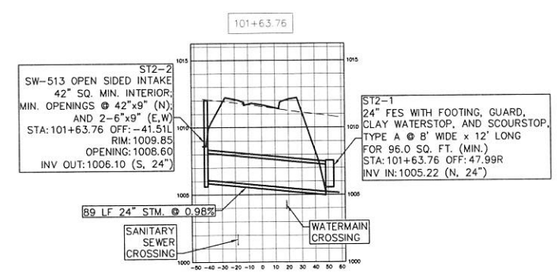


SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE BAYTREE DRIVE STA. 100+37.08

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE BAYTREE DRIVE STA. 101+63.76

GLYNN VILLAGE PLAT 10 - SE BAYTREE DRIVE - STORM SECTIONS

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP38.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 47 OF 100	FILE NO.: 15-013	

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NOTE:

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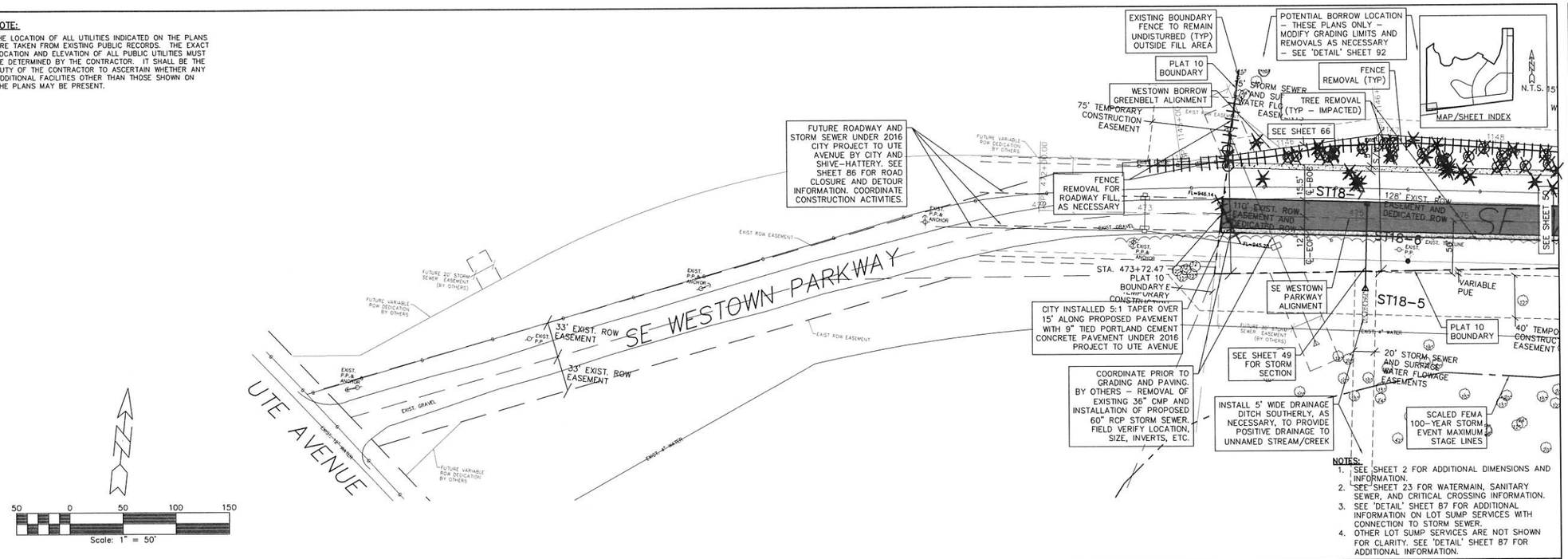
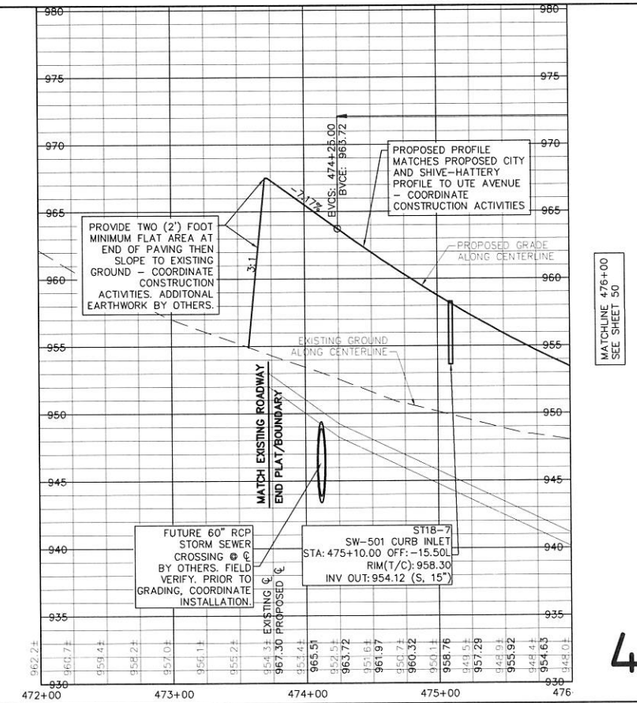


NOTES:

1. SEE SHEET 2 FOR ADDITIONAL DIMENSIONS AND INFORMATION.
2. SEE SHEET 23 FOR WATERMAIN, SANITARY SEWER, AND CRITICAL CROSSING INFORMATION.
3. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
4. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

SCALES:
1" = 50' HOR
1" = 5' VER



48

GLYNN VILLAGE PLAT 10-SE WESTOWN PARKWAY - PAVEMENT & STORM I

SCALE:	1" = 50'
DWG:	15-013-PP21.dwg
FIELD BOOK:	
DESIGNED BY:	JRK
CHECKED BY:	DJS
SHEET	48 OF 100
DRAWN BY:	PJV
DATE:	02/24/2016
FILE NO.:	15-013

LOCATION:

NO.	REVISION	DATE	BY	FOR:

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2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

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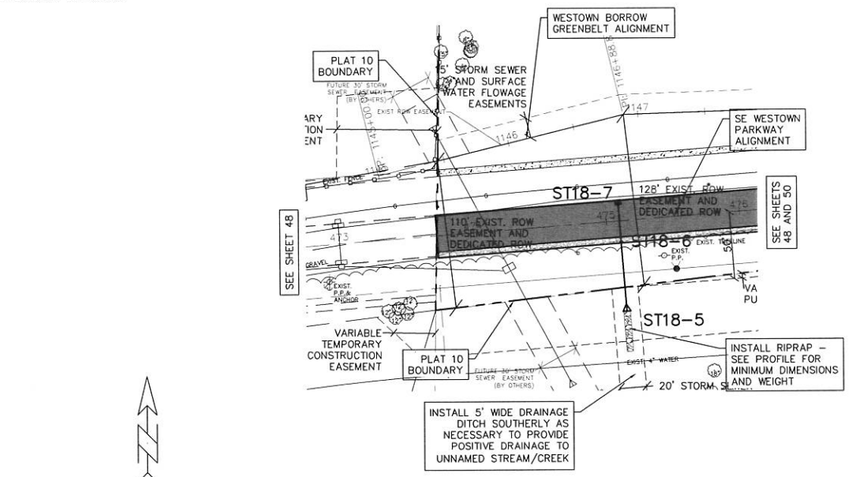
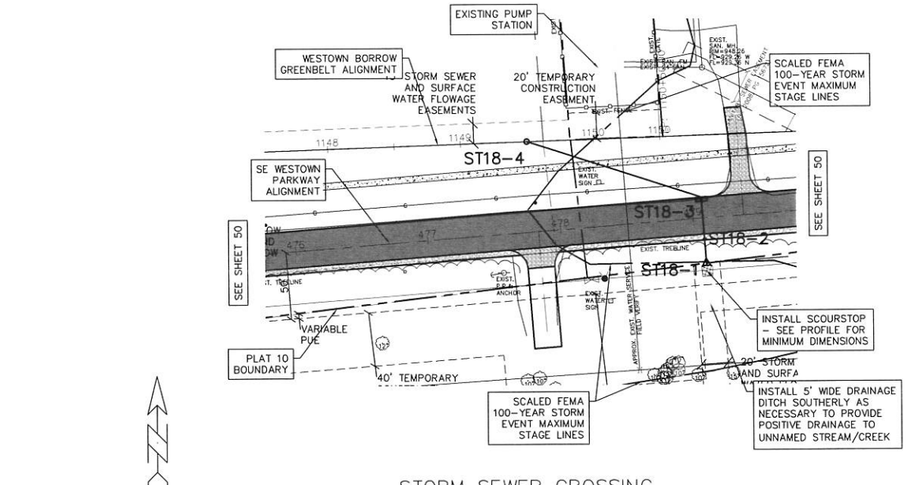
NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

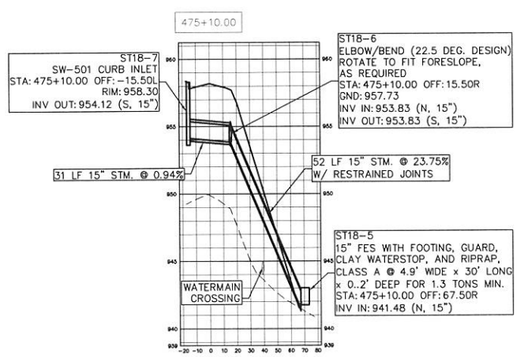


STORM SEWER CROSSING
SE WESTOWN PARKWAY STA. 475+10.00



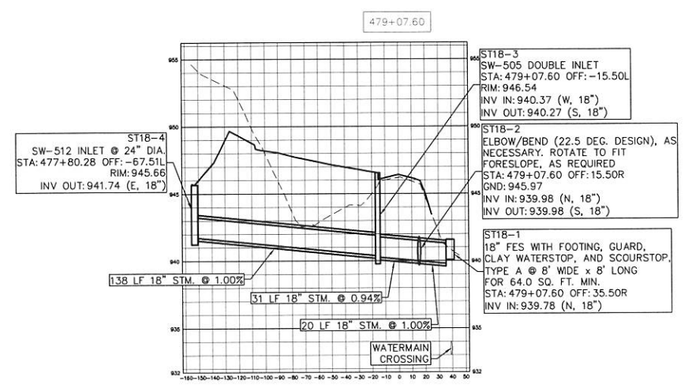
STORM SEWER CROSSING
SE WESTOWN PARKWAY STA. 479+07.60

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE WESTOWN PARKWAY STA. 475+10.00

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE WESTOWN PARKWAY STA. 479+07.60

GLYNN VILLAGE PLAT 10 - SE WESTOWN PKWY - STORM SECTIONS A

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP218.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 49 OF 100	FILE NO.: 15-013	

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NOTE:
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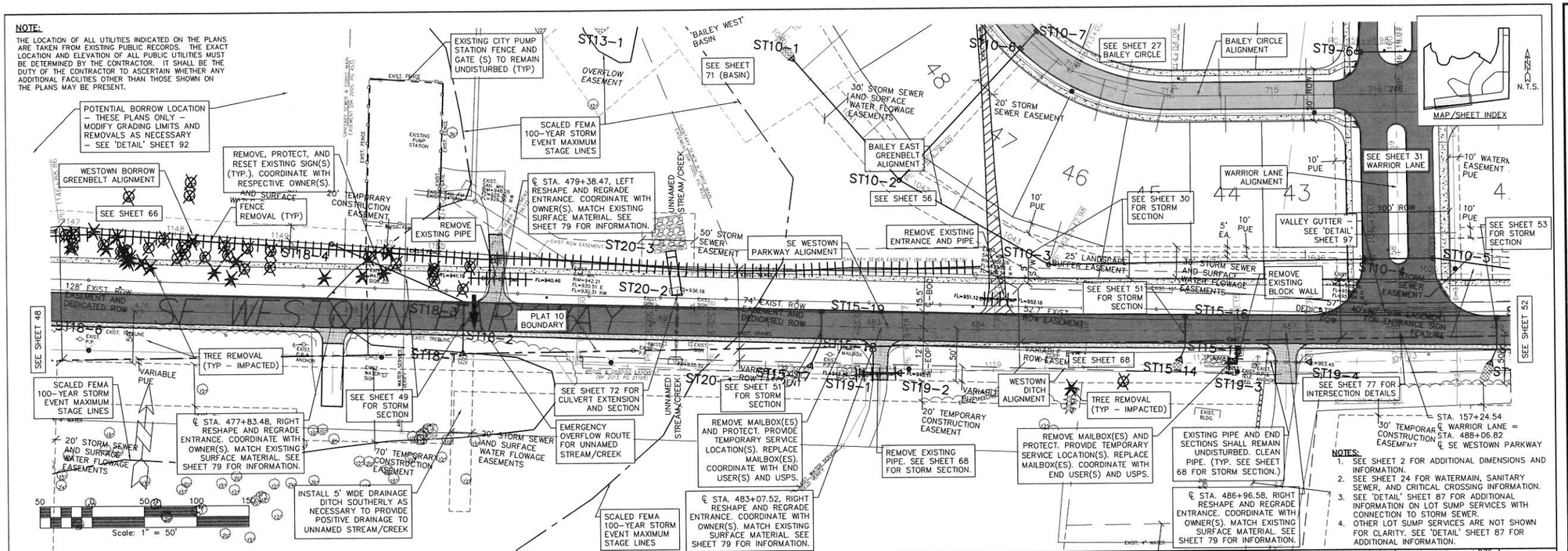
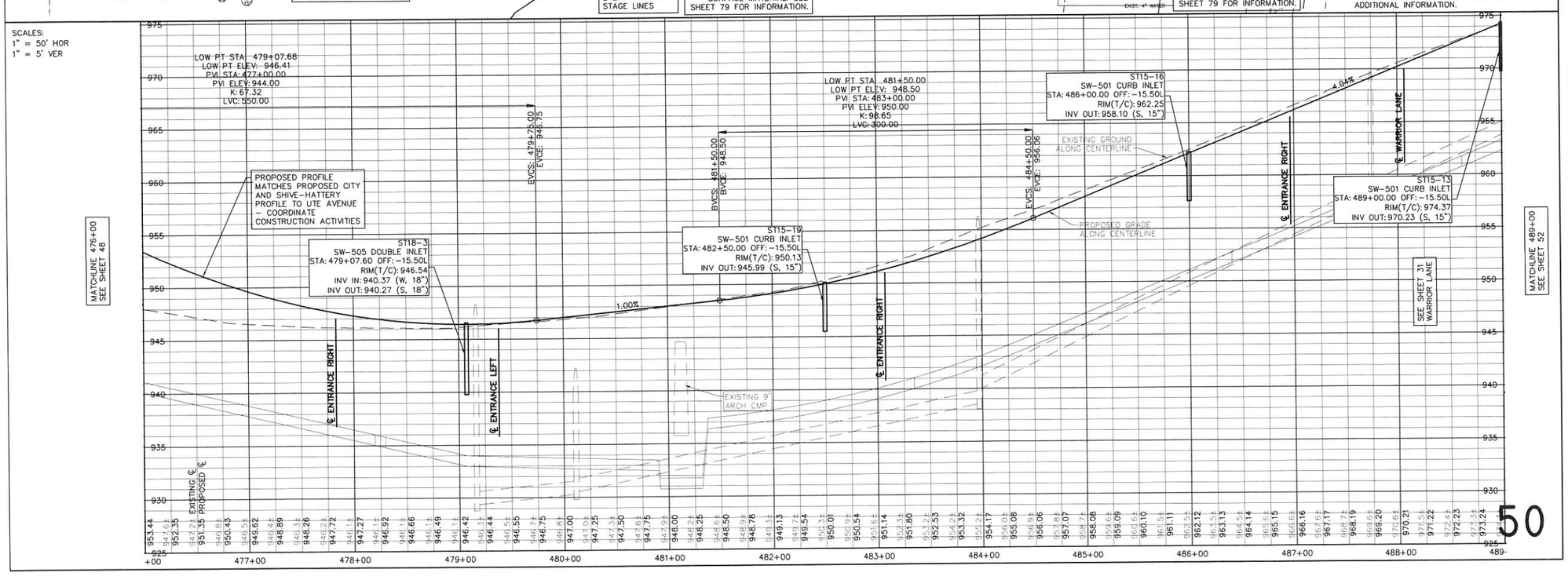


NOTES:
1. SEE SHEET 2 FOR ADDITIONAL DIMENSIONS AND INFORMATION.
2. SEE SHEET 24 FOR WATERMAIN, SANITARY SEWER, AND CRITICAL CROSSING INFORMATION.
3. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
4. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

SCALES:
1" = 50' HOR
1" = 5' VER



50

GLYNN VILLAGE PLAT 10-SE WESTOWN PARKWAY - PAVEMENT & STORM 2

SCALE:	1" = 50'
DWG:	15-013-PP22.dwg
FIELD BOOK:	
LOCATION:	
DRAWN BY:	PJV
DATE:	02/24/2016
DESIGNED BY:	JRK
CHECKED BY:	DJS
SHEET	50 OF 100
FILE NO.:	15-013

NO.	REVISION	DATE	BY	FOR:

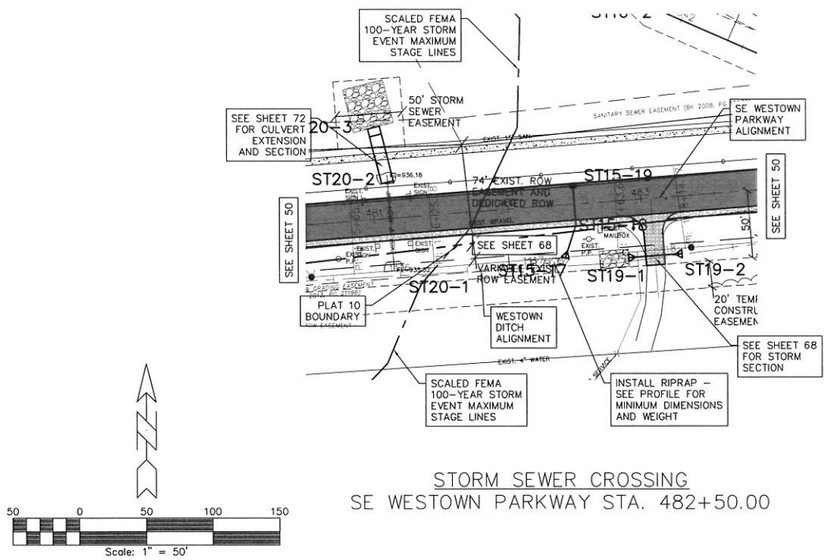
ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 289-1483

15-013

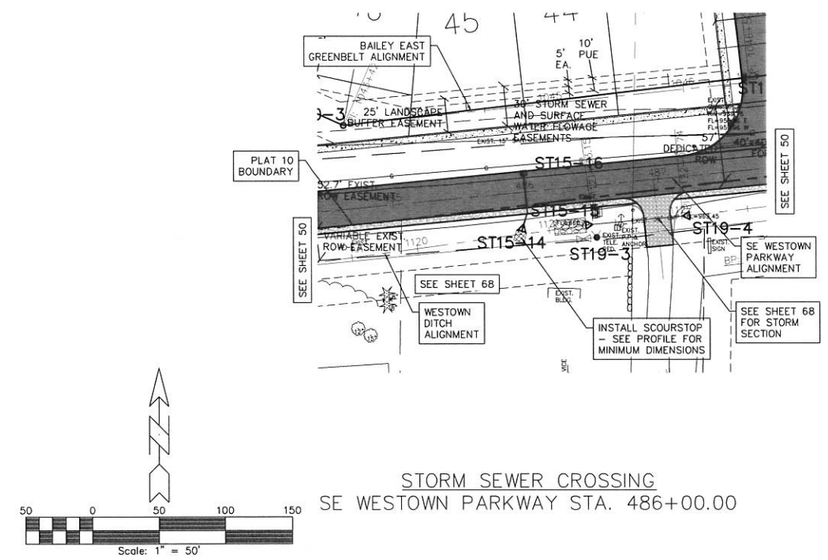
J:\2015 Proj\15-013\DESIGN\15-013-PP22.dwg, 3/8/2016 3:02:00 PM, Jay

NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

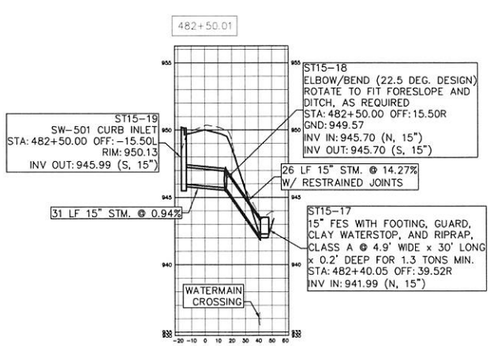


STORM SEWER CROSSING
SE WESTOWN PARKWAY STA. 482+50.00



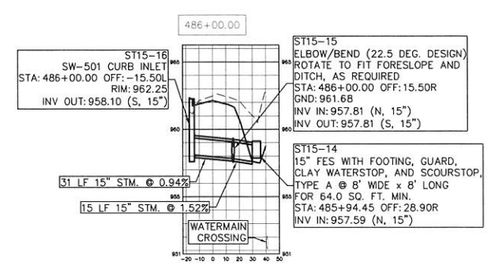
STORM SEWER CROSSING
SE WESTOWN PARKWAY STA. 486+00.00

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE WESTOWN PARKWAY STA. 482+50.00

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE WESTOWN PARKWAY STA. 486+00.00

GLYNN VILLAGE PLAT 10 - SE WESTOWN PKWY - STORM SECTIONS B

SCALE:	1" = 50'	DESIGNED BY:	JRK
DWG:	15-013-PP22B.dwg	CHECKED BY:	DJS
FIELD BOOK:		SHEET	51 OF 100
DRAWN BY:	PJV		
DATE:	02/24/2016		
FILE NO.:	15-013		

LOCATION:

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resources Group, Inc.
Engineers and Surveyors
2415 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

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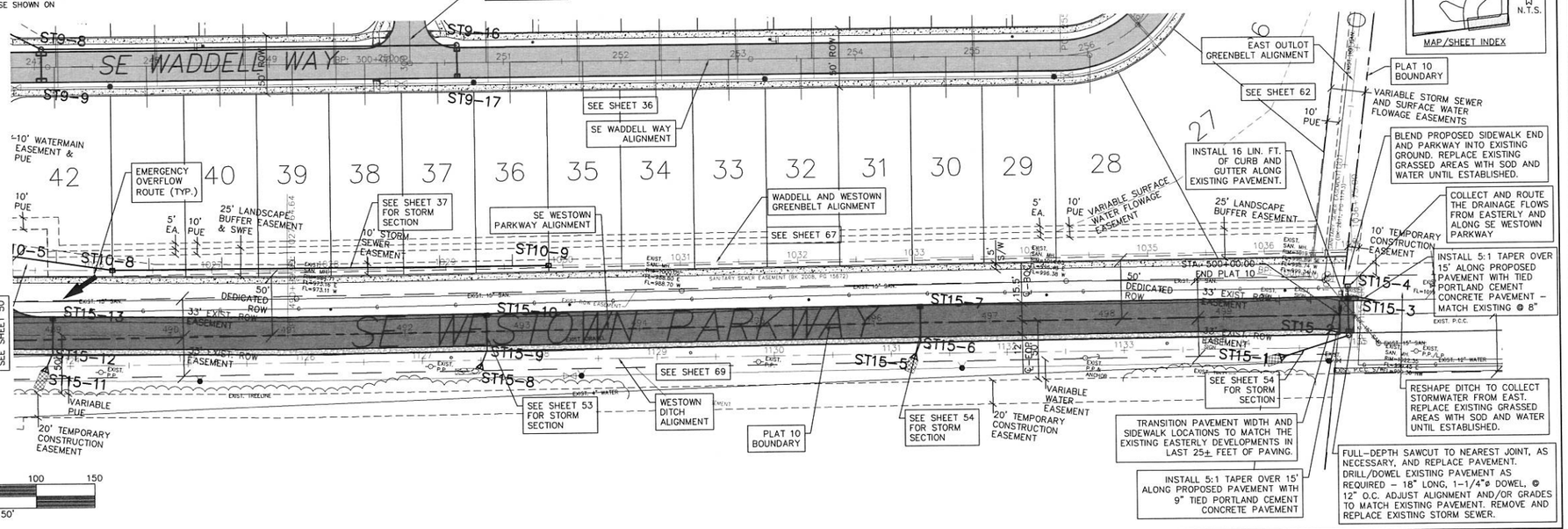
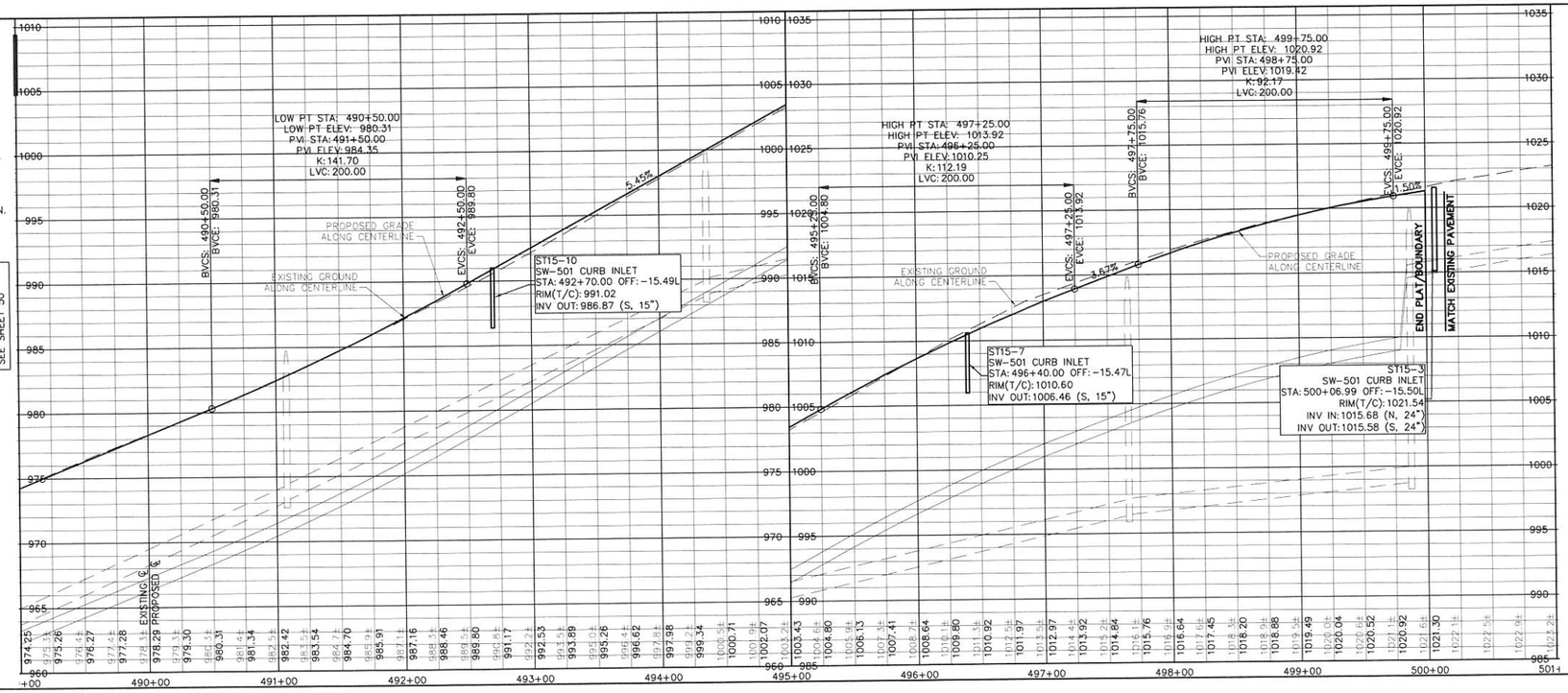
J:\2015 Proj\15-013\DESIGN\15-013-PP22B.dwg, 3/8/2016 3:02:41 PM, Jay

NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



SCALES:
1" = 50' HOR
1" = 5' VER

NOTES:
1. SEE SHEET 2 FOR ADDITIONAL DIMENSIONS AND INFORMATION.
2. SEE SHEET 25 FOR WATERMAIN, SANITARY SEWER, AND CRITICAL CROSSING INFORMATION.
3. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
4. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.



GLYNN VILLAGE PLAT 10-SE WESTOWN PARKWAY - PAVEMENT & STORM 3

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP23.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 52 OF 100	FILE NO.: 15-013	

LOCATION:

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4623

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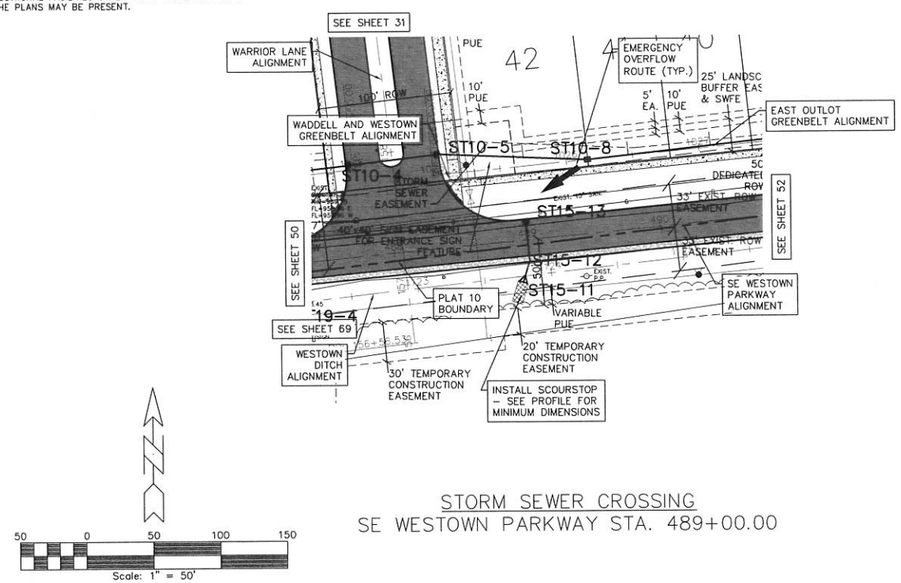
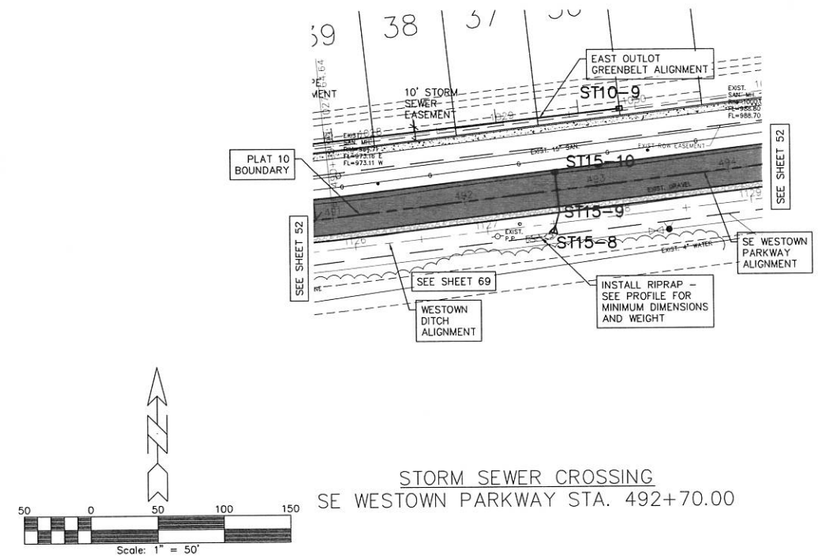
NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

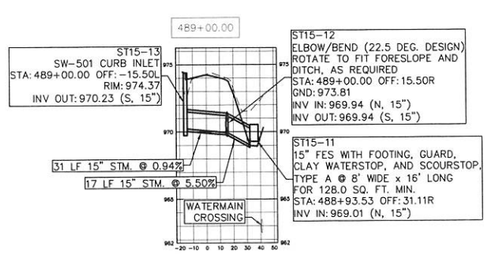


STORM SEWER CROSSING
SE WESTOWN PARKWAY STA. 489+00.00



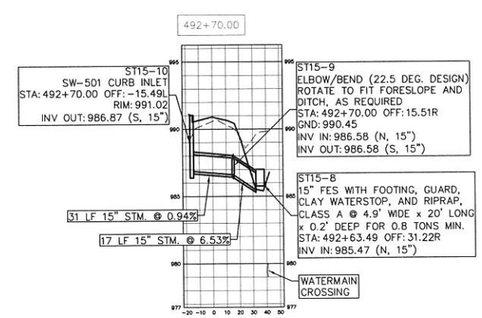
STORM SEWER CROSSING
SE WESTOWN PARKWAY STA. 492+70.00

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE WESTOWN PARKWAY STA. 489+00.00

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE WESTOWN PARKWAY STA. 492+70.00

GLYNN VILLAGE PLAT 10 - SE WESTOWN PKWY - STORM SECTIONS C

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 50'
DWG: 15-013-PP51A.dwg
FIELD BOOK:

DESIGNED BY: JRK
CHECKED BY: DJS
SHEET 53 OF 100

DRAWN BY: PJV
DATE: 02/24/2016
FILE NO.: 15-013

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 280-4023

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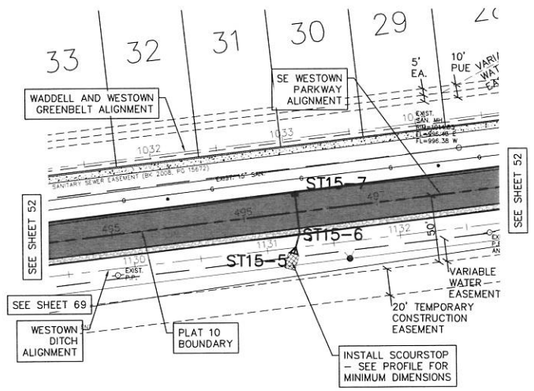
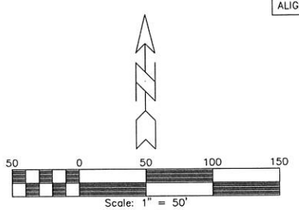
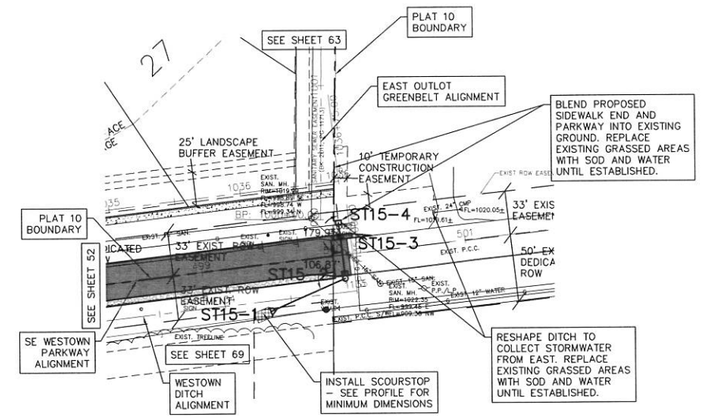
NOTE:

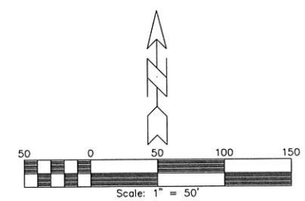
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.





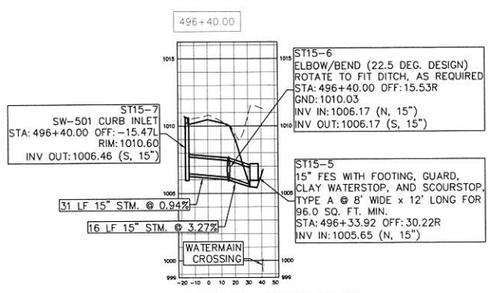
STORM SEWER CROSSING
SE WESTOWN PARKWAY STA. 496+40.00





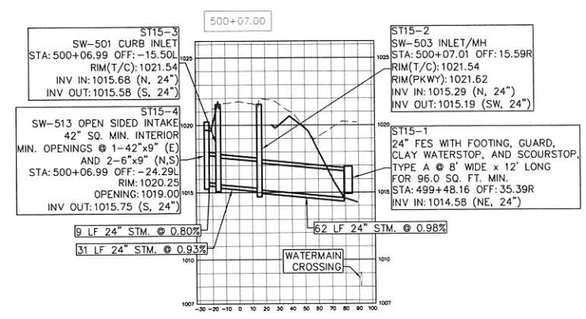
STORM SEWER CROSSING
SE WESTOWN PARKWAY STA. 500+07.00

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE WESTOWN PARKWAY STA. 496+40.00

SCALES:
1" = 50' HOR
1" = 5' VER



STORM SEWER CROSSING
SE WESTOWN PARKWAY STA. 500+07.00

GLYNN VILLAGE PLAT 10 - SE WESTOWN PKWY - STORM SECTIONS D

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP52.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 54 OF 100	FILE NO.: 15-013	

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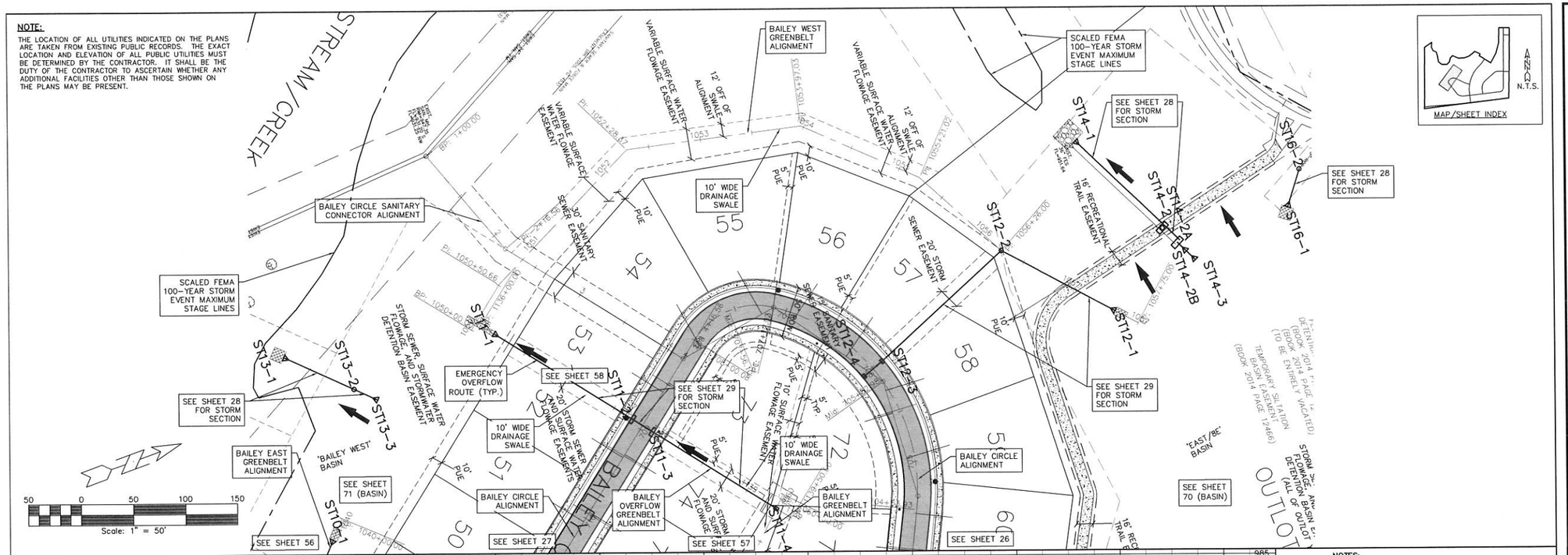
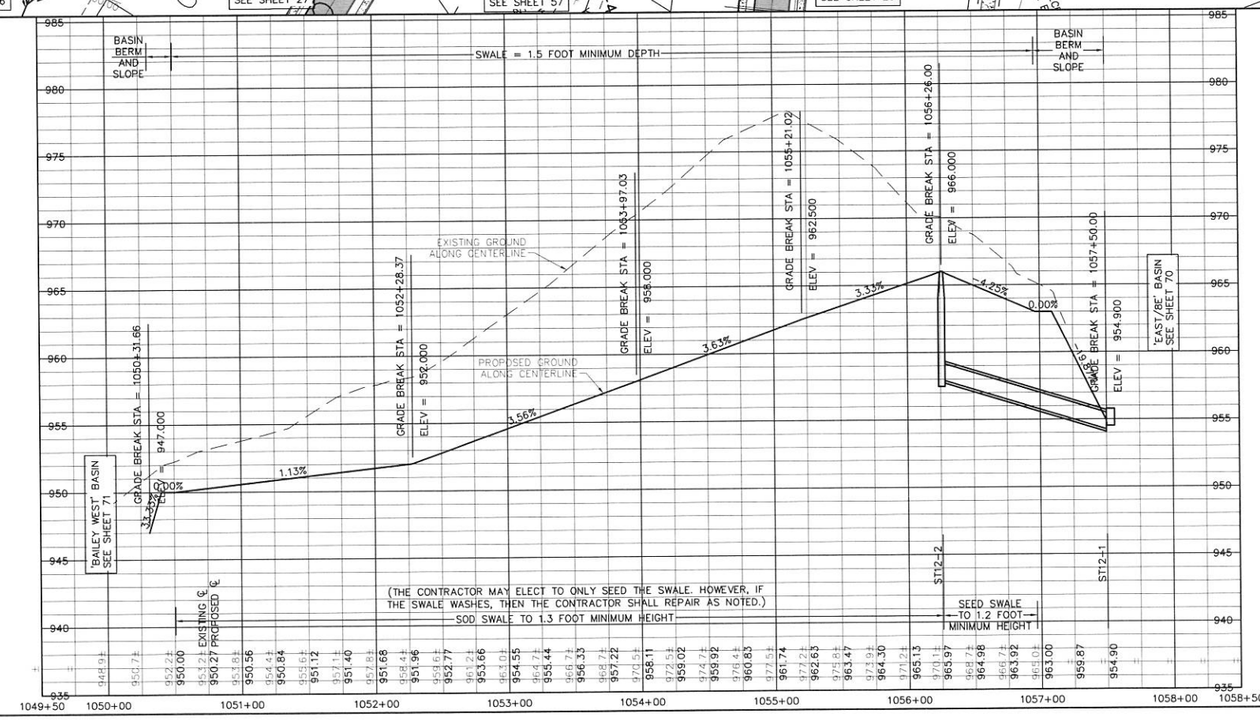
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



SCALES:
1" = 50' HOR
1" = 5' VER



NOTES:
1. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
2. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

GLYNN VILLAGE PLAT 10 - BAILEY WEST - GREENBELT

LOCATION:		DRAWN BY: PJV	
SCALE: 1" = 50'	DESIGNED BY: JRK	DATE: 02/24/2016	
DWG: 15-013-PP44.dwg	CHECKED BY: DJS		
FIELD BOOK:	SHEET 55 OF 100	FILE NO.: 15-013	

NO.	REVISION	DATE	BY	FOR:

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Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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NOTE:

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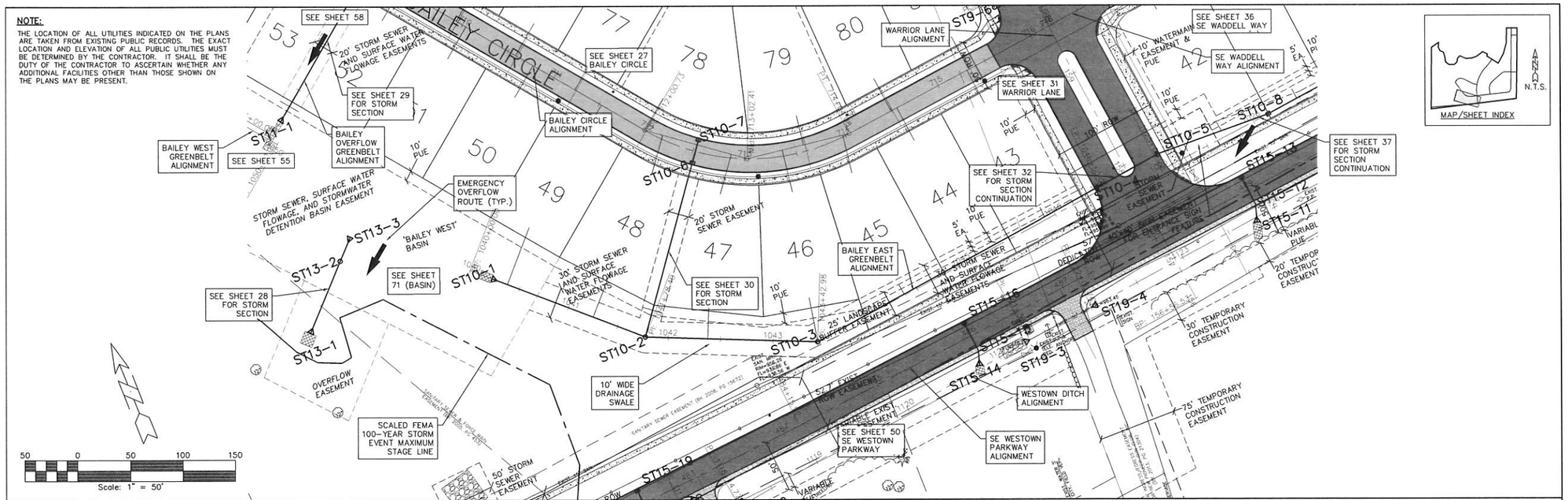
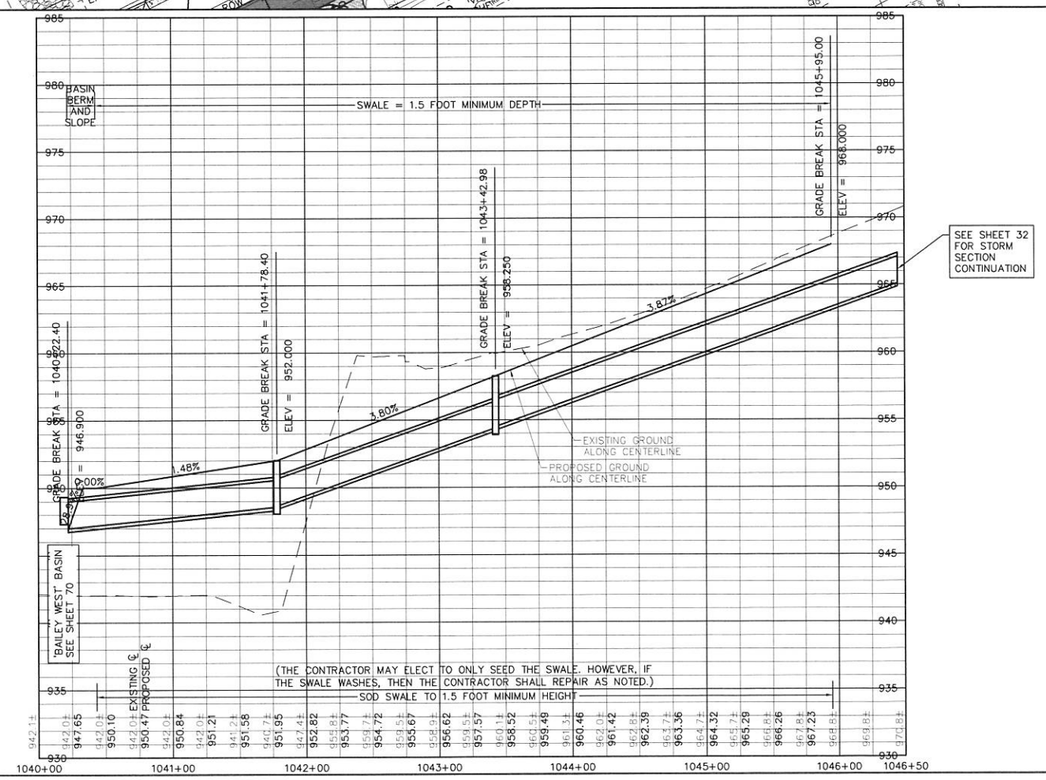


SCALES:
1" = 50' HOR
1" = 5' VER



NOTES:

1. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
2. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

GLYNN VILLAGE PLAT 10 - BAILEY EAST - GREENBELT

LOCATION:	SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV
	DWG: 15-013-PP45.dwg	CHECKED BY: DJS	DATE: 02/24/2016
	FIELD BOOK:	SHEET 56 OF 100	FILE NO.: 15-013

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2415 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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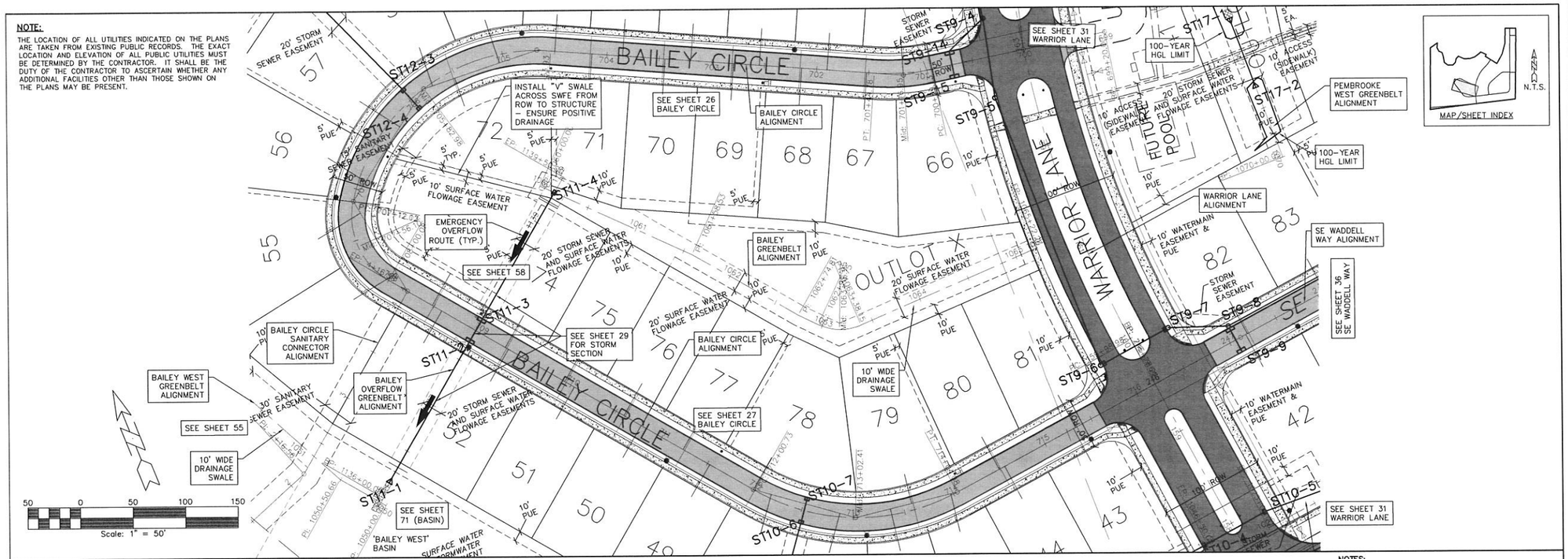
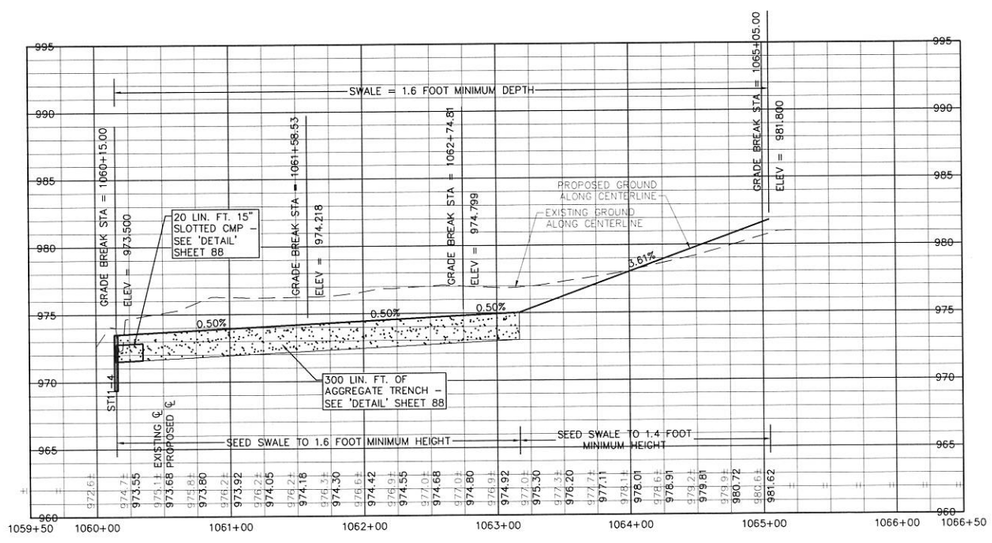
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



SCALES:
1" = 50' HOR
1" = 5' VER

NOTES:
1. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
2. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.



GLYNN VILLAGE

PLAT 10 - BAILEY - GREENBELT

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP39.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 57 OF 100	FILE NO.: 15-013	

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(515) 288-4063

15-013

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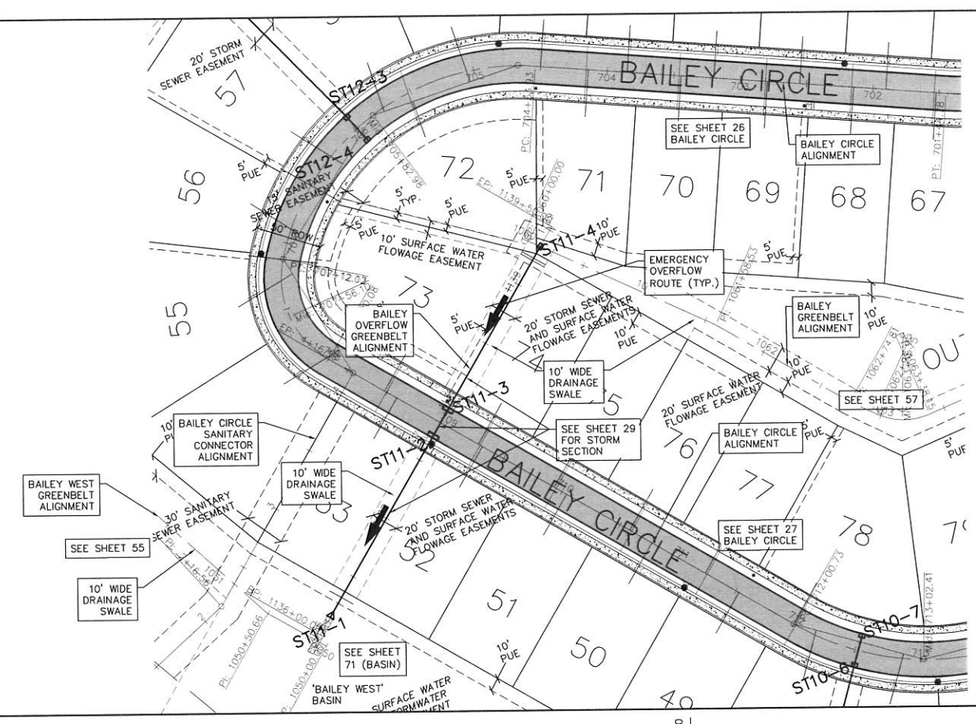
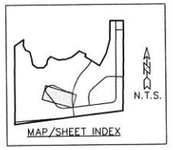
NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.





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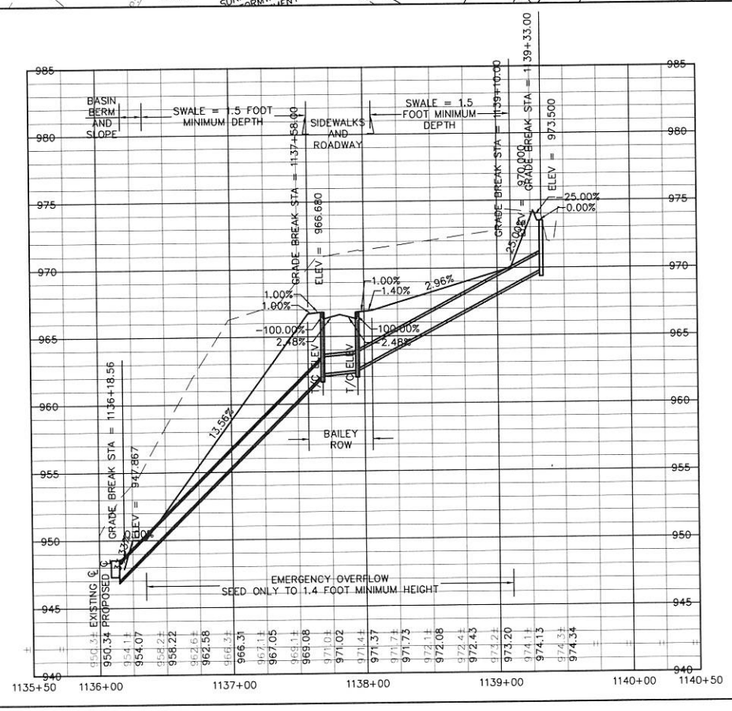
Scale: 1" = 50'

SCALES:
1" = 50' HOR
1" = 5' VER



NOTES:

1. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
2. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

GLYNN VILLAGE PLAT 10 - BAILEY OVERFLOW - GREENBELT

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP39A.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 58 OF 100	FILE NO.: 15-013	

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Engineering Resource Group, Inc.
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2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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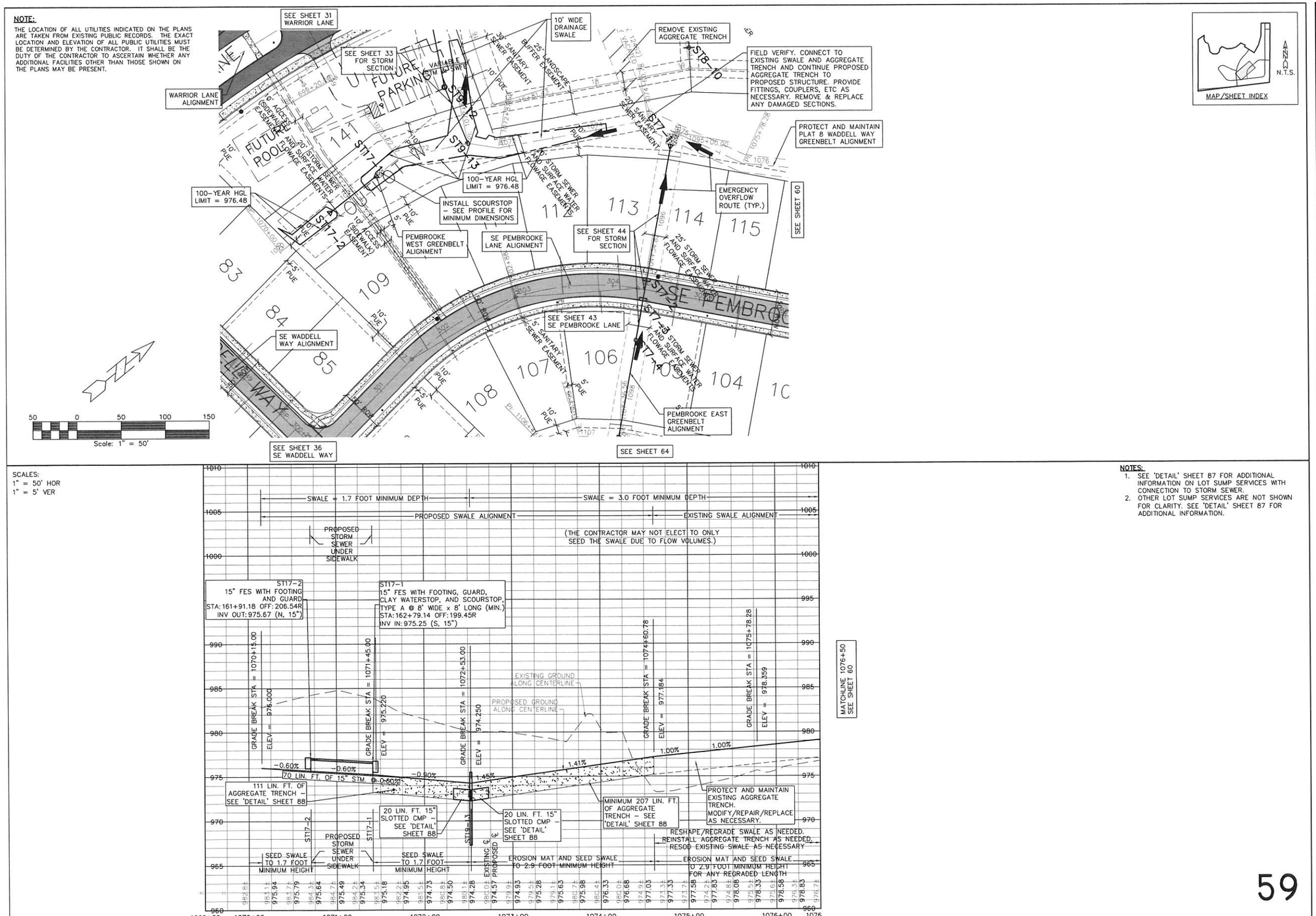
NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



NOTES:

1. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
2. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

GLYNN VILLAGE PLAT 10 - PEMBROOKE WEST - GREENBELT

LOCATION:	SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV
	DWG: 15-013-PP2B.dwg	CHECKED BY: DJS	DATE: 02/24/2016
	FIELD BOOK:	SHEET 59 OF 100	FILE NO.: 15-013

NO.	REVISION	DATE	BY	FOR:

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Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

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NOTE:
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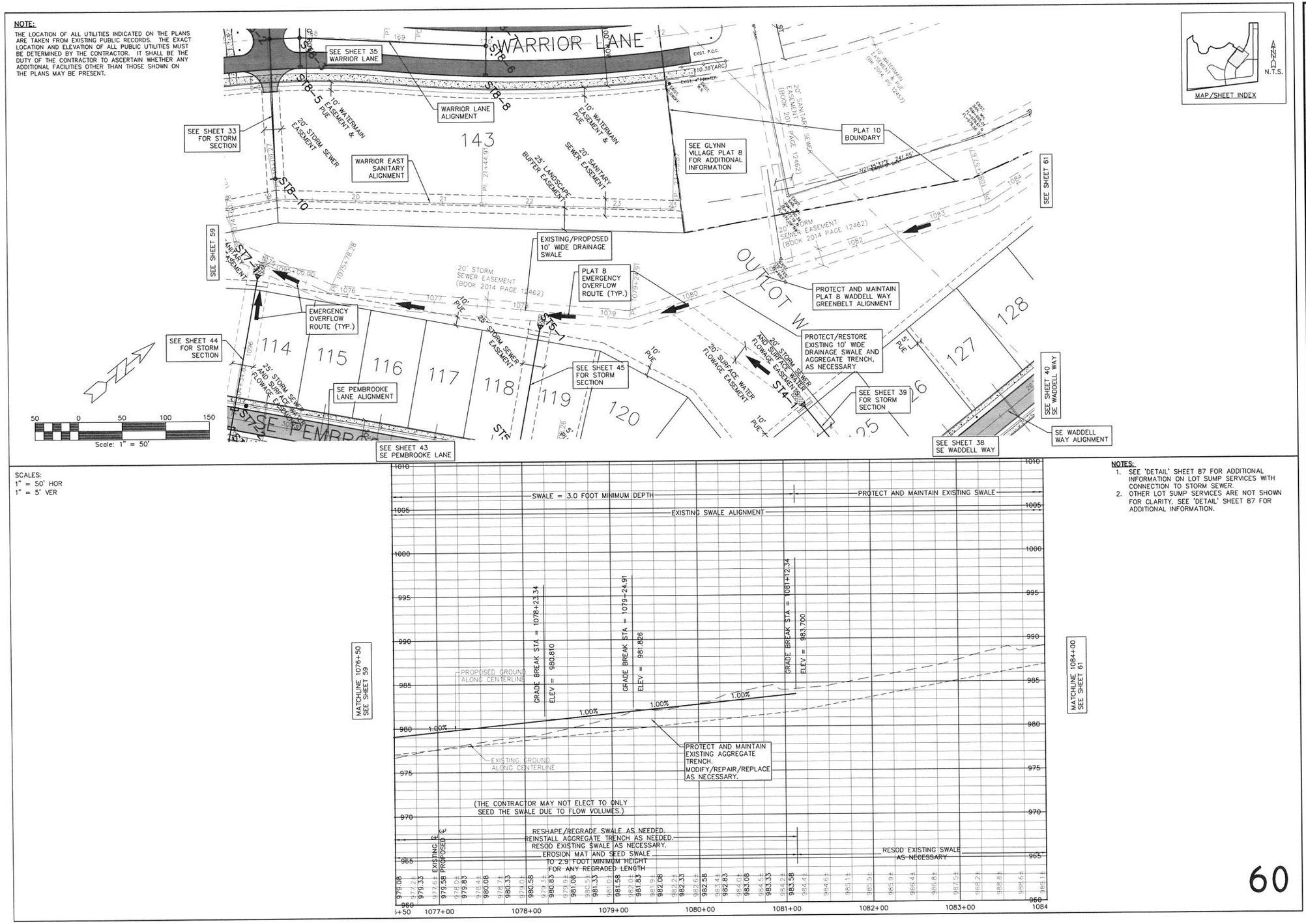


SCALES:
1" = 50' HOR
1" = 5' VER

NOTES:
1. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
2. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

GLYNN VILLAGE PLAT 10 - PLAT 8 WADDELL WAY - GREENBELT I

LOCATION:	SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV
	DWG: 15-013-PP41.dwg	CHECKED BY: DJS	DATE: 02/24/2016
	FIELD BOOK:	SHEET 60 OF 100	FILE NO.: 15-013

NO.	REVISION	DATE	BY	FOR:

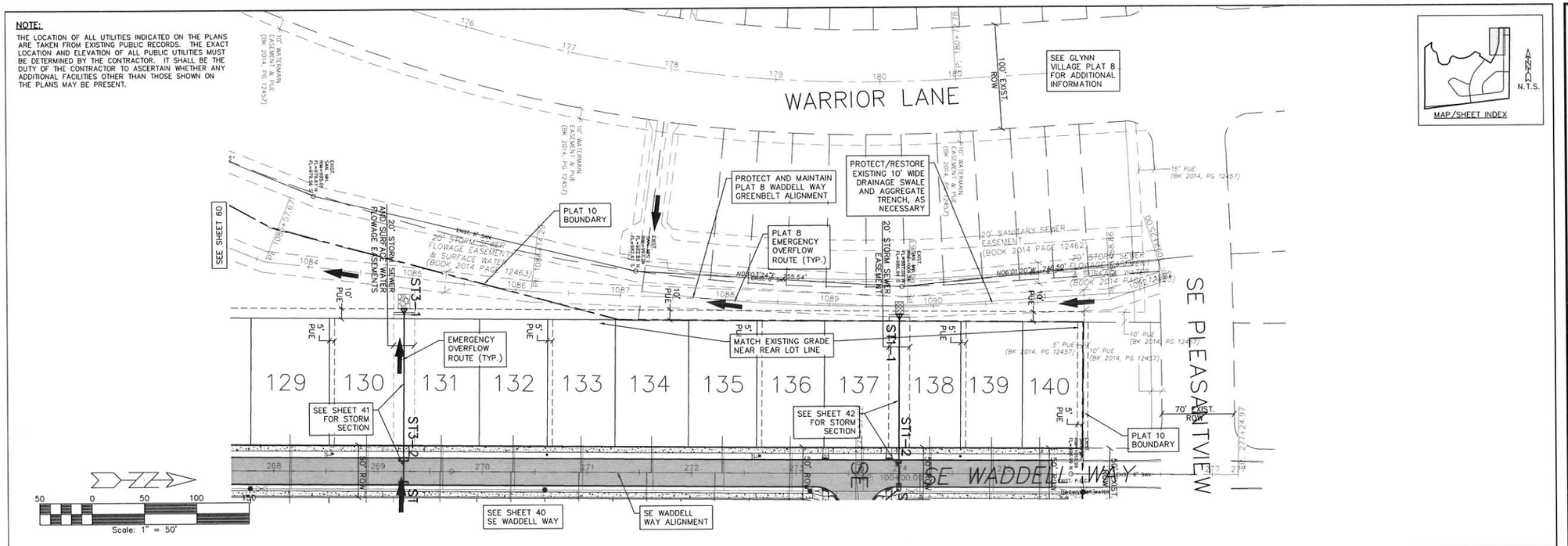
ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 286-4323

15-013

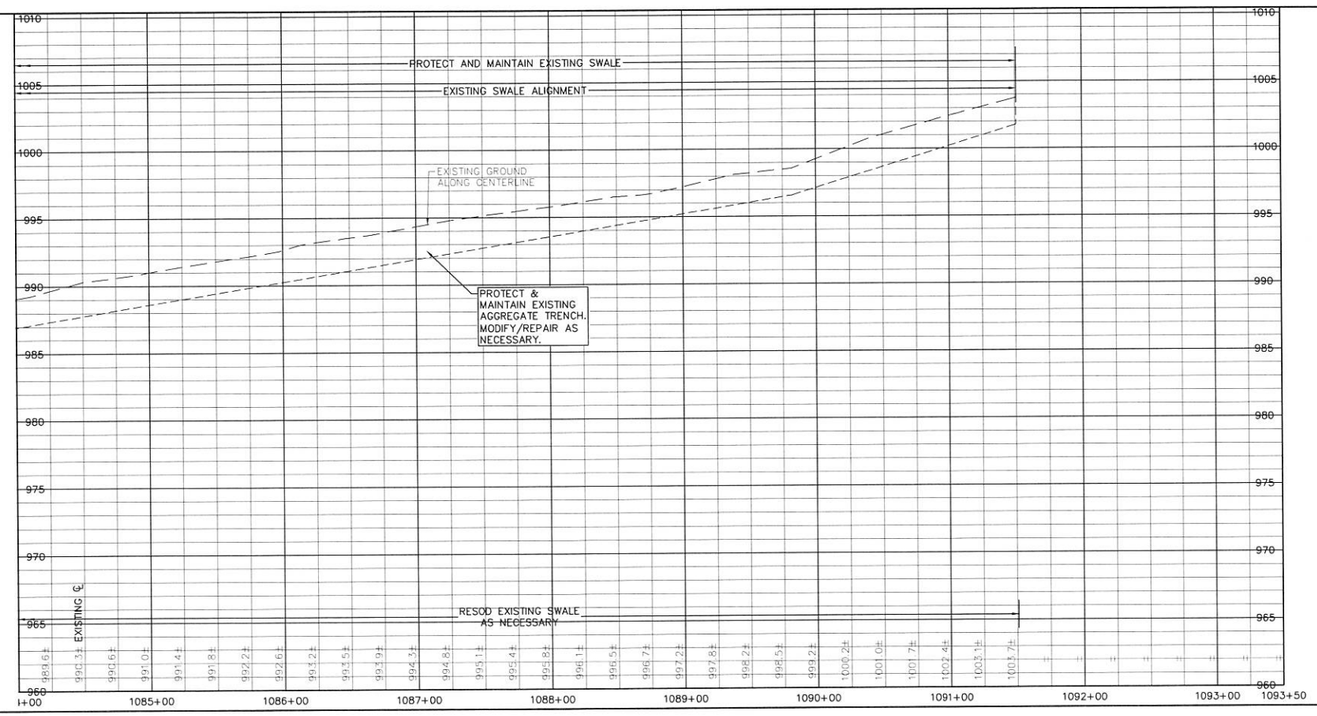
J:\2015 Proj\15-013\DESIGN\15-013-PP41.dwg 3/8/2016 3:07:59 PM Jay

NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



SCALES:
1" = 50' HOR
1" = 5' VER



NOTES:

1. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
2. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

GLYNN VILLAGE PLAT 10 - PLAT 8 WADDELL WAY - GREENBELT 2

LOCATION:	
SCALE:	1" = 50'
DWG:	15-013-PP42.dwg
FIELD BOOK:	
DESIGNED BY:	JRK
CHECKED BY:	DJS
SHEET	61 OF 100
DRAWN BY:	PJV
DATE:	02/24/2016
FILE NO.:	15-013

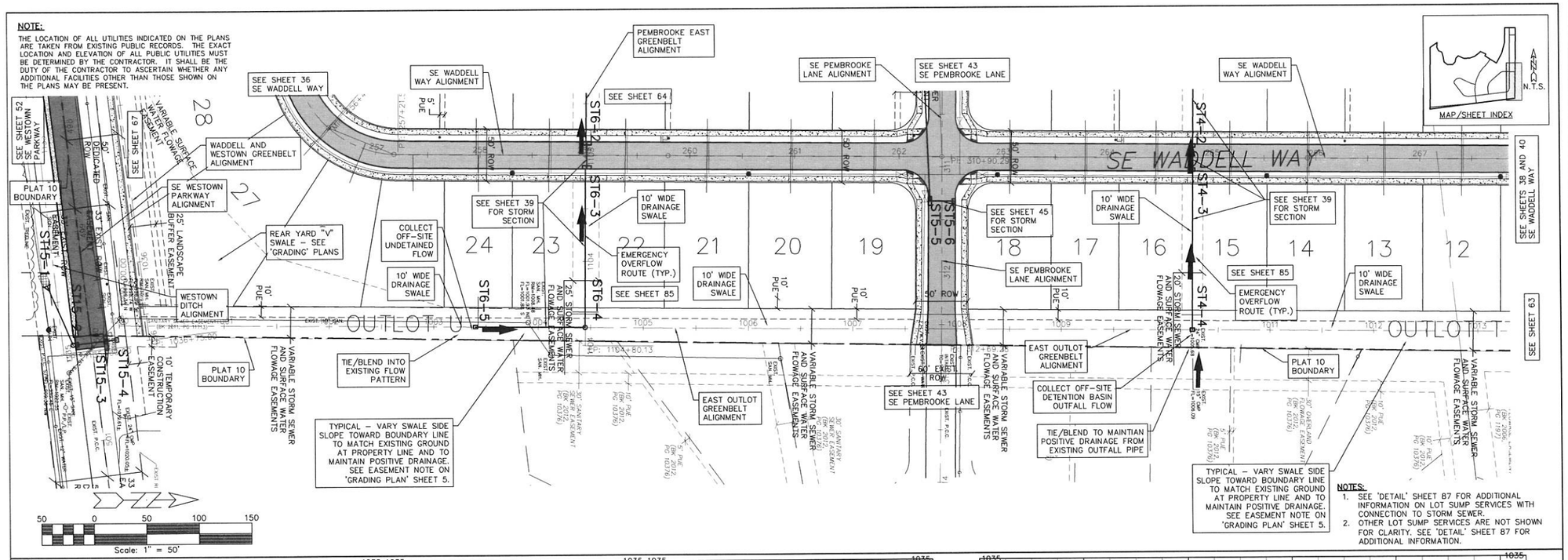
NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

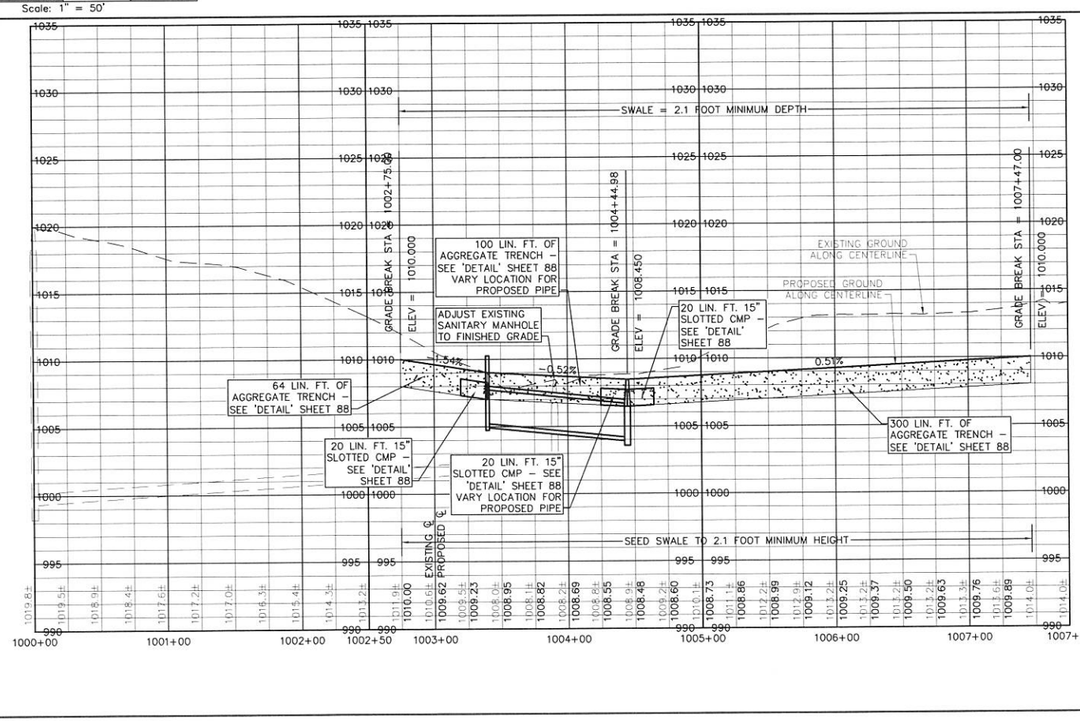
I:\2015 Proj\15-013\DESIGN\15-013-PP42.dwg 3/8/2016 3:08:33 PM Jay

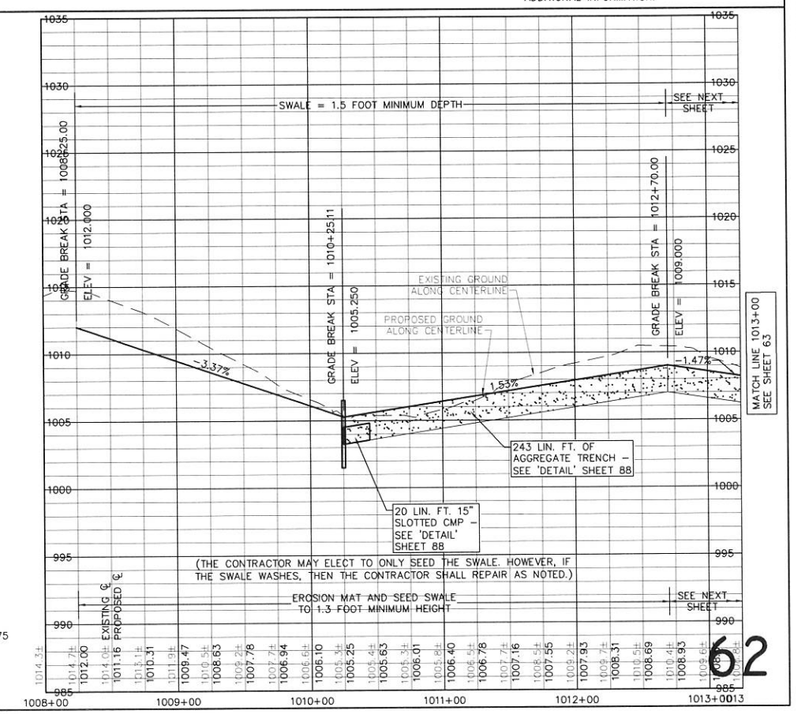
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



NOTES:
1. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
2. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

SCALES:
1" = 50' HOR
1" = 5' VER





PLAT 10 - EAST OUTLOT - GREENBELT I

LOCATION:		DRAWN BY: PJV	
SCALE: 1" = 50'		DESIGNED BY: JRK	
DWG: 15-013-PP46.dwg		CHECKED BY: DJS	DATE: 02/24/2016
FIELD BOOK:		SHEET 62 OF 100	FILE NO.: 15-013

GLYNN VILLAGE PLAT 10

NO.	REVISION	DATE	BY	FOR:

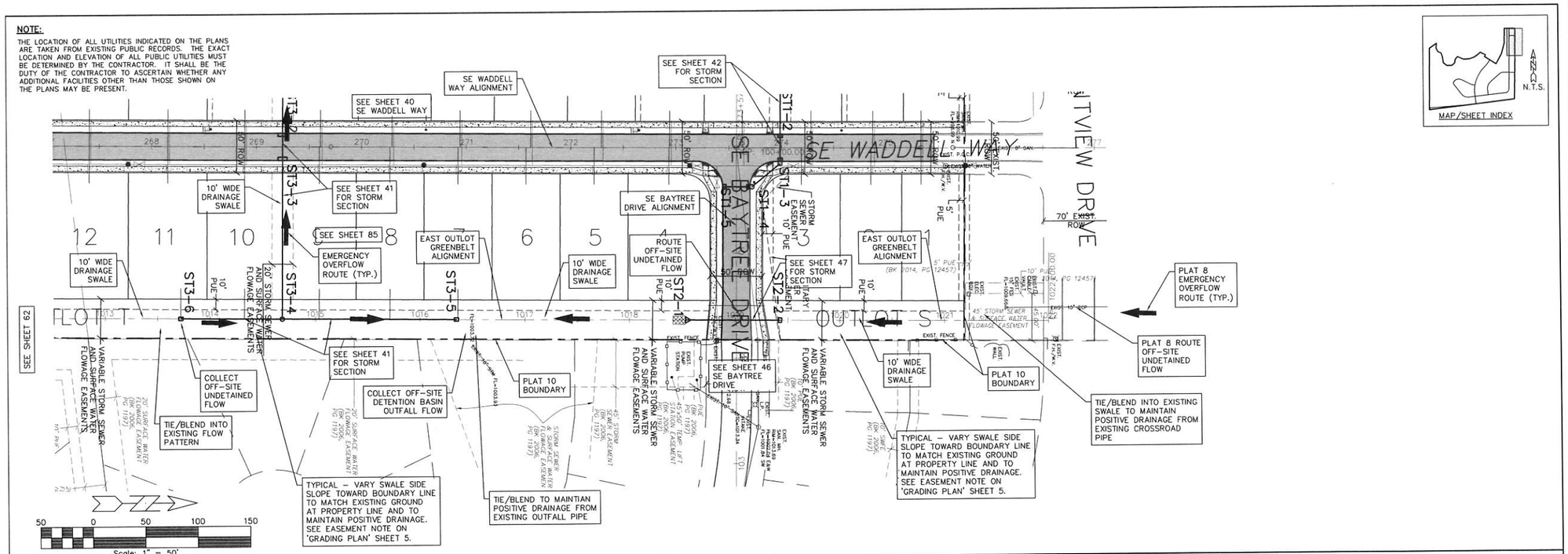
ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

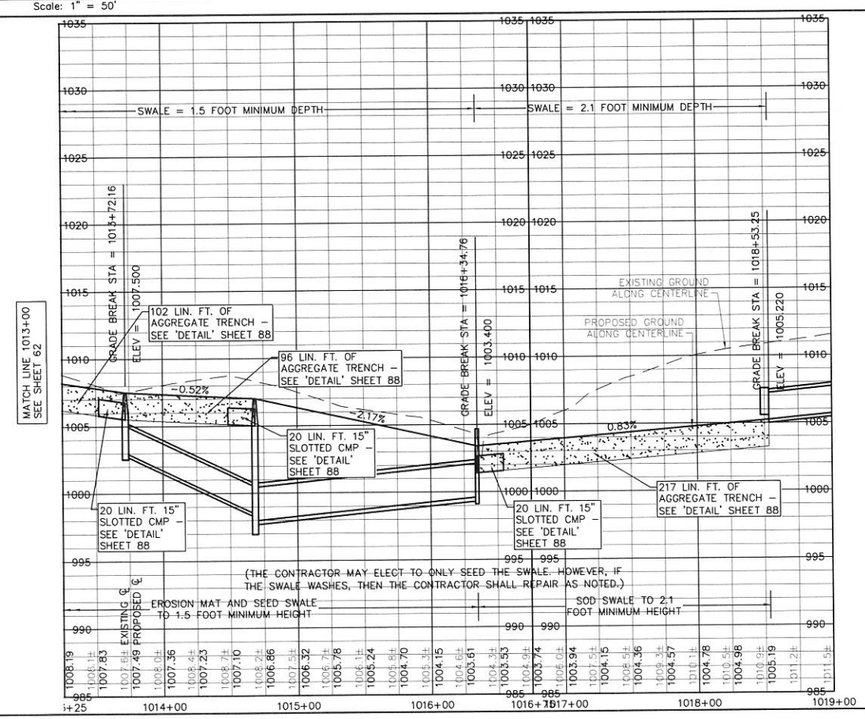
J:\2015 Proj\15-013\DESIGN\15-013-PP46.dwg 3/8/2016 3:09:05 PM Jay

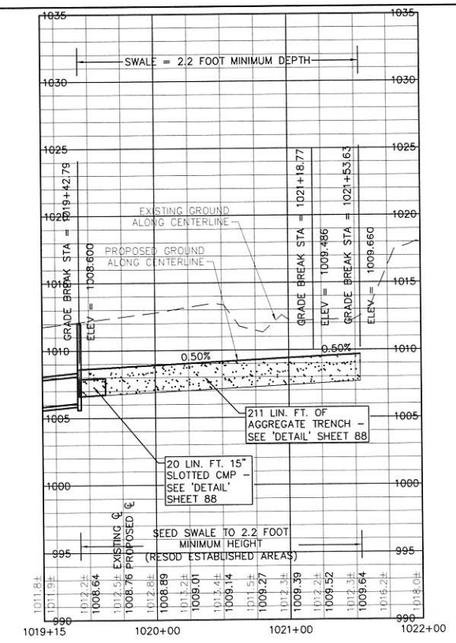
NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



SCALES:
1" = 50' HOR
1" = 5' VER





NOTES:

1. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
2. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

GLYNN VILLAGE PLAT 10 - EAST OUTLOT - GREENBELT 2

LOCATION:

SCALE:	1" = 50'
DWG:	15-013-PP47.dwg
FIELD BOOK:	
DESIGNED BY:	JRK
CHECKED BY:	DJS
SHEET 63 OF 100	
DRAWN BY:	PJV
DATE:	02/24/2016
FILE NO.:	15-013

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2413 GRAND AVENUE
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15-013

I:\2015 Proj\15-013\DESIGN\15-013-PP47.dwg 3/8/2016 3:09:39 PM Jay

NOTE:

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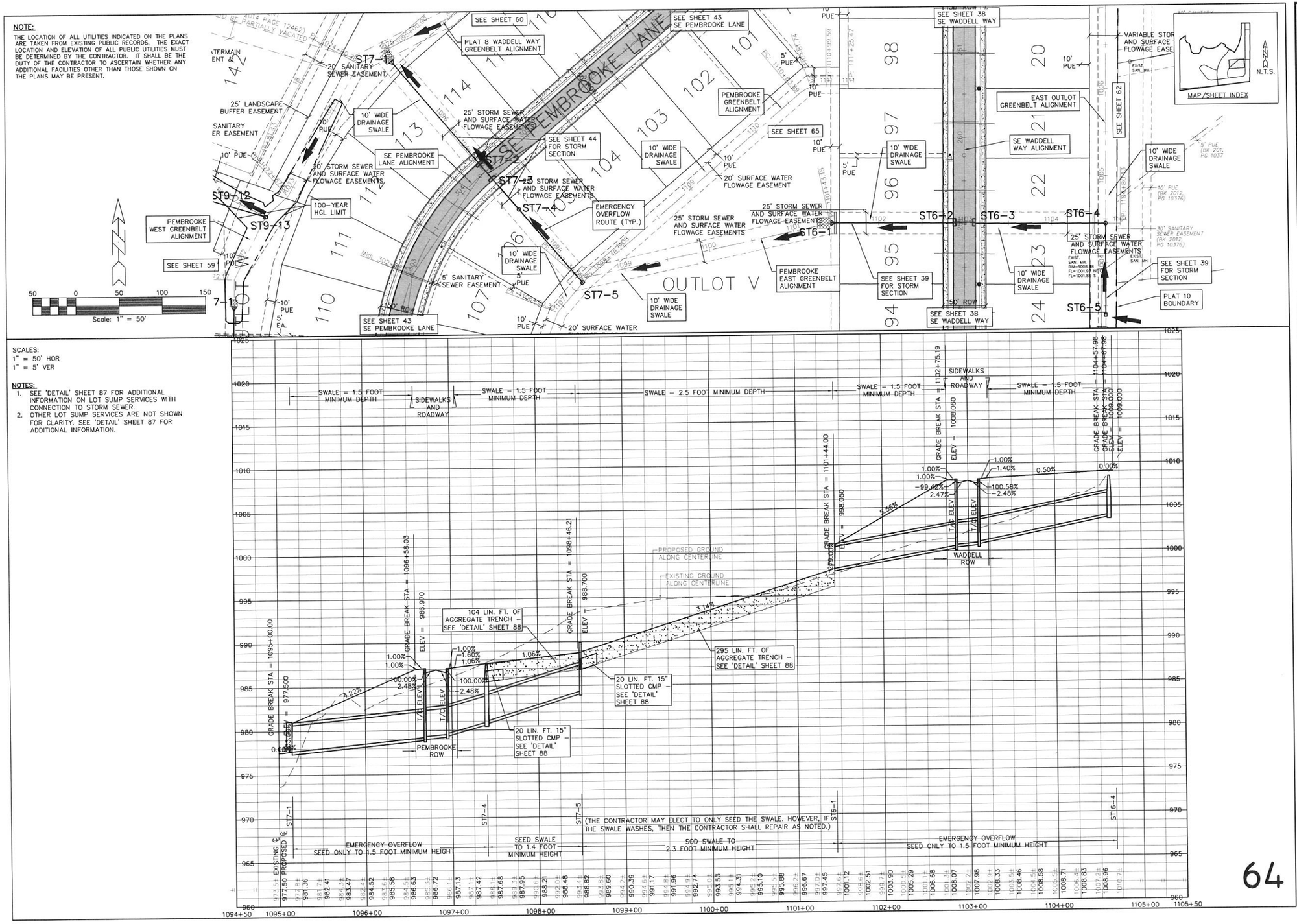

SCALES:
1" = 50' HOR
1" = 5' VER

NOTES:

1. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
2. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

64

GLYNN VILLAGE PLAT 10 - PEMBROOKE EAST - GREENBELT

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP40.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 64 OF 100	FILE NO.: 15-013	

LOCATION:

NO.	REVISION	DATE	BY	FOR:

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Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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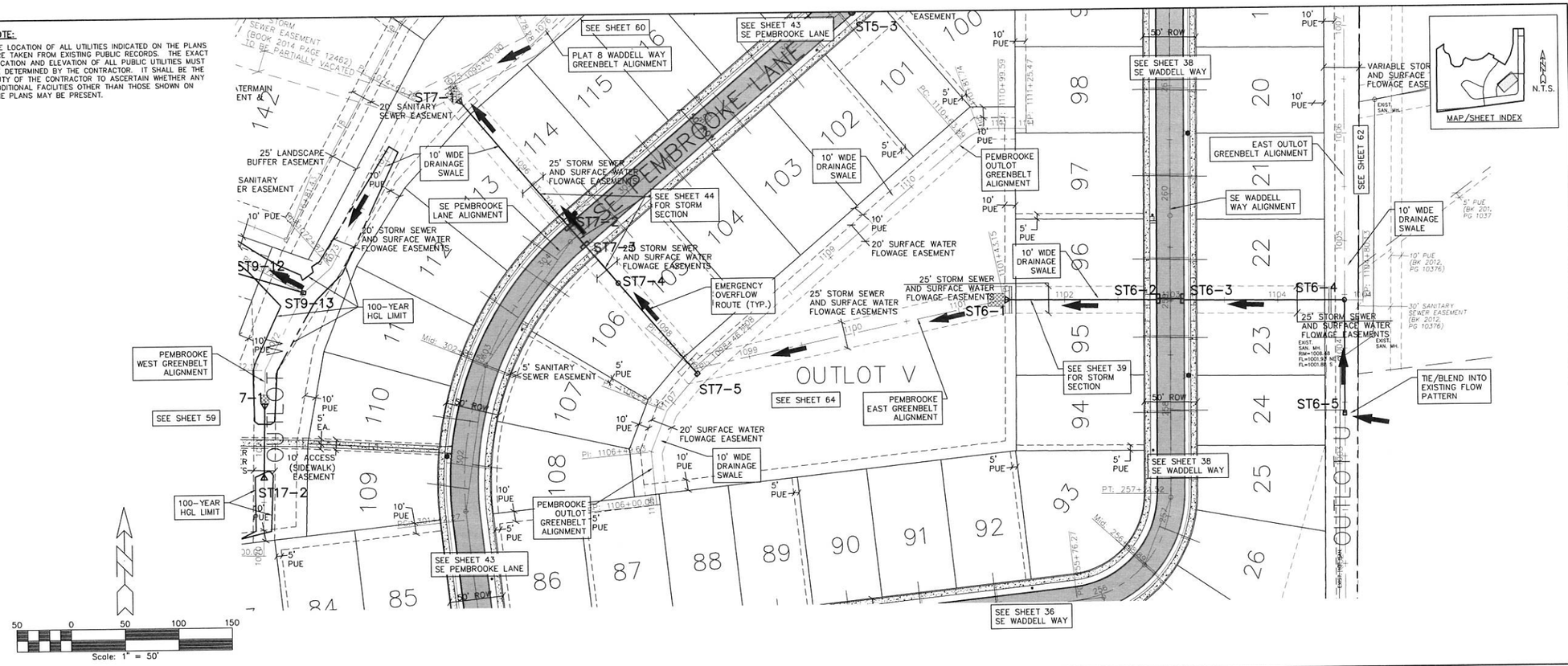
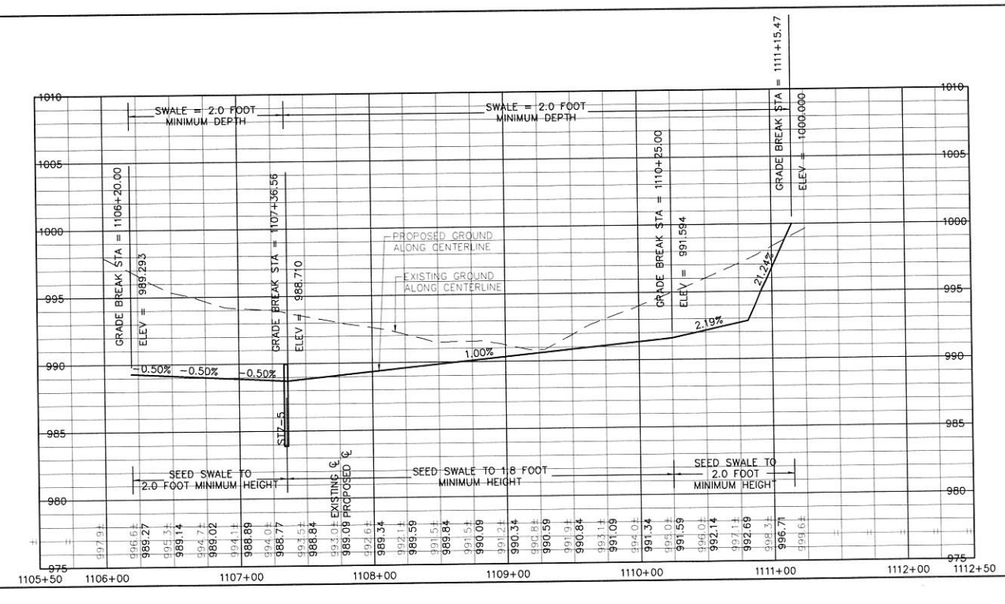
NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



SCALES:
1" = 50' HOR
1" = 5' VER



NOTES:

1. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
2. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

GLYNN VILLAGE PLAT 10 - PEMBROOKE OUTLOT - GREENBELT

SCALE:	1" = 50'	DESIGNED BY:	JRK
DWG:	15-013-PP48.dwg	CHECKED BY:	DJS
FIELD BOOK:		SHEET	65 OF 100
LOCATION:		DRAWN BY:	PJV
		DATE:	02/24/2016
		FILE NO.:	15-013

NO.	REVISION	DATE	BY	FOR:

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Engineers and Surveyors
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DES MOINES, IOWA 50312
(515) 288-4823

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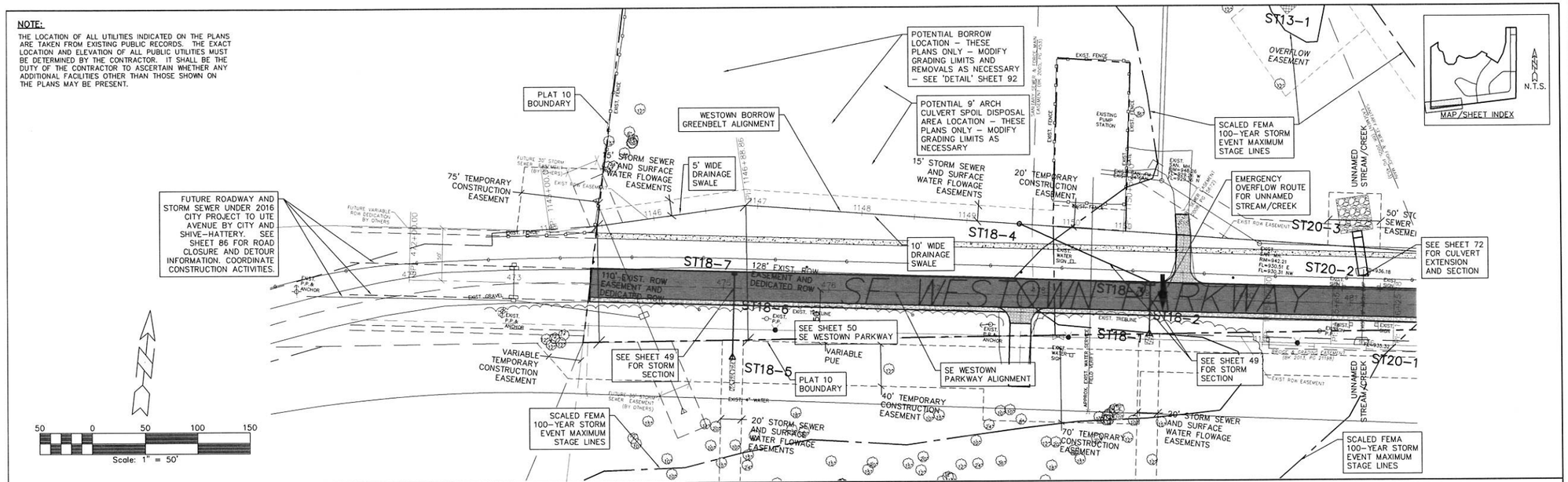
NOTE:

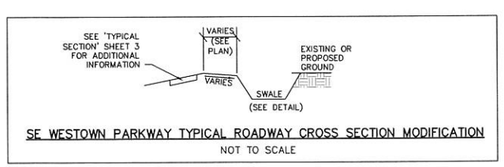
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



SCALES:
1" = 50' HOR
1" = 5' VER

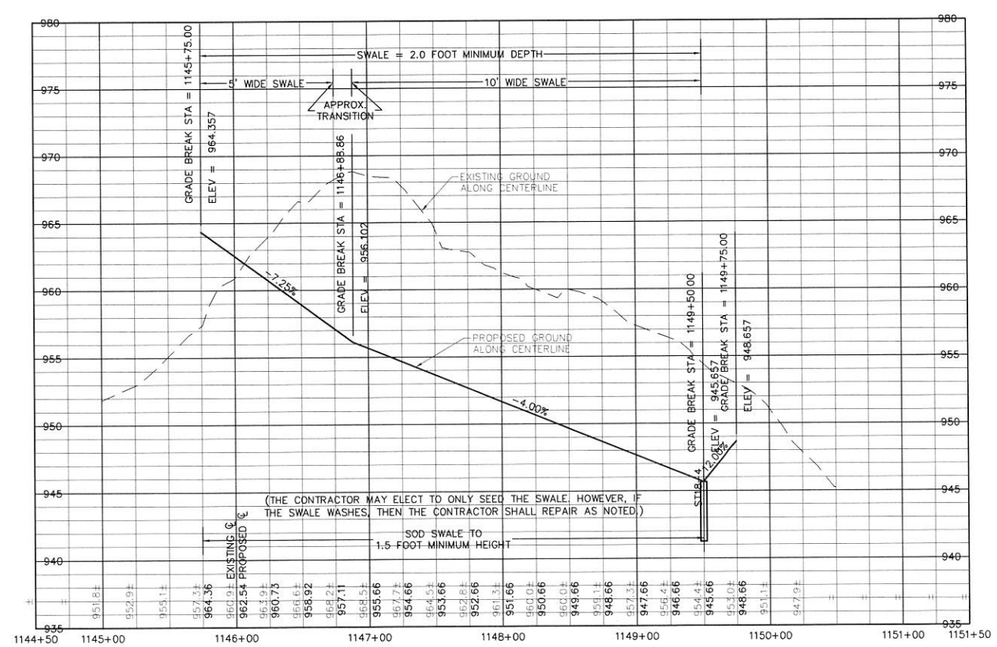
NOTES:

1. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
2. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.



SE WESTOWN PARKWAY TYPICAL ROADWAY CROSS SECTION MODIFICATION

NOT TO SCALE



GLYNN VILLAGE PLAT 10 - WESTOWN BORROW - GREENBELT

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP50A.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 66 OF 100	FILE NO.: 15-013	
LOCATION:			

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4923

15-013

I:\2015 Proj\15-013\DESIGN\15-013-PP50A.dwg 3/8/2016 3:11:14 PM Jay

NOTE:
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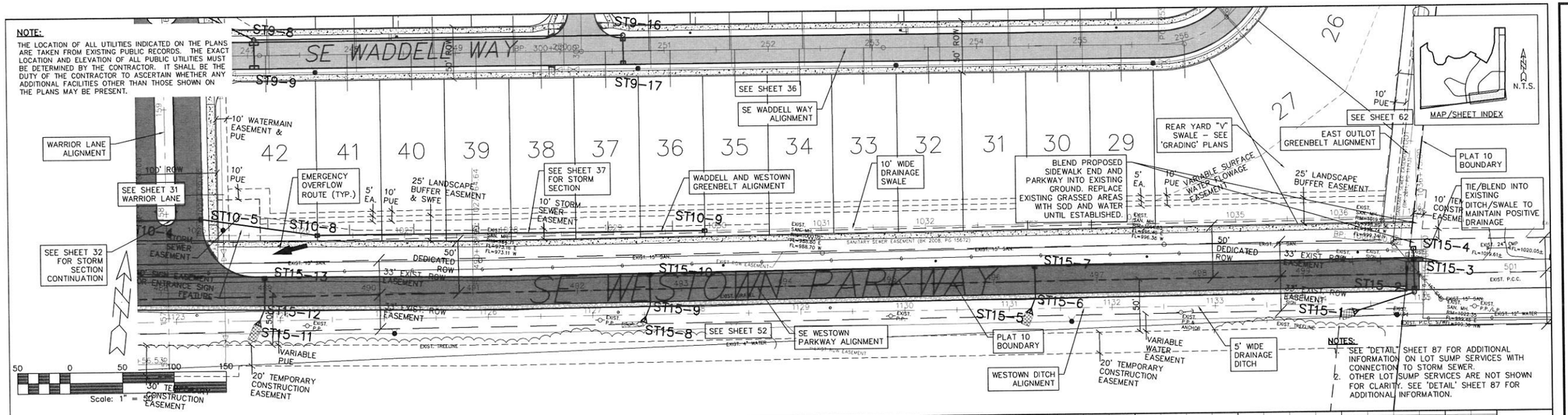
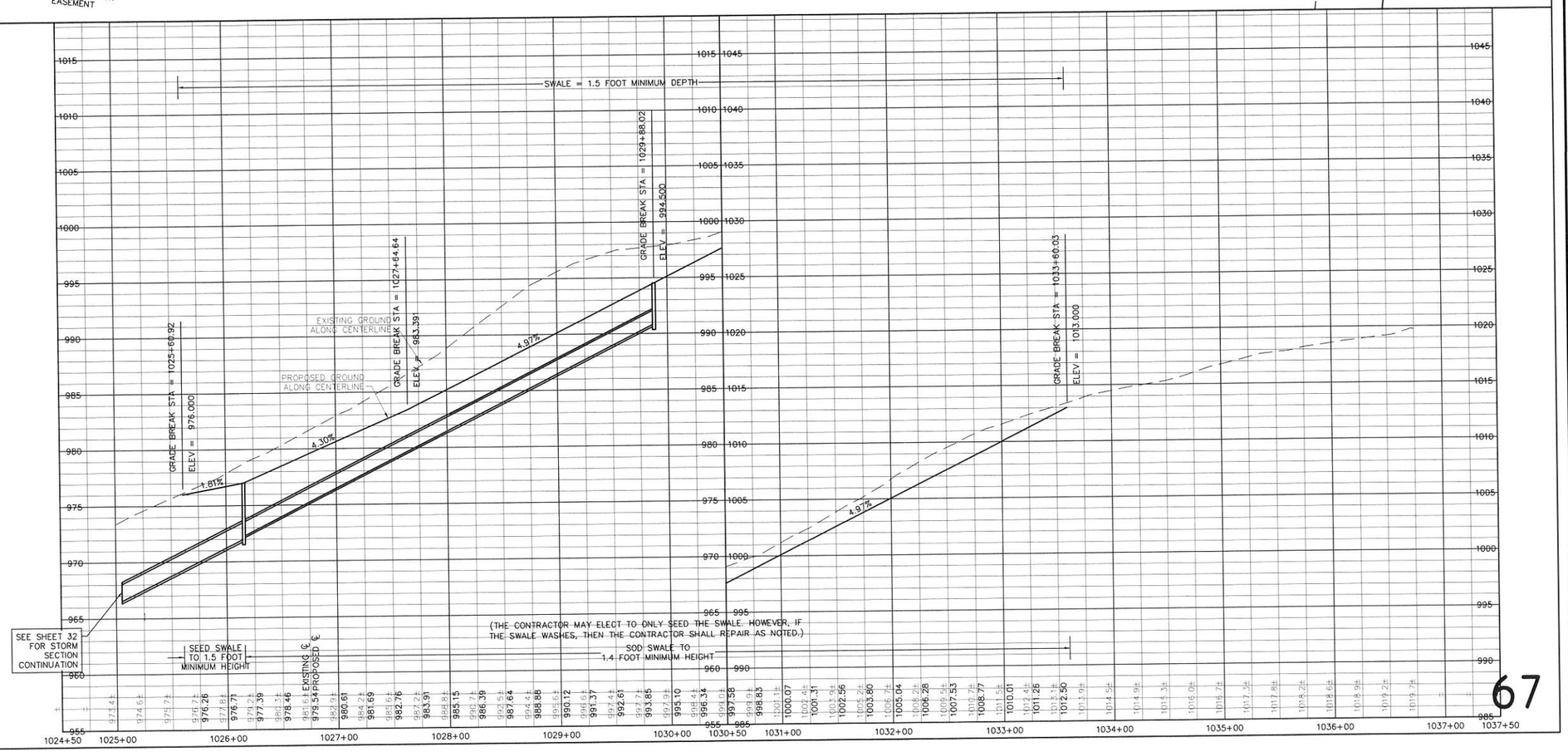


NOTES:
1. SEE "DETAIL" SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
2. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE "DETAIL" SHEET 87 FOR ADDITIONAL INFORMATION.

SCALES:
1" = 50' HOR
1" = 5' VER



LOCATION:	GLYNN VILLAGE PLAT
SCALE: 1" = 50'	DRAWN BY: PJV
DWG: 15-013-PP49.dwg	DESIGNED BY: JRK
FIELD BOOK:	CHECKED BY: DJS
	SHEET 67 OF 100
	DATE: 02/24/2016
	FILE NO.: 15-013

NO.	REVISION	DATE	BY	FOR:

PLAT 10 - WADDELL AND WESTOWN - GREENBELT

FRG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4623

15-013

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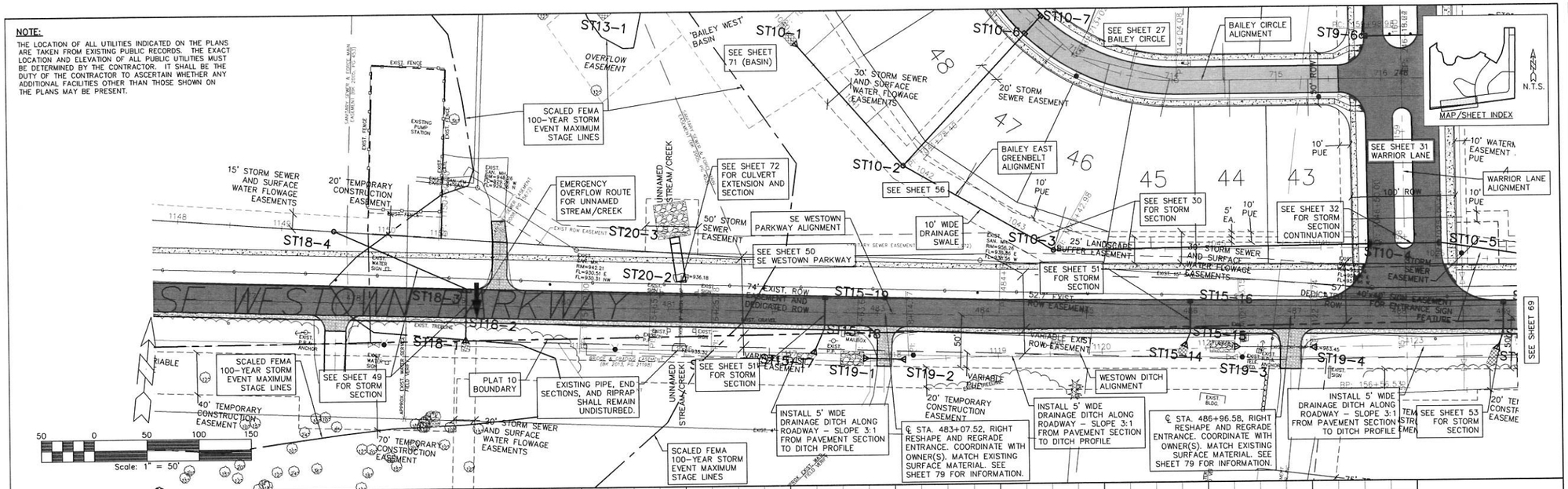
NOTE:

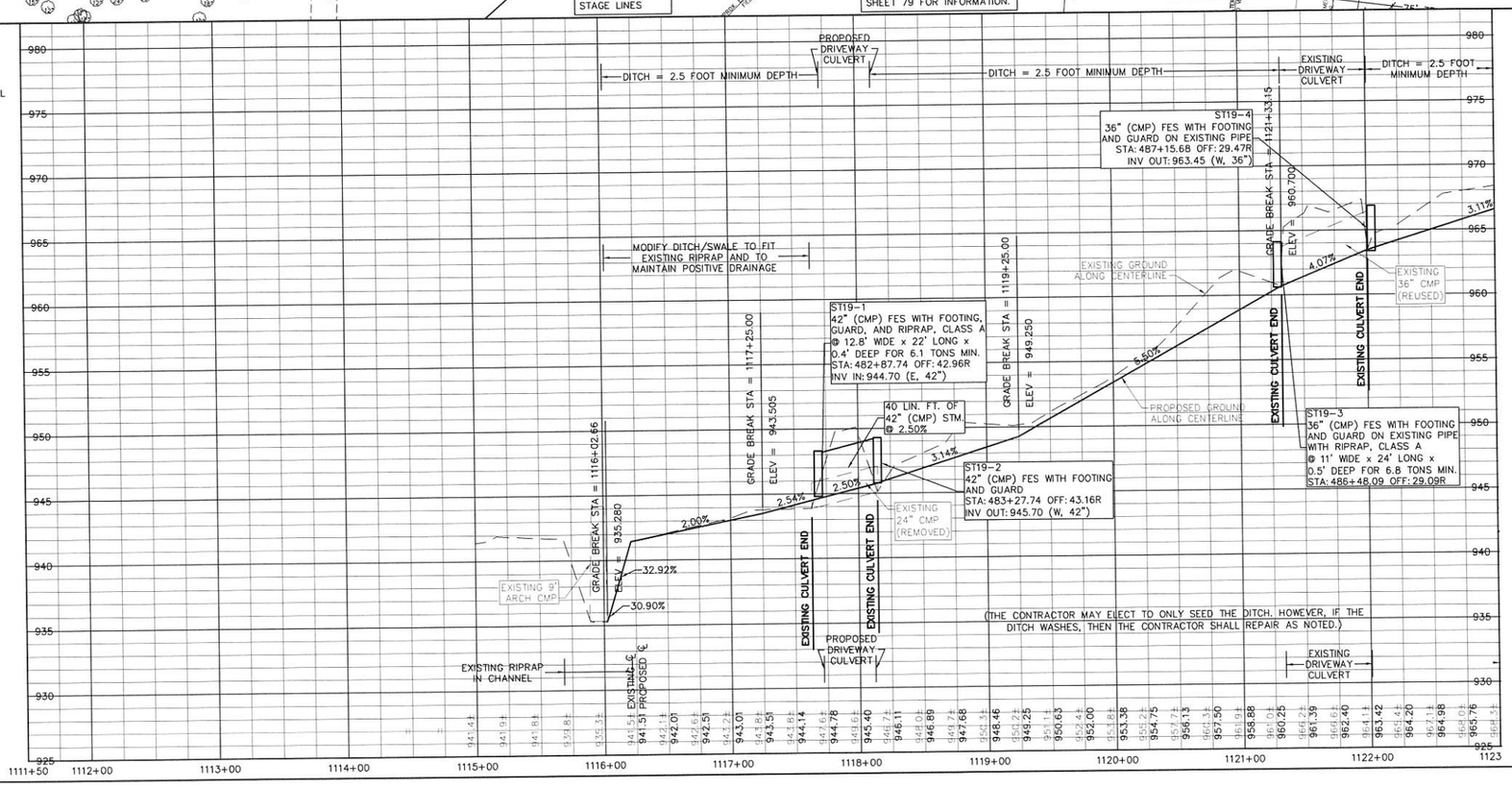
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



SCALES:
1" = 50' HOR
1" = 5' VER

NOTES:

1. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
2. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.



68

GLYNN VILLAGE PLAT 10 - WESTOWN DITCH - GREENBELT I

SCALE:	1" = 50'
DWG:	15-013-PP50.dwg
FIELD BOOK:	
DRAWN BY:	PJV
DESIGNED BY:	JRK
CHECKED BY:	DJS
DATE:	02/24/2016
FILE NO.:	15-013
SHEET	68 OF 100

LOCATION:

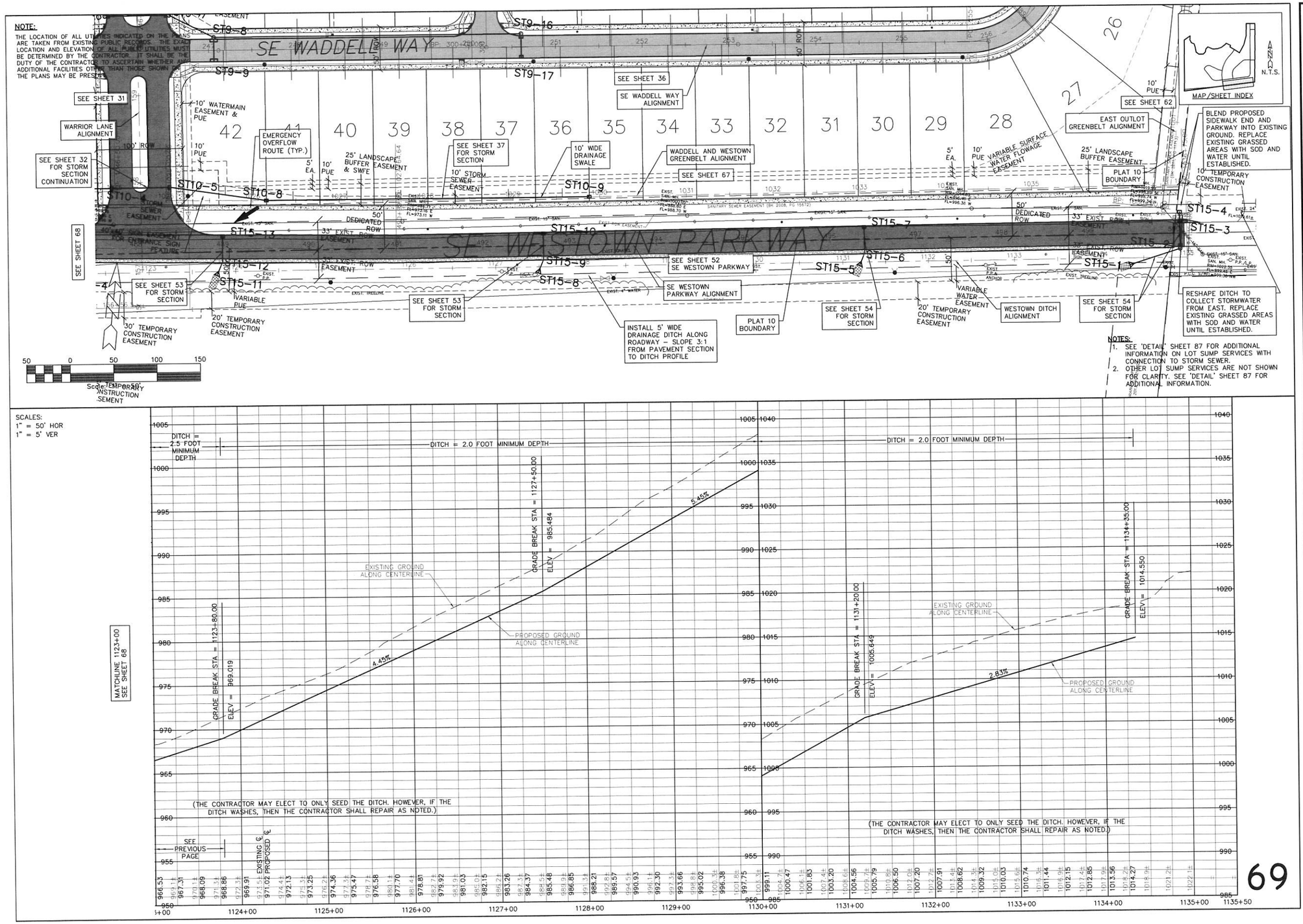
NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resources Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

J:\2015 Proj\15-013\DESIGN\15-013-PP50.dwg, 3/8/2016 3:12:20 PM, Jay

NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



NOTES:
1. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION ON LOT SUMP SERVICES WITH CONNECTION TO STORM SEWER.
2. OTHER LOT SUMP SERVICES ARE NOT SHOWN FOR CLARITY. SEE 'DETAIL' SHEET 87 FOR ADDITIONAL INFORMATION.

69

PLAT 10 - WESTOWN DITCH - GREENBELT 2

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP51.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 69 OF 100	FILE NO.: 15-013	

LOCATION:

FOR:

NO.	REVISION	DATE	BY

GLYNN VILLAGE

FRG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

J:\2015 Proj\15-013\DESIGN\15-013-PP51.dwg, 3/8/2016 3:12:54 PM, Jay

NOTE:

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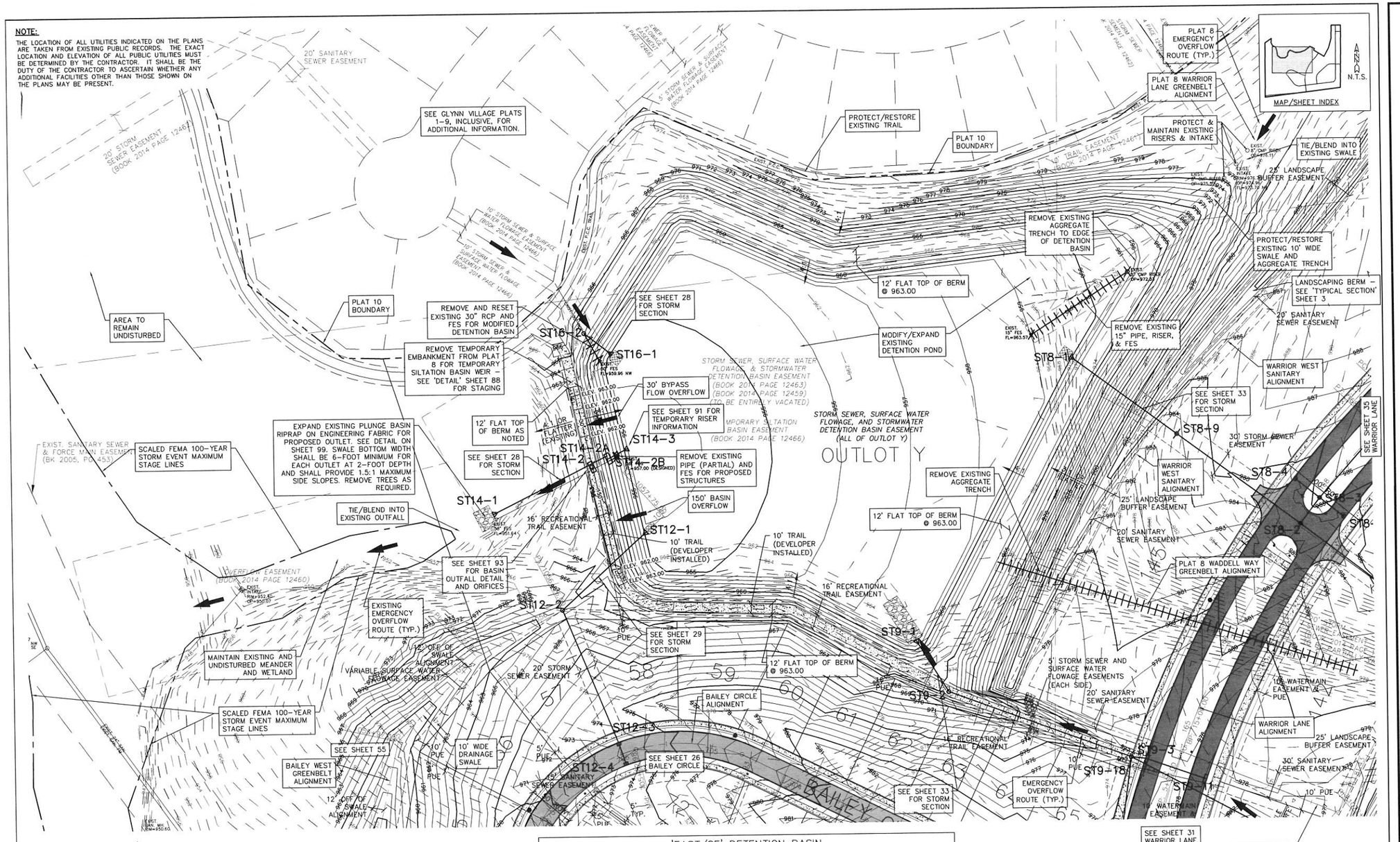


'EAST/8E' DETENTION BASIN

POND BOTTOM ELEVATION = 953.00
REQUIRED WQv VOLUME = 302,946.2 CU. FT. = 6.95 AC-FT
PROVIDED WQv VOLUME = 302,946.2 CU. FT. = 6.95 AC-FT
WQv DHWL = 957.14
REQUIRED 100-YEAR STORM VOLUME = 435,453.0 CU. FT. = 10.00 AC-FT
PROVIDED 100-YEAR STORM VOLUME = 837,131.6 CU. FT. = 19.22 AC-FT
100-YEAR STORM DHWL = 960.85
TOP OF BERM ELEVATION = 963.00
BULLETIN 71 10-YEAR DISCHARGE = 175.8 CFS
BULLETIN 71 100-YEAR DISCHARGE = 272.3 CFS

GLYNN VILLAGE PLAT 10 - 'EAST-8E' DETENTION BASIN - GRADING & STORM

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PP31.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 70 OF 100	FILE NO.: 15-013	

NO.	REVISION	DATE	BY	FOR:

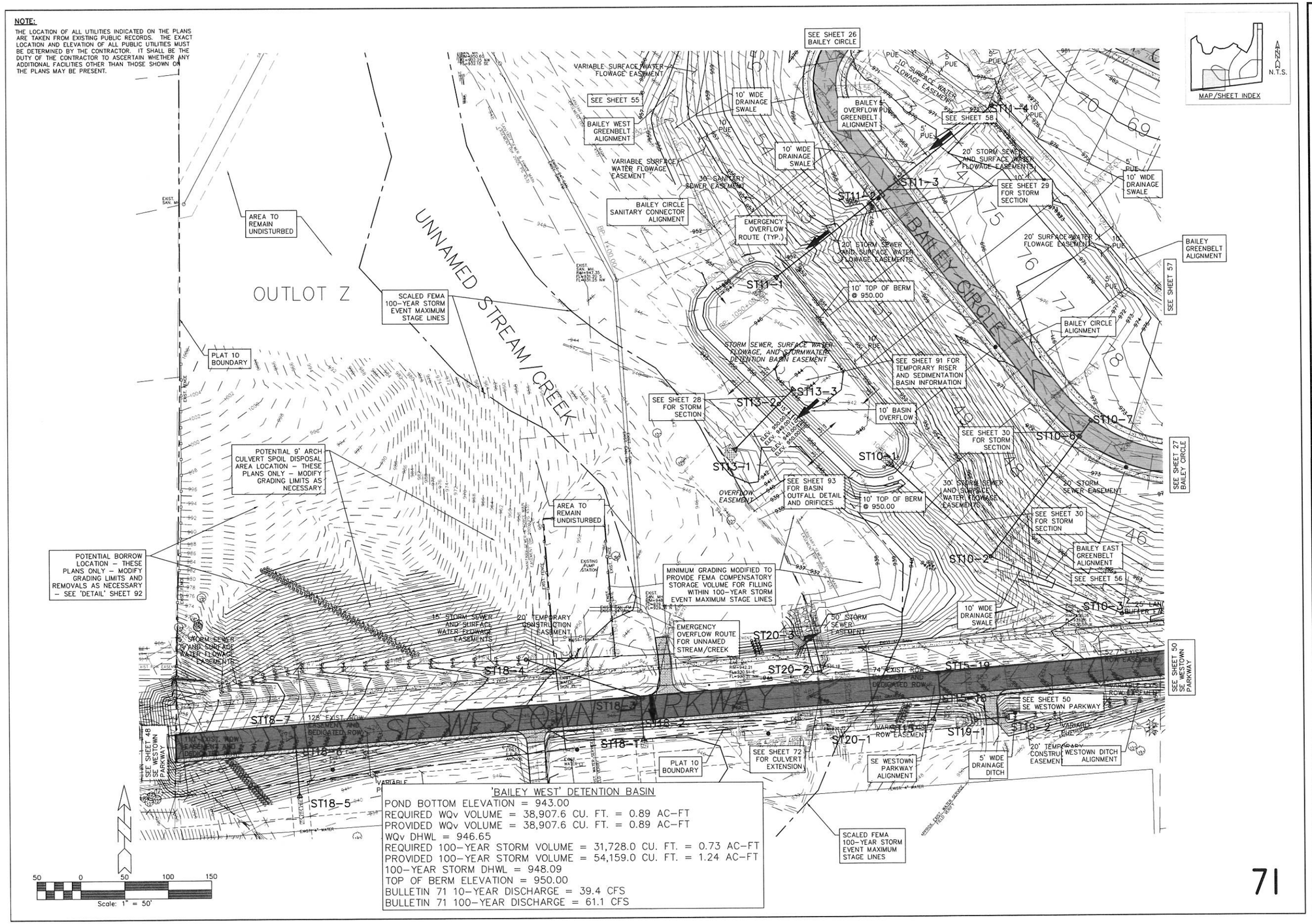
ERG
Engineering, Resources, Environmental Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

J:\2015 Proj\15-013\DESIGN\15-013-PP31.dwg, 3/8/2016 3:13:26 PM, Jay

NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



'BAILEY WEST' DETENTION BASIN

POND BOTTOM ELEVATION = 943.00
REQUIRED WQv VOLUME = 38,907.6 CU. FT. = 0.89 AC-FT
PROVIDED WQv VOLUME = 38,907.6 CU. FT. = 0.89 AC-FT
WQv DHWL = 946.65
REQUIRED 100-YEAR STORM VOLUME = 31,728.0 CU. FT. = 0.73 AC-FT
PROVIDED 100-YEAR STORM VOLUME = 54,159.0 CU. FT. = 1.24 AC-FT
100-YEAR STORM DHWL = 948.09
TOP OF BERM ELEVATION = 950.00
BULLETIN 71 10-YEAR DISCHARGE = 39.4 CFS
BULLETIN 71 100-YEAR DISCHARGE = 61.1 CFS

GLYNN VILLAGE PLAT 10 - 'BAILEY WEST' DETENTION BASIN - GRADING & STORM

LOCATION:	SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV
	DWG: 15-013-PP43.dwg	CHECKED BY: DJS	DATE: 02/24/2016
	FIELD BOOK:	SHEET 71 OF 100	FILE NO.: 15-013

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering, Resources Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4923

15-013

J:\2015 Proj\15-013\DESIGN\15-013-PP43.dwg, 3/8/2016 3:13:51 PM, Jay

NOTE:
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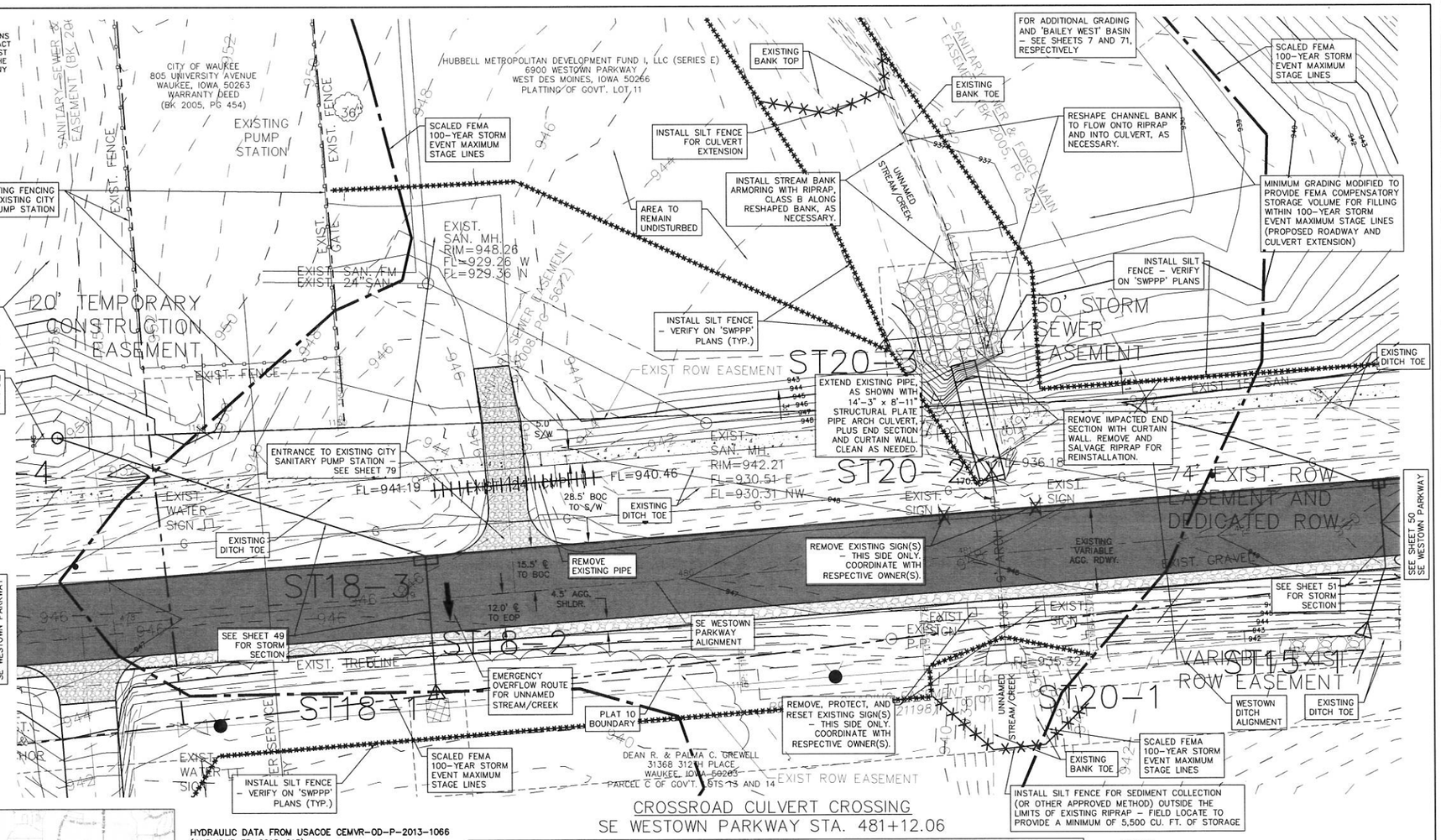
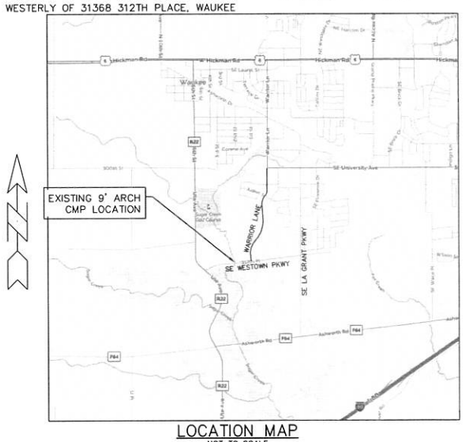


CROSSROAD CULVERT CROSSING
SE WESTOWN PARKWAY STA. 481+12.06

LOCATION
E ½ of NW ¼ OF SECTION 5, T78N, R26W
BOONE TOWNSHIP
CITY OF WAUKEE, DALLAS COUNTY, IOWA

WESTERLY OF 31368 312TH PLACE, WAUKEE



LOCATION MAP
NOT TO SCALE

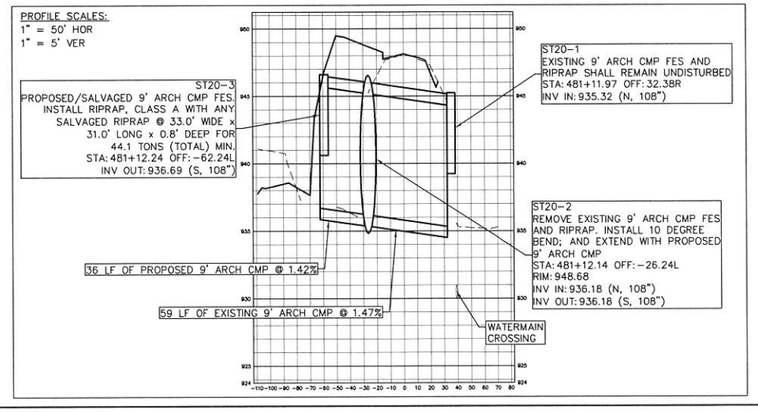
HYDRAULIC DATA FROM USACOE CEMVR-OD-P-2013-1066
(AND IDNR FP-2013-215)

DRAINAGE AREA = 4.5 SQ. MILES
DESIGN DISCHARGE = 1,600 CFS
ROAD GRADE OVERFLOW @ Q50 =550 CFS
DISCHARGE THROUGH CULVERT @ Q50 = 1,050 CFS
DESIGN HIGH WATER ELEVATION = 947.6
CHANNEL SLOPE = 0.00846 FT./FT.
BARREL SLOPE (DESIGN) = 0.0153 FT./FT.
Q25 = 1,300 CFS W/ STAGE ELEVATION = 947.0
Q50 = 1,600 CFS W/ STAGE ELEVATION = 947.6 (DESIGN)
Q100 = 1,900 CFS W/ STAGE ELEVATION = 948.0
Q500 = 2,600 CFS W/ STAGE ELEVATION = 948.6
EXISTING HIGH WATER ELEVATION = UNKNOWN

SECTION 404 PERMIT AND CONDITIONS
CONSTRUCT THIS SHEET ACCORDING TO THE REQUIREMENTS OF THE US ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT 14, PERMIT NO. 2013-1066 (CONTINUANCE), PER USACOE CORRESPONDENCE DATED NOVEMBER 09, 2015. SEE NOTES ON THIS SHEET.

SECTION 401 PERMIT AND CONDITIONS
CONSTRUCT THIS SHEET ACCORDING TO THE REQUIREMENTS OF THE IDNR FLOODPLAIN CONSTRUCTION PERMIT, PERMIT NO. FP-2013-215, PER IDNR CORRESPONDENCE DATED FEBRUARY 23, 2016. SEE NOTES ON THIS SHEET.

PER IDNR,
Q100 = 650 CFS (USGS WRIR 87-4132)
BFE = 943.52 (BASE FLOOD ELEVATION)
MPL = 944.52 (MAXIMUM PERMISSIBLE LEVEL)



NOTES:

1. ANY REFERENCES TO 9' ARCH CMP (OR 108") SHALL MEAN 14'-3" x 8'-11" STRUCTURAL PLATE PIPE ARCH CULVERT.
2. SEE PLAN SHEET 50 FOR ROADWAY PROFILE INFORMATION.
3. GRADING AND COMPACTION REQUIREMENTS SHALL BE PER THE GENERAL NOTES ON SHEETS 2 AND 5.
4. SEE SHEET 73 FOR ADDITIONAL NOTES AND DETAILS RELATING TO THIS CULVERT EXTENSION.
5. THE IOWA DEPARTMENT OF NATURAL RESOURCES (IDNR) AND/OR THE UNITED STATES ARMY CORPS OF ENGINEERS (USACOE, USCOE, OR COE) RESERVES THE RIGHT TO VISIT THE SITE WITHOUT PRIOR NOTICE.
6. A COPY OF IDNR AND/OR USACOE PERMITS ARE AVAILABLE FROM THE CITY OF WAUKEE PUBLIC WORKS DEPARTMENT.
7. INSTALL 'SEDIMENT BASIN' ON THE SOUTHERLY SIDE OF THE CULVERT TO COLLECT ANY DISTURBED MATERIAL RELATING FROM THE CULVERT EXTENSION ON THE NORTHERLY SIDE.

GLYNN VILLAGE PLAT 10 - EXISTING 9' ARCH CMP CULVERT EXTENSION

SCALE: AS NOTED	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-CULVERT.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 72 OF 100	FILE NO.: 15-013	

LOCATION:

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resources Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4923

15-013

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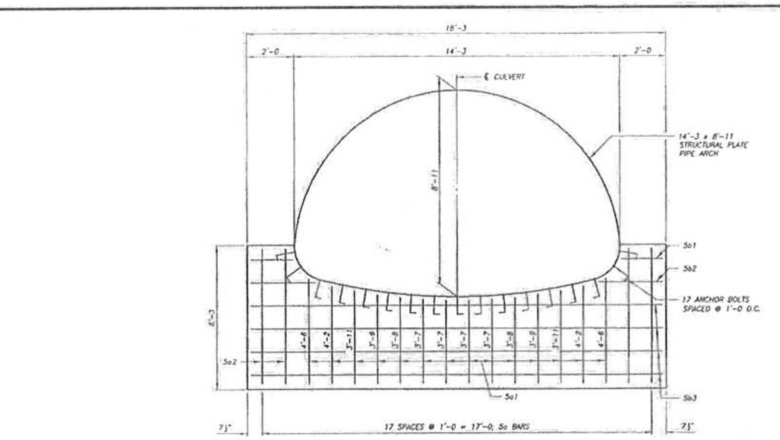
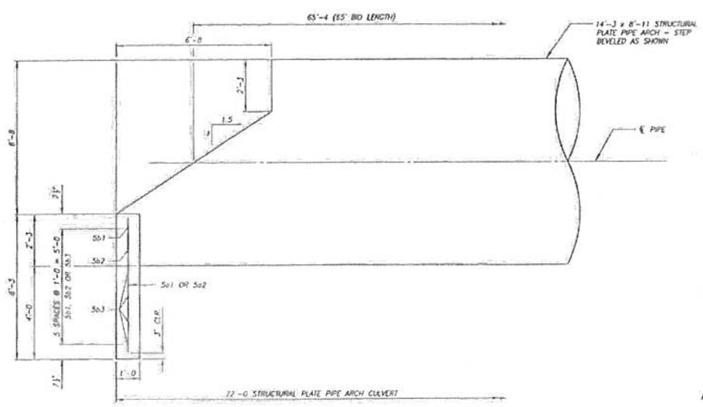


END ELEVATION–CURTAIN WALL



ELEVATION–CURTAIN WALL

REINFORCING BAR LIST – ONE(1) CURTAIN WALL

BAR	LOCATION	SHAPE	NO.	LENGTH	WEIGHT
5a1	CURTAIN, VERTICAL	—	14	VARIES	57
5a2	CURTAIN, VERTICAL	—	4	5'-10	24
5b1	CURTAIN, HORIZONTAL	—	2	1'-9	4
5b2	CURTAIN, HORIZONTAL	—	2	2'-9	6
5b3	CURTAIN, HORIZONTAL	—	4	17'-11	75
				TOTAL (LBS.)	166

CONCRETE PLACEMENT QUANT. – CURTAIN WALLS

LOCATION	UNIT	QUANTITY
CURTAIN WALL 2 @ 3.2 C.Y.	CU.YDS.	6.4
TOTAL	CU.YDS.	6.4

ESTIMATED QUANTITIES – CURTAIN WALLS

ITEM	UNIT	QUANTITY
CONCRETE, STRUCTURAL	CU.YDS.	6.4
STEEL, REINFORCING	LBS.	332
EXCAVATION, CLASS 20	CU.YDS.	65

CURTAIN WALL NOTES

THE INTENT OF THIS DESIGN IS TO BUILD A 18'-3 x 6'-3 REINFORCED CONCRETE CURTAIN WALL STRUCTURE AT EACH END OF A 14'-3 x 8'-11 STRUCTURAL PLATE PIPE ARCH CULVERT. THE 14'-3 x 8'-11 STRUCTURAL PLATE PIPE ARCH CULVERT WILL BE PLACED AS DETAILED AND NOTED ELSEWHERE IN THESE PLANS.

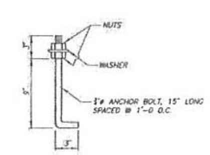
THE STRUCTURAL PLATE PIPE IS TO BE ANCHORED WITH ¾"φ x 1'-3 GALVANIZED ANCHOR BOLTS AS DETAILED, BEGINNING AT CENTER LINE FLOW LINE AND SPACED ON 12" CENTERS IN BOTH DIRECTIONS. 34 BOLTS ARE REQUIRED. COST OF ANCHOR BOLTS AND DRILLING 13/16"φ HOLES IN C.M.P. IS TO BE INCLUDED IN THE UNIT PRICE BID FOR "STRUCTURAL CONCRETE, CLASS C".

THE SIDES OF THE CURTAIN WALL ARE TO BE FORMED TO INSURE CORRECT LINE AND GRADE. ALL EXPOSED CORNERS OF 90 DEGREE OR SHARPER ARE TO BE FILLETED WITH A ¾" DRESSED AND BEVELED STRIP.

ALL REINFORCING IS TO BE SECURELY WIRED IN PLACE BEFORE THE CONCRETE IS POURED. ALL REINFORCING STEEL SHALL BE GRADE 60.

CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN. CLEARANCE TO THE BOTTOM ENDS OF VERTICAL BARS SHALL BE 3".

IF DE-WATERING PRESENTS A PROBLEM FOR PLACING THE CURTAIN WALL AS DETAILED, ALTERNATE METHODS SUCH AS STEEL SHEET PILE AND PRECAST CONCRETE WALLS MAY BE APPROVED BUT AT NO ADDITIONAL COST. THE CULVERT CONTRACTOR IS TO SUBMIT TO THE ENGINEER FOR APPROVAL, COMPLETE DRAWINGS OF THE PROPOSED CURTAIN WALL ALTERNATIVE BEFORE BEGINNING CONSTRUCTION.



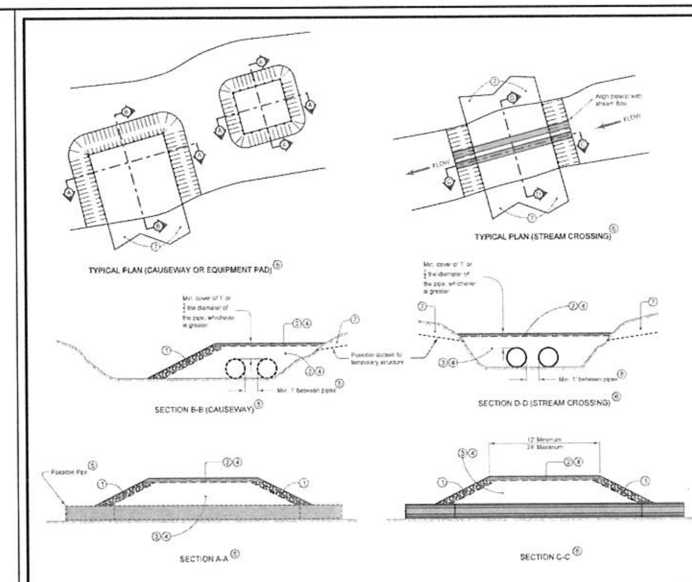
ANCHOR BOLT DETAIL
(34 REQUIRED)

14'-3 x 8'-11 x 72'-0
STRUCTURAL PLATE PIPE ARCH CULVERT

CURTAIN WALL DETAILS

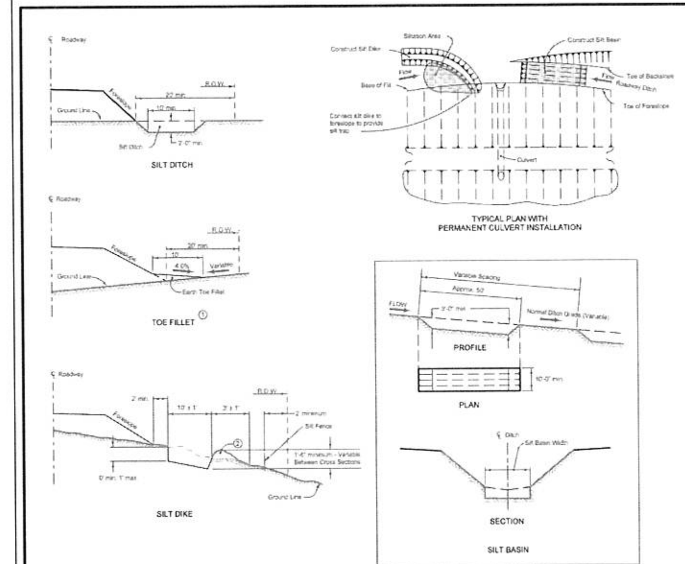
STATION 14+65.00 — 0° SKEW
CITY OF WAUKEE, IOWA

CALHOUN-BURNS & ASSOCIATES, INC. CONSULTING ENGINEERS
WEST DES MOINES, IOWA 50266 (515)224-4344
JOB NO. 2013194
DALLAS COUNTY
SHEET 6 OF 7



1. Minimum 1 foot of Class D revetment, Class E revetment, or broken concrete meeting the requirements of Section 4130 of the Standard Specifications.
2. Possible choke layer for construction traffic. Use any combination of erosion stone, granular backfill, special backfill (except with reclaimed HMA), granular surfacing material, or granular soils of AASHTO classification A-1 or A-2 with less than 5% fines passing the #200 sieve.
3. Use clean material with less than 5% fines passing the #200 sieve. Acceptable materials include revetment and granular materials.
4. When dredging is allowed by a permit, use dredged material containing 10% or less passing the #200 sieve. Prior to beginning construction according to EW-401, install erosion control measures according to EC-202. Leave these measures in place and maintain until temporary EW-401 materials have been completely removed. Installation, maintenance, and removal of these erosion control measures is incidental and will not be paid for separately.
5. Pipe required if structure spans more than half the distance between banks. Contractor determines size and number of pipe(s) unless specified otherwise in the contract documents.
6. Pipe required. Contractor determines size and number of pipe(s) unless specified otherwise in the contract documents.
7. When material needs to be cut from the bank to provide for access to construct and use a temporary stream structure, move this material to an upland location.

IOWADOT STANDARD ROAD PLAN EW-401
TEMPORARY STREAM CROSSING, CAUSEWAY, OR EQUIPMENT PAD



Obtain the Engineer's approval for installation locations.

1. Construct an earth fillet at the toe of the roadway foreslope for areas where a roadway ditch, silt ditch, or silt dike is not provided. This Toe Fillet is incidental to "Roadway and Borrow Excavation".
2. Windrow of excavated and compacted silt material or deposited and compacted earth.

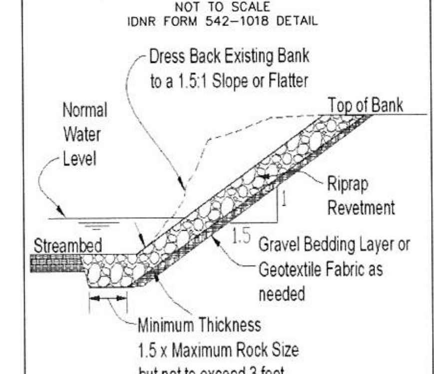
Possible Contract Items
Silt Ditch
Silt Dike
Silt Basin

Possible Tabulations
100-13
100-14
100-15

IOWADOT STANDARD ROAD PLAN EW-403
TEMPORARY EROSION CONTROL MEASURES

Typical Stream Bank Armoring Cross Section

NOT TO SCALE
IDNR FORM 542-1018 DETAIL



NOTES:

1. THE PERMITEE(S) AND ANY SUCCESSOR IN REAL ESTATE ON WHICH THE PERMITTED ACTIVITY IS LOCATED SHALL BE RESPONSIBLE FOR PROPER MAINTENANCE.
   1.1. UPON COMPLETION OF THE CULVERT EXTENSION AND RELATED ACTIVITIES, THE RESULTING STRUCTURE, ASSOCIATED APPROACH ROAD GRADES, ASSOCIATED EROSION CONTROL DEVICES, ETC. SHALL BE DEEMED THE PROPERTY AND THE RESPONSIBILITY OF THE CITY OF WAUKEE.
   1.2. THE NOTED PERMITS ARE ISSUED BASED ON THE APPROVED PLANS AND APPLICATIONS; AUTHORIZE ONLY THE USE, ARRANGEMENT, AND CONSTRUCTION SET FORTH IN SUCH APPROVED PLANS AND APPLICATIONS AND NO OTHER USE ARRANGEMENT, OR CONSTRUCTION; AND ADDITIONAL DOCUMENTATION AND/OR CERTIFICATIONS MAY BE REQUIRED AS NOTED IN THE PERMITS.
2. IDNR FORM 37, NOTIFICATION OF COMPLETION OF CONSTRUCTION, MUST BE COMPLETED AND RETURNED WITHIN 30 CALENDAR DAYS OF THE COMPLETION OF CONSTRUCTION.
3. USACOE "COMPLETED WORK CERTIFICATION" FORM MUST BE COMPLETED AND RETURNED WITHIN 30 CALENDAR DAYS OF THE COMPLETION OF CONSTRUCTION IN ACCORDANCE WITH GENERAL CONDITION NO. 30 OF THE NATIONWIDE PERMITS.
4. THE APPROACH ROAD GRADE ELEVATIONS FOR THE APPROVED PROJECT SHALL NOT BE ELEVATED OR OTHERWISE ALTERED WITHOUT PRIOR AUTHORIZATION FROM THE IOWA DEPARTMENT OF NATURAL RESOURCES (IDNR) AND/OR THE UNITED STATES ARMY CORPS OF ENGINEERS (USACOE, USCOE, OR COE).
5. ACCEPTABLE RIPRAP MATERIAL INCLUDES: FIELD STONE, QUARRY ROCK, AND BROKEN CONCRETE. IF ANY BROKEN CONCRETE IS USED, ALL EXPOSED REINFORCING STEEL MUST BE CUT OFF FLUSH WITH THE SURFACE OF THE CONCRETE PRIOR TO PLACING THE RIPRAP. ALSO, ANY CONCRETE PIECES LARGER THAN THREE (3') FEET ACROSS SHALL EITHER BE BROKEN INTO SMALLER PIECES PRIOR TO PLACEMENT, OR NOT USED AS RIPRAP MATERIAL. THE USE OF ASPHALT OR OTHER SOLID WASTE IS PROHIBITED.
   5.1. ALL BANK AND SHORELINE PROTECTION SHALL CONSIST OF SUITABLE CLEAN MATERIALS, FREE FROM DEBRIS, TRASH, AND OTHER DELETERIOUS MATERIALS.
   5.2. ALL BANK AND SHORELINE PROTECTION SHALL ALSO BE NON-FROZEN MATERIALS.
6. ALL EXCESS SPOIL MATERIAL RESULTING FROM THE PROJECT SHALL BE REMOVED FROM THE FLOODPLAIN; SPREAD THINLY (LESS THAN SIX (6") INCHES THICK) ON THE SURROUNDING GROUND; OR REMOVED FROM THE PROJECT AREA.
   6.1. IN ADDITION, SPOIL MATERIAL SHOULD NOT BE PLACED IN AND AREA THAT IS, OR COULD BE, CLASSIFIED AS A REGULATED WETLAND.
   6.2. SEE PLAN FOR RECOMMENDED LOCATION.
7. ALL RELATED CONSTRUCTION ACTIVITIES WILL BE CONDUCTED DURING PERIODS OF LOW FLOW.
8. THE CONTRACTOR(S) SHALL SUBMIT A PLAN FOR TEMPORARY STREAM DIVERSION (OR OTHER APPROVED METHOD OF REDUCING FLOW AND/OR DEWATERING) PRIOR TO STARTING CONSTRUCTION. THE PLAN IS TO BE REVIEWED AND APPROVED BY THE CITY AND THE ENGINEER.
9. ANY TEMPORARY CROSSINGS SHALL INCLUDE ENOUGH CULVERTS TO ACCOMMODATE LOW FLOWS AND MUST BE REMOVED AFTER COMPLETION OF WORK ON THIS PROJECT.
   9.1. TEMPORARY STREAM CROSSINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH IDOT STANDARD ROAD PLAN EW-401, ATTACHED.
   9.2. SEE ATTACHED IDOT STANDARD ROAD PLAN EW-403 FOR ADDITIONAL REQUIREMENTS.
10. THE CONTRACTOR(S) SHALL REMOVE ALL FILL MATERIAL USED FOR ANY TEMPORARY CROSSING, CAUSEWAY, WORK PAD, ETC. IN THEIR ENTIRETY TO AN UPLAND, NON-WETLAND SITE; RETURN THE AFFECTED AREA(S) OUTSIDE CONSTRUCTION LIMITS TO PRE-CONSTRUCTION ELEVATIONS; TO SEED ALL DISTURBED AREAS WITH NATIVE GRASSES; AND TO IMPLEMENT APPROPRIATE MEASURES TO ENSURE THAT SEDIMENTS ARE NOT INTRODUCED INTO WATER OF THE UNITED STATES DURING CONSTRUCTION OF THIS PROJECT.
11. EQUIPMENT FOR HANDLING AND CONVEYING MATERIALS DURING CONSTRUCTION SHALL BE OPERATED TO PREVENT DUMPING OR SPILLING THE MATERIAL INTO WATERBODIES, STREAMS, AND/OR WETLANDS – EXCEPT AS NOTED HEREIN.
12. CARE SHALL BE TAKEN TO PREVENT ANY PETROLEUM PRODUCTS, CHEMICALS, OR OTHER DELETERIOUS MATERIALS FROM ENTERING WATERBODIES, STREAMS, AND/OR WETLANDS.
13. CONSTRUCTION EQUIPMENT, ACTIVITIES, AND MATERIALS SHALL BE KEPT OUT OF THE WATERBODIES, STREAMS, AND/OR WETLANDS TO THE MAXIMUM EXTENT POSSIBLE.
14. WHEN DEWATERING PRESENTS A PROBLEM FOR PLACING THE ANY ITEMS AS DETAILED, ALTERNATE METHODS MAY BE APPROVED AFTER SUBMITTAL.
15. THE CONTRACTOR(S) SHALL BE RESPONSIBLE TO ENSURE COMPENSATORY STORAGE VOLUME IS PROVIDED TO THE MINIMUM LIMITS AND GRADES SHOWN. ADDITIONAL VOLUME IS BETTER WHILE STILL PROVIDING POSITIVE DRAINAGE.
16. THE CONTRACTOR(S) SHALL REMOVE ANY DEBRIS WITHIN ANY PERMITTED CULVERT, INCLUDING BUT NOT LIMITED TO EXISTING TREES/BRANCHES, EXISTING RIPRAP, EXISTING EARTH, OTHER EXISTING DEBRIS, AND ANY ITEMS RESULTING FROM RELATED CONSTRUCTION ACTIVITIES – EXCLUDE ANY ALGAE/MOSS, EXCEPT AS NECESSARY FOR ANY CONNECTIONS.
17. PER IDNR, THE SITE AREA HAS THE POTENTIAL OF INHABITATION FROM THE INDIANA BAT (MYOTIS SODALIS) AND THE NORTHERN LONG-EARED BAT (MYOTIS SEPTENTRIONALIS) – NO THOROUGH FIELD STUDIES WERE PERFORMED.
   17.1. IF EVIDENCE SHOULD BE FOUND OR SUSPECTED, CONTACT THE IDNR (ENDANGERED SPECIES COORDINATOR) AT 515/281-5918; AND THE US FISH AND WILDLIFE SERVICE (ROCK ISLAND FIELD OFFICE) AT 309/757-5800.
   17.2. NO TREE CUTTING SHALL BE ALLOWED BETWEEN APRIL 1 AND SEPTEMBER 30.

GLYNN VILLAGE PLAT 10 - EXISTING CULVERT EXTENSION NOTES & DETAILS

SCALE:	AS NOTED	DESIGNED BY:	JRK	DRAWN BY:	PJV
DWG:	15-013-CULVERT.dwg	CHECKED BY:	DJS	DATE:	02/24/2016
FIELD BOOK:		SHEET 73 OF 100		FILE NO.:	15-013

LOCATION:

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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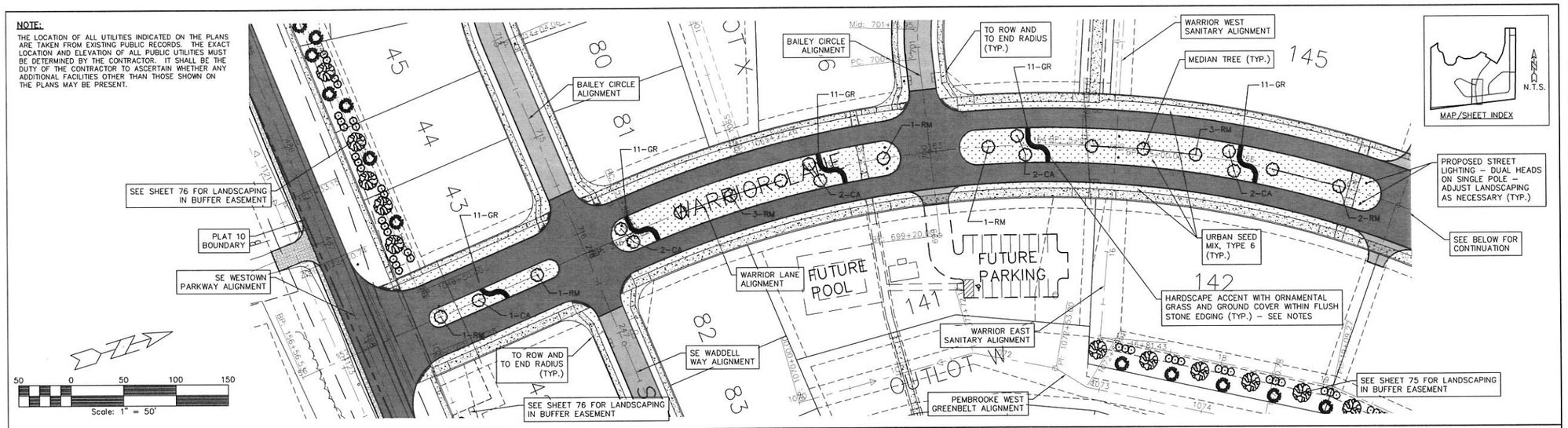
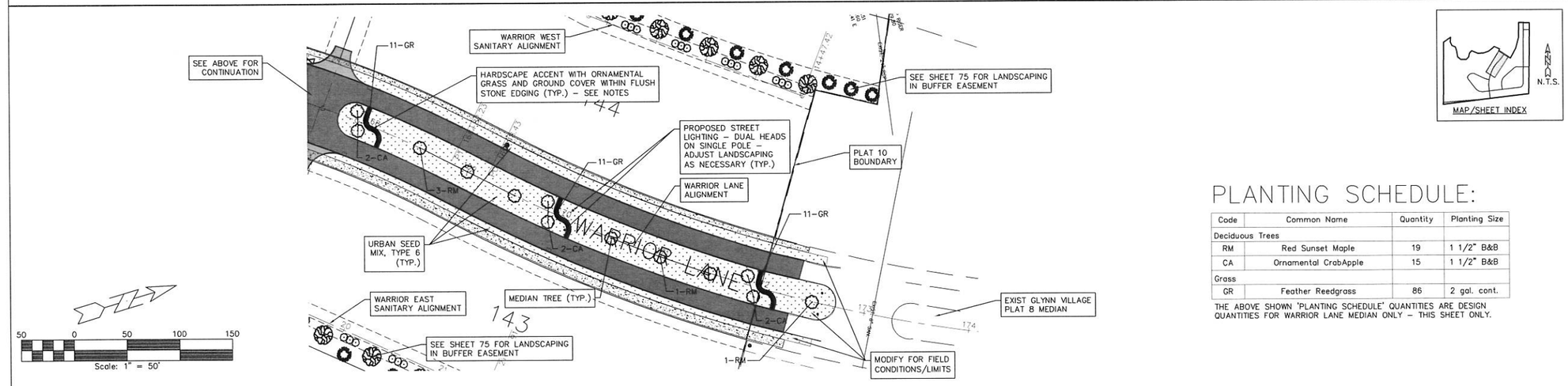
NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.





PLANTING SCHEDULE:

Code	Common Name	Quantity	Planting Size
Deciduous Trees			
RM	Red Sunset Maple	19	1 1/2" B&B
CA	Ornamental CrabApple	15	1 1/2" B&B
Grass			
GR	Feather Reedgrass	86	2 gal. cont.

THE ABOVE SHOWN 'PLANTING SCHEDULE' QUANTITIES ARE DESIGN QUANTITIES FOR WARRIOR LANE MEDIAN ONLY – THIS SHEET ONLY.

LANDSCAPING/GROUND COVER NOTES:

1. SEE ADDITIONAL PLANTING AND SWPPP NOTES ON SWPPP SHEETS "A", "B", AND "C".
2. DURING THE CONSTRUCTION STAGE OF DEVELOPMENT, THE APPLICANT SHALL PREVENT THE CLEANING OF EQUIPMENT OR MATERIAL, OR THE STORAGE AND/OR DISPOSAL OF WASTE MATERIAL SUCH AS PAINTS, OILS, SOLVENTS, ASPHALT, CONCRETE, MOTOR OIL, OR ANY OTHER MATERIAL HARMFUL TO THE LIFE OF VEGETATION WITHIN THE FINAL MEDIAN AREA.
3. ALL WIRE, TWINE, AND BURLAP SHALL BE REMOVED FROM THE ROOTBALL OF ALL STREET TREES PRIOR TO PLANTING.
4. NO STAKING OF TREES IS ALLOWED.
5. ALL DISTURBED MEDIAN AREAS AND ROW AREAS NOT COVERED BY TREES AND/OR OTHER PERMANENT COVERINGS SHALL BE RESTORED WITH A MINIMUM OF SIX (6") INCHES OF TOPSOIL BEFORE PERMANENT (FINAL) SEEDING/SODDING OPERATIONS COMMENCE; AND THEN SEEDED WITH MULCH OR SODDED.
6. ALL DISTURBED AREAS PREVIOUSLY COVERED WITH ESTABLISHED GRASS SHALL BE SODDED AND WATERED UNTIL ESTABLISHED.
7. ALL NON-PAVED AREAS DISTURBED BY CONSTRUCTION, OR REQUIRED TO BE STABILIZED, SHALL BE RESTORED BY SEED AND MULCH.
8. ALL SEEDING SHALL BE DONE IN ACCORDANCE WITH SUDAS SPECIFICATION 9010 WITH ANY REFERENCED FIGURES AND SPECIFICATIONS.
9. ALL SODDING SHALL BE DONE IN ACCORDANCE WITH SUDAS SPECIFICATION 9020 WITH ANY REFERENCED FIGURES AND SPECIFICATIONS.
10. ALL PLANTINGS MATERIALS AND PLANTING SHALL BE DONE IN ACCORDANCE WITH SUDAS SPECIFICATION 9030 WITH ANY REFERENCED FIGURES AND SPECIFICATIONS.
11. TEMPORARY STABILIZATION SHALL BE WITH THE SUDAS EROSION CONTROL MIX.
12. FINAL STABILIZATION SHALL BE A SUDAS URBAN GRASS MIX ON A MINIMUM OF SIX (6") INCHES OF TOPSOIL.
13. PERMANENT STABILIZATION SHALL BE LIMITED TO THE SMF's AND WARRIOR LANE MEDIAN.
14. ALL MEDIAN TREES SHALL BE AN OVERHEAD DECIDUOUS VARIETY WITH A MINIMUM 1.5 INCH B&B, SINGLE STRAIGHT LEADER, AND MATCHED.
15. MEDIAN TREES SHALL BE SPACED AT APPROXIMATELY 50 FOOT SPACING, BUT MAINTAIN A MINIMUM OF TEN (10) FOOT BUFFER FROM ALL SANITARY OR STORM SEWERS, WATERMAINS, LIGHT POLES, AND SIDEWALKS/TRAILS.
16. HARDSCAPING ACCENTS, EDGING, GROUND COVER, AND PLANTINGS SHALL BE OF A SIMILAR MATERIALS AND CONSTRUCTED AS PROVIDED ON THE GLYNN VILLAGE PLAT 8 PORTIONS OF WARRIOR LANE (LOCATED IMMEDIATELY TO THE NORTH OF THE PROPOSED IMPROVEMENTS).
17. PLANTING BEDS SHALL BE SPACED AT APPROXIMATELY 200 FEET; SHALL BE FOUR (4) FEET WIDE; AND LANDSCAPING GRASSES SHALL BE PLANTED AT APPROXIMATELY FOUR (4) FEET RANDOM OFFSET SPACINGS.
18. CONTINUOUS STONE EDGING AROUND THE MEDIAN PLANTING BEDS SHALL BE SIX (6) TO EIGHT (8) INCHES WIDE; SHALL BE INSTALLED BETWEEN THE BACK OF CURBS OF THE MEDIANS; SHALL BE LAID FLUSH WITH THE FINISHED GRADE; PLACED ON BOTH SIDES OF PLANTING BED; AND SHALL UTILIZE AN APPROXIMATELY NINE (9) FOOT RADII FOR LAYOUT.
19. ALL SEEDING MIXTURES AND/OR SODDING SHALL ALSO INCLUDE, BUT NOT LIMITED TO: LOOSENING AND SMOOTHING TOPSOIL TO FINISHED GRADE, MULCH, FERTILIZER, WATERING, RE-SEEDING, CLEANUP AS NECESSARY UNTIL ACCEPTANCE OF FINAL STABILIZATION.
20. TREE PLANTING SUBSTITUTIONS – THE DEVELOPER MAY SUBSTITUTE TREE SPECIES TO ADD VARIETY AND PROVIDE MORE DISEASE AND PEST RESISTANCE.
    - 20.1. ALL TREE PLANTING SUBSTITUTIONS SHALL BE APPROVED BY THE CITY OF WAUKEE PRIOR TO PLANTING/ORDERING.
    - 20.2. THE DEVELOPER MAY SUBSTITUTE OVERSTORY TREES WITH THE FOLLOWING:
        - 20.2.1. SKYLINE AND IMPERIAL LOCUST
        - 20.2.2. HOMESTEAD
        - 20.2.3. PATRIOT
        - 20.2.4. PROSPECTOR ELM
    - 20.3. THE DEVELOPER MAY SUBSTITUTE UNDERSTORY TREES WITH THE FOLLOWING:
        - 20.3.1. THORNLESS COCKSPUR
        - 20.3.2. WINTERKING HAWTHORN
        - 20.3.3. CHANTICLEER
        - 20.3.4. CLEVELAND SELECT
        - 20.3.5. ARISTOCRAT PEAR
21. SHOWN QUANTITIES AND SPACINGS ARE FOR DESIGN BASIS. INSTALLER(S) SHALL ENSURE PROPER SPACING FOR MATURE SIZES.

GLYNN VILLAGE PLAT 10 - WARRIOR LANE - MEDIAN GROUND COVER PLAN

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PLANTINGS.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 74 OF 100	FILE NO.: 15-013	

LOCATION:

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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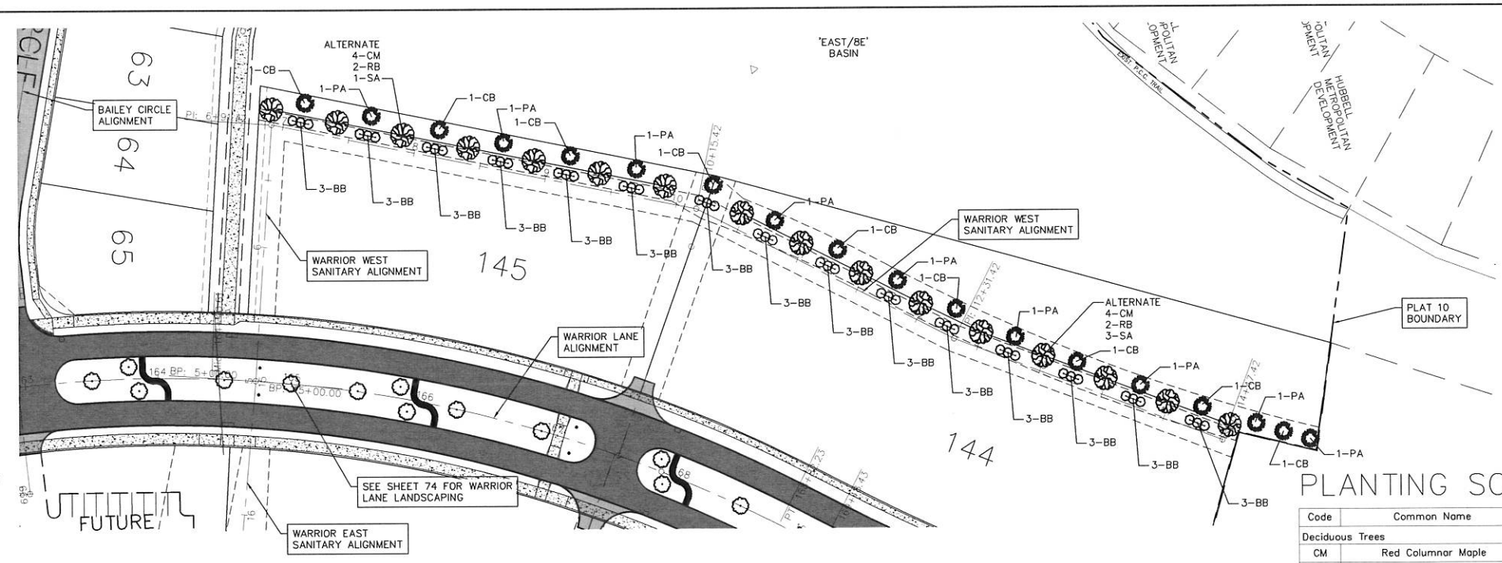
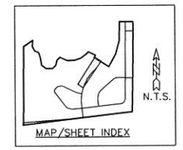
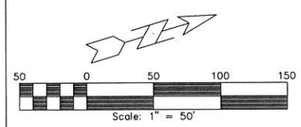
NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.







LANDSCAPING NOTES:

1. SEE SHEET 74 FOR ADDITIONAL NOTES AND INFORMATION.
2. SHOWN PLANTINGS SHALL BE INSTALLED WITH THE RESPECTIVE DEVELOPMENT(S) OF LOTS 145 AND 144. THE BERM SHALL BE INSTALLED UNDER THE CURRENT DEVELOPMENT.
3. UPDATED LANDSCAPING PLANS SHALL BE PROVIDED AT THE TIME OF RESPECTIVE DEVELOPMENT(S).

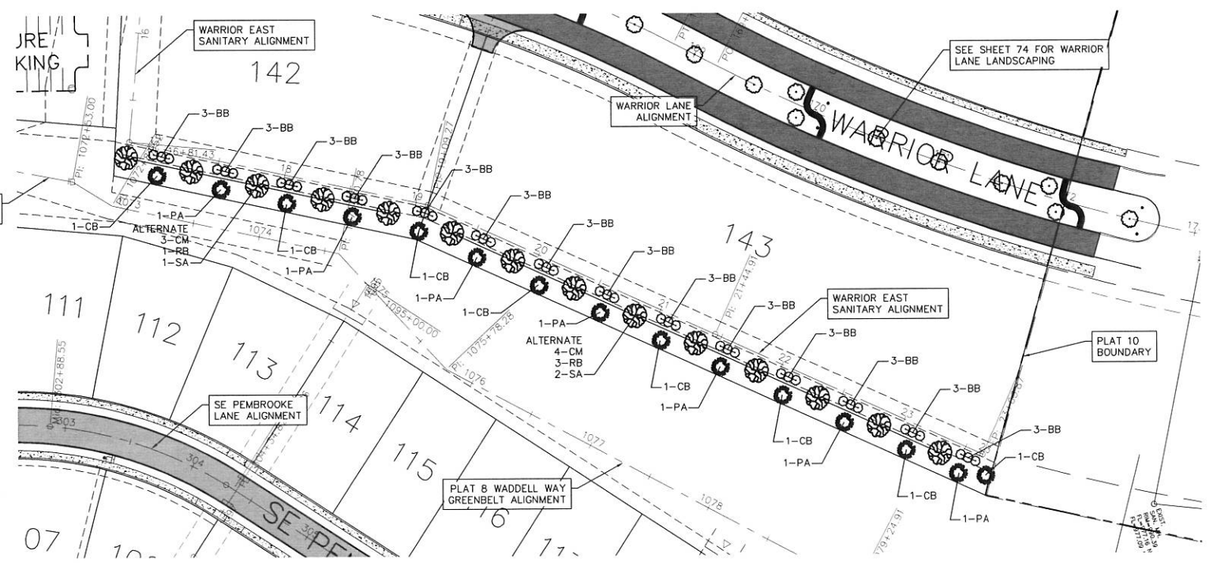
PLANTING SCHEDULE:

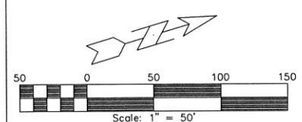
Code	Common Name	Quantity	Planting Size
Deciduous Trees			
CM	Red Columnar Maple	15	1 1/2" B&B
SA	Swamp Oak	8	1 1/2" B&B
RB	River Birch	7	1 1/2" B&B
Evergreen Trees			
CB	Colorado Blue Spruce	17	6' Height
PA	Norway Spruce	16	6' Height
Shrubs/Bushes			
BB	Dwarf Burning Bush	87	3 Gal.

THE ABOVE SHOWN 'PLANTING SCHEDULE' QUANTITIES ARE DESIGN QUANTITIES FOR FUTURE PLANTINGS ON BOTH LANDSCAPING BERMS ONLY – THIS SHEET ONLY.

NOTE:

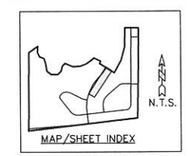
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

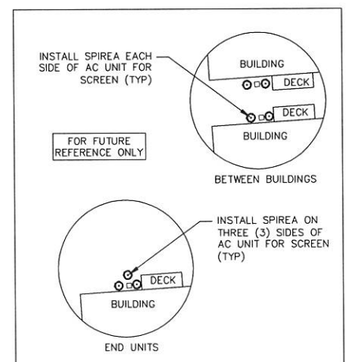




LANDSCAPING NOTES:

1. SEE SHEET 74 FOR ADDITIONAL NOTES AND INFORMATION.
2. SHOWN PLANTINGS SHALL BE INSTALLED WITH THE RESPECTIVE DEVELOPMENT(S) OF LOTS 142 AND 143. THE BERM SHALL BE INSTALLED UNDER THE CURRENT DEVELOPMENT.
3. UPDATED LANDSCAPING PLANS SHALL BE PROVIDED AT THE TIME OF RESPECTIVE DEVELOPMENT(S).





MECHANICAL UNIT SCREENING
N.T.S.

GLYNN VILLAGE PLAT 10-WARRIOR OUTLOTS - LANDSCAPING BUFFER PLAN

SCALE: 1" = 50'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-PLANTINGS.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 75 OF 100	FILE NO.: 15-013	

LOCATION:

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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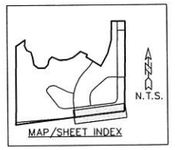
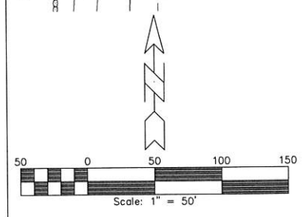
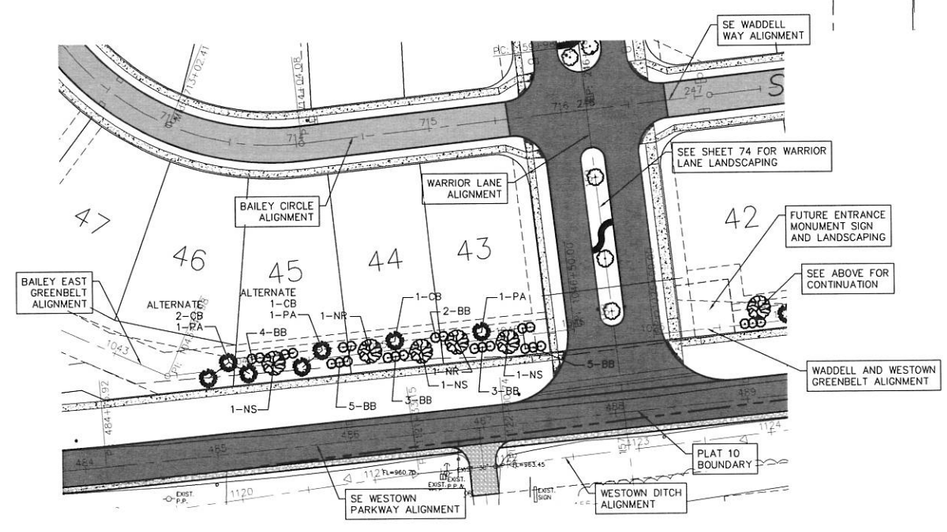
NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.







PLANTING SCHEDULE:

Code	Common Name	Quantity	Planting Size
Deciduous Trees			
NS	Norwegian Sunset Maple	17	1 1/2" B&B
NR	Northern Red Oak	18	1 1/2" B&B
Evergreen Trees			
CB	Colorado Blue Spruce	15	6' Height
PA	Norway Spruce	15	6' Height
Shrubs/Bushes			
BB	Dwarf Burning Bush	80	3 Gal.

THE ABOVE SHOWN 'PLANTING SCHEDULE' QUANTITIES ARE DESIGN QUANTITIES FOR THE LANDSCAPE BUFFER (WITHOUT A BERM) ALONG SE WESTOWN PARKWAY ONLY – THIS SHEET ONLY.

LANDSCAPING NOTES:

1. SEE SHEET 74 FOR ADDITIONAL NOTES AND INFORMATION.
2. THE FUTURE ENTRANCE MONUMENT SIGN AND LANDSCAPING SHALL BE SUBMITTED SEPARATELY AND AT A LATER DATE.

GLYNN VILLAGE PLAT 10 - WESTOWN LANDSCAPE BUFFER PLAN

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 50'
DWG: 15-013-PLANTINGS.dwg
FIELD BOOK:
DESIGNED BY: JRK
CHECKED BY: DJS
SHEET 76 OF 100
DRAWN BY: PJV
DATE: 02/24/2016
FILE NO.: 15-013

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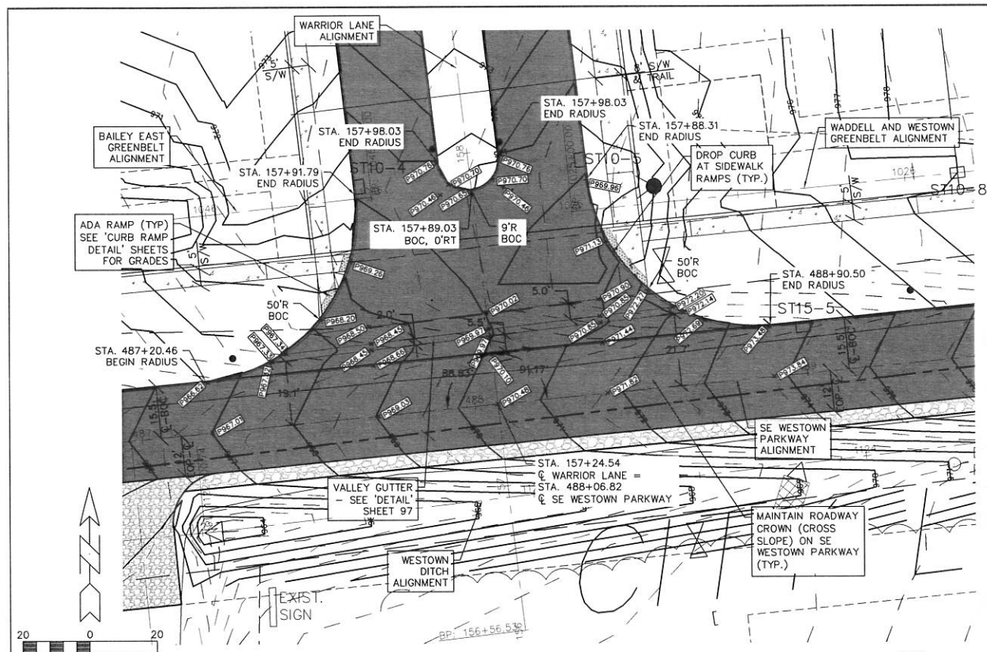
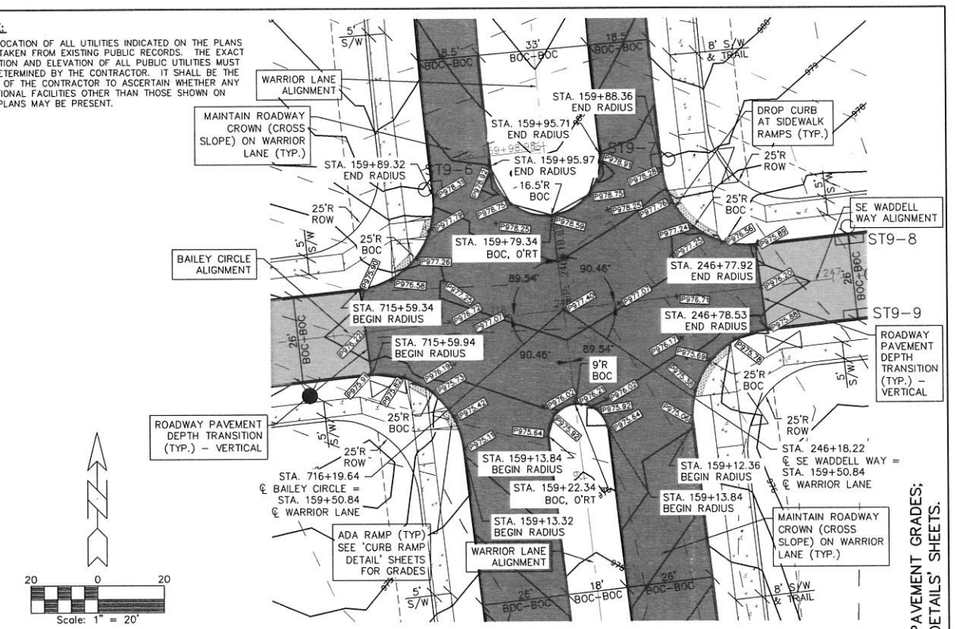


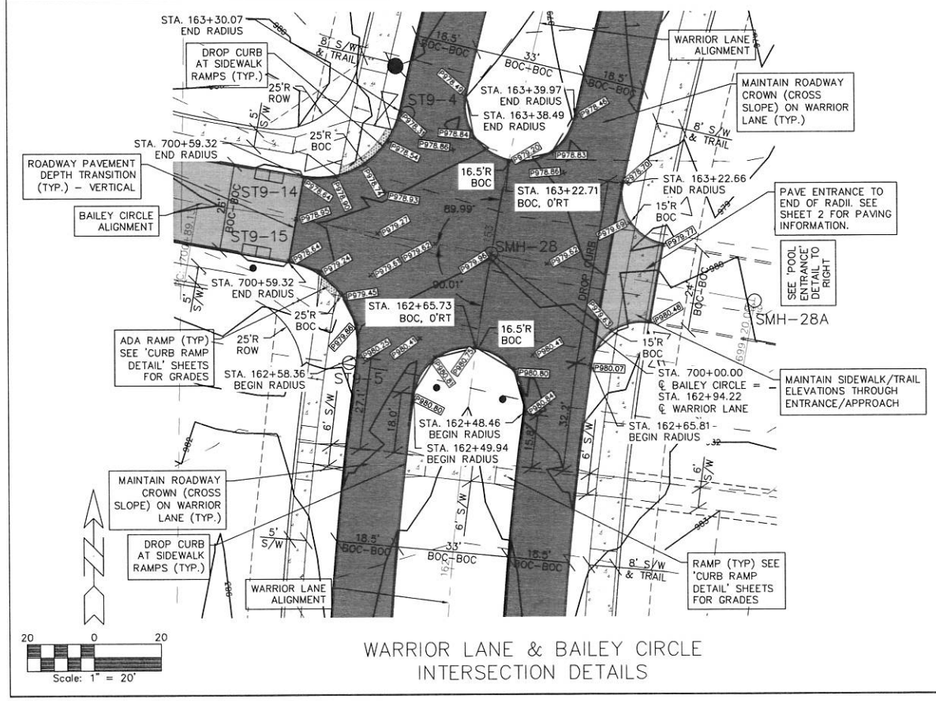
WARRIOR LANE & SE WESTOWN PARKWAY INTERSECTION DETAILS

NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

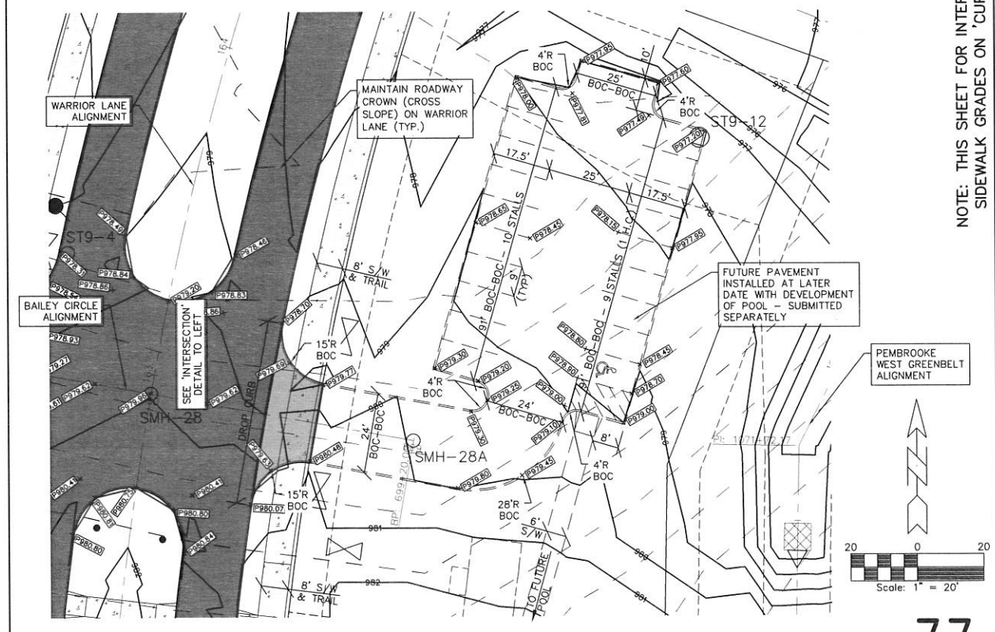


WARRIOR LANE & BAILEY CIRCLE/SE WADDELL WAY INTERSECTION DETAILS

NOTE:
MAINTAIN SHOWN SIDEWALK AND/OR TRAIL WIDTHS THROUGH THE SIDEWALK AND PARKWAY TRANSITIONS – SEE 'CURB RAMP DETAILS' SHEETS FOR ADDITIONAL INFORMATION.



WARRIOR LANE & BAILEY CIRCLE INTERSECTION DETAILS



POOL ENTRANCE AND FUTURE PARKING LOT DETAILS

NOTE: THIS SHEET FOR INTERSECTION PAVEMENT GRADES; SIDEWALK GRADES ON 'CURB RAMP DETAILS' SHEETS.

77

GLYNN VILLAGE PLAT 10 - INTERSECTION DETAILS I

LOCATION:	SCALE: 1" = 20'	DESIGNED BY: JRK	DRAWN BY: PJV
	DWG: 15-013-INT-1.dwg	CHECKED BY: DJS	DATE: 02/24/2016
	FIELD BOOK:	SHEET 77 OF 100	FILE NO.: 15-013

NO.	REVISION	DATE	BY	FOR:

ERG
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2413 GRAND AVENUE
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(515) 288-4823

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NOTE:
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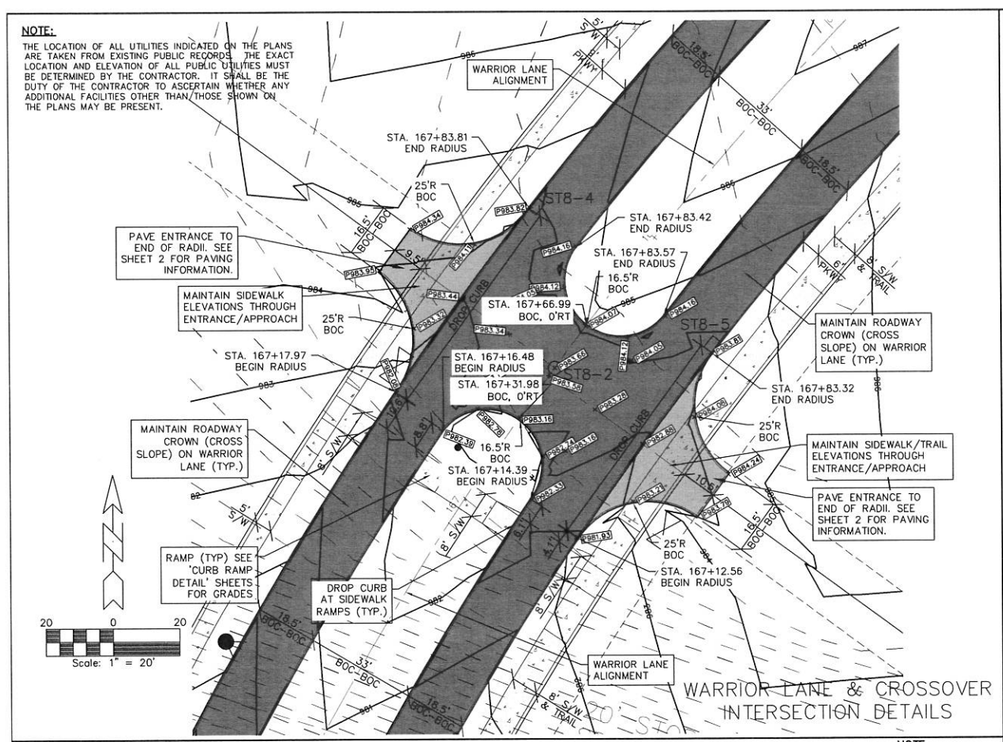
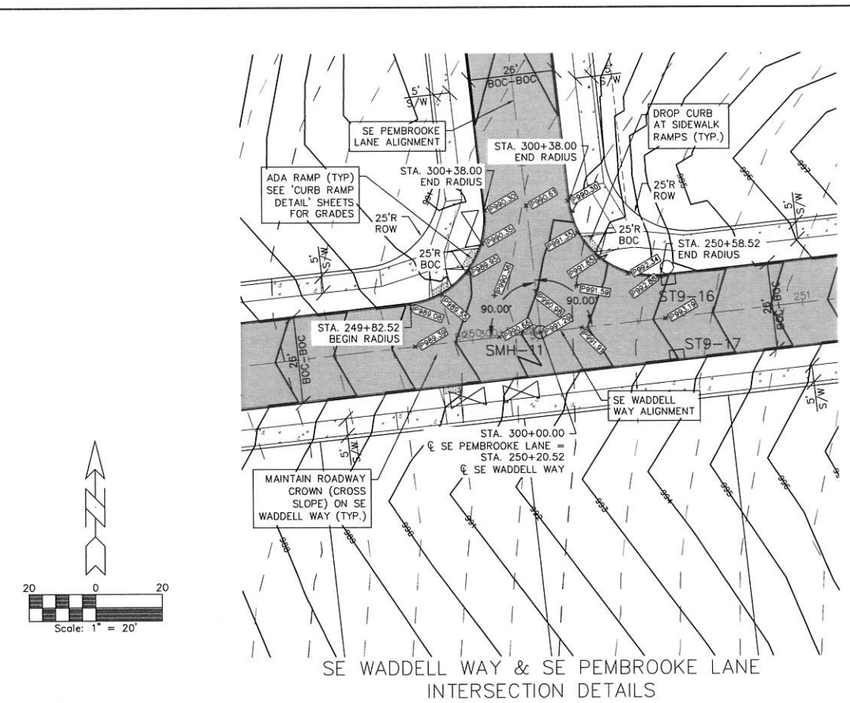
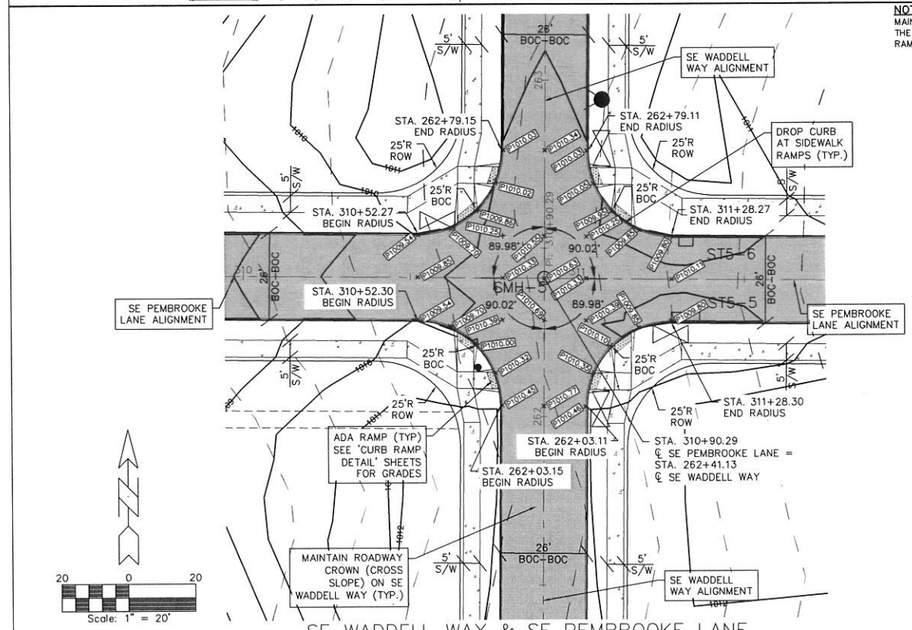


WARRIOR LANE & CROSSOVER INTERSECTION DETAILS

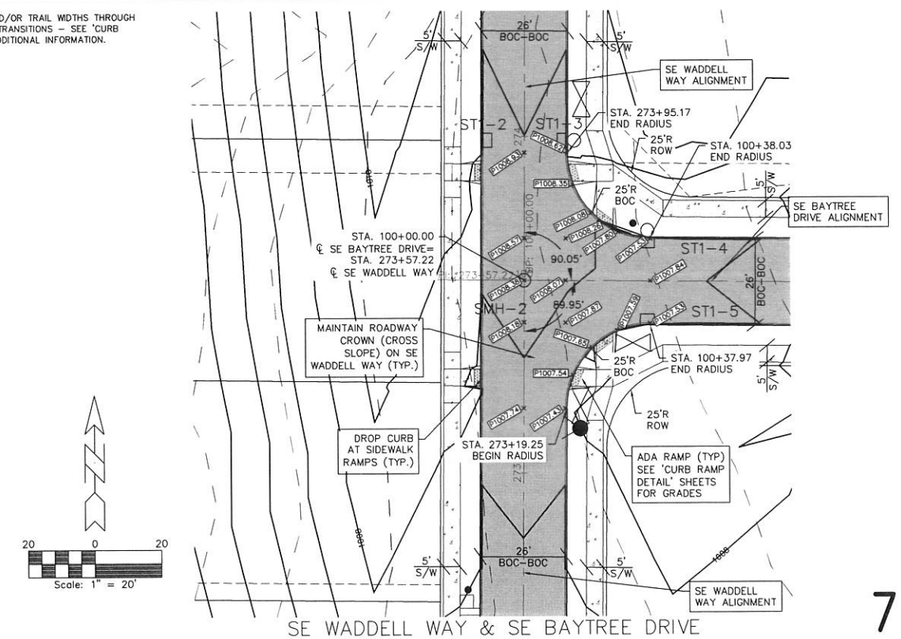


SE WADDELL WAY & SE PEMBROOKE LANE INTERSECTION DETAILS

NOTE:
MAINTAIN SHOWN SIDEWALK AND/OR TRAIL WIDTHS THROUGH THE SIDEWALK AND PARKWAY TRANSITIONS – SEE 'CURB RAMP DETAILS' SHEETS FOR ADDITIONAL INFORMATION.



SE WADDELL WAY & SE PEMBROOKE LANE INTERSECTION DETAILS



SE WADDELL WAY & SE BAYTREE DRIVE INTERSECTION DETAILS

NOTE: THIS SHEET FOR INTERSECTION PAVEMENT GRADES; SIDEWALK GRADES ON 'CURB RAMP DETAILS' SHEETS.

GLYNN VILLAGE PLAT 10 - INTERSECTION DETAILS 2

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 20'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-INT-2.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 78 OF 100	FILE NO.: 15-013	

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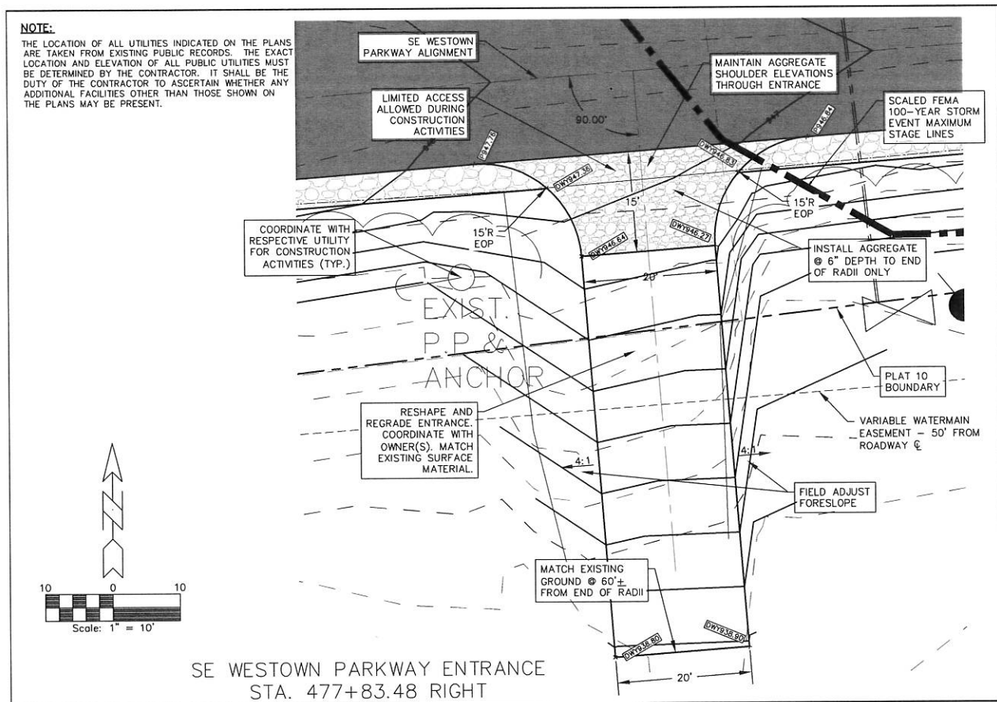
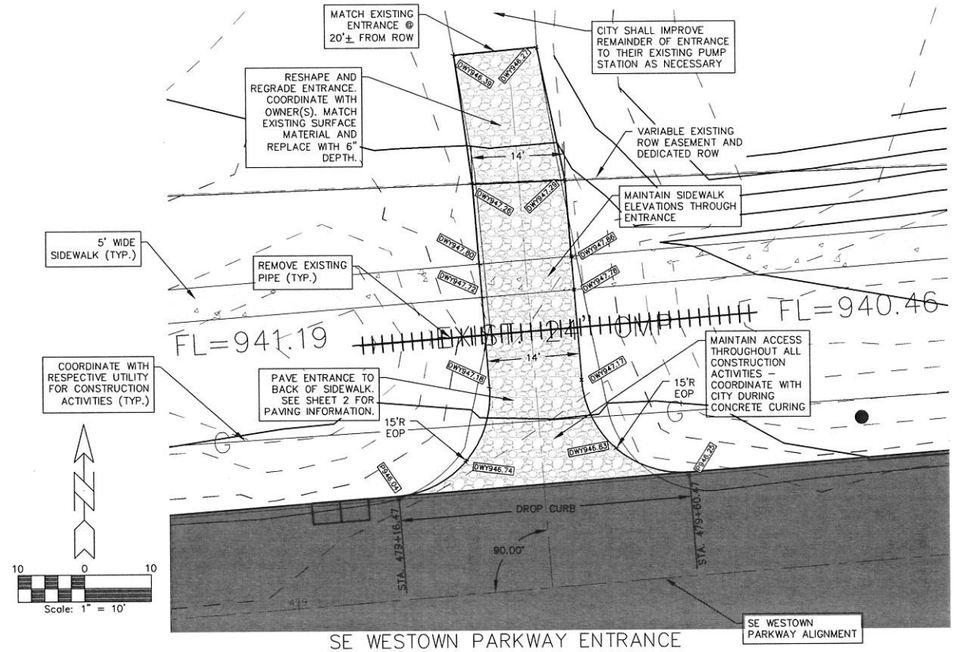
NOTE:

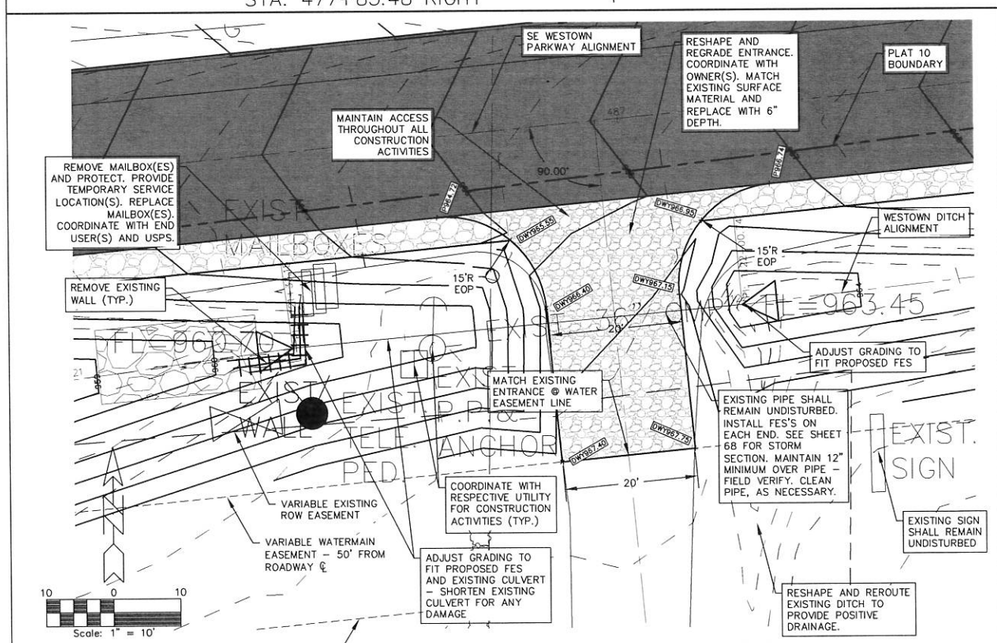
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



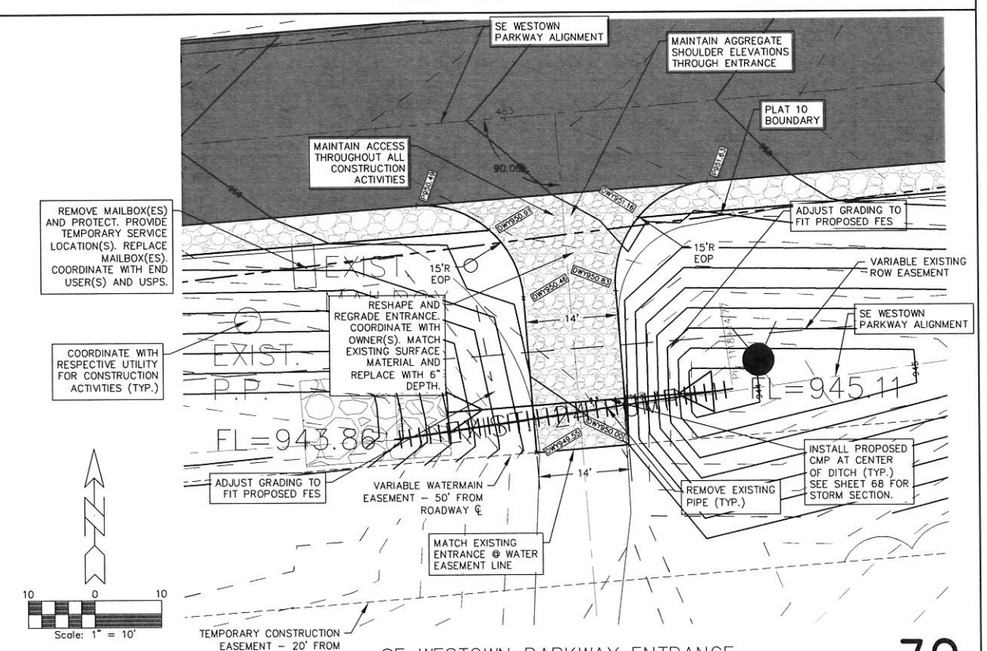
SE WESTOWN PARKWAY ENTRANCE
STA. 477+83.48 RIGHT



SE WESTOWN PARKWAY ENTRANCE
STA. 479+38.47 LEFT



SE WESTOWN PARKWAY ENTRANCE
STA. 486+96.58 RIGHT



SE WESTOWN PARKWAY ENTRANCE
STA. 483+07.52 RIGHT

79

GLYNN VILLAGE PLAT 10 - ENTRANCE DETAILS I - SE WESTOWN PARKWAY

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 20'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-INT-3.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 79 OF 100	FILE NO.: 15-013	

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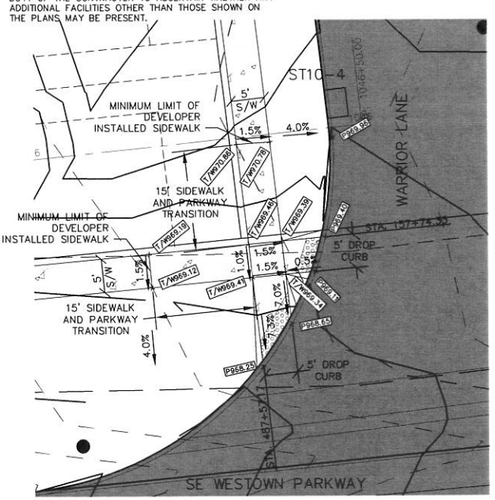
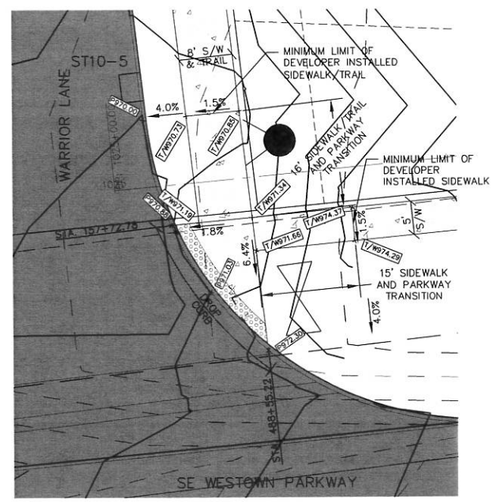


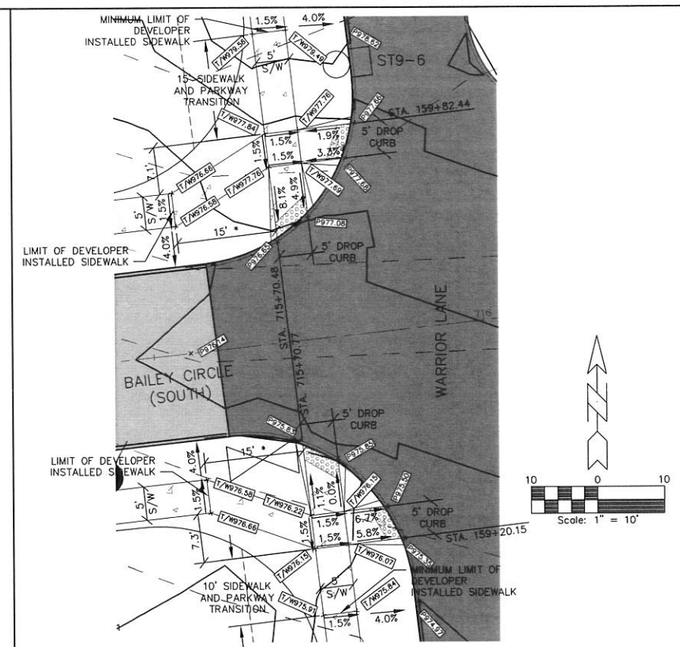
NORTHWEST QUADRANT



NORTHEAST QUADRANT

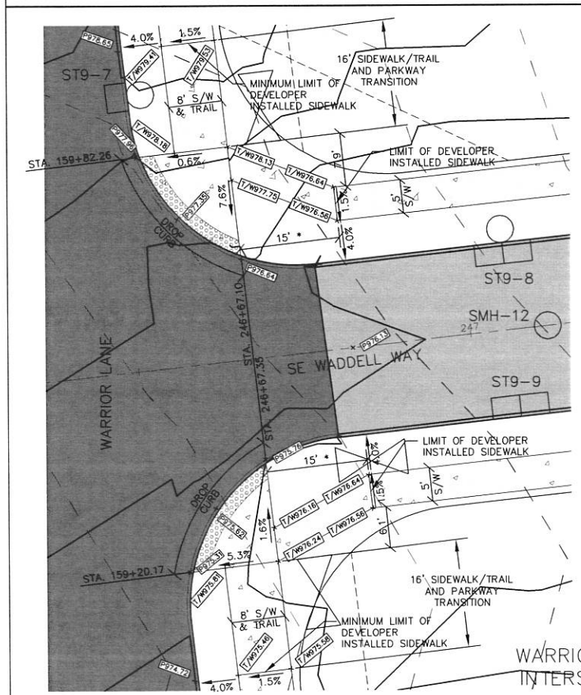
Scale: 1" = 10'

WARRIOR LANE & SE WESTOWN PARKWAY
INTERSECTION CURB RAMP DETAILS



Scale: 1" = 10'

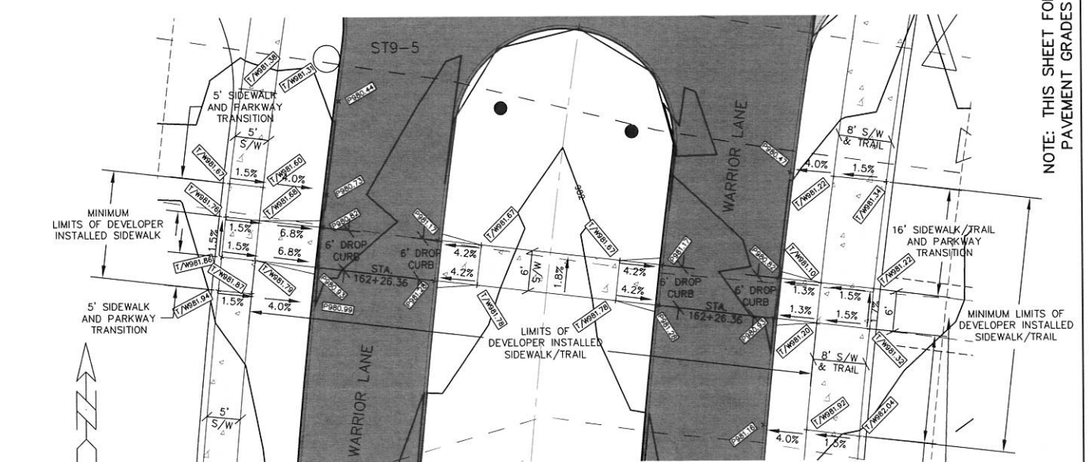
WARRIOR LANE & BAILEY CIRCLE
(SOUTH) INTERSECTION CURB RAMP DETAILS



Scale: 1" = 10'

WARRIOR LANE & SE WADDELL WAY
INTERSECTION CURB RAMP DETAILS

* MAINTAIN SHOWN SIDEWALK AND/OR TRAIL WIDTHS THROUGH THE SIDEWALK AND PARKWAY TRANSITIONS – SEE 'INTERSECTION DETAILS' SHEETS FOR ADDITIONAL INFORMATION.



Scale: 1" = 10'

WARRIOR LANE STA. 162+29.31
CROSSOVER CURB RAMP DETAILS

NOTE: THIS SHEET FOR CITY APPROVED CURB RAMP GRADES; PAVEMENT GRADES ON 'INTERSECTION DETAILS' SHEETS.

80

GLYNN VILLAGE PLAT 10 - CURB RAMP DETAILS I

LOCATION:	
SCALE:	1" = 10'
DWG:	15-013-RAMP-1.dwg
FIELD BOOK:	
DESIGNED BY:	JRK
CHECKED BY:	DJS
SHEET	80 OF 100
DRAWN BY:	PJV
DATE:	02/24/2016
FILE NO.:	15-013

NO.	REVISION	DATE	BY	FOR:

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2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4053

15-013

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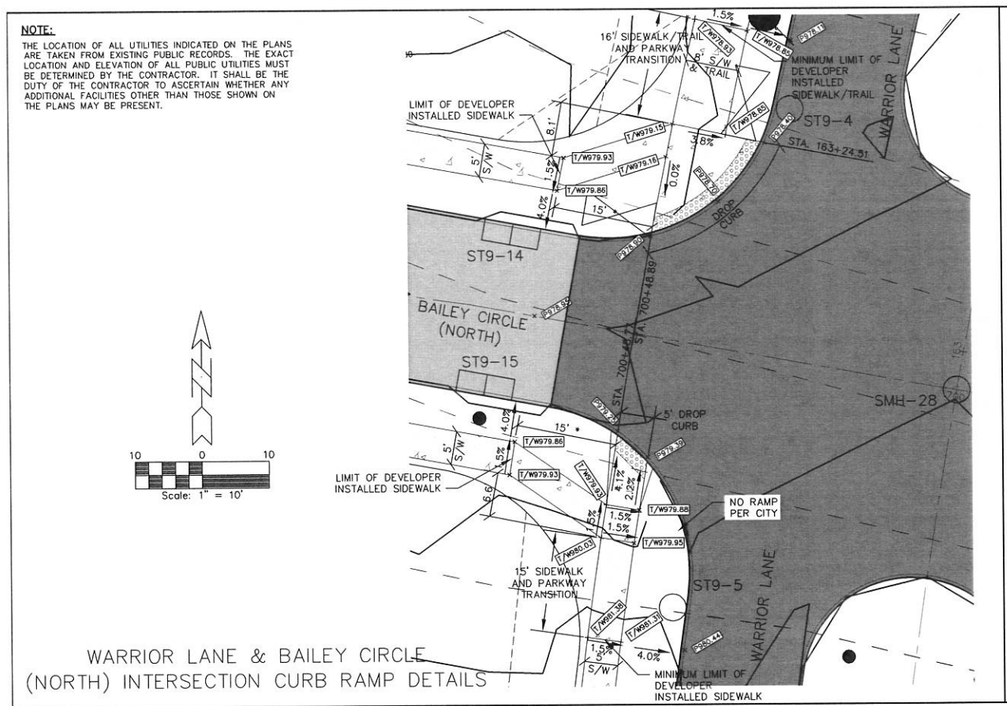
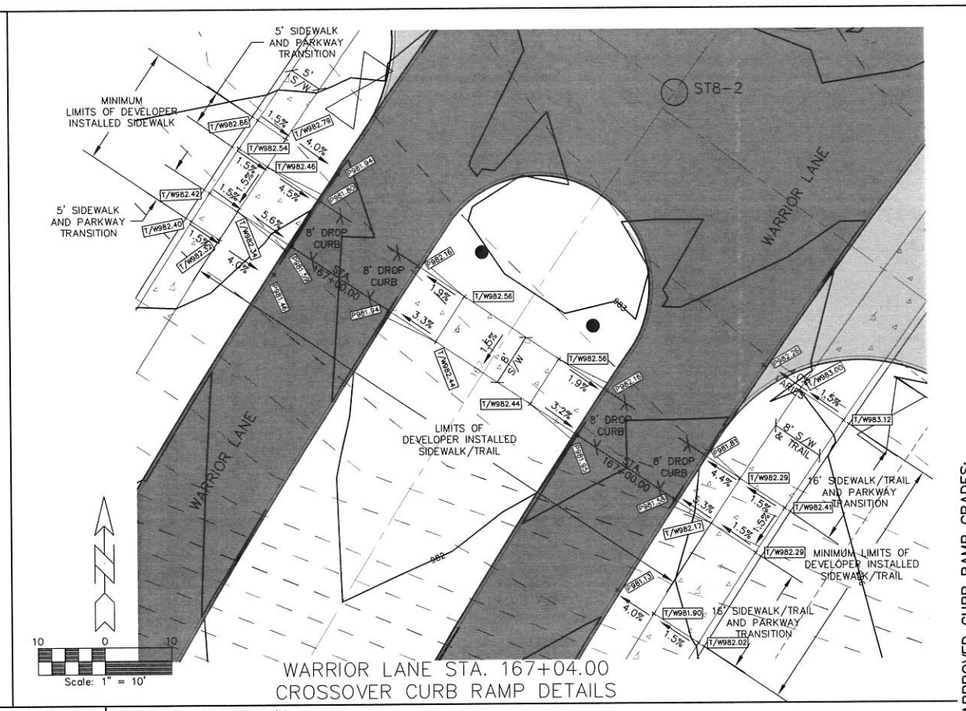
NOTE:

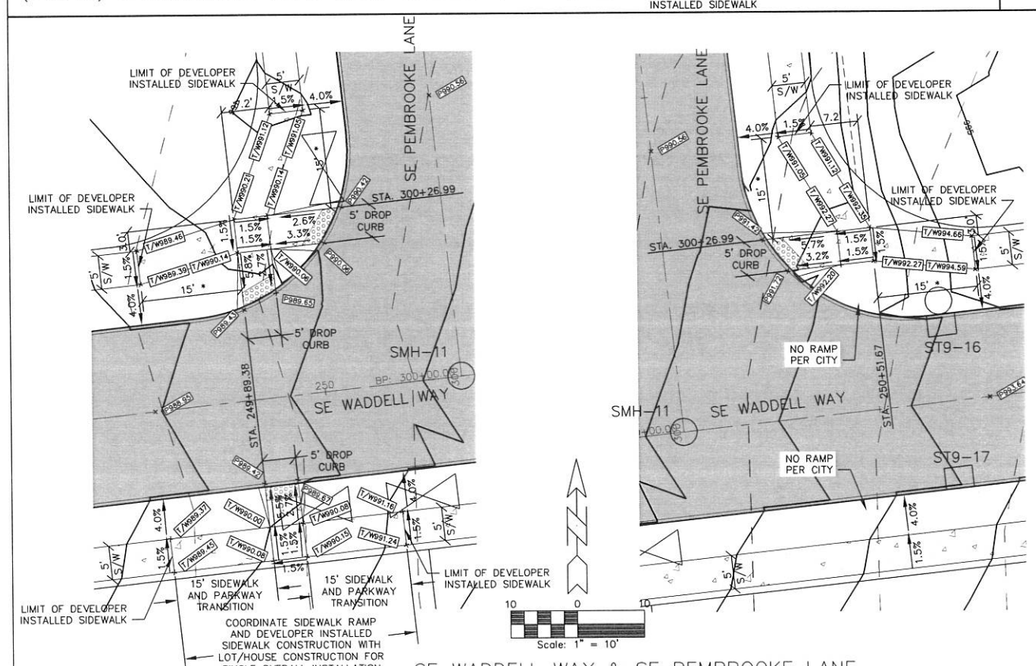
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



WARRIOR LANE & BAILEY CIRCLE (NORTH) INTERSECTION CURB RAMP DETAILS



WARRIOR LANE STA. 167+04.00 CROSSOVER CURB RAMP DETAILS



SE WADDELL WAY & SE PEMBROOKE LANE INTERSECTION CURB RAMP DETAILS

* MAINTAIN SHOWN SIDEWALK AND/OR TRAIL WIDTHS THROUGH THE SIDEWALK AND PARKWAY TRANSITIONS – SEE 'INTERSECTION DETAILS' SHEETS FOR ADDITIONAL INFORMATION.

NOTE: THIS SHEET FOR CITY APPROVED CURB RAMP GRADES; PAVEMENT GRADES ON 'INTERSECTION DETAILS' SHEETS.

GLYNN VILLAGE PLAT 10 - CURB RAMP DETAILS 2

NO.	REVISION	DATE	BY	FOR:

LOCATION:	SCALE: 1" = 10'	DESIGNED BY: JRK	DRAWN BY: PJV
	DWG: 15-013-RAMP-2.dwg	CHECKED BY: DJS	DATE: 02/24/2016
	FIELD BOOK:	SHEET 81 OF 100	FILE NO.: 15-013

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NOTE:

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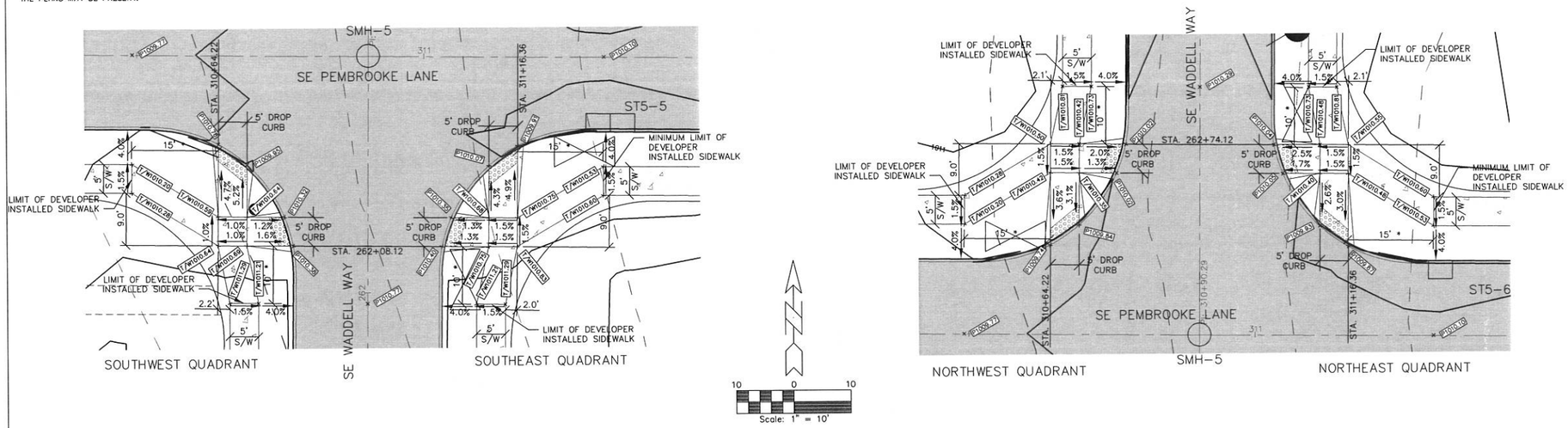
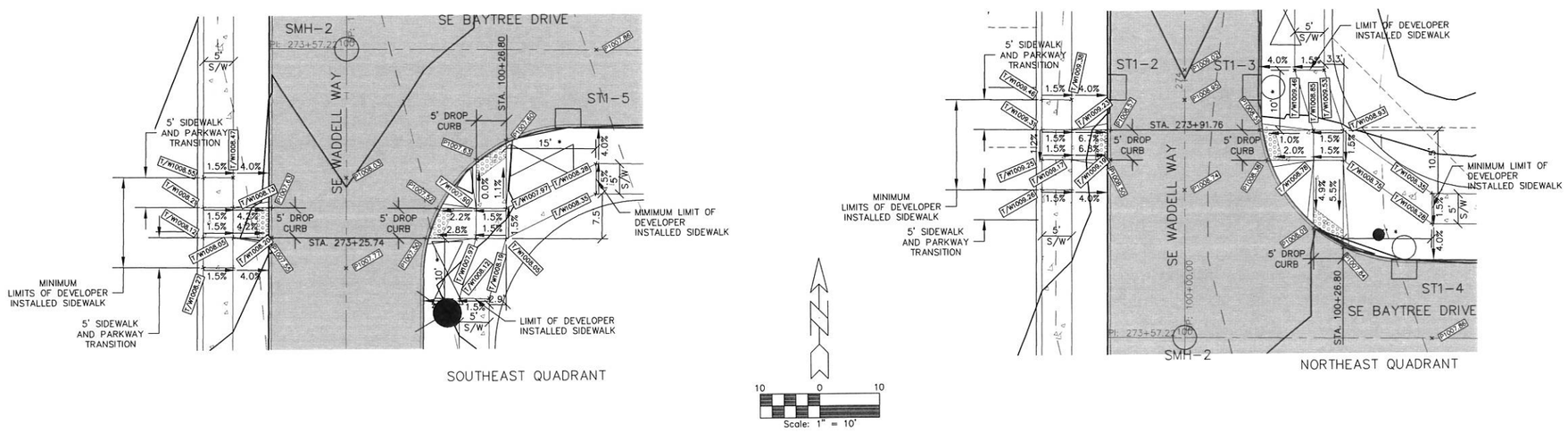


SE WADDELL WAY & SE PEMBROOKE LANE
INTERSECTION CURB RAMP DETAILS

* MAINTAIN SHOWN SIDEWALK AND/OR TRAIL WIDTHS THROUGH THE SIDEWALK AND PARKWAY TRANSITIONS – SEE 'INTERSECTION DETAILS' SHEETS FOR ADDITIONAL INFORMATION.



SE WADDELL WAY & SE BAYTREE DRIVE
INTERSECTION CURB RAMP DETAILS

NOTE: THIS SHEET FOR CITY APPROVED CURB RAMP GRADES; PAVEMENT GRADES ON 'INTERSECTION DETAILS' SHEETS.

GLYNN VILLAGE PLAT 10 - CURB RAMP DETAILS 3

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE: 1" = 10'
DWG: 15-013-RAMP-3.dwg
FIELD BOOK:

DESIGNED BY: JRK
CHECKED BY: DJS
SHEET 82 OF 100

DRAWN BY: PJV
DATE: 02/24/2016
FILE NO.: 15-013

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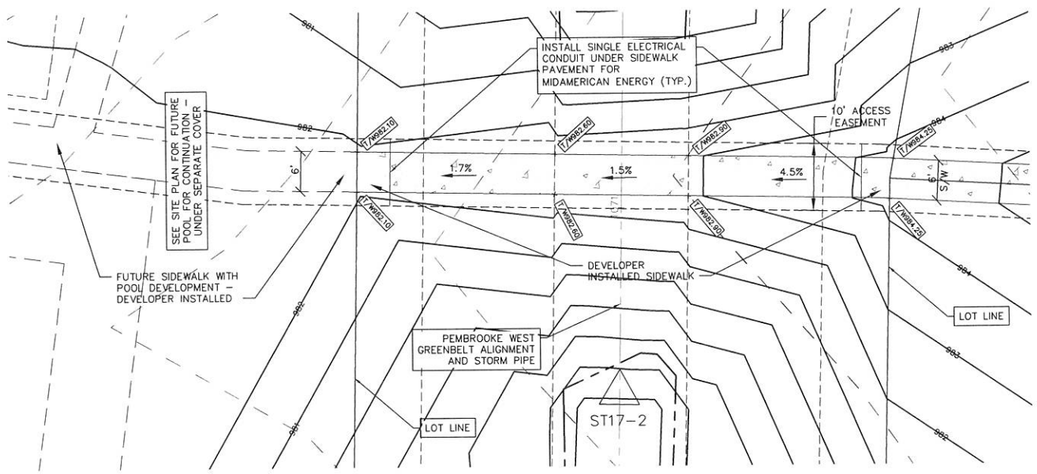
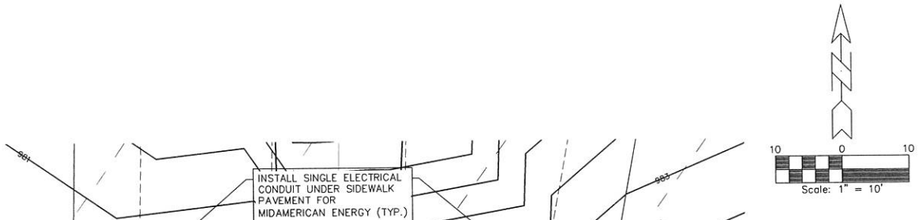
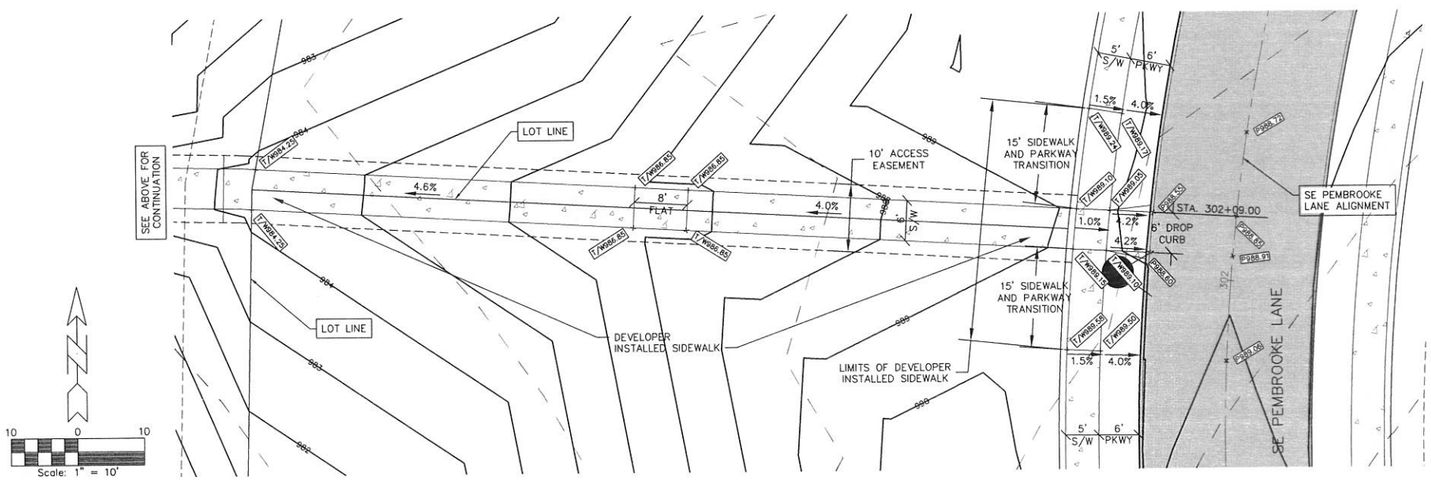
J:\2015 Proj\15-013\DESIGN\15-013-RAMP-3.dwg 3/8/2016 3:19:45 PM, Jay

NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.







NOTE: THIS SHEET FOR CITY APPROVED CURB RAMP GRADES; PAVEMENT GRADES ON 'INTERSECTION DETAILS' SHEETS.

SE PEMBROOKE LANE STA. 302+06.00
ACCESS CURB RAMP DETAILS

83

GLYNN VILLAGE PLAT 10 - CURB RAMP DETAILS 4 - POOL ACCESS

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: 1" = 10'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-RAMP-4.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 83 OF 100	FILE NO.: 15-013	

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Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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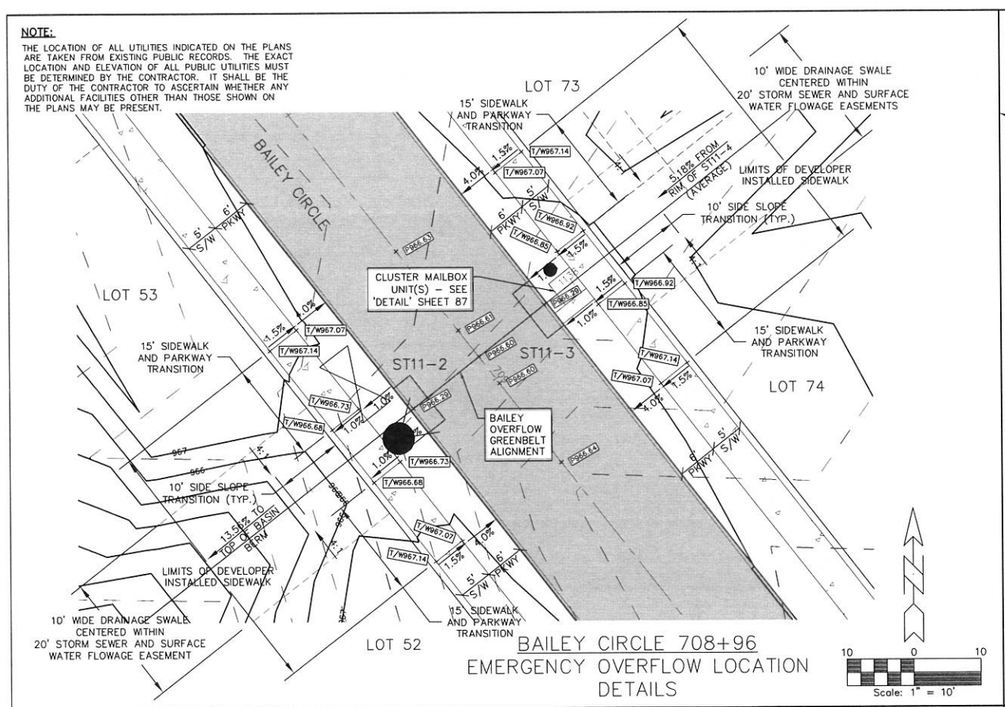
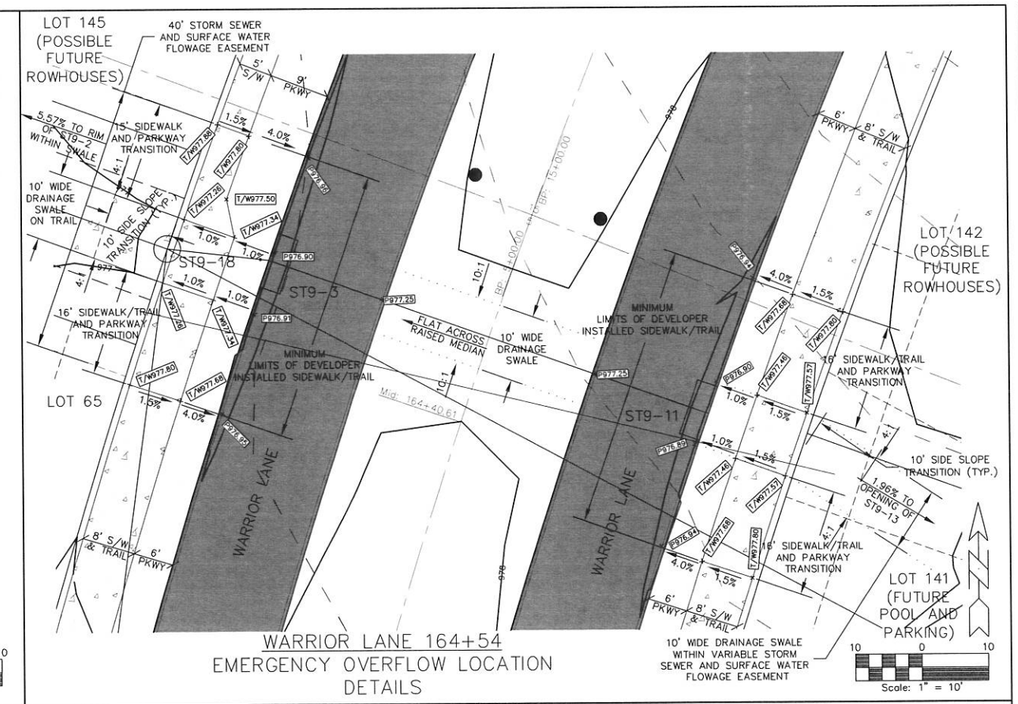
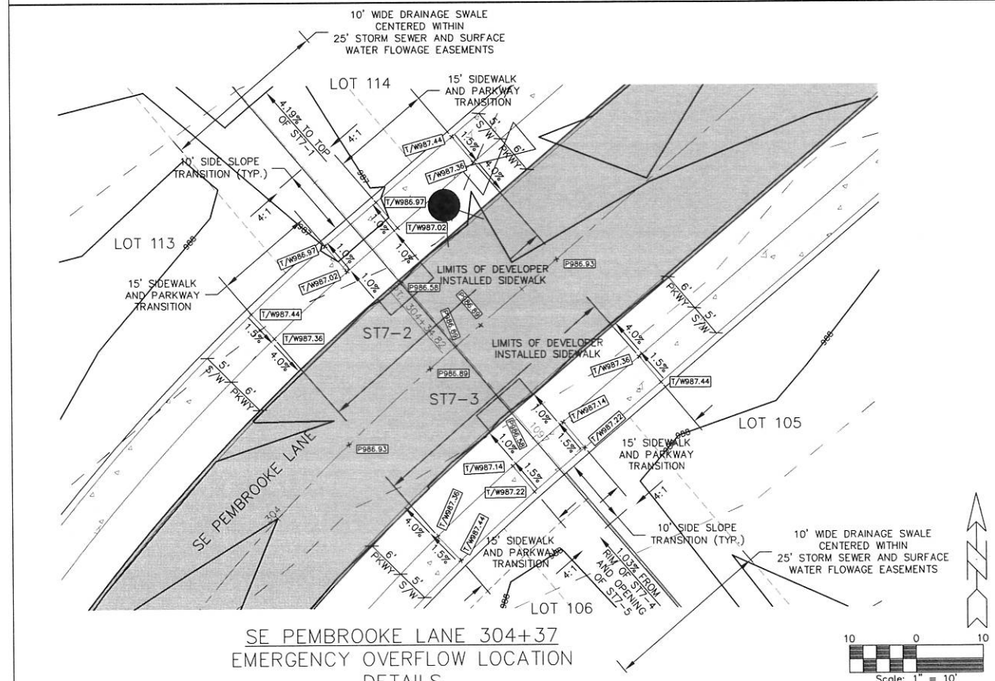
NOTE:
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.



BAILEY CIRCLE 708+96
EMERGENCY OVERFLOW LOCATION DETAILS



WARRIOR LANE 164+54
EMERGENCY OVERFLOW LOCATION DETAILS



SE PEMBROOKE LANE 304+37
EMERGENCY OVERFLOW LOCATION DETAILS

NOTE: ALL OVERFLOW SWALES SHALL BE 1.5 FOOT MINIMUM DEPTH, UNLESS OTHERWISE NOTED.

84

GLYNN VILLAGE PLAT 10 - EMERGENCY OVERFLOW LOCATION DETAILS I

LOCATION:	SCALE: 1" = 10'	DESIGNED BY: JRK	DRAWN BY: PJV
	DWG: 15-013-EOFR-1.dwg	CHECKED BY: DJS	DATE: 02/24/2016
	FIELD BOOK:	SHEET 84 OF 100	FILE NO.: 15-013

NO.	REVISION	DATE	BY	FOR:

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NOTE:

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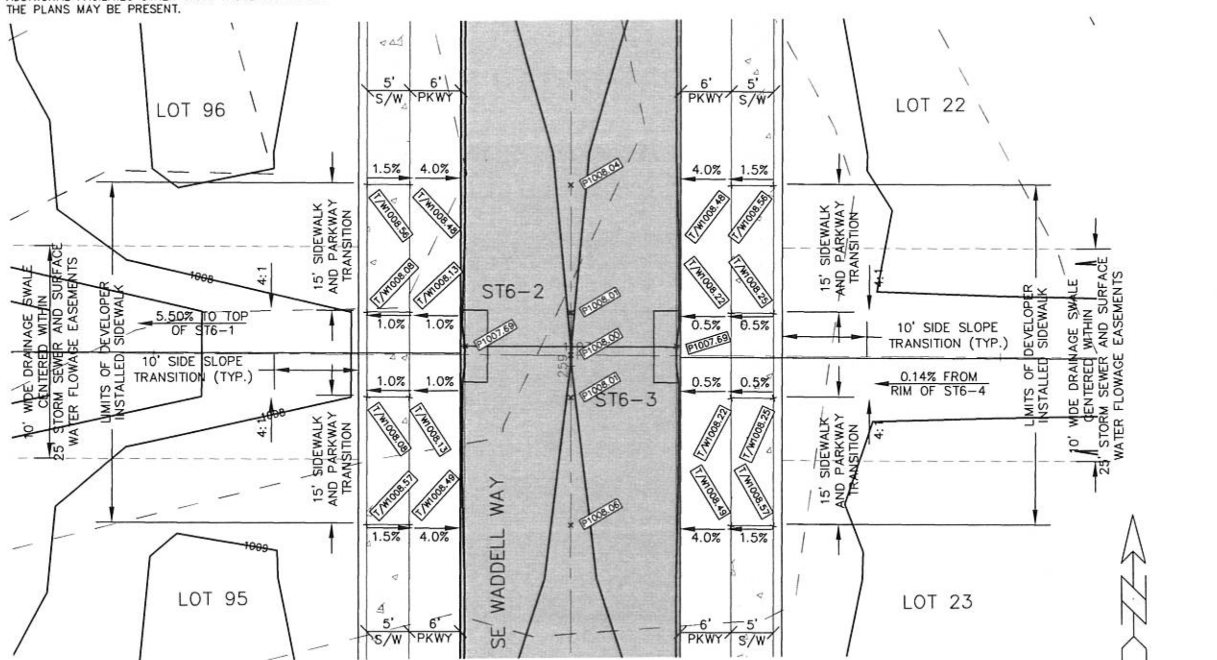
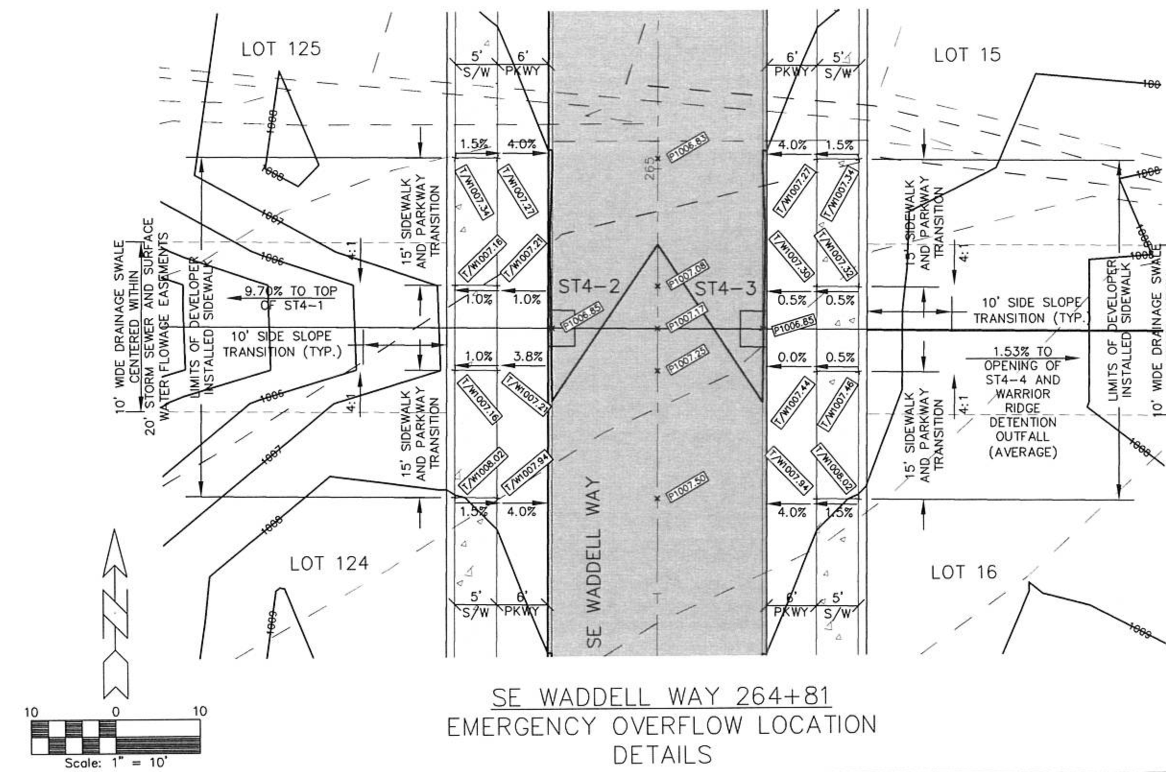


SE WADDELL WAY 259+02

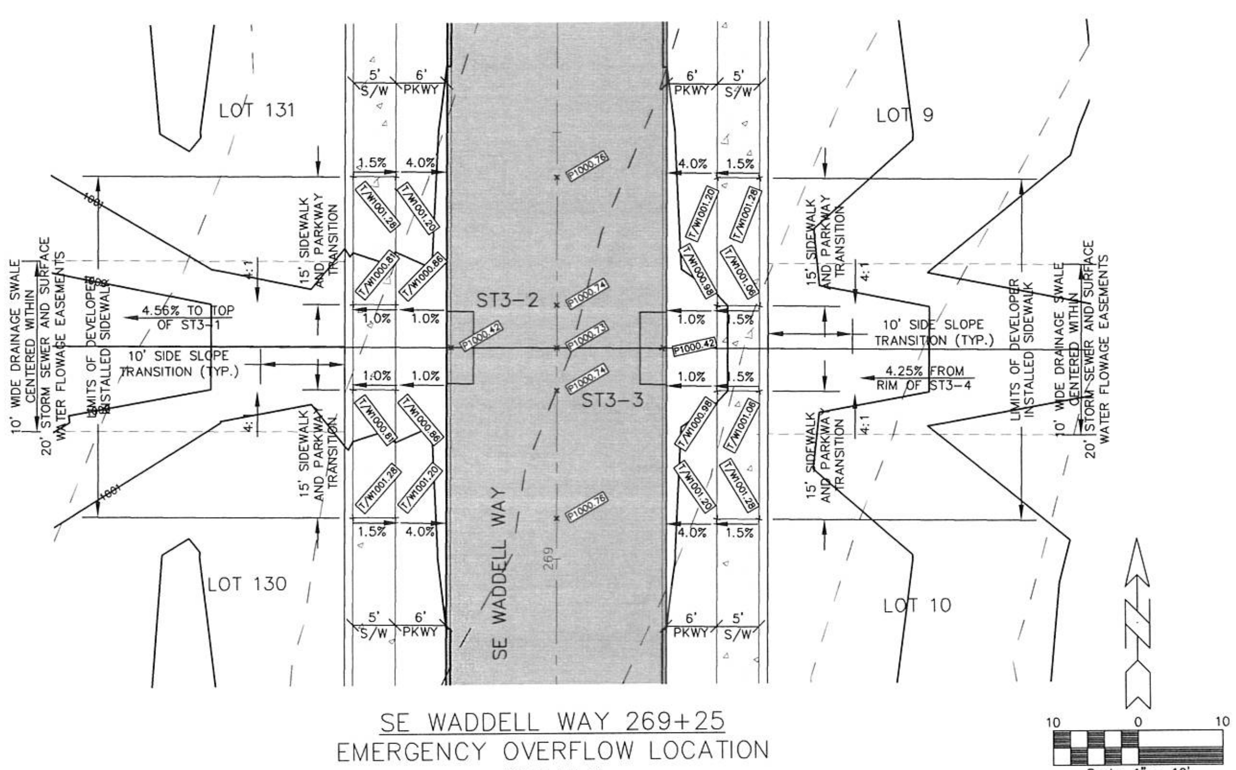
EMERGENCY OVERFLOW LOCATION DETAILS



SE WADDELL WAY 264+81

EMERGENCY OVERFLOW LOCATION DETAILS

NOTE: ALL OVERFLOW SWALES SHALL BE 1.5 FOOT MINIMUM DEPTH, UNLESS OTHERWISE NOTED.



SE WADDELL WAY 269+25

EMERGENCY OVERFLOW LOCATION DETAILS

85

GLYNN VILLAGE PLAT 10 - EMERGENCY OVERFLOW LOCATION DETAILS 2

NO.	REVISION	DATE	BY

FOR:

LOCATION:

SCALE: 1" = 10'	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-EOFR-2.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 85 OF 100	FILE NO.: 15-013	

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NOTE:

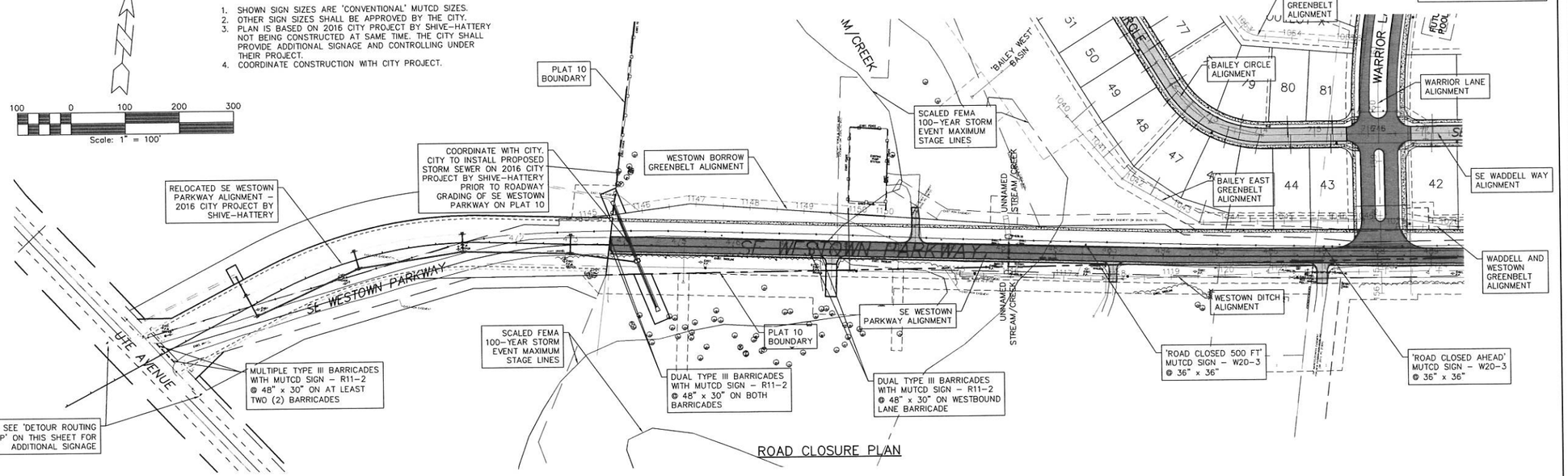
THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

ROAD CLOSURE NOTES:

1. SHOWN SIGN SIZES ARE 'CONVENTIONAL' MUTCD SIZES.
2. OTHER SIGN SIZES SHALL BE APPROVED BY THE CITY.
3. PLAN IS BASED ON 2016 CITY PROJECT BY SHIVE-HATTERY NOT BEING CONSTRUCTED AT SAME TIME. THE CITY SHALL PROVIDE ADDITIONAL SIGNAGE AND CONTROLLING UNDER THEIR PROJECT.
4. COORDINATE CONSTRUCTION WITH CITY PROJECT.

100 0 100 200 300

Scale: 1" = 100'



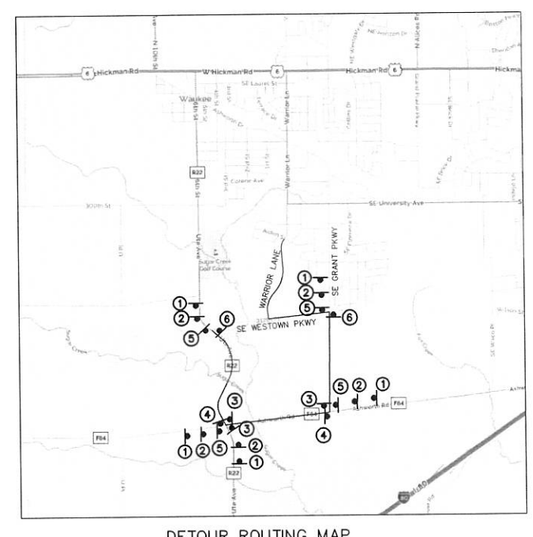
ROAD CLOSURE PLAN

DETOUR MAP NUMBER AND SIGNAGE INFORMATION

①	DETOUR AHEAD 312TH PL SE WESTOWN PKWY	MUTCD SIGN - W20-2 36" x 36" BLACK ON ORANGE MUTCD SIGN - SPECIAL 5" HIGH LETTERING ½" BORDER BLACK ON ORANGE
②	ROAD CLOSED 500FT	MUTCD SIGN - W20-3 36" x 36" BLACK ON ORANGE
③	DETOUR → 312TH PL SE WESTOWN PKWY	MUTCD SIGN - M4-9R 30" x 24" BLACK ON ORANGE MUTCD SIGN - SPECIAL 5" HIGH LETTERING ½" BORDER BLACK ON ORANGE
④	DETOUR ← 312TH PL SE WESTOWN PKWY	MUTCD SIGN - M4-9L 30" x 24" BLACK ON ORANGE MUTCD SIGN - SPECIAL 5" HIGH LETTERING ½" BORDER BLACK ON ORANGE
⑤	DETOUR ↑ 312TH PL SE WESTOWN PKWY	MUTCD SIGN - M4-9S 30" x 30" (SPECIAL) BLACK ON ORANGE MUTCD SIGN - SPECIAL 5" HIGH LETTERING ½" BORDER BLACK ON ORANGE
⑥	END DETOUR	MUTCD SIGN - M4-8o 24" x 18" BLACK ON ORANGE

OPTIONAL DETOUR SIGNAGE

MUTCD SIGN - W1-6 24" x 12" BLACK ON ORANGE	DETOUR ←	MUTCD SIGN - M4-8 24" x 12" BLACK ON ORANGE
MUTCD SIGN - W1-6 24" x 12" BLACK ON ORANGE	DETOUR →	MUTCD SIGN - M4-8 24" x 12" BLACK ON ORANGE
MUTCD SIGN - W1-6 24" x 12" BLACK ON ORANGE	DETOUR ↑	MUTCD SIGN - M4-8 24" x 12" BLACK ON ORANGE
MUTCD SIGN - M4-8 24" x 12" BLACK ON ORANGE	END DETOUR	MUTCD SIGN - M4-8b 24" x 12" BLACK ON ORANGE



DETOUR ROUTING MAP

NOT TO SCALE

DETOUR NOTES:

1. SEE 'GENERAL NOTES' ON SHEET 2 FOR ADDITIONAL INFORMATION.
2. SHOWN SIGN SIZES ARE 'CONVENTIONAL' MUTCD SIZES.
3. OTHER SIGN SIZES SHALL BE APPROVED BY THE CITY.
4. PER MUTCD, PROVIDE 500 FOOT SPACINGS BETWEEN SIGN ASSEMBLIES #1 AND #2; AND BETWEEN SIGN ASSEMBLIES #2 AND #3 OR #5 - NEAR INTERSECTION OF SE WESTOWN PARKWAY AND UTE AVENUE.
5. THE CONTRACTOR(S) SHALL ADD, MODIFY, AND/OR REMOVE SIGNAGE AS DIRECTED BY THE CITY, THE COUNTY, AND/OR IDOT.
6. THE CONTRACTOR(S) SHALL ADJUST DETOUR ROUTING AS GLYNN VILLAGE PLAT 10 PROJECT PROGRESSES.
7. PLAN IS BASED ON 2016 CITY PROJECT BY SHIVE-HATTERY NOT BEING CONSTRUCTED AT SAME TIME. THE CITY SHALL PROVIDE ADDITIONAL AND CONTROLLING MAPPING AND SIGNAGE UNDER THEIR PROJECT.
8. COORDINATE CONSTRUCTION WITH CITY PROJECT.

GLYNN VILLAGE PLAT 10 - ROAD CLOSURE AND DETOUR DETAILS

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: AS NOTED | DESIGNED BY: JRK | DRAWN BY: PJV
DWG: 15-013-RD_CLOSURE.dwg | CHECKED BY: DJS | DATE: 02/24/2016
FIELD BOOK: | SHEET 86 OF 100 | FILE NO.: 15-013

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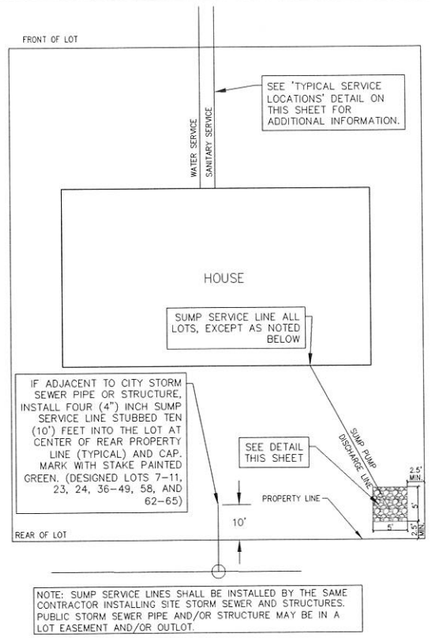
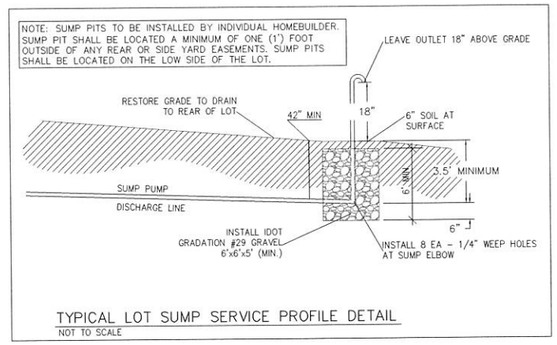


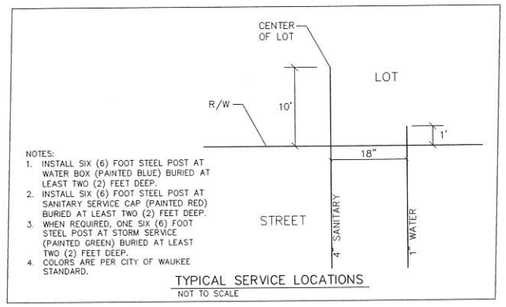
TYPICAL LOT SUMP SERVICE PLAN DETAIL

NOT TO SCALE



TYPICAL LOT SUMP SERVICE PROFILE DETAIL

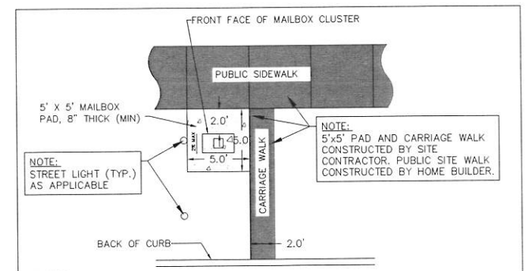
NOT TO SCALE



NOTES:
1. INSTALL SIX (6) FOOT STEEL POST AT WATER BOX (PAINTED BLUE) BURIED AT LEAST TWO (2) FEET DEEP.
2. INSTALL SIX (6) FOOT STEEL POST AT SANITARY SERVICE CAP (PAINTED RED) BURIED AT LEAST TWO (2) FEET DEEP.
3. WHEN REQUIRED, ONE SIX (6) FOOT STEEL POST AT STORM SERVICE (PAINTED GREEN) BURIED AT LEAST TWO (2) FEET DEEP.
4. COLORS ARE PER CITY OF WAUKEE STANDARD.

TYPICAL SERVICE LOCATIONS

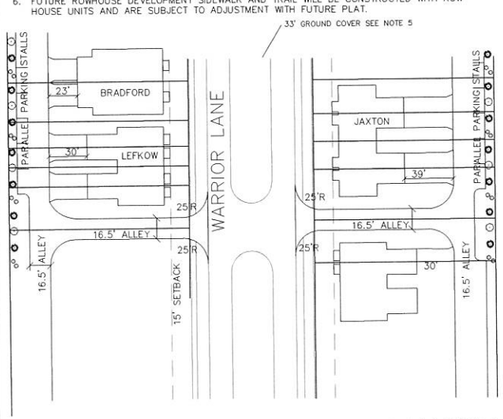
NOT TO SCALE



NOTES:
1. Cluster Mailbox to be located on the no parking/street light side of street.
2. Do not locate at intersection.
3. Locate near shared property line per approved plan.
4. Determine sidewalk side of mailbox pad elevation assuming constant 4% slope from back of curb to sidewalk side of mailbox pad. Resulting slope from back of curb to street side of mailbox pad will be greater than 4%. For example, for a 29' wide pavement with a 60' wide R.O.W. and a 2% mailbox pad cross slope, the resulting slope from the back of curb to the street side of mailbox pad is 6.2%.

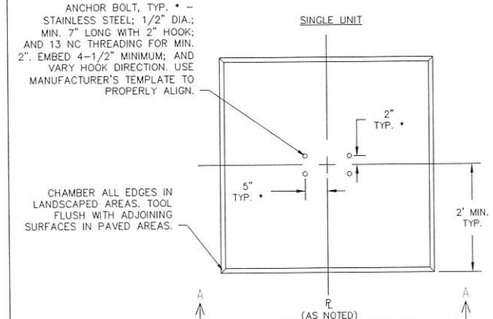
CITY OF WAUKEE
CLUSTER MAILBOX PAD DETAIL
STD.DWG.NO.28

NOTES:
1. BUILDING NAMES, CONFIGURATIONS, AND LAYOUT PATTERN ALONG WARRIOR LANE ARE SUBJECT TO CHANGE.
2. NOT TO SCALE.
3. FIGURE IS TYPICAL AND DOES NOT SHOW ANY SPECIFIC AREA IN DETAIL.
4. 7-FEET GROUND COVER BUFFER WILL GENERALLY CONTAIN A BERM AND TREES. THE PERMIT TREE PLANTINGS PROVIDED IN CITY DESIGNATED 25-FEET BUFFER SHALL CONSIST OF: 1 OVERSTORY, 2 EVERGREENS AND 2 ORNAMENTAL TREES FOR EVERY 50-FEET OF BUFFER LENGTH FOR TRANSITION FROM R-4 TO R-1 ZONING. INITIAL TREES SIZES SHALL ALL BE PROVIDED IN ACCORDANCE WITH THE CITY LANDSCAPE REQUIREMENTS. IN ACCORDANCE WITH CITY CODE, PLANTINGS AND BERM GRADING SHALL BE SHIFTED OR ADJUSTED TO AVOID BLOCKING AND ALLOWING MAINTENANCE ON DRAINAGE WAYS, MANHOLES, AND OTHER CITY UTILITIES/FACILITIES.
5. PROPOSED PLAT 10 WARRIOR LANE MEDIAN GROUND COVER AND VEGETATION TO MATCH EXISTING GLYNN VILLAGE WARRIOR LANE MEDIAN GROUND COVER AND VEGETATION TO THE NORTH. SEE PREVIOUSLY APPROVED PLATS 1-9, INCLUSIVE, CONSTRUCTION PLANS FOR ACTUAL LAYOUT.
6. FUTURE ROWHOUSE DEVELOPMENT SIDEWALK AND TRAIL WILL BE CONSTRUCTED WITH ROW HOUSE UNITS AND ARE SUBJECT TO ADJUSTMENT WITH FUTURE PLAT.



TYPICAL WARRIOR LANE LAYOUT

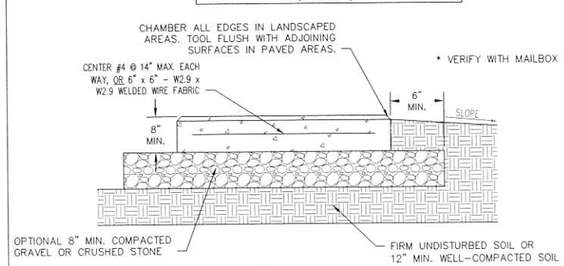
NTS



CLUSTER MAILBOX (CMB) NOTES:
1. CMB SHALL BE PROVIDED AT LOCATION(S) AS NOTED IN 'CMB TABLE A' AND MOUNTED ON PCC PAD WITH MINIMUM REQUIRED NUMBER OF UNITS, PLUS ASSOCIATED PARCEL BOX(S) - MINIMUM OF TWO (2).
2. CMB SHALL BE LOCATED ON THE SIDE OF THE LOT (PROPERTY) LINE WITH A HIGHER ELEVATION, UNLESS OTHERWISE NOTED. DOORS OF CMB SHALL FACE SOUTH OR EAST TO LIMIT IMPACTS OF SNOW AND ICE DURING WINTER WHERE POSSIBLE. MIRROR OR SHIFT TYPICAL LAYOUT AS REQUIRED.
3. ADJUST SLOPE OF ADJACENT FIVE (5) FOOT SIDEWALK PARALLEL TO ROADWAY AT ALL MAILBOX LOCATIONS TO PROVIDE AN ADA COMPLIANT TURNING AREA AND CMB PAD AT 1.5 PERCENT DESIGN SLOPE IN ALL DIRECTIONS.
4. DEVELOPER SHALL BE RESPONSIBLE FOR THE INSTALLATION AND ALL CONSTRUCTION REQUIRED FOR PROPER CMB INSTALLATION.
5. IF DISTANCE FROM BACK OF CURB TO MAILBOX PAD IS 18 INCHES OR LESS, THEN INCREASE MAILBOX PAD TO BACK OF CURB.
6. THE LOCATION AND NUMBER OF CLUSTER MAILBOX UNITS WILL BE COORDINATED AND FINALIZED WITH THE CITY AND USPS.
7. PER THE CITY, ALL CMU'S WILL BE ORDERED AND SUPPLIED BY THE USPS; AND INSTALLED AT CITY DEFINED LOCATIONS.

CMB TABLE A:

Shared Lot Line	Min. No. Units
68/69	SEE NOTE 7
73/74	SEE NOTE 7
79/80	SEE NOTE 7
83/84	SEE NOTE 7
89/90	SEE NOTE 7
96/97	SEE NOTE 7
101/102	SEE NOTE 7
106/107	SEE NOTE 7
123/124	SEE NOTE 7
129/130	SEE NOTE 7
135/136	SEE NOTE 7



SECTION A-A

* VERIFY WITH MAILBOX CLUSTER MANUFACTURER.

NOTES:
1. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60; MINIMUM 3" CLEARANCE; AND BE DEFORMED, UNLESS NOTED OTHERWISE.
2. CONCRETE SHALL BE C-4 MIX WITH MINIMUM 4,000 PSI @ 28 DAYS; 4-6% AIR ENTRAINMENT; AND 3-1/2 TO 4-1/2 INCHES OF SLUMP.
3. PROVIDE SEALED 1/2" EXPANSION/ISOLATION JOINT ALONG ADJOINING PAVED SURFACES, OR AS DIRECTED.
4. BROOM FINISH CONCRETE, TYPICAL; OR MATCH ADJOINING PAVED SURFACES.
5. SEE PLANS FOR ADDITIONAL GRADING INFORMATION.

MAILBOX CLUSTER DETAIL

NTS

GLYNN VILLAGE PLAT 10 - DETAILS I

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE:	AS NOTED	DESIGNED BY:	JRK
DWG:	15-013-DTL-1.dwg	CHECKED BY:	DJS
FIELD BOOK:		SHEET 87 OF 100	

DRAWN BY: PJV
DATE: 02/24/2016
FILE NO.: 15-013

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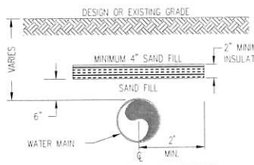
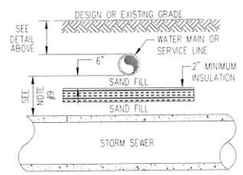


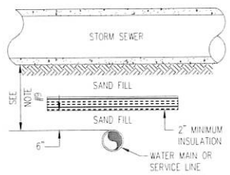
SHALLOW BURY CONDITIONS
NO SCALE

MINIMUM WIDTH OF INSULATION BETWEEN WATER MAIN AND STORM SEWER

STORM SEWER	WATER LINE	
	1" TO 4"	6" TO 12"
12" TO 48"	2'	4'
54" & LARGER	4'	8'



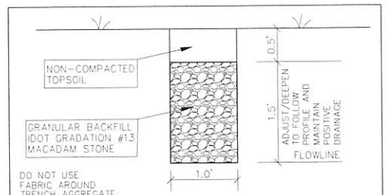
STORM SEWER CROSSING BELOW
NO SCALE



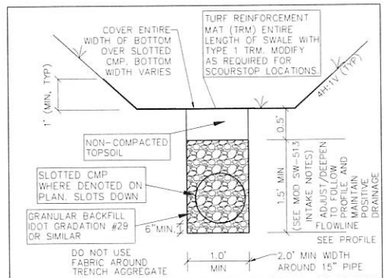
STORM SEWER CROSSING ABOVE
NO SCALE

NOTES:
1. INSULATION SHALL BE CENTERED ON THE PIPE.
2. RIGID, EXTRUDED POLYSTYRENE BOARD INSULATION, CLOSED CELL (DOW CHEMICAL) OR APPROVED EQUAL.
3. THERMAL RESISTANCE (R): 5.0.
4. MINIMUM THICKNESS: 2 INCHES.
5. BOARD SIZE: 48"x96".
6. COMPRESSIVE STRENGTH: MINIMUM 25 psi.
7. WATER ABSORPTION IN ACCORDANCE WITH ANSI/ASTM D2842: 0.1 PERCENT BY VOLUME, MAXIMUM.
8. EDGES: SQUARE.
9. ALL STORM SEWER CONFLICTS OR INTERSECTIONS SHALL BE INSULATED AS APPROVED BY FIELD ENGINEER TO EQUATE TO 7 FEET OF MINIMUM COVER (1 INCH CLOSED CELL INSULATION = 1 FOOT OF SOIL).
10. INSULATION LENGTH ALONG WATER LINE SHALL BE A MINIMUM OF 4 FEET GREATER THAN THE OUTSIDE DIAMETER OF THE STORM SEWER PIPE.

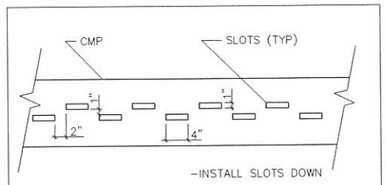
INSULATION DETAIL
N.T.S.



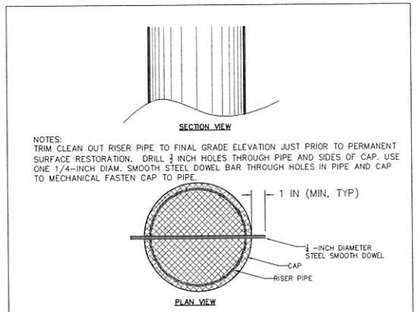
GRANULAR TRENCH TYPICAL SECTION
NOT TO SCALE



GRANULAR SUBDRAIN TRENCH TYPICAL SECTION
NOT TO SCALE

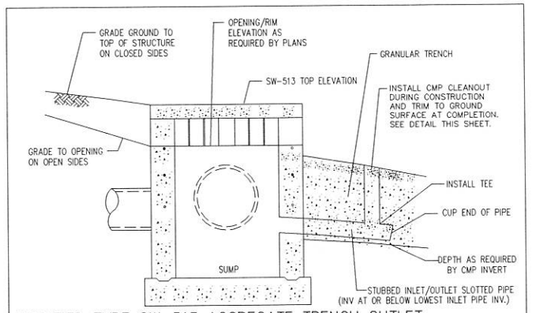


SLOTTED PIPE DETAIL
NOT TO SCALE

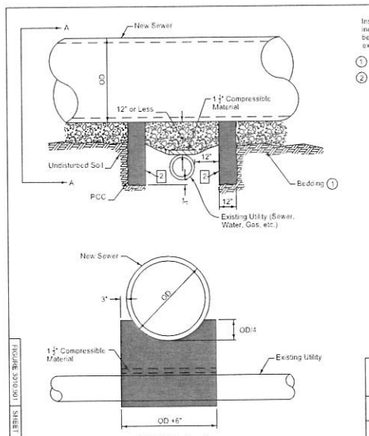


NOTES:
TRIM CLEAN OUT RISER PIPE TO FINAL GRADE ELEVATION JUST PRIOR TO PERMANENT SURFACE RESTORATION. DRILL 1/4 INCH HOLES THROUGH PIPE AND SIDES OF CAP. USE ONE 1/4-INCH DIAM. SMOOTH STEEL DOWEL BAR THROUGH HOLES IN PIPE AND CAP TO MECHANICAL FASTEN CAP TO PIPE.

CMP CLEANOUT
NOT TO SCALE



MODIFIED TYPE SW-513 AGGREGATE TRENCH OUTLET
(F.K.A. AREA TYPE "M-G" OUTLET)
NOT TO SCALE



Install pipe support for all new sewers 12 inches in diameter or larger when clearance between bottom of new sewer and top of existing line is 12 inches or less.

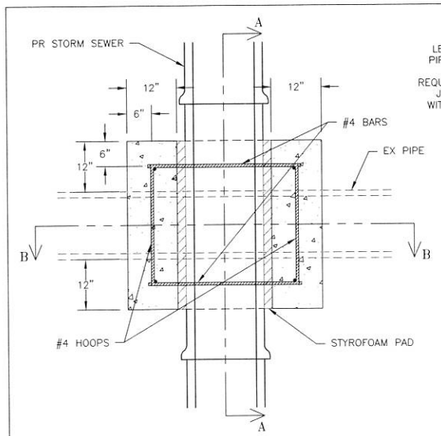
1. Comply with Figure 3010.101.
2. Form interior surface of footings. Keep the 12 inch utility clear zone free of concrete.

OD = Outside pipe diameter

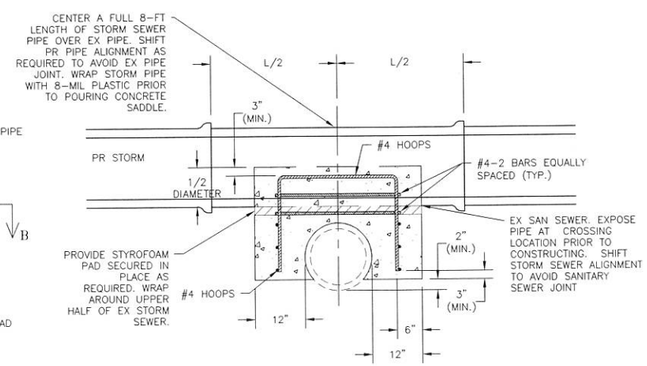
SECTION A-A

SEWER PIPE SUPPORT OVER EXISTING UTILITY LINE

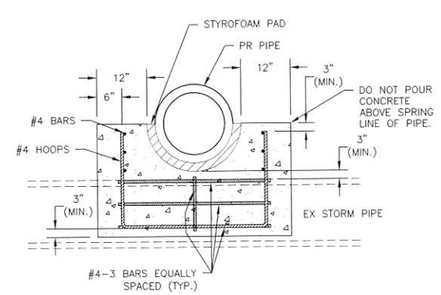
3010.901



PLAN
NOT TO SCALE

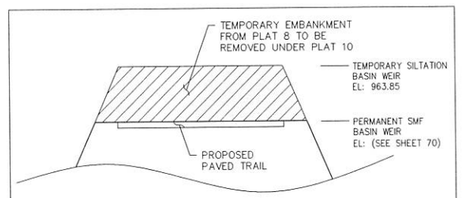


SECTION A-A
NOT TO SCALE



SECTION B-B
NOT TO SCALE

PIPE CROSSING - CONCRETE
NOT TO SCALE



SMF 'EAST/8E' PLAT 8
WEIR EMBANKMENT SECTION
NOT TO SCALE

NOTES:
1. SEE SWPPP FOR ADDITIONAL INFORMATION.
2. CONSTRUCTION SEQUENCE.
   2.1. ADD NEW OUTFALL PIPING AND STRUCTURES.
   2.2. RESHAPE/MODIFY EXISTING DETENTATION BASIN TO FINAL CONDITIONS.
   2.3. REMOVE TEMPORARY EMBANKMENT TO FINAL GRADE.
   2.4. CONSTRUCT AND PAVE TRAIL.
   2.5. INSTALL SLOPE TRM WHEN CONVERTING SILTATION BASIN TO SMF.
3. MINIMUM WEIR LENGTH AT EACH ELEVATION - 120'
4. COVER UNPAVED EMBANKMENT WITH TRM.

GLYNN VILLAGE PLAT 10 - DETAILS 2

NO.	REVISION	DATE	BY	FOR:

LOCATION:
SCALE: AS NOTED
DWG: 15-013-DTL-1.dwg
FIELD BOOK:
DESIGNED BY: JRK
CHECKED BY: DJS
SHEET 88 OF 100
DRAWN BY: PJV
DATE: 02/24/2016
FILE NO.: 15-013

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2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

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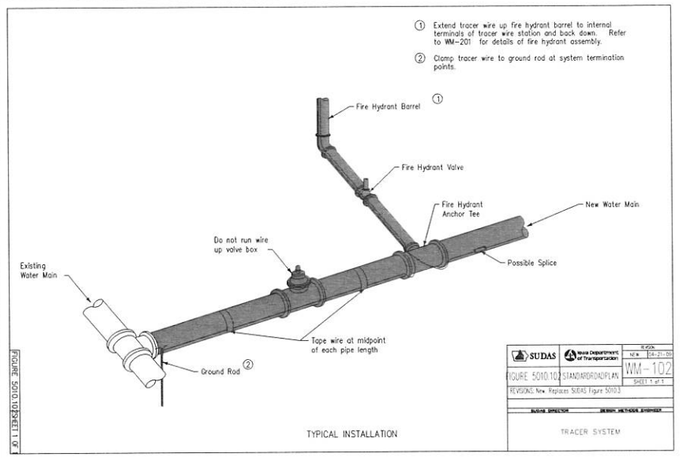
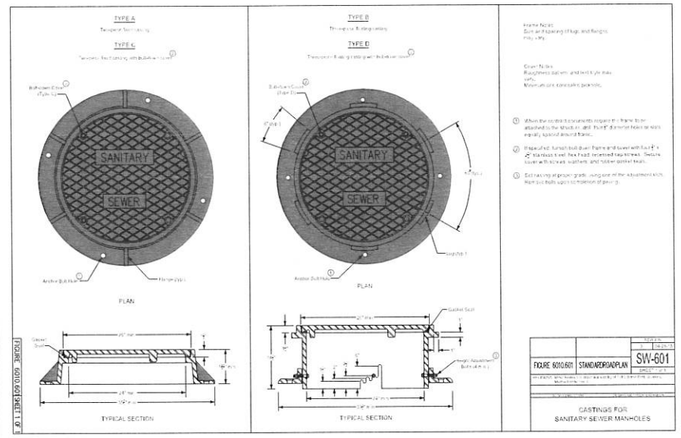
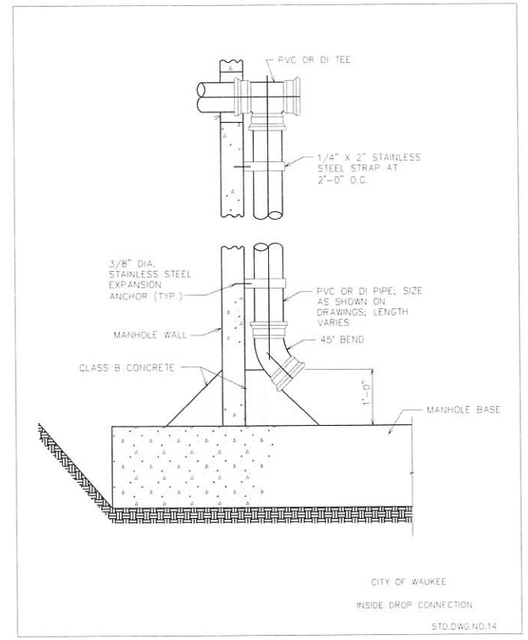
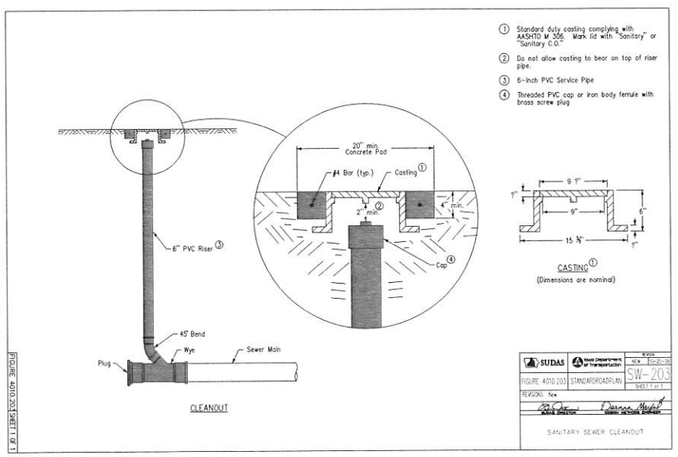
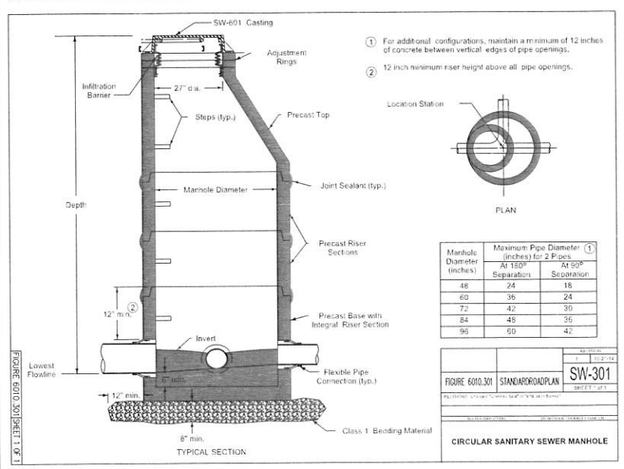


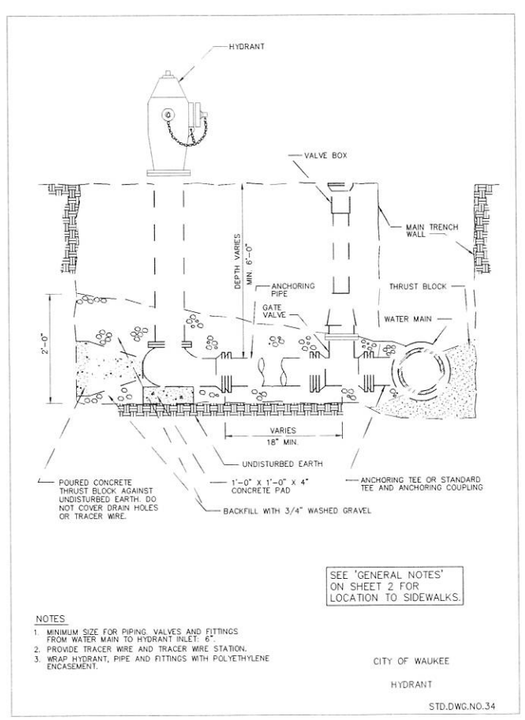




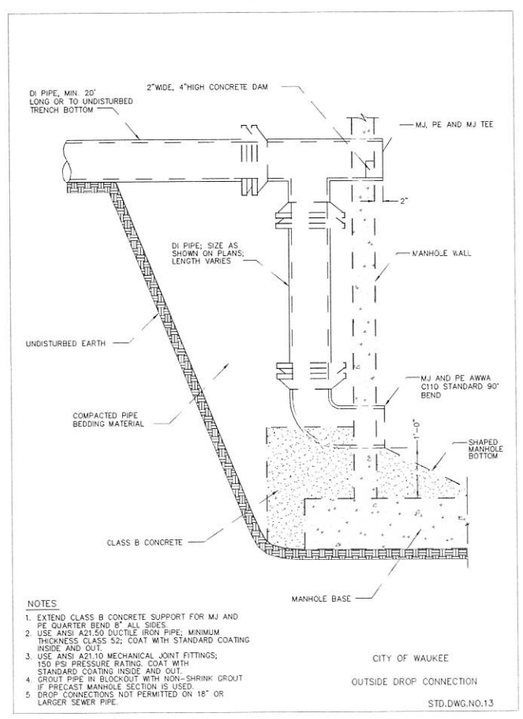




Manhole Diameter (inches)	Maximum Pipe Diameter (inches) for 2 Pipes ① At 180° Separation	At 90° Separation
48	24	18
60	36	24
72	42	30
84	48	36
96	60	42

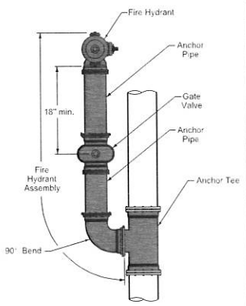


NOTES:
1. MINIMUM SIZE FOR PIPING, VALVES AND FITTINGS FROM WATER MAIN TO HYDRANT INLET: 6".
2. PROVIDE TRACER WIRE AND TRACER WIRE STATION.
3. WRAP HYDRANT, PIPE AND FITTINGS WITH POLYETHYLENE ENCASEMENT.



NOTES:
1. EXTEND CLASS B CONCRETE SUPPORT FOR MJ AND PE QUARTER BEND 8" ALL SIDES.
2. USE ANSI A21.50 DUCTILE IRON PIPE; MINIMUM THICKNESS CLASS 52; COAT WITH STANDARD COATING INSIDE AND OUT.
3. USE ANSI A21.10 MECHANICAL JOINT FITTINGS; 150 PSI PRESSURE RATING. COAT WITH STANDARD COATING INSIDE AND OUT.
4. GROUT PIPE IN BLOCKOUT WITH NON-SHRINK GROUT IF PRECAST MANHOLE SECTION IS USED.
5. DROP CONNECTIONS NOT PERMITTED ON 18" OR LARGER SEWER PIPE.

Use ductile iron pipe with restrained mechanical joints for fire hydrant assembly and anchor tee.



SUDAS WM-201 - ALTERNATE PLAN

GLYNN VILLAGE PLAT 10 - DETAILS 3

NO.	REVISION	DATE	BY	FOR:

LOCATION:

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FIELD BOOK:	SHEET 89 OF 100	FILE NO.: 15-013	

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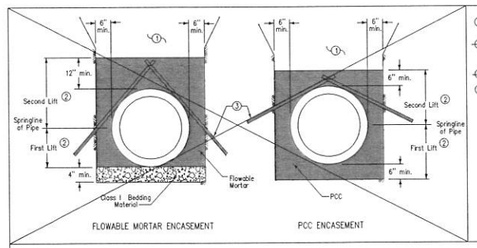
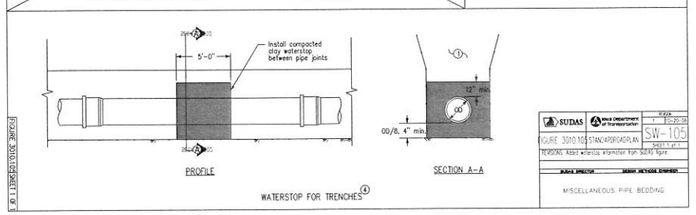


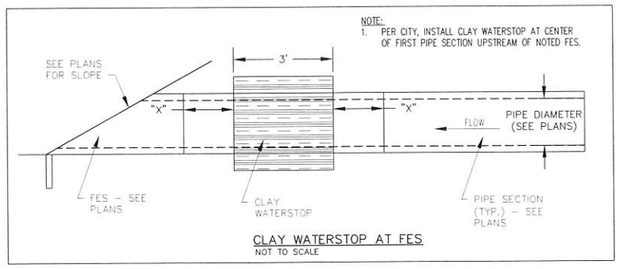
① Place remainder of bedding and backfill material as specified in the contract documents.

~~② Place encasement material in two lifts, or as required to prevent pipe flotation. Allow previous lift to reach initial set prior to placing subsequent lift.~~

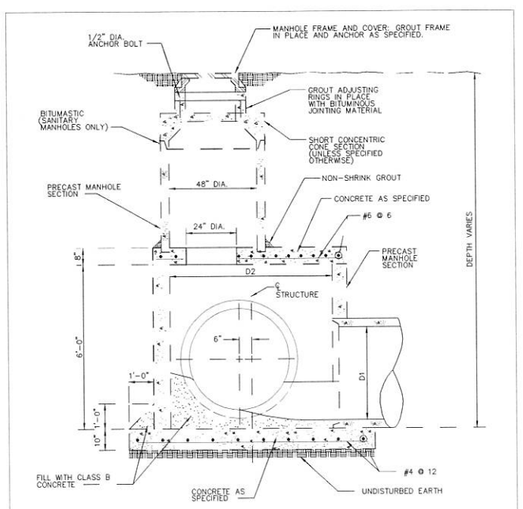
~~③ Restrain pipe as necessary to prevent flotation.~~

④ When specified in the contract documents, install waterstops at a nominal spacing of 800 feet or at locations as specified by the Engineer.





CLAY WATERSTOP AT FES
NOT TO SCALE

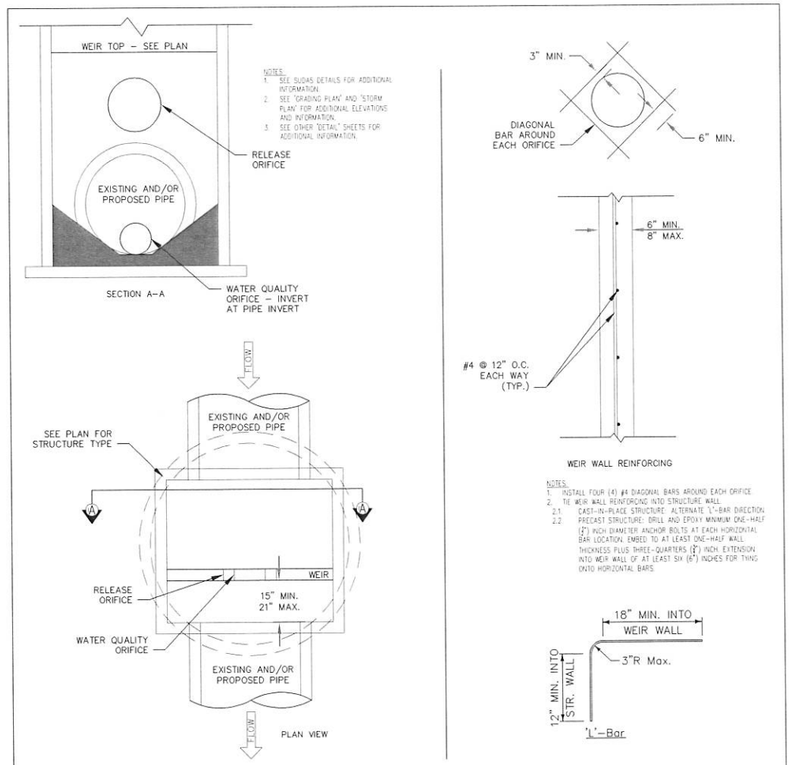


NOTES

1. SLOPE CONCRETE FILL 1/4 D1 MINIMUM TO INVERT OF OUTLET PIPE.
2. FOR PIPES LARGER THAN 48" USE TEE SECTION MANHOLE. USE CURVED PIPE IF SEWER CHANGES DIRECTION.
3. PROVIDE MANHOLE STEPS FOR SANITARY MANHOLE ONLY. IF SPECIFIED.
4. SET MANHOLE COVER FLUSH WITH GROUND UNLESS SHOWN OR SPECIFIED OTHERWISE.
5. FOR SANITARY SEWERS, PROVIDE JOINT IN ALL PIPES WITHIN 2' OF MANHOLE WALL OR FLEXIBLE GASKET IN MANHOLE WALL.
6. IF JOINTS ARE PROVIDED FOR SANITARY SEWERS OR MANHOLE IS USED FOR STORM SEWER, GROUT PIPE IN BLOCKOUT WITH NON-SHRINK GROUT.
7. PROVIDE CHIMNEY SEAL ALL SANITARY MANHOLES.

DIAMETER D2	MAXIMUM D1
60"	36"
66"	42"
78"	48"

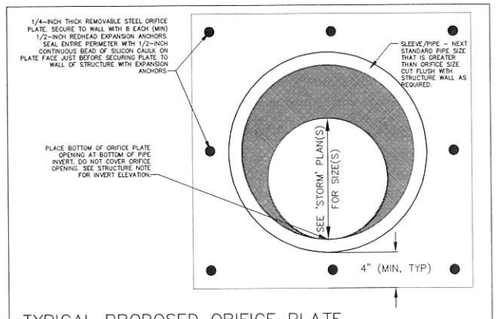
CITY OF WAUKEE
SPECIAL MANHOLE
STD.DWG.NO.11



NOTES:
1. SEE SUDAS DETAILS FOR ADDITIONAL INFORMATION.
2. SEE 'GRADING PLAN' AND 'STORM PLAN' FOR ADDITIONAL ELEVATIONS AND INFORMATION.
3. SEE OTHER 'DETAIL' SHEETS FOR ADDITIONAL INFORMATION.

NOTES:
1. INSTALL FOUR (4) #4 DIAGONAL BARS AROUND EACH ORIFICE
2. TIE WEIR WALL REINFORCING INTO STRUCTURE WALL
   2.1. CAST-IN-PLACE STRUCTURE: ALTERNATE 'L'-BAR DIRECTION.
   2.2. PRECAST STRUCTURE: DRILL AND EPOXY MINIMUM ONE-HALF (1/2) INCH DIAMETER ANCHOR BOLTS AT EACH HORIZONTAL BAR LOCATION. EMBED TO AT LEAST ONE-HALF WALL THICKNESS PLUS THREE-QUARTERS (3/4) INCH EXTENSION INTO WEIR WALL OF AT LEAST SIX (6") INCHES FOR TYING ONTO HORIZONTAL BARS.

CONTROL STRUCTURE MANHOLE WITH ORIFICE AND WEIR ON EXISTING AND/OR PROPOSED PIPE
NOT TO SCALE



TYPICAL PROPOSED ORIFICE PLATE DETAIL AT BASIN(S)
NOT TO SCALE

GLYNN VILLAGE PLAT 10 - DETAILS 4

SCALE: AS NOTED	DESIGNED BY: JRK	DRAWN BY: PJV	
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WITH PLAT 8 TEMPORARY EMBANKMENT ON 'EAST/BE' BASIN

1. Barrel length and diameter as specified in the contract documents.
2. Riser pipe and basin dewatering device. See Figure 9040.115.
3. Anti-vortex device. See Figure 9040.116.

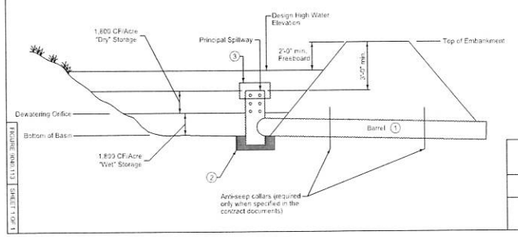


FIGURE 9040.113 | SHEET 1 OF 2

9040.113

SEDIMENT BASIN WITHOUT EMERGENCY SPILLWAY

AFTER REMOVAL OF PLAT 8 TEMPORARY EMBANKMENT ON 'EAST/BE' BASIN AND FOR 'BAILEY WEST' BASIN

1. Barrel length and diameter as specified in the contract documents.
2. Riser pipe and basin dewatering device. See Figure 9040.115.
3. Anti-vortex device. See Figure 9040.116.

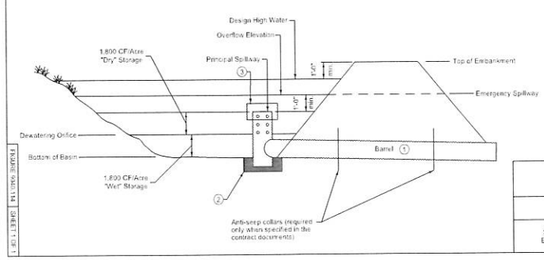


FIGURE 9040.114 | SHEET 1 OF 2

9040.114

SEDIMENT BASIN WITH EMERGENCY SPILLWAY

Elevations and dimensions not given are as specified in the contract documents.

1. Drill four, 5/8 inch diameter holes, 3 inches from bottom of riser pipe and insert two, #4 bars in an "X" configuration. Length of bars = D+16 inches
2. Provide perforation configuration as specified in the contract documents.

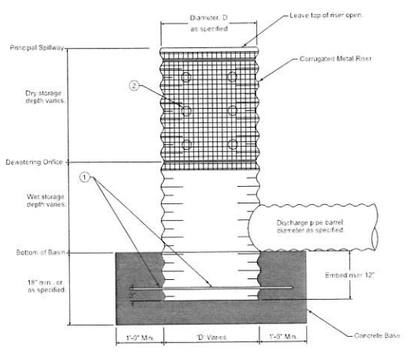
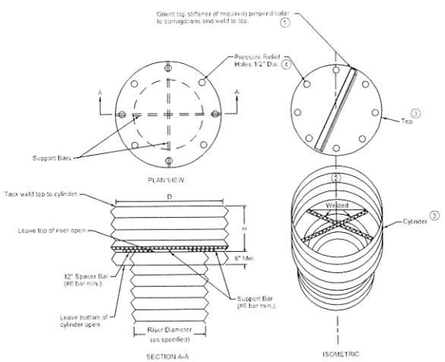


FIGURE 9040.115 | SHEET 1 OF 1

9040.115

SEDIMENT BASIN DEWATERING DEVICE (PERFORATED RISER)

Orient top stiffener of required perpendicular to corrugations and weld to top. (1)



Alternate anti-vortex device configurations may be utilized upon approval of the Engineer.

1. See sheet 2 for dimensions of cylinder support bars, top plate, and top stiffener.
2. Firmly attach the anti-vortex cylinder to the top of the riser by welding or other means.
3. Corrugated metal or 1/8 inch steel plate cylinder and top.
4. Pressure relief holes may be omitted if ends of corrugations are left fully open when the top is attached.

FIGURE 9040.116 | SHEET 1 OF 2

9040.116

ANTI-VORTEX DEVICE

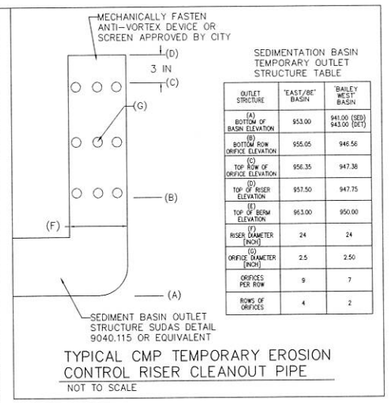
RISER	CYLINDER				MINIMUM TOP	
Diameter (in.)	Diameter (in.)	Thickness (GRMS)	Height (ft) (in.)	Minimum Size Support Bar	Thickness	Stiffener
12	18	16	6	#6 rebar or 1 1/2" X 3/16" angle	16 ga F & C	----
15	21	16	7	#6 rebar or 1 1/2" X 3/16" angle	16 ga F & C	----
18	27	16	8	#6 rebar or 1 1/2" X 3/16" angle	16 ga F & C	----
21	30	16	11	#6 rebar or 1 1/2" X 3/16" angle	16 ga (C) 14 ga (F)	----
24	36	16	13	#6 rebar or 1 1/2" X 3/16" angle	16 ga (C) 14 ga (F)	----
27	42	16	15	#6 rebar or 1 1/2" X 3/16" angle	16 ga (C) 14 ga (F)	----
30	54	16	17	#8 rebar	14 ga (C) 12 ga (F)	----
42	69	16	19	#8 rebar	14 ga (C) 12 ga (F)	----
48	72	16	21	1 1/4" pipe or 1 1/4" X 1 1/4" X 1/4" angle	14 ga (C) 10 ga (F)	----
54	78	16	25	1 1/4" pipe or 1 1/4" X 1 1/4" X 1/4" angle	14 ga (C) 10 ga (F)	----
60	90	14	29	1 1/2" pipe or 1 1/2" X 1 1/2" X 1/4" angle	12 ga (C) 8 ga (F)	----
66	96	14	33	2" pipe or 2" X 2" X 1/4" angle	12 ga (C) 8 ga (F)	2" X 2" X 1/4" angle
72	102	14	36	2" pipe or 2" X 2" X 1/4" angle	12 ga (C) 8 ga (F)	2 1/2" X 2 1/2" X 1/4" angle
78	114	14	39	2 1/2" pipe or 2" X 2" X 1/4" angle	12 ga (C) 8 ga (F)	2 1/2" X 2 1/2" X 1/4" angle
84	120	12	42	2 1/2" pipe or 2" X 2" X 1/4" angle	12 ga (C) 8 ga (F)	2 1/2" X 2 1/2" X 5/16" angle

Notes:

1. The criterion for sizing the cylinder is that the area between the inside of the cylinder and the outside of the riser is equal to or greater than the area inside the riser. Therefore, the above table is invalid for use with concrete pipe risers.
2. C - Corrugated F - Flat

9040.116

ANTI-VORTEX DEVICE

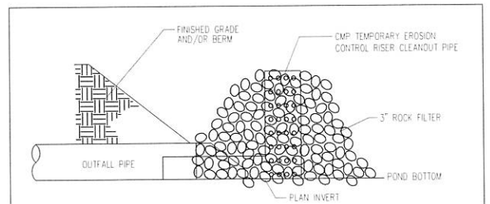


SEDIMENTATION BASIN TEMPORARY OUTLET STRUCTURE TABLE

OUTLET STRUCTURE	'EAST/BE' BASIN	'BAILEY WEST' BASIN
(A) BOTTOM OF BASIN ELEVATION	953.00	941.00 (SED) 943.00 (DET)
(B) BOTTOM ROW ORIFICE ELEVATION	955.05	946.56
(C) TOP ROW OF ORIFICE ELEVATION	956.35	947.38
(D) TOP OF RISER ELEVATION	957.50	947.75
(E) TOP OF BERM ELEVATION	963.00	950.00
(F) RISER DIAMETER (INCH)	24	24
(G) ORIFICE DIAMETER (INCH)	2.5	2.50
ORIFICES PER ROW	9	7
ROWS OF ORIFICES	4	2

TYPICAL CMP TEMPORARY EROSION CONTROL RISER CLEANOUT PIPE

NOT TO SCALE



OUTFALL TEMPORARY SILTATION DETAIL

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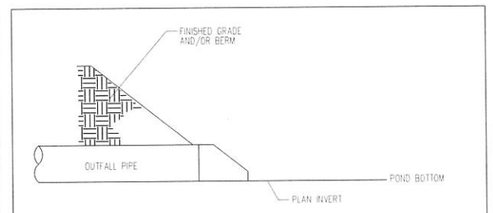
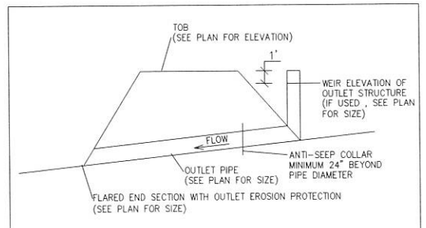


OUTFALL AFTER UPSTREAM STABILIZATION DETAIL

N.T.S.



SMF OUTLET PIPE AND BERM TYPICAL

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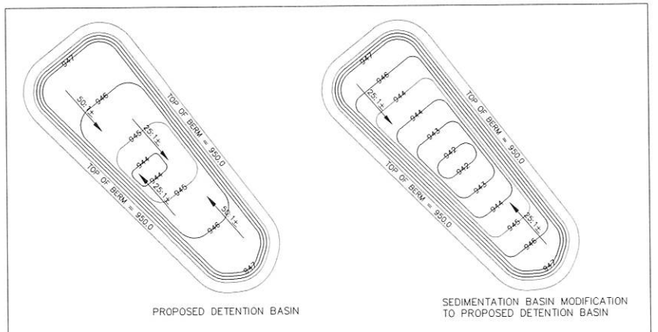

'BAILEY WEST' SEDIMENTATION/DETENTION BASIN

N.T.S.

GLYNN VILLAGE PLAT 10 - DETAILS 5

SCALE: AS NOTED	DESIGNED BY: JRK	DRAWN BY: PJV	
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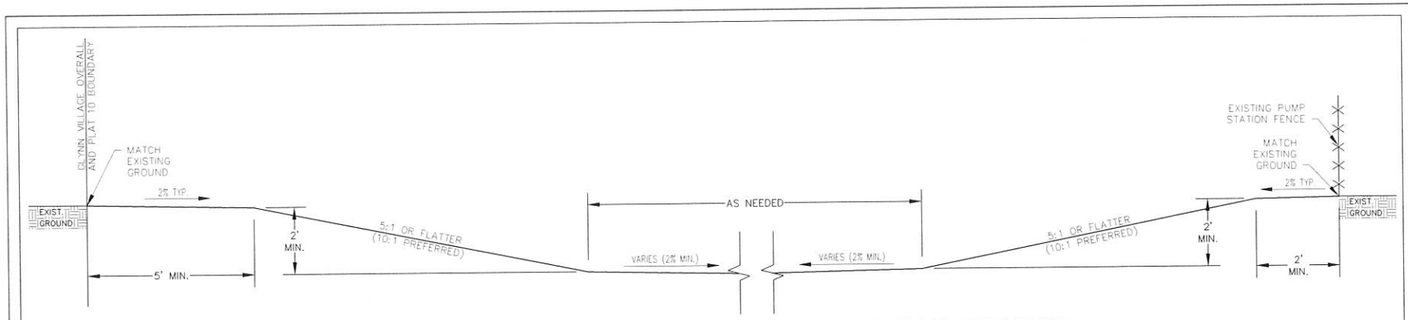

POTENTIAL BORROW AREA – EAST-WEST SECTION

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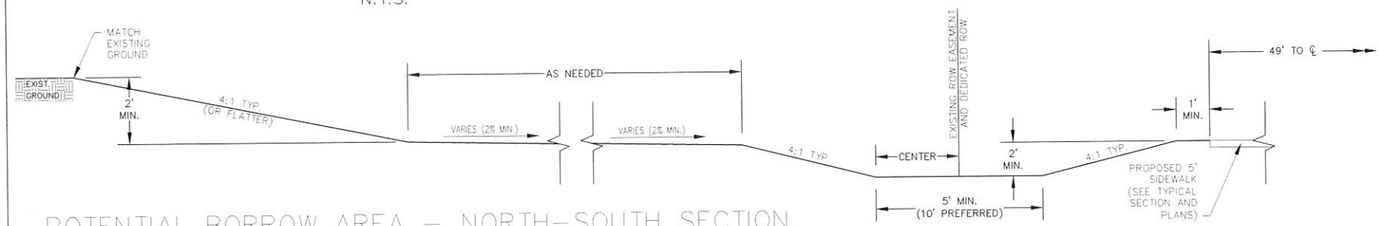
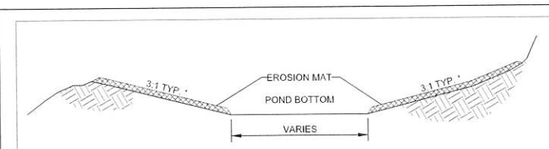


POTENTIAL BORROW AREA – NORTH-SOUTH SECTION

N.T.S.



TYPICAL POND SECTION

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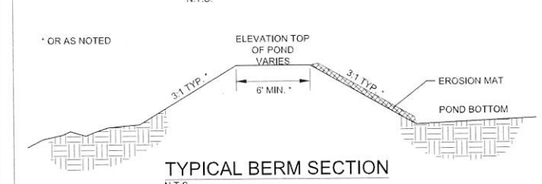

TYPICAL BERM SECTION

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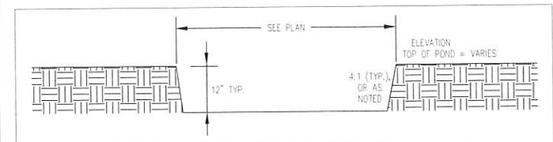
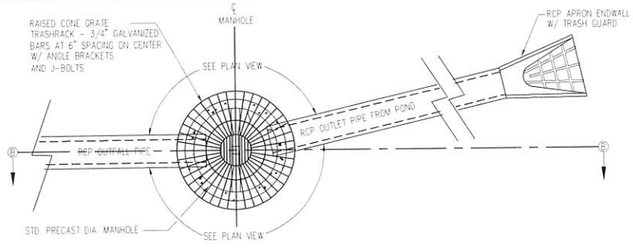


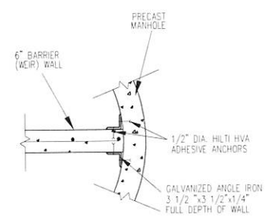
EMERGENCY OVERFLOW/CROSS FLOW WEIR SECTION

N.T.S.



OUTLET STRUCTURE

N.T.S.

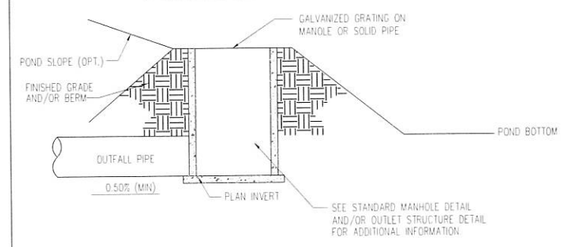


CONNECTION OPTION A

N.T.S.

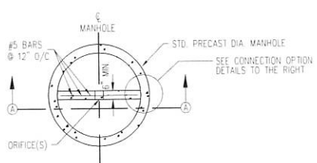
NOTES:

1. PERMANENTLY SECURE COVER TO MANHOLE AND/OR RISER WITH REMOVABLE FASTENERS.
2. USE 1/4" MINIMUM BAR STOCK WITH ON-CENTER SPACINGS OF APPROXIMATELY 4" AND 1 1/4".
3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR GALVANIZED GRATING.



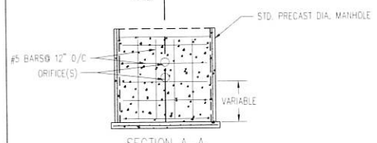
RISER PIPE DETAIL

N.T.S.



PLAN VIEW

N.T.S.

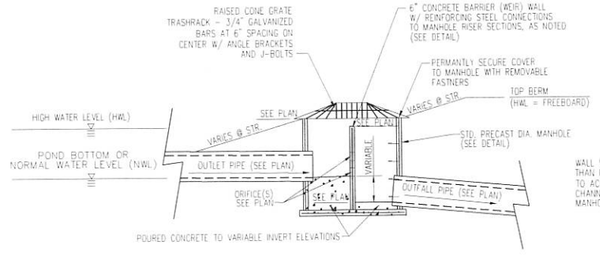


SECTION A–A

N.T.S.

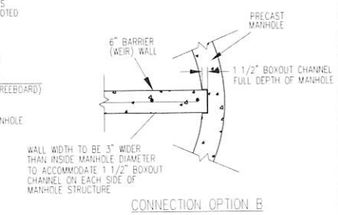
REINFORCED CONCRETE BARRIER (WIER) WALL STRUCTURAL DETAIL

N.T.S.



SECTION B–B

N.T.S.



CONNECTION OPTION B

N.T.S.

TYPICAL DETENTION BASIN OUTLET CONTROL STRUCTURE

N.T.S.

GLYNN VILLAGE PLAT 10 - DETAILS 6

DRAWN BY:	PJV
DESIGNED BY:	JRK
CHECKED BY:	DJS
DATE:	02/24/2016
SCALE:	AS NOTED
DWG:	15-013-DTL-1.dwg
FILE NO.:	15-013
FIELD BOOK:	
SHEET	92 OF 100

LOCATION:

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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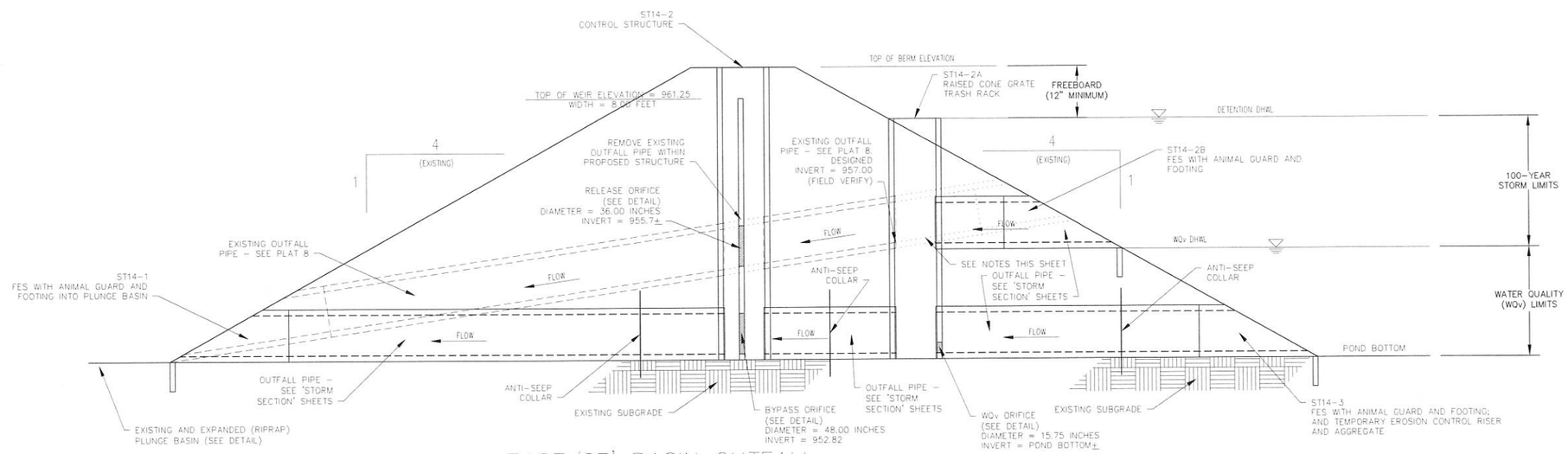
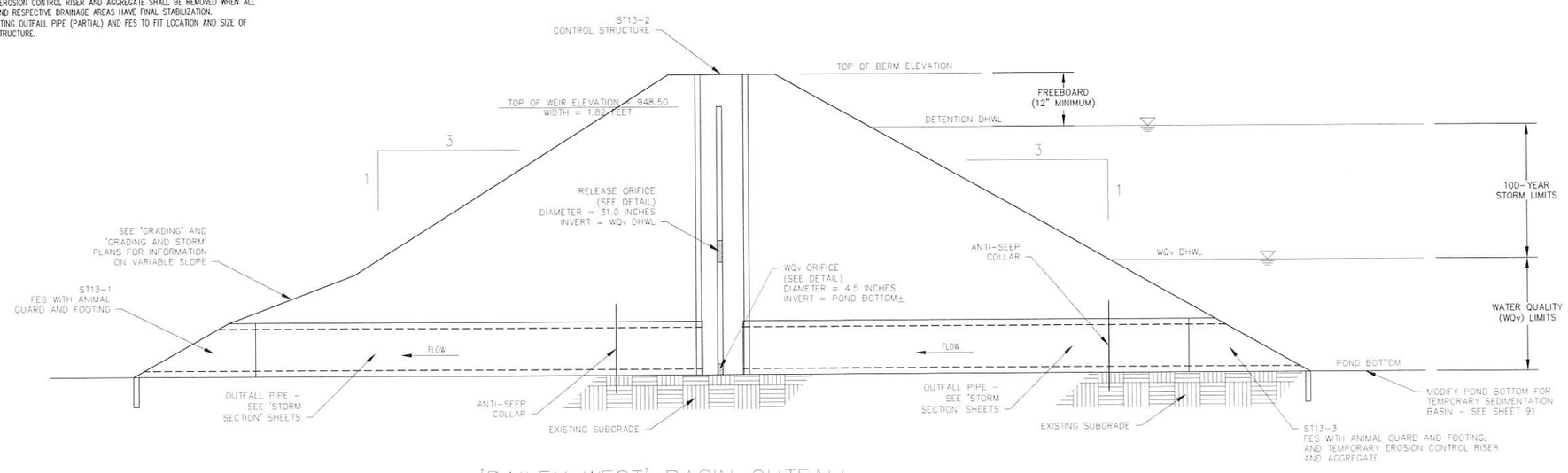


EAST/8E' BASIN OUTFALL

N.T.S.

NOTES:

1. SEE 'GRADING AND STORM' PLAN SHEETS FOR ADDITIONAL INFORMATION.
2. SEE 'STORM SECTION' PLAN SHEETS FOR ADDITIONAL INFORMATION ON PIPE AND STRUCTURE SIZING.
3. SEE 'DETAIL' SHEET 91 FOR ADDITIONAL INFORMATION ON TEMPORARY EROSION CONTROL RISER AND TEMPORARY SEDIMENTATION BASIN.
4. SEE NOTED DETAILS AND OTHER DETAILS FOR ADDITIONAL INFORMATION.
5. 100-YEAR STORM (DETENTION) VOLUME IS VOLUME ABOVE THE WQv VOLUME.
6. TEMPORARY EROSION CONTROL RISER AND AGGREGATE SHALL BE REMOVED WHEN ALL UPSTREAM AND RESPECTIVE DRAINAGE AREAS HAVE FINAL STABILIZATION.
7. REMOVE EXISTING OUTFALL PIPE (PARTIAL) AND FES TO FIT LOCATION AND SIZE OF PROPOSED STRUCTURE.



'BAILEY WEST' BASIN OUTFALL

N.T.S.

GLYNN VILLAGE PLAT 10 - DETAILS 7

NO.	REVISION	DATE	BY	FOR:

LOCATION:

SCALE: AS NOTED
DWG: 15-013-DTL-1.dwg
FIELD BOOK:

DESIGNED BY: JRK
CHECKED BY: DJS
SHEET 93 OF 100

DRAWN BY: PJV
DATE: 02/24/2016
FILE NO.: 15-013

ERG
Engineering Resource Group, Inc.
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2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4252

15-013

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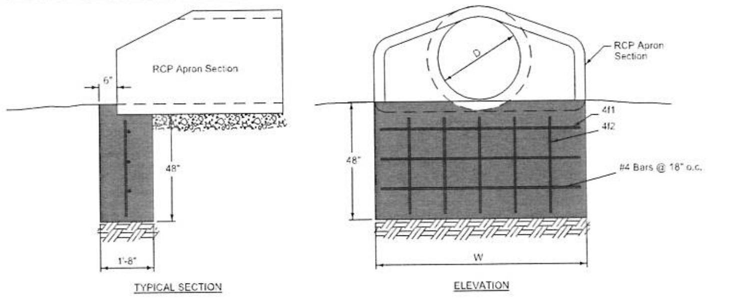


REINFORCING BAR LIST

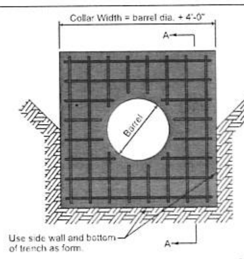
D	W	Mark	Size	Length	Count
12"	2'-4"	4f1	4	2'-0"	3
		4f2	4	3'-8"	2
15"	2'-10 ½"	4f1	4	2'-6 ½"	3
		4f2	4	3'-8"	2
18"	3'-5"	4f1	4	3'-1"	3
		4f2	4	3'-8"	3
24"	4'-6"	4f1	4	4'-2"	3
		4f2	4	3'-8"	3
30"	5'-7"	4f1	4	5'-3"	3
		4f2	4	3'-8"	4
36"	6'-8"	4f1	4	6'-4"	3
		4f2	4	3'-8"	5
42"	7'-3"	4f1	4	6'-11"	3
		4f2	4	3'-8"	5

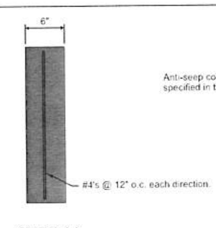
D	W	Mark	Size	Length	Count
48"	7'-10"	4f1	4	7'-6"	3
		4f2	4	3'-8"	6
54"	8'-5"	4f1	4	8'-1"	3
		4f2	4	3'-8"	6
60"	8'-11"	4f1	4	8'-7"	3
		4f2	4	3'-8"	6
66"	8'-11"	4f1	4	8'-7"	3
		4f2	4	3'-8"	6
72"	10'-0"	4f1	4	9'-8"	3
		4f2	4	3'-8"	7
78"	10'-7"	4f1	4	10'-3"	3
		4f2	4	3'-8"	7
84"	11'-1"	4f1	4	10'-9"	3
		4f2	4	3'-8"	8

FIGURE 4030.221 SHEET 1 OF 1

4030.221

RCP APRON SECTION FOOTING





Anti-seep collars are not required unless specified in the contract documents.

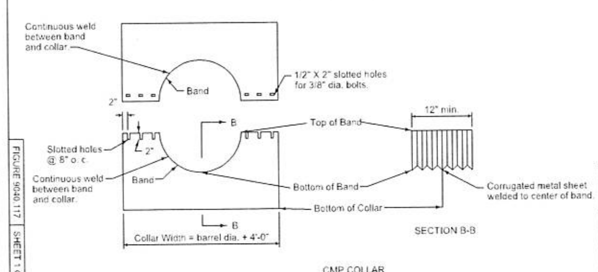
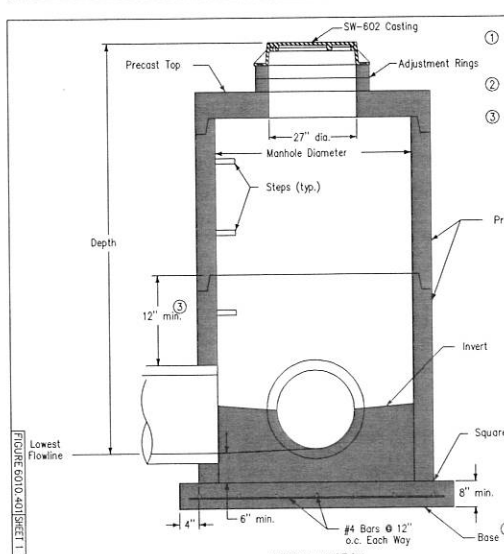


FIGURE 9040.117 SHEET 1 OF 1

9040.117

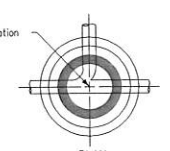
ANTI-SEEP COLLAR



① Cast-in-place base shown. If base is precast integral with bottom riser, the footprint of the base is not required to extend beyond the outer edge of the riser.

② For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.

③ 12 inch minimum riser height above all pipe openings.



Manhole Diameter (inches)	Maximum Pipe Diameter ② (inches) for 2 Pipes	
	At 180° Separation	At 90° Separation
48	24	18
60	36	24
72	42	30
84	48	36
96	60	42

SUDAS | Iowa Department of Transportation | REVISION NEW 04-21-09 | SW-401 | FIGURE 6010.401 | STANDARD ROAD PLAN | SHEET 1 of 1

REVISIONS: New. Replaces SUDAS Type "M-A" Manhole. Will replace RA-50

SUDAS DIRECTOR — DESIGN METHODS ENGINEER

CIRCULAR STORM SEWER MANHOLE

FIGURE 6010.401 SHEET 1 OF 1

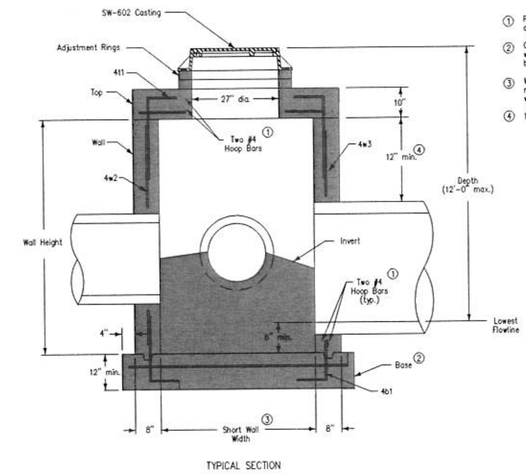
Adjacent walls may have different widths based upon pipe configuration, but structure must be rectangular.

① Provide two #4 hoop bars at top opening and at all pipe openings.

② Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.

③ Wall widths vary with pipe diameter and range from 4 feet minimum to 9 feet maximum. Provide 12 inches of wall width (minimum) each side of pipe opening.

④ 12 inch minimum wall height above all pipes.



SUDAS | Iowa Department of Transportation | NEW 04-21-09 | SW-403 | FIGURE 6010.403 | STANDARD ROAD PLAN | SHEET 1 of 2

REVISIONS: New. Replaces SUDAS Type "M-C" Manhole

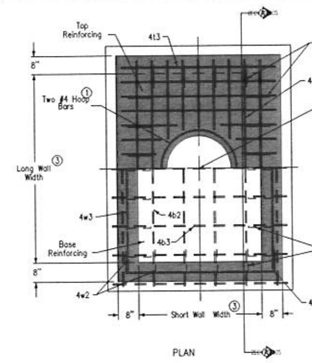
DEEP WELL RECTANGULAR STORM SEWER MANHOLE

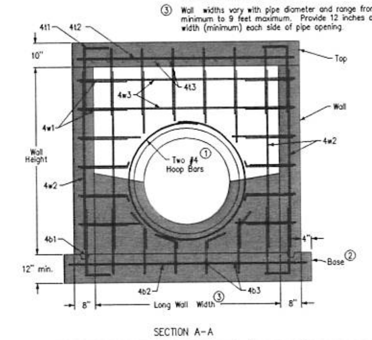
FIGURE 6010.403 SHEET 1 OF 2

① Provide two #4 hoop bars at top opening and at all pipe openings.

② Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of walls.

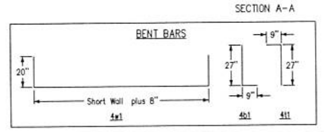
③ Wall widths vary with pipe diameter and range from 4 feet minimum to 9 feet maximum. Provide 12 inches of wall width (minimum) each side of pipe opening.





REINFORCING BAR LIST

Mark	Size	Location	Shape	Length	Spacing
4t1	4	Top	┐	36"	12"
4t2	4	Top	—	Long Wall plus 12"	6"
4t3	4	Top	—	Short Wall plus 12"	6"
4b1	4	Base	└	36"	12"
4b2	4	Base	—	Long Wall plus 18"	12"
4b3	4	Base	—	Short Wall plus 18"	12"
4w1	4	Walls	┌┐	Short Wall plus 48"	12"
4w2	4	Walls	—	Wall Height minus 4"	12"
4w3	4	Walls	—	Long Wall plus 12"	12"



SUDAS | Iowa Department of Transportation | NEW 04-21-09 | SW-403 | FIGURE 6010.403 | STANDARD ROAD PLAN | SHEET 2 of 2

REVISIONS: New. Replaces SUDAS Type "M-C" Manhole

DEEP WELL RECTANGULAR STORM SEWER MANHOLE

FIGURE 6010.403 SHEET 2 OF 2

① For sewer pipes less than 48 inch diameter, install eccentric reducers increasers with a standard tee or utilize a composite tee.

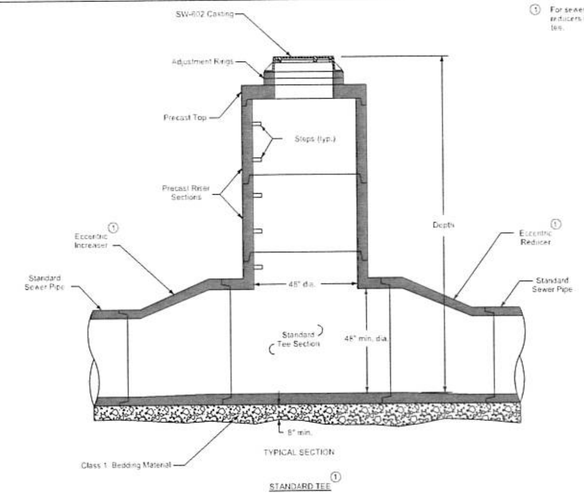
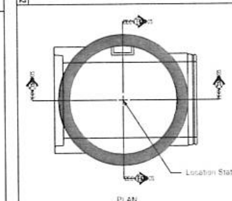
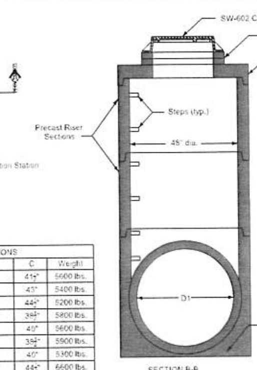


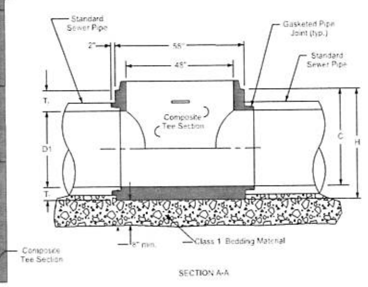
FIGURE 6010.405 | STANDARDROADPLAN | SW-405

TEE-SECTION STORM SECTION MANHOLE

FIGURE 6010.405 SHEET 1 OF 2







COMPOSITE TEE DIMENSIONS

Size	D1	H	T_1	T_2	C	Weight
48" on 12"	12"	50"	8½"	29½"	41½"	5600 lbs.
48" on 15"	15"	50"	7"	28"	43"	5400 lbs.
48" on 18"	18"	50"	5½"	26½"	44½"	5200 lbs.
48" on 21"	21"	48"	9½"	17½"	38½"	5800 lbs.
48" on 24"	24"	48"	8"	16"	40"	5600 lbs.
48" on 27"	27"	48"	9½"	11½"	38½"	5900 lbs.
48" on 30"	30"	46"	8"	10"	40"	5300 lbs.
48" on 33"	33"	54"	9½"	11½"	44½"	6600 lbs.
48" on 36"	36"	54"	8"	10"	46"	6100 lbs.

COMPOSITE TEE

Alternate to standard tee with eccentric reducer (for pipes 36" and smaller).

FIGURE 6010.405 | STANDARDROADPLAN | SW-405

TEE-SECTION STORM SECTION MANHOLE

FIGURE 6010.405 SHEET 2 OF 2

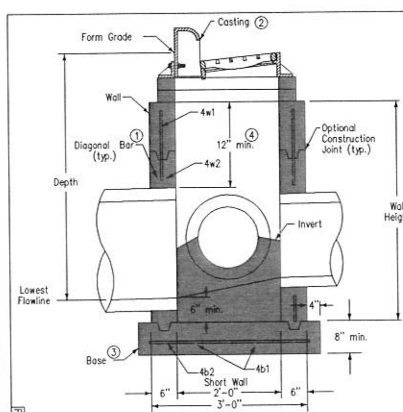
Refer to SW-514 for boxout details.

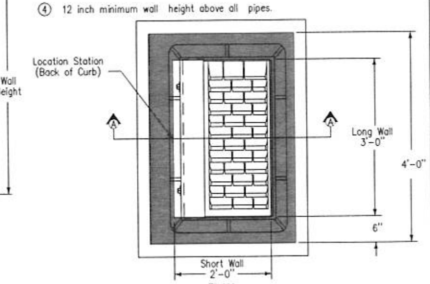
① Install four #4 diagonal bars at all pipe openings.

② SW-603 Type R unless Type Q is specified in the contract documents.

③ Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.

④ 12 inch minimum wall height above all pipes.





REINFORCING BAR LIST

Mark	Size	Location	Shape	Length	Count	Spacing
4w1	4	Walls	——	Wall Height minus 4"	14	12"
4w2	4	Long Walls	——	3'-8"	Varies	12"
4w3	4	Short Walls	——	2'-8"	Varies	12"
4b1	4	Base	——	4'-2"	4	10"
4b2	4	Base	——	3'-2"	5	10"

MAXIMUM PIPE DIAMETERS

Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	15"	18"
Long Wall	24"	30"

SUDAS | Iowa Department of Transportation | REVISION 1 10-16-12 | SW-501 | FIGURE 6010.501 | STANDARD ROAD PLAN | SHEET 1 of 1

REVISIONS: Added reference to SW-514

SUDAS DIRECTOR — DESIGN METHODS ENGINEER

SINGLE GRATE INTAKE

FIGURE 6010.501 SHEET 1 OF 1

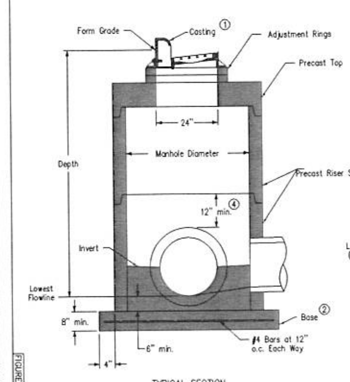
Refer to SW-514 for boxout details.

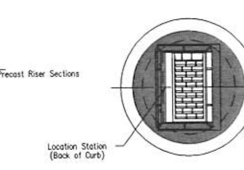
① SW-603 Type R unless Type Q is specified in the contract documents.

② Cast-in-place base shown. Base may be square. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.

③ For additional configurations, maintain a minimum of 12 inches of concrete between vertical edges of pipe openings.

④ 12 inch minimum riser height above all pipes.





Manhole Diameter (inches)	Maximum Pipe Diameter ③ (inches) for 2 Pipes	
	at 180° Separation	at 90° Separation
48	24	18
60	36	24
72	42	30
84	48	36
96	60	42

SUDAS | Iowa Department of Transportation | REVISION 1 10-16-12 | SW-502 | FIGURE 6010.502 | STANDARDROADPLAN | SHEET 1 of 1

REVISIONS: Added reference to SW-514

SUDAS DIRECTOR — DESIGN METHODS ENGINEER

CIRCULAR SINGLE GRATE INTAKE

FIGURE 6010.502 SHEET 1 OF 1

94

GLYNN VILLAGE PLAT 10 - DETAILS 8

SCALE: AS NOTED	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-DTL-1.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 94 OF 100	FILE NO.: 15-013	

LOCATION:

FOR:

NO.	REVISION	DATE	BY

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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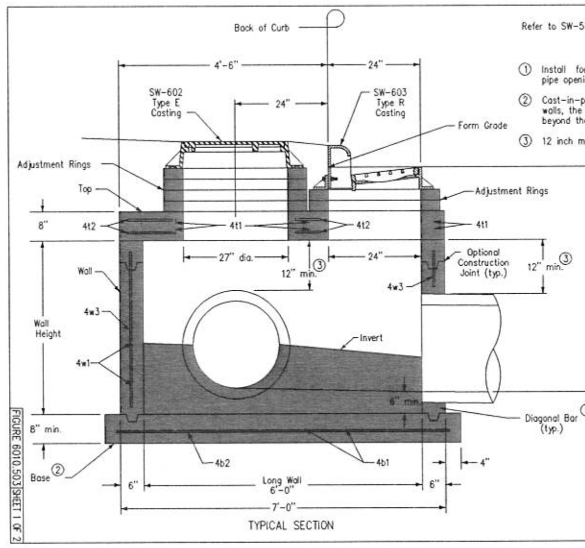


Refer to SW-514 for boxout details.

① Install four #4 diagonal bars at manhole opening and at all pipe openings.

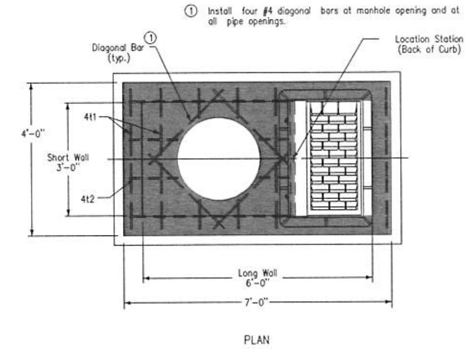
② Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.

③ 12 inch minimum wall height above all pipes.

SUDAS | Iowa Department of Transportation | REVISION 1 10-16-12
FIGURE 6010.503 | STANDARD ROAD PLAN | SW-503 SHEET 1 of 2
REVISIONS: Added reference to SW-514
SUDAS DIRECTOR | DESIGN METHODS ENGINEER
SINGLE GRATE INTAKE WITH MANHOLE

FIGURE 6010.503 SHEET 1 OF 2

① Install four #4 diagonal bars at manhole opening and at all pipe openings.

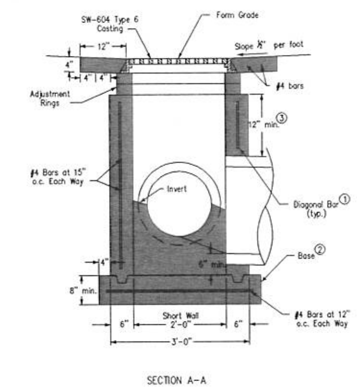


REINFORCING BAR LIST						
Mark	Size	Location	Shape	Count	Length	Spacing
4t1	4	Top	——	12	3'-8"	12"
4t2	4	Top	——	8	4'-2"	12"
4b1	4	Base	——	7	4'-2"	13"
4b2	4	Base	——	5	7'-2"	10"
4w1	4	Short Walls	——	Varies	3'-8"	12"
4w2	4	Long Walls	——	Varies	6'-8"	12"
4w3	4	Walls	——	18	Wall Height minus 4"	13"

MAXIMUM PIPE DIAMETERS		
Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	24"	30"
Long Wall	30"	36"

SUDAS | Iowa Department of Transportation | REVISION 1 10-16-12
FIGURE 6010.503 | STANDARD ROAD PLAN | SW-503 SHEET 2 of 2
REVISIONS: Added reference to SW-514
SUDAS DIRECTOR | DESIGN METHODS ENGINEER
SINGLE GRATE INTAKE WITH MANHOLE

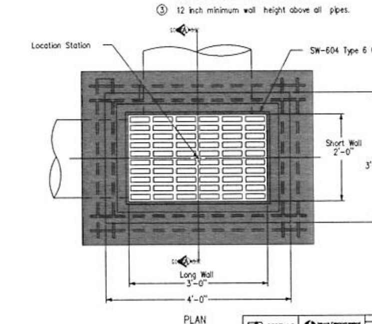
FIGURE 6010.503 SHEET 2 OF 2



① Install four #4 diagonal bars at all pipe openings.

② Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.

③ 12 inch minimum wall height above all pipes.



MAXIMUM PIPE DIAMETERS		
Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	15"	18"
Long Wall	24"	30"

SUDAS | Iowa Department of Transportation | REVISION NEW 04-21-09
FIGURE 6010.511 | STANDARD ROAD PLAN | SW-511 SHEET 1 of 1
REVISIONS: New. Replaces SUDAS Area Type "M-H" Intake
SUDAS DIRECTOR | DESIGN METHODS ENGINEER
RECTANGULAR AREA INTAKE

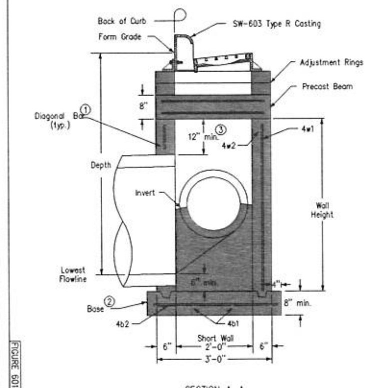
FIGURE 6010.511 SHEET 1 OF 1

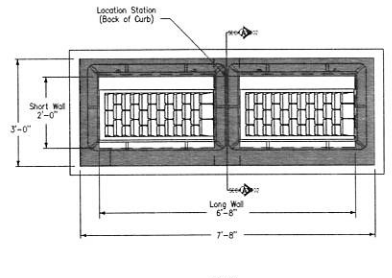
Refer to SW-514 for boxout details.

① Install four #4 diagonal bars at all pipe openings.

② Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.

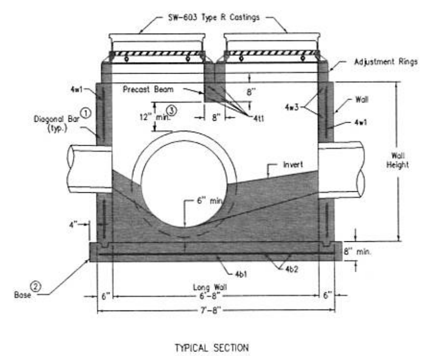
③ 12 inch minimum wall height above all pipes.





SUDAS | Iowa Department of Transportation | REVISION 1 10-16-12
FIGURE 6010.505 | STANDARD ROAD PLAN | SW-505 SHEET 1 of 2
REVISIONS: Added reference to SW-514
SUDAS DIRECTOR | DESIGN METHODS ENGINEER
DOUBLE GRATE INTAKE

FIGURE 6010.505 SHEET 1 OF 2



① Install four #4 diagonal bars at all pipe openings.

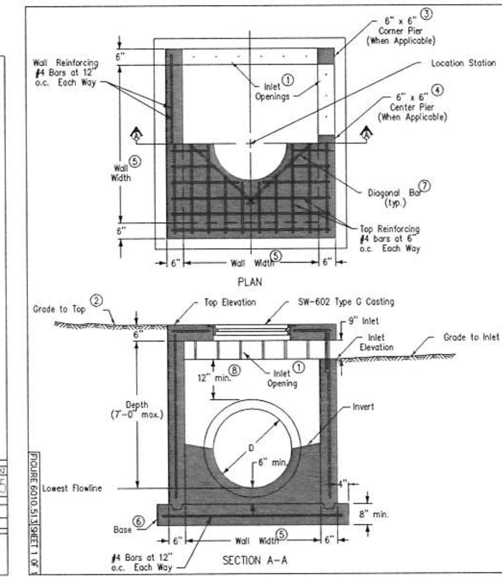
② Cast-in-place base shown. If base is precast integral with walls, the footprint of the base is not required to extend beyond the outer edge of the walls.

③ 12 inch minimum wall height above all pipes.

REINFORCING BAR LIST						
Mark	Size	Location	Shape	Count	Length	Spacing
4t1	4	Beam	——	4	2'-8"	4"
4b1	4	Base	——	4	7'-10"	10"
4b2	4	Base	——	8	3'-2"	12"
4w1	4	Walls	——	20	Wall Height minus 4"	12"
4w2	4	Long Walls	——	Varies	7'-4"	12"
4w3	4	Short Walls	——	Varies	2'-8"	12"

MAXIMUM PIPE DIAMETERS		
Pipe Location	Precast Structure	Cast-in-place Structure
Short Wall	15"	18"
Long Wall	60"	66"

SUDAS | Iowa Department of Transportation | REVISION 1 10-16-12
FIGURE 6010.505 | STANDARD ROAD PLAN | SW-505 SHEET 2 of 2
REVISIONS: Added reference to SW-514
SUDAS DIRECTOR | DESIGN METHODS ENGINEER
DOUBLE GRATE INTAKE



Structure may be built with openings on any or all sides. Provide openings and orientation as specified in the contract documents.

Adjacent walls may have different widths based upon pipe configuration, but structure must be rectangular.

① Construct inlet openings with 15-inch #4 epoxy-coated bars at 8 inches on center. Embed bars a minimum of 3 inches into walls and top at all openings.

② Grade to inlet elevation on open sides. Grade to top elevation on closed sides.

③ Corner pier required between openings of two adjacent walls. Extend wall reinforcing vertically through pier. Install one additional 15-inch #4 bar in pier.

④ Center pier required at center of any inlet opening with length of 5 feet or greater. Extend wall reinforcing vertically through pier. Install one additional 15-inch #4 bar in pier.

⑤ Wall widths vary with pipe diameter. Provide 6 inches of wall width (minimum) each side of pipe opening. Minimum wall width is 36 inches. Maximum wall width is 72 inches.

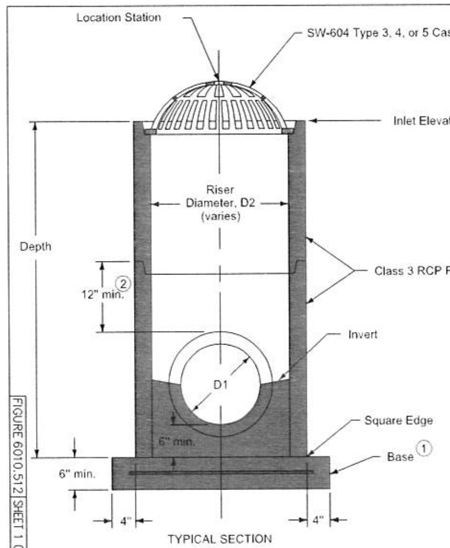
⑥ Cast-in-place base shown. If base is precast integral with walls, the footprint of base is not required to extend beyond the outer edge of the walls.

⑦ Install four #4 diagonal bars at all pipe openings.

⑧ 12" minimum wall height above all pipes.

SUDAS | Iowa Department of Transportation | REVISION NEW 04-21-09
FIGURE 6010.513 | STANDARD ROAD PLAN | SW-513 SHEET 1 of 1
REVISIONS: New. Replaces SUDAS Area Type "M-C" Intake
SUDAS DIRECTOR | DESIGN METHODS ENGINEER
OPEN-SIDED AREA INTAKE

FIGURE 6010.513 SHEET 1 OF 1



① Precast (shown) or cast-in-place base:

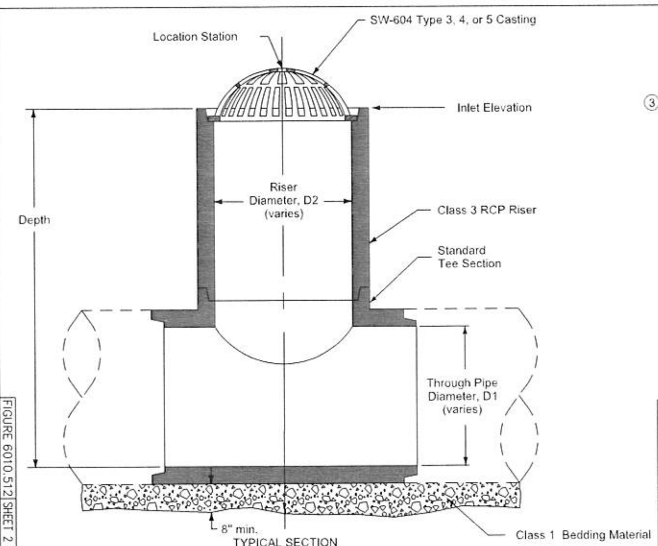
- Precast: 6 inch thick concrete with #6 welded wire mesh on 4 inch centers (WWF 4" x 4"). Center mesh vertically within base.
- Cast-in-place: 8 inch thick non-reinforced concrete.

② 12 inch minimum riser height above all pipes.

INTAKE SIZE - CASE 1	
Outlet Pipe Diameter, D1	Minimum Riser Diameter, D2
12"	18"
15"	24"
18"	24"
21"	30"
24"	30"
27"	36"

REVISION 2 10-21-14
FIGURE 6010.512 | STANDARD ROAD PLAN | SW-512 SHEET 1 of 2
REVISIONS: Deleted the flow arrow on sheet 2.
SUDAS DIRECTOR | DESIGN METHODS ENGINEER
CIRCULAR AREA INTAKE

FIGURE 6010.512 SHEET 1 OF 2

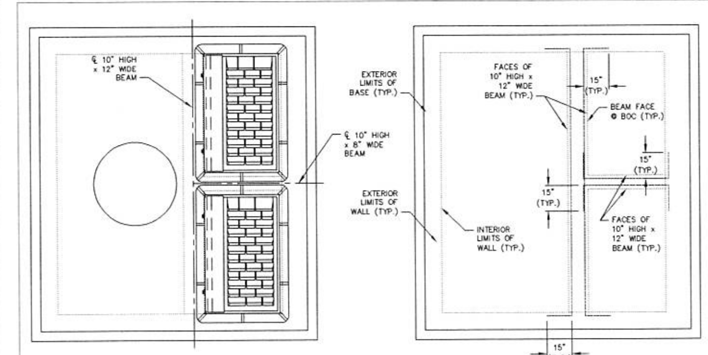


③ Minimum riser diameter is 18 inches.

INTAKE SIZE - CASE 2	
Through Pipe Diameter, D1	Maximum Riser Diameter, D2 ③
18"	18"
21"	18"
24"	24"
27"	24"
30"	30"
36" or more	36"

REVISION 2 10-21-14
FIGURE 6010.512 | STANDARD ROAD PLAN | SW-512 SHEET 2 of 2
REVISIONS: Deleted the flow arrow on sheet 2.
SUDAS DIRECTOR | DESIGN METHODS ENGINEER
CIRCULAR AREA INTAKE

FIGURE 6010.512 SHEET 2 OF 2



NOTES:
1. CONSTRUCT SIMILAR TO SW-503, EXCEPT FOR BEAMS.
2. REINFORCING STEEL IN BEAM CORNERS – 4-#8 BARS @ TWO (2") INCHES FROM EACH FACE.

DOUBLE GRATE INTAKE WITH MANHOLE

N.T.S.

GLYNN VILLAGE PLAT 10 - DETAILS 9

SCALE: AS NOTED	DESIGNED BY: JRK	DRAWN BY: PJV
DWG: 15-013-DTL-1.dwg	CHECKED BY: DJS	DATE: 02/24/2016
FIELD BOOK:	SHEET 95 OF 100	FILE NO.: 15-013

LOCATION:

FOR:

NO.	REVISION	DATE	BY

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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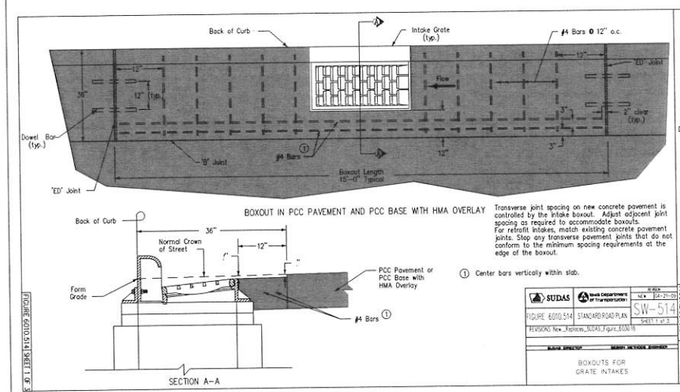


BOXOUT IN PCC PAVEMENT AND PCC BASE WITH HMA OVERLAY

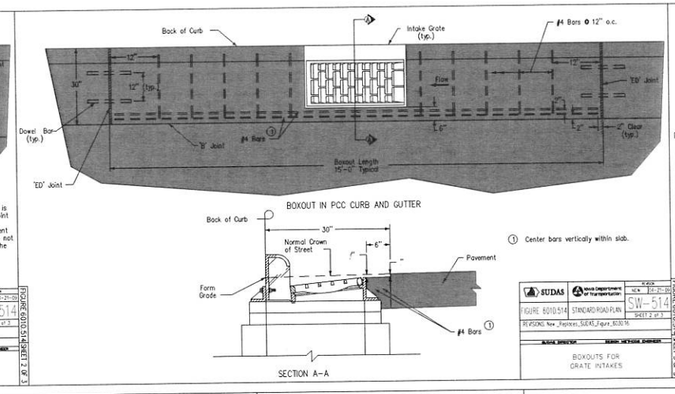
Transverse joint spacing on new concrete pavement is controlled by the intake boxout. Adjust adjacent joint spacing as required to accommodate boxouts.
For retrofit intakes, match existing concrete pavement joints. Stop any transverse pavement joints that do not conform to the minimum spacing requirements at the edge of the boxout.

① Center bars vertically within slab.

SUDAS — Iowa Department of Transportation — REVISED NEW 04-21-10 — FIGURE 6010.514 STANDARD ROAD PLAN — SW-514 — SHEET 1 of 3 — REVISIONS: New _Replaces_SUDAS_Figure_6030.16 — BLOCK DIRECTOR — DESIGN SECTION ENGINEER

BOXOUTS FOR GRATE INTAKES

FIGURE 6010.514 SHEET 1 OF 3



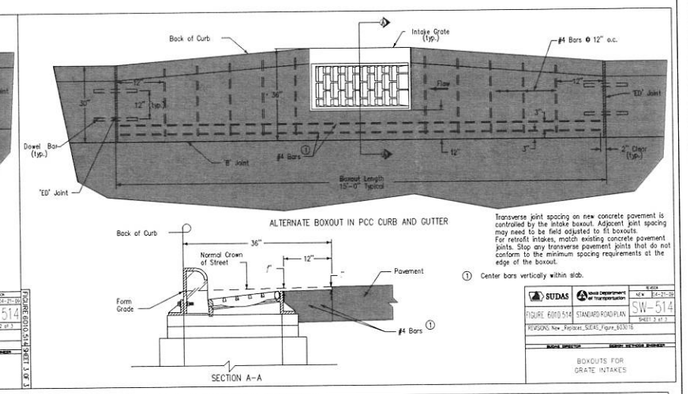
BOXOUT IN PCC CURB AND GUTTER

① Center bars vertically within slab.

SUDAS — Iowa Department of Transportation — REVISED NEW 04-21-10 — FIGURE 6010.514 STANDARD ROAD PLAN — SW-514 — SHEET 2 of 3 — REVISIONS: New _Replaces_SUDAS_Figure_6030.16 — BLOCK DIRECTOR — DESIGN SECTION ENGINEER

BOXOUTS FOR GRATE INTAKES

FIGURE 6010.514 SHEET 2 OF 3



ALTERNATE BOXOUT IN PCC CURB AND GUTTER

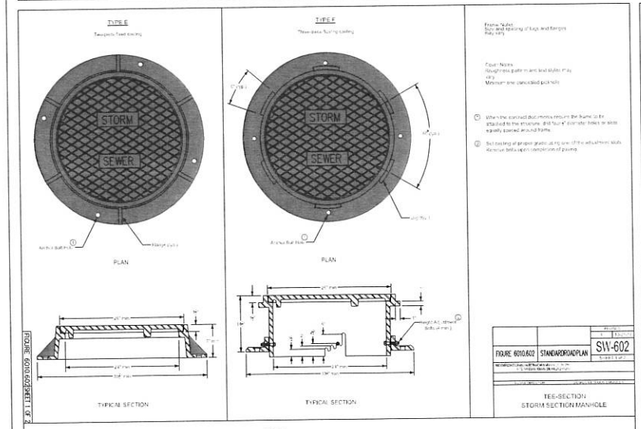
Transverse joint spacing on new concrete pavement is controlled by the intake boxout. Adjacent joint spacing may need to be field adjusted to fit boxouts.
For retrofit intakes, match existing concrete pavement joints. Stop any transverse pavement joints that do not conform to the minimum spacing requirements at the edge of the boxout.

① Center bars vertically within slab.

SUDAS — Iowa Department of Transportation — REVISED NEW 04-21-10 — FIGURE 6010.514 STANDARD ROAD PLAN — SW-514 — SHEET 3 of 3 — REVISIONS: New _Replaces_SUDAS_Figure_6030.16 — BLOCK DIRECTOR — DESIGN SECTION ENGINEER

BOXOUTS FOR GRATE INTAKES

FIGURE 6010.514 SHEET 3 OF 3



Frame/Grate: Sum and Spacing of Bars and Bargrate Rails only

Fixed Notes:
Roughness gate in and bolt holes if as req'd.
Minimum one concealed pick hole

① When lifting standard duty manhole remove the frame to be attached to the manhole. Drill four 4" diameter holes in each equally spaced around frame.

② Bolt holes shall be of proper diameter to accommodate bolts. Remove bolts upon completion of grouting.

FIGURE 6010.602 SHEET 1 OF 3

FIGURE 6010.602 — STANDARD ROAD PLAN — SW-602 — REVISIONS: Added Type G — BLOCK DIRECTOR — DESIGN SECTION ENGINEER

TEE-SECTION STORM SECTION MANHOLE

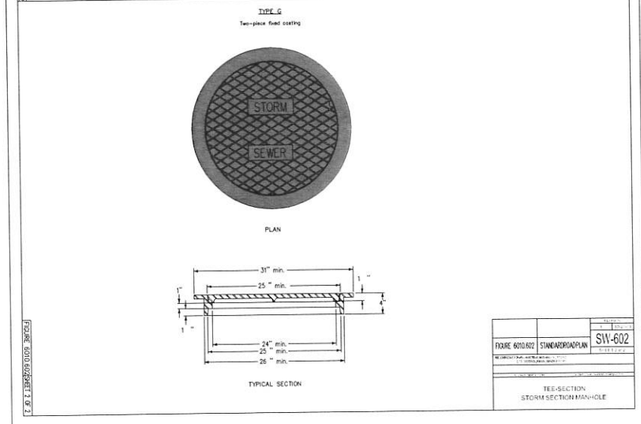
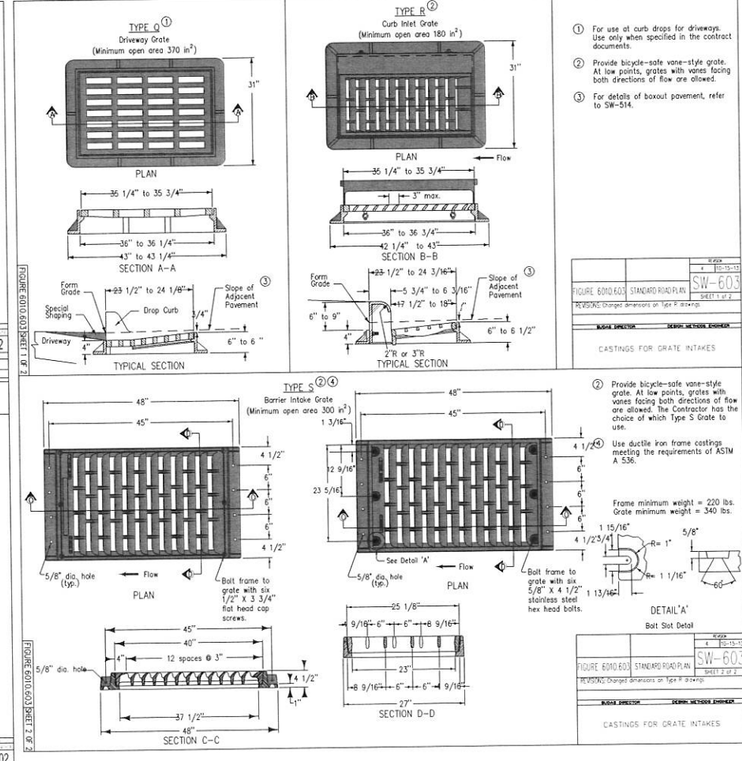


FIGURE 6010.602 SHEET 2 OF 3



① For use at curb drops for driveways. Use only when specified in the contract documents.

② Provide bicycle-safe vane-style grate. At low points, grates with vanes facing both directions of flow are allowed.

③ For details of boxout pavement, refer to SW-514.

② Provide bicycle-safe vane-style grate. At low points, grates with vanes facing both directions of flow are allowed. The Contractor has the choice of which Type S Grate to use.

Use ductile iron frame castings meeting the requirements of ASTM A 536.

Frame minimum weight = 220 lbs.
Grate minimum weight = 340 lbs.

FIGURE 6010.603 — STANDARD ROAD PLAN — SW-603 — REVISIONS: Changed dimensions on Type R drawings — BLOCK DIRECTOR — DESIGN SECTION ENGINEER

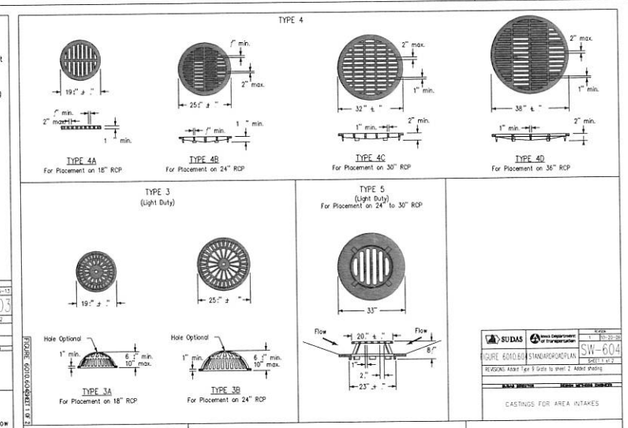
CASTINGS FOR GRATE INTAKES

FIGURE 6010.603 SHEET 1 OF 2

FIGURE 6010.603 — STANDARD ROAD PLAN — SW-603 — REVISIONS: Changed dimensions on Type R drawings — BLOCK DIRECTOR — DESIGN SECTION ENGINEER

CASTINGS FOR GRATE INTAKES

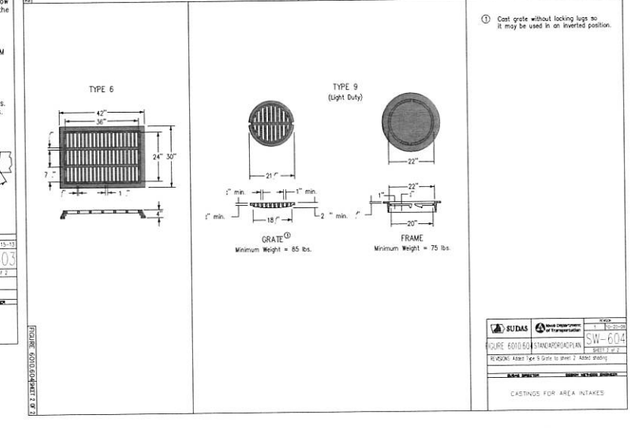
FIGURE 6010.603 SHEET 2 OF 2



SUDAS — Iowa Department of Transportation — REVISED 1 10-20-20 — FIGURE 6010.604 STANDARD ROAD PLAN — SW-604 — SHEET 1 of 2 — REVISIONS: Added Type 3 Grate to sheet 2. Added shading — BLOCK DIRECTOR — DESIGN SECTION ENGINEER

CASTINGS FOR AREA INTAKES

FIGURE 6010.604 SHEET 1 OF 2



① Cast grate without locking lugs so it may be used in an inverted position.

SUDAS — Iowa Department of Transportation — REVISED 1 10-20-20 — FIGURE 6010.604 STANDARD ROAD PLAN — SW-604 — SHEET 2 of 2 — REVISIONS: Added Type 9 Grate to sheet 2. Added shading — BLOCK DIRECTOR — DESIGN SECTION ENGINEER

CASTINGS FOR AREA INTAKES

FIGURE 6010.604 SHEET 2 OF 2

GLYNN VILLAGE PLAT 10 - DETAILS 10

SCALE: AS NOTED	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-DTL-1.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 96 OF 100	FILE NO.: 15-013	

LOCATION:

NO.	REVISION	BY:	DATE:	FOR:

ERG
Engineering Resources Group, Inc.
Planners and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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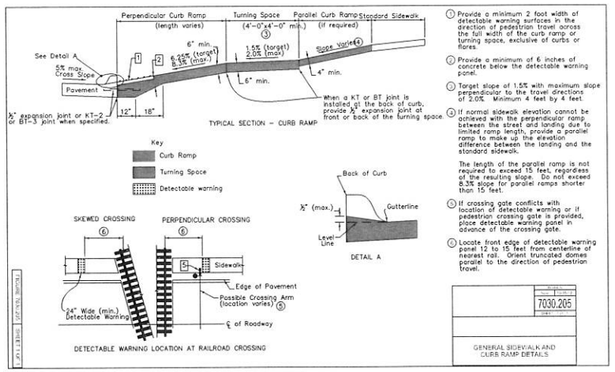
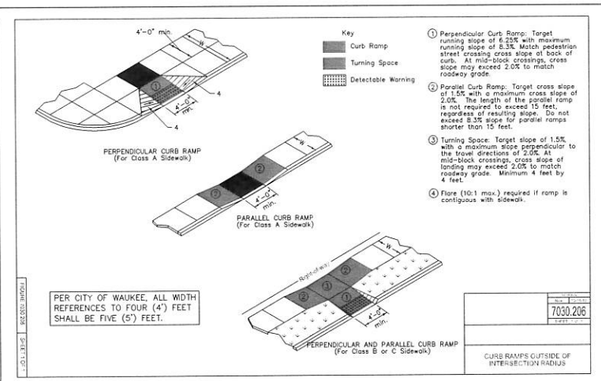
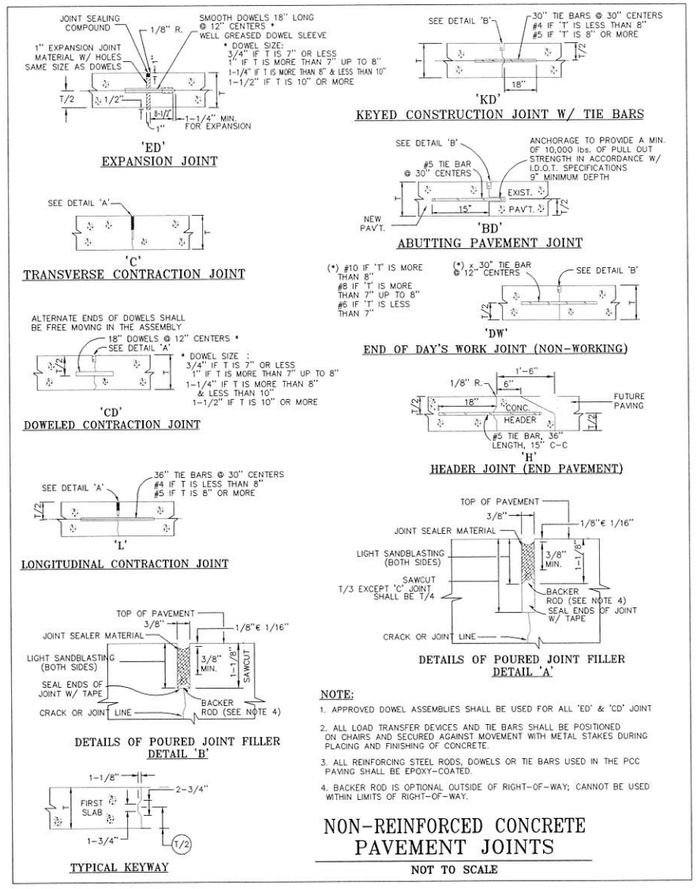


1. Provide a minimum 2 foot width of detectable warning surfaces in the direction of pedestrian travel across the full width of the curb ramp or turning space, exclusive of curbs or flares.
2. Provide a minimum of 6 inches of concrete below the detectable warning panel.
3. Target slope of 1.5% with maximum slope perpendicular to the travel directions of 2.0%. Minimum 4 feet by 4 feet.
4. If normal sidewalk elevation cannot be achieved with the perpendicular ramp between the street and landing due to limited ramp length, provide a parallel ramp to make up the elevation difference between the landing and the standard sidewalk.

   The length of the parallel ramp is not required to exceed 15 feet, regardless of the resulting slope. Do not exceed 8.33% slope for parallel ramps shorter than 15 feet.
5. If crossing gate conflicts with location of detectable warning or if pedestrian crossing gate is provided, place detectable warning panel in advance of the crossing gate.
6. Locate front edge of detectable warning panel 12 to 15 feet from centerline of nearest rail. Orient truncated domes parallel to the direction of pedestrian travel.



1. Perpendicular Curb Ramp: Target running slope of 6.25% with maximum running slope of 8.3%. Match pedestrian street crossing cross slope at back of curb. At mid-block crossings, cross slope may exceed 2.0% to match roadway grade.
2. Parallel Curb Ramp: Target cross slope of 1.5% with a maximum cross slope of 2.0%. The length of the parallel ramp is not required to exceed 15 feet, regardless of resulting slope. Do not exceed 8.3% slope for parallel ramps shorter than 15 feet.
3. Turning Space: Target slope of 1.5% with a maximum slope perpendicular to the travel directions of 2.0%. At mid-block crossings, cross slope of landing may exceed 2.0% to match roadway grade. Minimum 4 feet by 4 feet.
4. Flare (10:1 max.) required if ramp is contiguous with sidewalk.

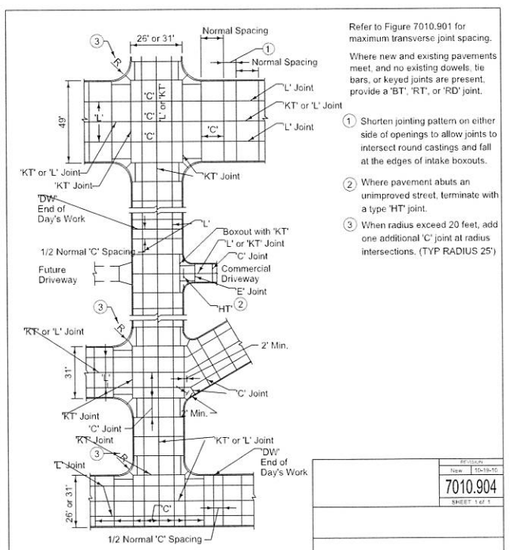


NOTE:

1. APPROVED DOWEL ASSEMBLIES SHALL BE USED FOR ALL 'ED' & 'CD' JOINT
2. ALL LOAD TRANSFER DEVICES AND TIE BARS SHALL BE POSITIONED ON CHAIRS AND SECURED AGAINST MOVEMENT WITH METAL STAKES DURING PLACING AND FINISHING OF CONCRETE.
3. ALL REINFORCING STEEL RODS, DOWELS OR TIE BARS USED IN THE PCC PAVING SHALL BE EPOXY-COATED.
4. BACKER ROD IS OPTIONAL OUTSIDE OF RIGHT-OF-WAY; CANNOT BE USED WITHIN LIMITS OF RIGHT-OF-WAY.

NON-REINFORCED CONCRETE PAVEMENT JOINTS

NOT TO SCALE



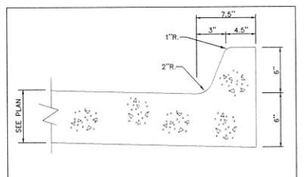
Refer to Figure 7010.901 for maximum transverse joint spacing.

Where new and existing pavements meet, and no existing dowels, tie bars, or keyed joints are present, provide a 'BT', 'RT', or 'RD' joint.

1. Shorten jointing pattern on either side of openings to allow joints to intersect round castings and fall at the edges of intake boxouts.
2. Where pavement abuts an unimproved street, terminate with a type 'HT' joint.
3. When radius exceed 20 feet, add one additional 'C' joint at radius intersections. (TYP RADIUS 25')

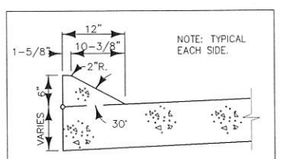
7010.904

TYPICAL JOINTING LAYOUT



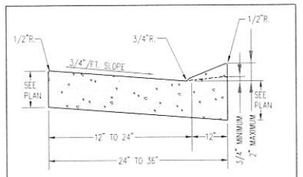
STANDARD P.C.C. CURB & GUTTER

NO SCALE



INTEGRAL 6" SLOPED CURB

NOT TO SCALE



NOTES:
1. THE BOTTOM OF THE CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE, PROVIDING THE MINIMUM GUTTER THICKNESS (PLAN) IS MAINTAINED.

STANDARD P.C.C. DRIVEWAY OPENING, GUTTER, AND SIDEWALK RAMP

NO SCALE

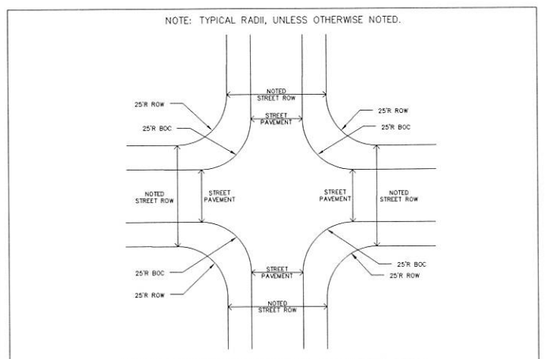
NOTE

1. t = PAVEMENT THICKNESS IN INCHES; AS SPECIFIED.

CITY OF WAUKEE

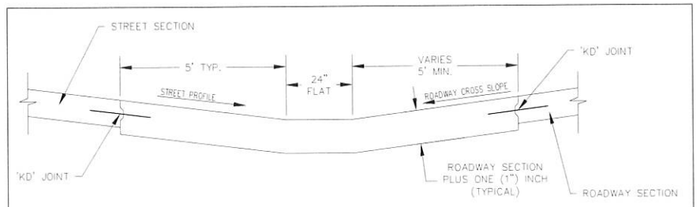
HEADER DETAILS

STD.DWG.NO.24



TYPICAL INTERSECTION RIGHT-OF-WAY (ROW) DETAIL

NOT TO SCALE



NOTES:
1. SUBBASE/SUBGRADE SAME AS ADJACENT ROADWAY.
2. MATCH STREET JOINTING.

VALLEY GUTTER

NO SCALE

97

GLYNN VILLAGE PLAT 10 - DETAILS II

SCALE: AS NOTED	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-DTL-1.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 97 OF 100	FILE NO.: 15-013	

LOCATION:

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering Resource Group, Inc.
Planners and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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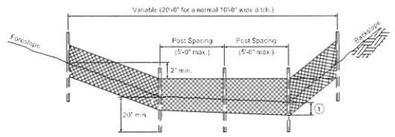
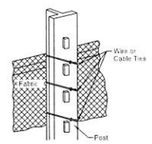


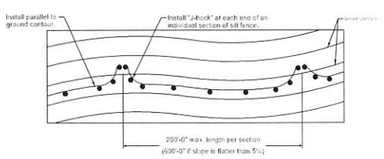
TYPICAL SILT FENCE DITCH CHECK

1. Insert 12 inches of fabric a minimum of 6 inches deep (fabric may be folded below the ground line).



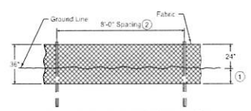
ATTACHMENT TO POST

SILT FENCE — 9040.119

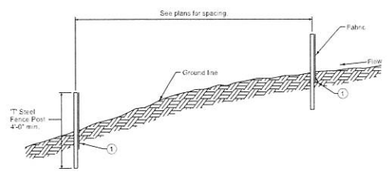


TYPICAL SILT FENCE INSTALLATION ON LONGITUDINAL SLOPES
(Plan View)

1. Insert 12 inches of fabric a minimum of 6 inches deep (fabric may be folded below the ground line).
2. Reduce post spacing to 6'-0" at water concentration areas, or as required to adequately support fence.

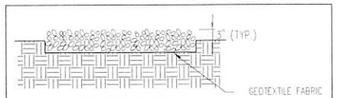


DETAILS OF SILT FENCE ON LONGITUDINAL SLOPES

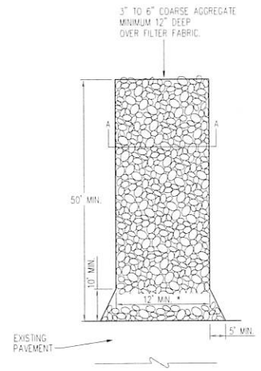


TYPICAL SILT FENCE INSTALLATION ON LONGITUDINAL SLOPES
(Profile View)

SILT FENCE — 9040.119



SECTION A-A
N.T.S.



* MUST EXTEND FULL WIDTH OF INGRESS AND EGRESS OPENING.

NOTES:

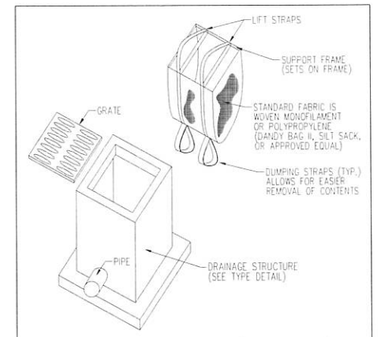
1. TRACKING ENTRANCE SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY. THIS WORK SHALL BE INCIDENTIAL TO THE CONTRACT.
2. STONE SHALL BE REMOVED AND REPLACED WHEN SOIL FILLS OPENINGS AND/OR DIRECTED BY THE ENGINEER. THIS WORK SHALL BE INCIDENTIAL TO THE CONTRACT.
3. EXISTING PAVEMENT SHALL BE INSPECTED AND CLEANED AT LEAST DAILY. THIS WORK SHALL BE INCIDENTIAL TO THE CONTRACT.

VEHICULAR TRACKING ENTRANCE
N.T.S.
(A.K.A. – CONSTRUCTION ENTRANCE, ROCK STABILIZED ENTRANCE, ETC.

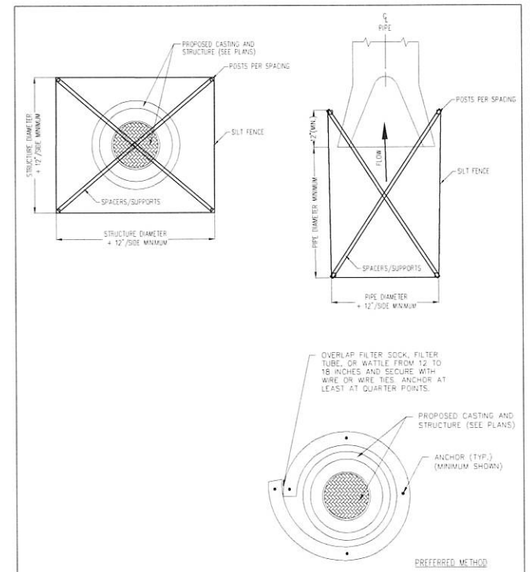
SILT FENCE SPACING ON SLOPES	
SLOPE	HORIZONTAL INTERVAL
≤ 10:1 (10%)	100 FEET (MAXIMUM)
5:1 (20%)	60 FEET (MAXIMUM)
4:1 (25%)	50 FEET (MAXIMUM)
3:1 (33.3%)	40 FEET (MAXIMUM)

SILT FENCE SPACING IN SWALE	
SWALE GRADE	HORIZONTAL INTERVAL
1% TO 2%	150 FEET (MAXIMUM)
2% TO 4%	75 FEET (MAXIMUM)
4% TO 6%	40 FEET (MAXIMUM)
OVER 6%	25 FEET (MAXIMUM)

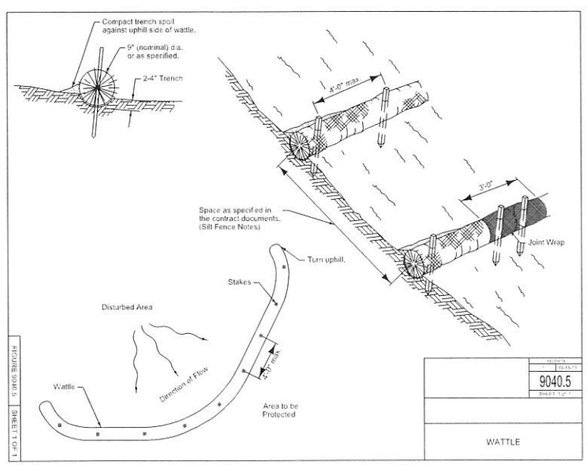
DITCH CHECK/CHECK DAM SPACING		
SWALE/DITCH GRADE	DESIGN HORIZ. INTERVAL	ACTUAL HORIZ. INTERVAL
1% TO 2%	200 FEET TO 100 FEET	150 FEET (MAXIMUM)
2% TO 4%	100 FEET TO 50 FEET	75 FEET (MAXIMUM)
4% TO 6%	50 FEET TO 33.5 FEET	40 FEET (MAXIMUM)
OVER 6%	(2 FEET)/(SLOPE, FT/FT)	25 FEET (MAXIMUM)



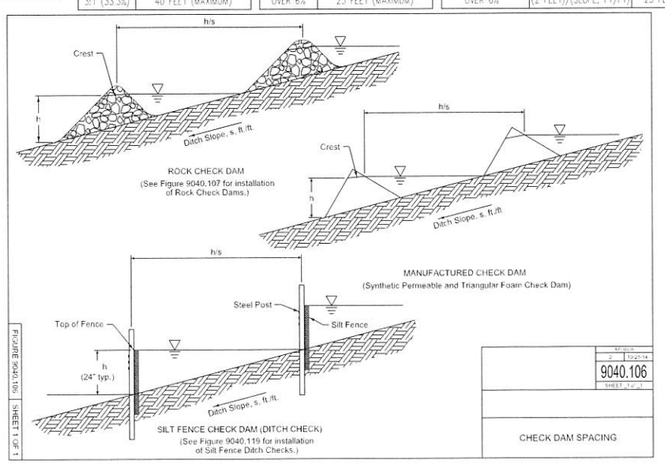
INLET PROTECTION INSERT (PAVED AREAS)
N.T.S.



INLET AND PIPE PROTECTION
N.T.S.



WATTLE — 9040.5



CHECK DAM SPACING — 9040.106

—IMPORTANT—

EROSION AND SEDIMENT CONTROLS MUST BE ROUTINELY INSPECTED AT LEAST EVERY SEVEN (7) DAYS. WEEKLY WRITTEN REPORTS OF ALL INSPECTIONS MUST BE MAINTAINED BY THE CONTRACTOR(S); AND SUBMITTED WEEKLY TO THE CITY. THE REPORT MUST MINIMALLY CONTAIN THE FOLLOWING INFORMATION:

A. DATE, TIME, AND EXACT PLACES OF INSPECTION;
B. NAME(S) OF INDIVIDUAL(S) PERFORMING INSPECTION;
C. AN ASSESSMENT OF THE CONDITION OF EROSION AND SEDIMENT CONTROLS;
D. A DESCRIPTION OF ANY EROSION AND SEDIMENT CONTROL IMPLEMENTATION AND MAINTENANCE PERFORMED;
E. A DESCRIPTION OF THE SITE'S PRESENT PHASE OF CONSTRUCTION.

GLYNN VILLAGE PLAT 10 - DETAILS 12

SCALE: AS NOTED	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-DTL-1.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 98 OF 100	FILE NO.: 15-013	

LOCATION:

NO.	REVISION	DATE	BY	FOR:

ERG
Engineering, Resource Group, Inc.
Engineers and Surveyors
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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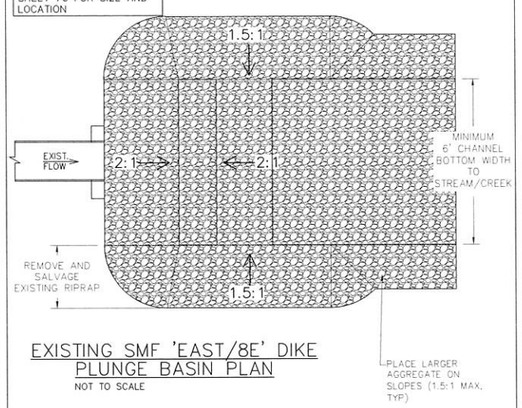
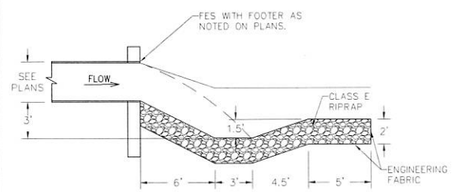
SEE 'GRADING AND STORM' SHEET 70 FOR SIZE AND LOCATION



EXISTING SMF 'EAST/8E' DIKE PLUNGE BASIN PLAN

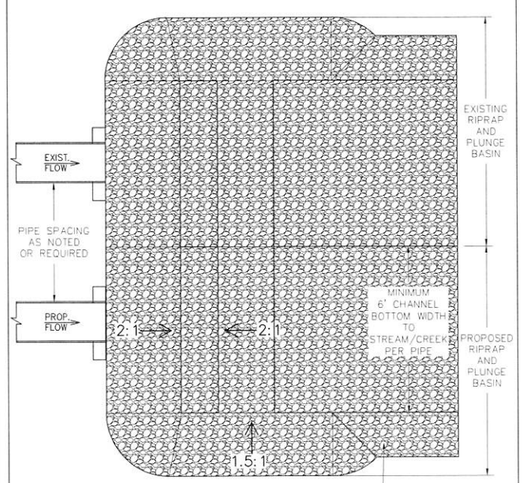
NOT TO SCALE



SMF 'EAST/8E' DIKE PLUNGE BASIN SECTION

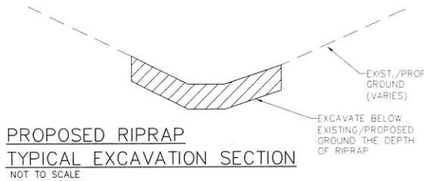
NOT TO SCALE

NOTE:
ALL DISTURBED AREAS SHALL BE COVERED IN RIPRAP.



PROPOSED SMF 'EAST/8E' DIKE PLUNGE BASIN PLAN

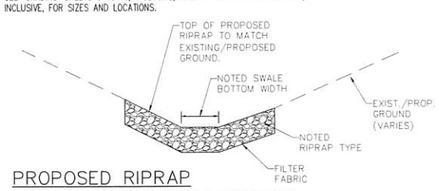
NOT TO SCALE



PROPOSED RIPRAP TYPICAL EXCAVATION SECTION

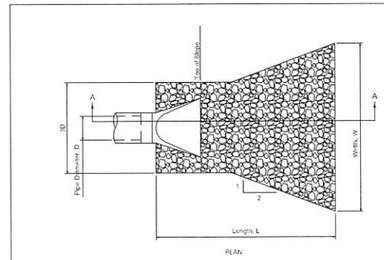
NOT TO SCALE

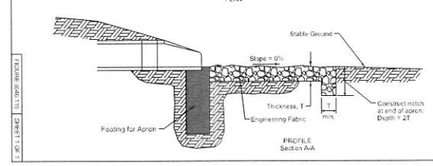
NOTES:
1. SEE SUDAS STANDARD DETAILS ON THIS SHEET FOR ADDITIONAL INFORMATION.
2. SEE 'GRADING' SHEETS 5 TO 10, INCLUSIVE, AND 'STORM' SHEETS 26 TO 71, INCLUSIVE, FOR SIZES AND LOCATIONS.



PROPOSED RIPRAP TYPICAL PLACEMENT SECTION

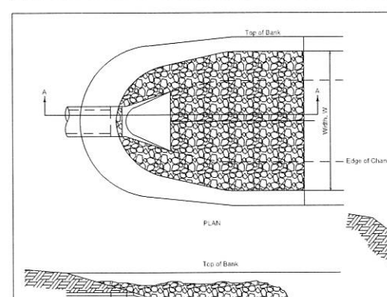
NOT TO SCALE





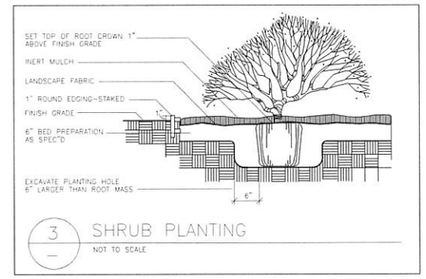
9040.110

RIP RAP FOR PIPE OUTLET ONTO FLAT GROUND



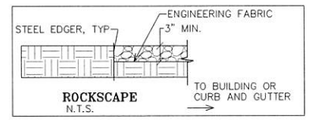
9040.111

RIP RAP APRON FOR PIPE OUTLET INTO CHANNEL

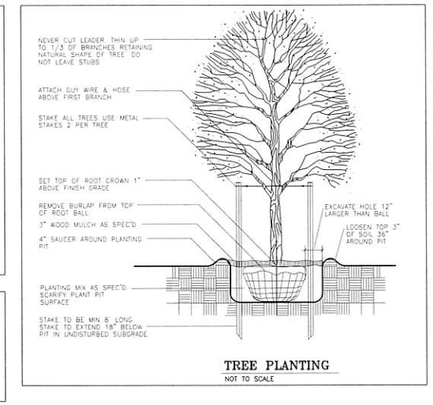


3 SHRUB PLANTING

NOT TO SCALE



ROCKSCAPE
N.T.S.



TREE PLANTING

NOT TO SCALE

GLYNN VILLAGE PLAT 10 - DETAILS 13

SCALE:	AS NOTED	DESIGNED BY:	JRK
DWG:	15-013-DTL-1.dwg	CHECKED BY:	DJS
FIELD BOOK:		SHEET 99 OF 100	
DRAWN BY:	PJV		
DATE:	02/24/2016		
FILE NO.:	15-013		

LOCATION:

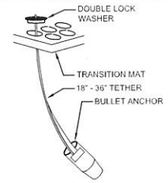
FOR:

NO.	REVISION	DATE	BY

ERG
Engineering Resource Group, Inc.
Environmental Engineers
2413 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

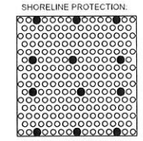
15-013

J:\2015 Proj\15-013\DESIGN\15-013-DTL-1.dwg, 3/8/2016 3:23:24 PM, Jay

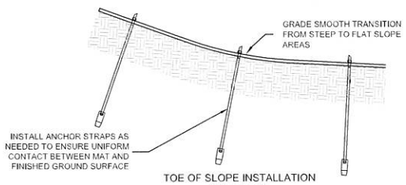


PIPE DIAMETER	DISCHARGE (CFS)	SCOURSTOP WIDTH×LENGTH
12"	8	4' x 4'
24"	30	4' x 8'
36"	75	8' x 12'
48"	100	12' x 16'
60"	150	12' x 20'
72"+		SEE DETAILS

SHORELINE PROTECTION:

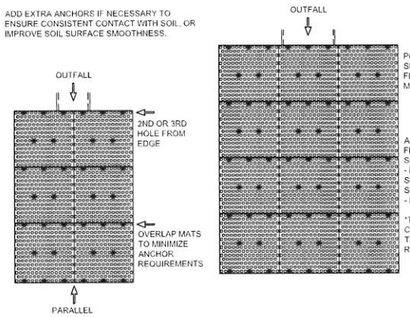


ANCHOR CONFIGURATION FOR SLOPES STEEPER THAN 5:1; TRANSITION MATS OVER A MINIMUM 8 OZ. GEOTEXTILE



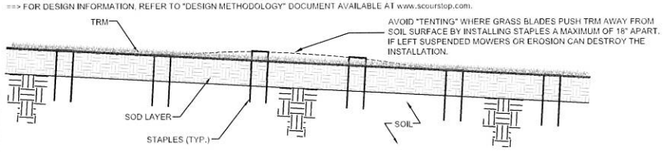
TOE OF SLOPE INSTALLATION
SCALE 1" = 1'

ADD EXTRA ANCHORS IF NECESSARY TO ENSURE CONSISTENT CONTACT WITH SOIL, OR IMPROVE SOIL SURFACE SMOOTHNESS.

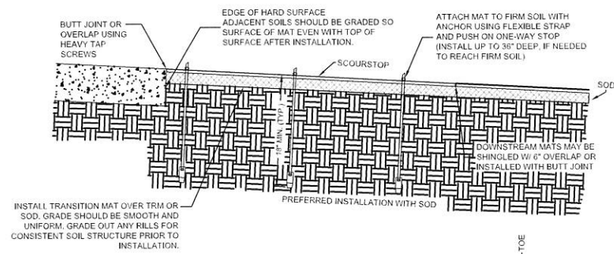


TURF REINFORCEMENT MAT INSTALLED OVER SOD:
- TRM INSTALLED SOD TO 1" HEIGHT. INSTALL TRM OVER INSTALLED SOD. STRETCH TRM TIGHTLY ACROSS INSTALLATION SURFACE AREA. INSTALL STAPLES AT MAXIMUM OF 18" APART (450 MM). IRRIGATE SOD AS NEEDED AFTER INSTALLATION TO AID IN ESTABLISHMENT OF VEGETATION.
- SOD DOWNSTREAM OF MAT INSTALLATION AREA DOES NOT NEED TRIMMED BEFORE MAT INSTALLATION.
- TO HOLD SOD IN PLACE DOWNSTREAM OF TM'S, INSTALL WIRE STAPLES AT 8' O.C. WITHIN 4" OF UPSTREAM EDGE OF SOD, AND AT A RATE OF ONE STAPLE PER SQUARE FOOT STAGGERED THROUGHOUT.

==> FOR DESIGN INFORMATION, REFER TO "DESIGN METHODOLOGY" DOCUMENT AVAILABLE AT www.scourstop.com.

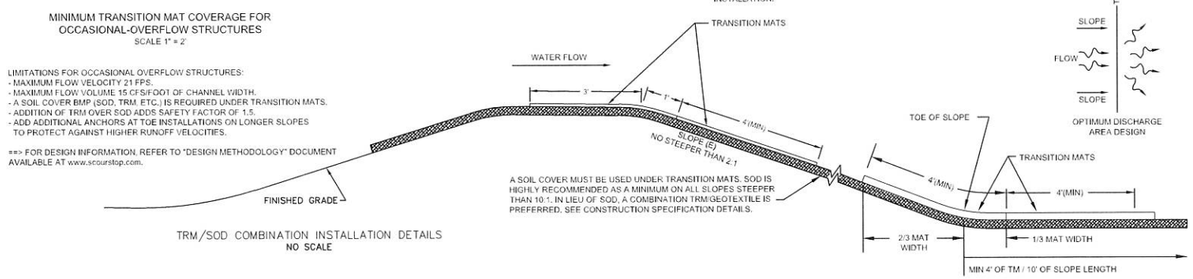


MINIMUM TRANSITION MAT COVERAGE FOR OCCASIONAL-OVERFLOW STRUCTURES
SCALE 1" = 2'



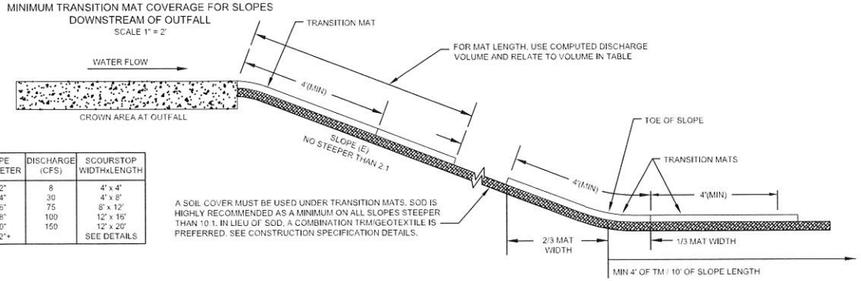
LIMITATIONS FOR OCCASIONAL OVERFLOW STRUCTURES:
- MAXIMUM FLOW VELOCITY 21 FPS.
- MAXIMUM FLOW VOLUME 15 CFS/FOOT OF CHANNEL WIDTH.
- A SOIL COVER BMP (SOD, TRM, ETC.) IS REQUIRED UNDER TRANSITION MATS.
- ADDITION OF TRM OVER SOD ADDS SAFETY FACTOR OF 1.5.
- ADD ADDITIONAL ANCHORS AT TOE INSTALLATIONS ON LONGER SLOPES TO PROTECT AGAINST HIGHER RUNOFF VELOCITIES.

==> FOR DESIGN INFORMATION, REFER TO "DESIGN METHODOLOGY" DOCUMENT AVAILABLE AT www.scourstop.com.

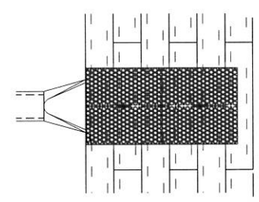


TRM/SOD COMBINATION INSTALLATION DETAILS
NO SCALE

MINIMUM TRANSITION MAT COVERAGE FOR SLOPES DOWNSTREAM OF OUTFALL
SCALE 1" = 2'



PIPE DIAMETER	DISCHARGE (CFS)	SCOURSTOP WIDTH×LENGTH
12"	8	4' x 4'
24"	30	4' x 8'
36"	75	8' x 12'
48"	100	12' x 16'
60"	150	12' x 20'
72"+		SEE DETAILS



STAPLE SOD EVERY 10 INCHES WITHIN 4 INCHES OF LEADING EDGE AND RANDOMLY THROUGHOUT

STAPLED SOD DETAILS
NO SCALE

NOT TO SCALE

SCOURSTOP TRANSITION MAT APPLICATIONS:

1. INTENDED AS AN BIOTECHNICAL REPLACEMENT FOR RIP-RAP. THIS IS AN ENGINEERED SYSTEM. UTILIZE PROPER DESIGN PRACTICES FOR LONG-TERM EFFECTIVE PERFORMANCE.
2. CAN BE PLACED ON DOWNSTREAM OUTLET SIDE OF CURB CUTS, OVERFLOW STRUCTURES, ENDS OF CONCRETE FLUMES OR PIPE FIXTURES; AS STREAM BANK AND SHORELINE PROTECTION.
3. SCOURSTOP STANDARD SIZE IS 4' X 4' X ½" SHEET WITH MULTIPLE VOIDS FOR VEGETATION GROWTH, PROVIDING SOIL PROTECTION FOR:
   3.1. THE SUSCEPTIBLE, EROSIVE AREA DIRECTLY BELOW OUTFALLS
   3.2. ANY HIGHLY EROSIVE AREA; 3) SHORELINE AND STREAMBANKS.
4. PRIMARY BENEFITS OVER RIPRAP ARE: UTILIZATION OF VEGETATION, LOWER INSTALLATION COSTS, LOWER LONG TERM MAINTENANCE, AESTHETICALLY PLEASING, AND IMPROVED SAFETY.

PREFERRED INSTALLATION SPECIFICATIONS:

1. READ AND UNDERSTAND INSTALLATION GUIDE.
2. FOR EACH INSTALLATION, COMPLETE INSTALLER'S CHECKLIST AND PROVIDE TO GENERAL CONTRACTOR FOR PAYMENT.
3. FOR VEGETATION, INSTALL APPROPRIATE SOIL UNDER THESE INSTALLATIONS TO IMPROVE THE GROWING ENVIRONMENT.
4. MINIMUM APPLICATION IS FOUR (4) FOOT LENGTH. UTILIZE DESIGNER CHECKLIST FOR PROPER DESIGN AND INSTALLATION MODE.
5. REMOVE AND REPLACE SATURATED SOILS FOR A SOLID BASE. USE SUB-SURFACE DRAIN FOR TRICKLE FLOWS.
6. CAN BE INSTALLED AS A BUTT JOINT, OR PERMANENTLY ATTACHED TO THE HARD SURFACE.
7. AVOID EROSIVE IMPACT CONDITIONS AT SCOUR AREA.
8. ENSURE LOCATION HAS ADEQUATE SUNLIGHT FOR HEALTHY VEGETATION, OTHERWISE UTILIZE THE HP-TRM INSTALLATION.
9. SCOURSTOP SHALL NOT BE INSTALLED OVER BARE SOIL. OPTIONAL SOIL COVERS ARE SOD, TRM'S, AND GEOTEXTILES. SOIL COVERS MAY NEED TO EXTEND DOWNSTREAM OF SCOURSTOP INSTALLATION IN AREAS OF HIGHER VELOCITY OR SHEAR (CHECK WITH DESIGNER PRIOR TO INSTALLATION).
10. WHERE EXCESS CONCRETE FROM THE END SECTION FOOTINGS EXTENDS BEYOND THE END SECTION, INSERT A FILLER MATERIAL (LIKE A HIGH-PERFORMANCE TRM OR HEAVY GEOTEXTILE) BETWEEN THE TRANSITION MAT AND THE EXCESS CONCRETE SURFACE TO FILL THE AREA TOO SHALLOW (<4 INCHES) TO SUPPORT SOIL AND VEGETATION GROWTH.
11. CONSTRUCT DOWNSTREAM CHANNEL AT LEAST TWICE THE WIDTH OF THE OUTLET. CONSTRUCT WIDTH AS FLAT AND LEVEL AS POSSIBLE FOR PROPER DRAINAGE.
12. SOIL ANCHORS SHALL BE DRIVEN AT LEAST 18 INCHES DEEP, OR DEEPER AS NEEDED INTO FIRM SOIL. USE FLEXIBLE STRAPPING AND DOUBLE-LOCK WASHERS TO ATTACH THE TRANSITION MAT INSTALLATION INTO THE SOIL. FIRMLY PULL STRAP TO SNUG THE TRANSITION MAT DOWN AGAINST THE SOIL WITH THE WASHER AND ONE-WAY STOP. A 3-2-3 ANCHOR CONFIGURATION IS THE MINIMUM ANCHOR QUANTITY.
13. PER NPDES PHASE II, THE DOWNSTREAM CHANNEL (D.C.) MUST BE PROTECTED FOR ITS ENTIRE LENGTH. THIS D.C. IS PART OF THE TRANSITION MAT ENGINEERED SYSTEM. USE SOD TO PROTECT THE D.C. WHEN POSSIBLE. SEE DETAILS PAGE FOR PROPER INSTALLATION. TURF REINFORCEMENT MATS (TRM'S) ARE ACCEPTABLE. TRM'S HAVE LOW PERFORMANCE RATINGS WHEN UNVEGETATED – DESIGN APPROPRIATELY.
14. ON AREAS OF SLOPE TRANSITION, UTILIZE ANCHORS TO MAINTAIN SOIL CONTACT ACROSS ENTIRE MAT LENGTH. ANCHORS CAN BE USED TO PROVIDE UP TO 14" OF DEFLECTION AT CENTER OF MAT FROM ENDS.
15. TYPE "A" INSTALLATION INSTRUCTIONS
    15.1. DESIGN OUTLET VELOCITY < 21 FPS AND DOWNSTREAM SCOUR AREA FLATTER THAN 10%, OR 10:1.
    15.2. SOD IS THE SOIL COVER PRACTICE UNDER THE TRANSITION MATS – WIDTH AND LENGTH OF TM'S SPECIFIED BY DESIGNER. SOD ELIMINATES GERMINATION RISK, AND IS GREAT PROTECTION FOR SOIL.
16. TYPE "B" INSTALLATION INSTRUCTIONS
    16.1. DESIGN OUTLET VELOCITY < 21 FPS AND DOWNSTREAM SCOUR AREA STEEPER THAN 10%, OR 10:1.
    16.2. SOD TRIMMED AND COVERED BY AN OPEN-WEAVE TRM IS THE SOIL COVER PRACTICE UNDER THE TRANSITION MATS – WIDTH AND LENGTH OF TM'S TO BE SPECIFIED BY DESIGNER. ADDITIONAL TRANSITION MATS ARE REQUIRED AT THE TOE OF THE SLOPE. SEE DETAILS.
    16.3. TRIM INSTALLED SOD TO ONE (1) TO TWO (2) INCH HEIGHT. INSTALL TRM OVER INSTALLED SOD AND STRETCH TIGHTLY BEFORE STAPLING. IRRIGATE SOD AS NEEDED AFTER INSTALLATION TO AID IN ESTABLISHMENT OF VEGETATION.
    16.4. ANCHOR SOD/TRM COMBINATION WITH 8-INCH STAPLES A MAXIMUM OF 18 INCHES APART.
17. TYPE "C" INSTALLATION INSTRUCTIONS
    17.1. DESIGN OUTLET VELOCITY < 8 FPS AND DOWNSTREAM SCOUR AREA FLATTER THAN 4%, OR 25:1.
    17.2. A TRM IS THE SOIL COVER PRACTICE UNDER THE TRANSITION MATS. THE WIDTH AND LENGTH OF THE TM'S TO BE SPECIFIED BY DESIGNER. TRM'S OVER BARE SOIL HAVE LOW-PERFORMANCE UNTIL VEGETATED.
18. TYPE "D" INSTALLATION INSTRUCTIONS
    18.1. DESIGN APPLICATIONS: ALL OUTFALLS; LOW SUNLIGHT AREAS; SEMI-ARID REGIONS; WHERE VEGETATION MAY BE SLOW TO ESTABLISH.
    18.2. A THREE (3) OUNCE GEOTEXTILE COVERED WITH A HIGH-PERFORMANCE TRM IS THE PREFERRED SOIL COVER PRACTICE. THE WIDTH AND LENGTH OF THE TM'S TO BE SPECIFIED BY DESIGNER. THE GEOTEXTILE PROTECTS THE SOIL FROM EROSION, AND THE HP-TRM PROVIDES LONG TERM STABILITY. THIS INSTALLATION CAN BE SOIL-FILLED AND SEEDED, OR LEFT TO FILL-IN WITH SEDIMENTS AND NATIVE VEGETATION. MECHANICALLY-BONDED FIBER MATRIX (MBFM) HYDROMULCH HAS ALSO SHOWN TO BE AN EFFECTIVE FILLER/SEED BASE. FOR INSTALLATIONS ON OUTFALLS > 60 INCHES WITH HIGH VELOCITY FLOWS, AN ADDITIONAL LAYER OF TM'S ADJACENT TO THE OUTFALL PROVIDES GREATER PROTECTION.
19. TYPE "E" INSTALLATION INSTRUCTIONS
    19.1. DESIGN APPLICATIONS: STREAMBANK AND SHORELINE; MAXIMUM 1.5H:1V SLOPE.
    19.2. AN EIGHT (8) TO 12 OUNCE GEOTEXTILE IS THE SOIL COVER PRACTICE UNDER THE TRANSITION MATS WHICH ARE GENERALLY INSTALLED THREE (3) FEET BELOW AND MINIMUM EIGHT (8) INCHES ABOVE THE NORMAL WATER LEVEL. TYPES A, B, AND D MAY BE UTILIZED ABOVE THE GEOTEXTILE/TM PROTECTED AREA. REQUIRES DIFFERENT ANCHOR CONFIGURATION AND DEPTH.
20. FOR DESIGN INFORMATION, REFER TO "DESIGN METHODOLOGY" DOCUMENT AVAILABLE AT WWW.SCOURSTOP.COM.

SEE 'GRADING' SHEETS 5 TO 10, INCLUSIVE, AND 'STORM' SHEETS 26 TO 71, INCLUSIVE, FOR SIZES AND LOCATIONS

100

GLYNN VILLAGE PLAT 10 - DETAILS 14

SCALE: AS NOTED	DESIGNED BY: JRK	DRAWN BY: PJV	
DWG: 15-013-DTL-3.dwg	CHECKED BY: DJS	DATE: 02/24/2016	
FIELD BOOK:	SHEET 100 OF 100	FILE NO.: 15-013	

NO.	REVISION	DATE	BY	FOR:

LOCATION:

ERG
Engineering Resource Group, Inc.
Engineers and Surveyors
2410 GRAND AVENUE
DES MOINES, IOWA 50312
(515) 288-4823

15-013

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STORMWATER POLLUTION PREVENTION PLAN

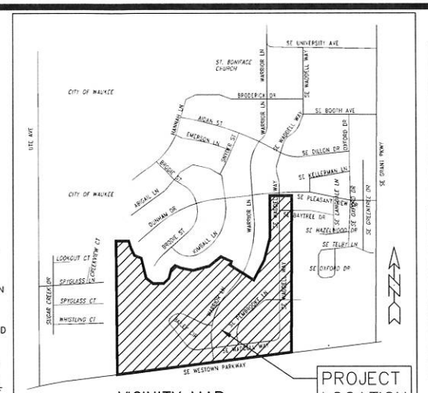
NO.	REVISION	DATE

NOTE:

THE LOCATION OF ALL UTILITIES INDICATED ON THE PLANS ARE TAKEN FROM EXISTING PUBLIC RECORDS. THE EXACT LOCATION AND ELEVATION OF ALL PUBLIC UTILITIES MUST BE DETERMINED BY THE CONTRACTOR. IT SHALL BE THE DUTY OF THE CONTRACTOR TO ASCERTAIN WHETHER ANY ADDITIONAL FACILITIES OTHER THAN THOSE SHOWN ON THE PLANS MAY BE PRESENT.

NOTES:

1. SEE SWPPP SHEETS "B" AND "C" FOR ADDITIONAL INFORMATION.
2. SEE ALL RELATED NOTES FOR SUBDIVISION INFRASTRUCTURE IMPROVEMENT PLANS FOR THIS PHASE/DEVELOPMENT FOR ADDITIONAL INFORMATION.
3. THIS PROJECT IS COVERED BY THE IOWA DEPARTMENT OF NATURAL RESOURCES NPDES GENERAL PERMIT NO. 2; WITH ALL TERMS AND CONDITIONS.
4. ALL CONTRACTOR(S) SHALL UTILIZE APPROVED CIVIL SITE PLANS, PROJECT SWPPP, AND NPDES NOI PERMIT CONDITIONS FOR ADDITIONAL DETAILS, NOTES, AND/OR DIRECTIONS.
5. ALL CONTRACTORS SHALL INSTALL EROSION AND SEDIMENTATION CONTROL INFRASTRUCTURE PRIOR TO INITIATING WORK ON THE SITE.
6. CITY OF WAUKEE STANDARD SPECIFICATIONS SHALL APPLY TO GRADING, EROSION CONTROL, AND ASSOCIATED WORK FOR THE PROJECT. THE CONTRACTOR SHALL ESPECIALLY OBSERVE THE REQUIREMENTS OF THE SPECIFICATIONS (ALONG WITH THE EROSION CONTROL PLAN PREPARED FOR THE PROJECT) IN CONDUCTING GRADING AND SURFACE RESTORATION WORK.
   - 6.1. THE STORMWATER POLLUTION PREVENTION PLAN IS THE RESPONSIBILITY OF THE OWNER WHOM SHALL MAKE ALL CONSTRUCTION WORKERS AWARE OF THE MAJOR PROVISIONS OF SAID PLAN.
   - 6.2. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED REGULARLY, ESPECIALLY AFTER EACH SIGNIFICANT STORM, TO LOCATE DAMAGE AND CONDUCT MAINTENANCE OPERATIONS.
   - 6.3. EXCEPT AS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED ON ALL DISTURBED AREAS NO LATER THAN THE 14TH DAY AFTER NO CONSTRUCTION ACTIVITY HAS OCCURRED ON AREAS WHERE CONSTRUCTION ACTIVITY WILL NOT OCCUR FOR A PERIOD OF ANOTHER 21 CALENDAR DAYS.INSTALL SILT FENCE/WATTLE PRIOR TO BEGINNING CONSTRUCTION AROUND NOTED STRUCTURES AND ON STEEP SLOPES. ADDITIONAL LINES OF SILT FENCE/WATTLE WILL BE REQUIRED AS PROGRESS, OR AS DIRECTED.
7. REMOVE SILT ACCUMULATED ALONG SILT FENCE/WATTLE WHEN REACHES MAXIMUM OF 50 PERCENT OF EXPOSED HEIGHT, OR AS DIRECTED.
8. CONTRACTOR(S) TO CONSTRUCT AND STABILIZE PROPOSED NOTED SEDIMENTATION BASIN, BASIN OUTLET STRUCTURE, AND OUTLET PRIOR TO CONSTRUCTING THE REST OF THE SUBDIVISION INFRASTRUCTURE IMPROVEMENTS. PROPOSED SEDIMENTATION BASIN(S) SHALL BE LOCATED WITHIN THE EXISTING/PROPOSED STORMWATER MANAGEMENT FACILITIES (SMF). SEE ADDITIONAL NOTES AND DETAILS FOR ADDITIONAL INFORMATION.
9. INSTALL TEMPORARY SEDIMENT BASIN OUTLET STRUCTURE SURROUNDED BY SILT FENCE PRIOR TO THE CONSTRUCTION OF SUBDIVISION INFRASTRUCTURE (DEMOLITION, PIPING, MASS GRADING, AND PAVEMENT).
10. AT COMPLETION OF THE SUBDIVISION INFRASTRUCTURE, CLEAN BASIN(S), INSTALL PERMANENT STABILIZATION, AND INSTALL NOTED GRANULAR BACKFILL TRENCH IN BOTTOM OF SMF BASIN. SURROUND GRANULAR TRENCH AND OUTLET STRUCTURE WITH SILT FENCE DURING RESIDENTIAL HOME CONSTRUCTION. SMF CONTROL MEASURES IN BASIN SHALL REMAIN IN PLACE UNTIL FULL BUILDOUT OF RESIDENTIAL LOT BUILDINGS IN SUBDIVISION.
11. AT COMPLETION OF THE SUBDIVISION INFRASTRUCTURE AND AT FINAL STABILIZATION, THE SWPPP MANAGER SHALL PROVIDE AS-BUILT PLANS AND A CERTIFICATION STATEMENT INDICATING THAT ALL BMP's AND SMF's WERE CONSTRUCTED TO AT LEAST THE DESIGNED.
12. PLACE SILT FENCE, FILTER SOCK, OR OTHER APPROVED SEDIMENTATION CONTROL/SILT CONTAINMENT DEVICE AROUND EXISTING STORM INTAKES AND/OR STRUCTURES, AND/OR PROPOSED STORM INTAKES AND/OR STRUCTURES AFTER CONSTRUCTED AND BEFORE PAVING, AS NOTED BELOW.
13. PROVIDE/VERIFY BELOW GRADE INLET PROTECTION FOR ALL STORM STRUCTURES WITHIN PUBLIC STREETS OR RIGHT-OF-WAY (ROW) ONCE PAVING IS COMPLETED.
14. PLACE SILT FENCE, FILTER SOCK, AND/OR OTHER APPROVED SEDIMENTATION CONTROL/SILT CONTAINMENT DEVICE AROUND STORM INTAKE AND/OR STRUCTURE AFTER CONSTRUCTED.
15. SEE RESPECTIVE 'STORM SECTION' SHEETS FOR INFORMATION ON SCOURSTOP OR RIPRAP AT STORM SEWER OUTLETS.
16. ALL RIPRAP SHALL BE PLACED OVER ENGINEERING FABRIC. AS HATCHED IN CONSTRUCTION PLANS, ALL AREAS OF THE EXISTING/PROPOSED DITCH BOTTOM AROUND END SECTIONS, AND EXISTING/PROPOSED END SECTIONS DISCHARGING INTO THE DITCH SHALL BE COVERED WITH RIPRAP.
17. REMOVE AN ADEQUATE AMOUNT OF TOPSOIL FROM THE UPPER 12 INCHES OF THE EXISTING ONSITE ORGANIC MATERIAL TO ALLOW FOR A FINISHED GRADE OF A MINIMUM TOPSOIL DEPTH OF SIX (6") INCHES.
18. STRIP AND STOCKPILE ALL TOPSOIL FOR REUSE ON SITE. ALL AREAS NOT COVERED BY POND, PAVEMENT, AND/OR BUILDINGS SHALL BE GRASS. SEEDED/SODDED AREAS SHALL BE PREPARED AS SPECIFIED IN SUDAS, AND NO LESS THAN SIX (6") INCHES OF TOPSOIL SHALL BE IN PLACE BEFORE PERMANENT (FINAL STABILIZATION) SEEDING/SODDING OPERATIONS COMMENCE. AS DOCUMENTED BY THE SOILS REPORT, IF LESS THAN SIX (6") INCHES OF TOPSOIL IS LOCATED ON SITE, THE CONTRACTOR SHALL RETAIN AND RESPREAD ALL AVAILABLE MATERIAL AT SIX (6") INCHES OF TOPSOIL WITHIN PUBLIC ROW; AND THEN AT AN EQUAL DEPTH AS EACH LOT IS DEVELOPED.
19. WRITTEN VERIFICATION SHALL BE SUPPLIED AT LEAST TO THE CITY, THE DEVELOPER, AND THE ENGINEER BY THE GRADING CONTRACTOR(S) DOCUMENTING THE LOCATIONS AND MINIMUM DEPTHS OF TOPSOIL RESPREAD PER THE NPDES GENERAL PERMIT.
20. AT COMPLETION OF SITE GRADING AND ROADWAY PAVING, CLEAN UP SITE AND INSTALL (PERMANENT OR TEMPORARY) STABILIZATION UNTIL PHASE RESIDENTIAL DEVELOPMENT BEGINS.
21. ALL AREAS NOT COVERED BY PAVEMENT OR BUILDINGS SHALL BE GRASS. SEEDED/SODDED AREAS SHALL BE PREPARED AS SPECIFIED IN SUDAS.
   - 21.1. ONLY AREAS DESIGNATED ON PLANS AS PRAIRIE GRASS SHALL BE SUDAS NATIVE GRASS AND FORBS/WILDFLOWER MIX (AKA PRAIRIE MIX); AND SHALL BE INSTALLED BY THE DEVELOPER'S CONTRACTOR.
   - 21.2. ONLY AREAS DESIGNATED ON PLANS AS URBAN LAWN MIX SHALL BE SUDAS URBAN LAWN MIX AND/OR SOD; AND SHALL BE INSTALLED BY THE DEVELOPER'S CONTRACTOR WITH THE SPECIFIED TYPE.
   - 21.3. ALL OTHER AREAS SHALL BE DESIGNATED AS AREAS TO RECEIVE LAWN SEED MIX AND/OR SODDED. THESE AREAS SHALL FIRST BE SEEDED AND MULCHED BY THE DEVELOPER'S CONTRACTOR WITH SUDAS TYPE 4 EROSION CONTROL MIX. THE PERMANENT COVER SHALL BE BY THE HOME BUILDER'S CONTRACTOR WITH A URBAN LAWN MIX AND/OR SODDED.
22. ALL SEEDED SURFACES SHALL BE COVERED WITH AT LEAST SIX (6") INCHES TOPSOIL IN PLACE BEFORE PERMANENT (FINAL) SEEDING/SODDING OPERATIONS COMMENCE AND AT FINAL STABILIZATION.
23. PROVIDE POSITIVE DRAINAGE AROUND ALL STOCKPILES AND OTHER IMPROVEMENTS DURING AND AT THE COMPLETION OF OF ALL PHASES OF CONSTRUCTION INCLUDING BUT NOT LIMITED TO INFRASTRUCTURE AND HOUSING. DRAIN ANY ONSITE AREAS WITH PONDING WATER TO THE SEDIMENTATION BASIN.
24. EROSION/SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED AS SHOWN ON THIS EXHIBIT AND ARE FOR INITIAL (START-UP) PURPOSES ONLY. THE CONTRACTOR(S) SHALL MODIFY EROSION/SEDIMENTATION CONTROL MEASURES DURING THE COURSE OF CONSTRUCTION TO ACCOMMODATE FIELD CONDITIONS AND METHODS OF CONSTRUCTION. MODIFY EXHIBIT AS REQUIRED DURING THE COURSE OF CONSTRUCTION TO REFLECT FIELD MODIFICATIONS, INCLUDING 'REVISION' BOX.
25. THE CONTRACTOR SHALL UTILIZE PROJECT SWPPP AND NPDES NOI PERMIT CONDITIONS FOR ADDITIONAL DETAILS AND DIRECTIONS. EROSION/SEDIMENTATION CONTROL MEASURES MAY BE REMOVED AS ALLOWED BY PERMIT CONDITIONS AND AT THE TERMINATION OF THE NPDES STORMWATER PERMIT AT THE COMPLETION OF THE PROJECT.
26. TREE/BUSH PROTECTION SHALL CONSIST OF MINIMUM 48 INCHES HIGH ORANGE CONSTRUCTION INSTALLED AND SECURED ON METAL T-POSTS AND BEING NO CLOSER THAN THE DRIP LINE, OR AS DIRECTED.
27. "TEMPORARY" BMPs SHALL BE REMOVED AT THE END OF SITE DEVELOPMENT AND AT FINAL STABILIZATION. ADDITIONAL BMPs SHALL BE INSTALLED BY THE INDIVIDUAL LOT CONTRACTOR(S).



VICINITY MAP
NOT TO SCALE

INITIAL EROSION CONTROL QUANTITIES

SILT FENCE/WATTLE = 19,818 LIN. FT.
INLET PROTECTION = 122 EACH
PIPE PROTECTION = 2 EACH
DITCH CHECKS (SILT FENCE) = 140 EACH
DITCH CHECKS (AGGREGATE) = 8 EACH
ROCK STABILIZED ENTRANCE(S) = 93 SQ. YDS.
SUDAS TYPE 4 EROSION CONTROL MIX (AND ESTIMATED AREA OF DISTURBANCE) = 68.07 ACRES
SUDAS NATIVE GRASS AND FORBS/WILDFLOWER (PRAIRIE) MIX = 22.52 ACRES
SUDAS URBAN LAWN MIX, TYPE 1 = 6.22 ACRES
SUDAS URBAN LAWN MIX, TYPE 4 = 32.57 ACRES
SUDAS URBAN LAWN MIX, TYPE 6 = 2.77 ACRES
SUDAS WETLAND MIX = 5.01 ACRES
TREE/BUSH PROTECTION (FENCING) = 3,300 LIN. FT.

PLACE SILT FENCE OR FILTER SOCK AROUND STORM INTAKE AND/OR STRUCTURE AFTER CONSTRUCTED. PLACE BELOW GRADE INLET PROTECTION FOR ALL STORM STRUCTURES WITHIN PUBLIC STREETS OR RIGHT-OF-WAY ONCE PAVING IS COMPLETED.

SEE CONSTRUCTION/SITE PLAN 'GRADING' SHEETS 5 – 10, INCLUSIVE; 'STORM' SHEETS 26 TO 71, INCLUSIVE; AND 'DETAIL' SHEETS 87 TO 100, INCLUSIVE, FOR ADDITIONAL INFORMATION ON PERMANENT AND/OR TEMPORARY STABILIZATION AND SEDIMENT CONTROL.

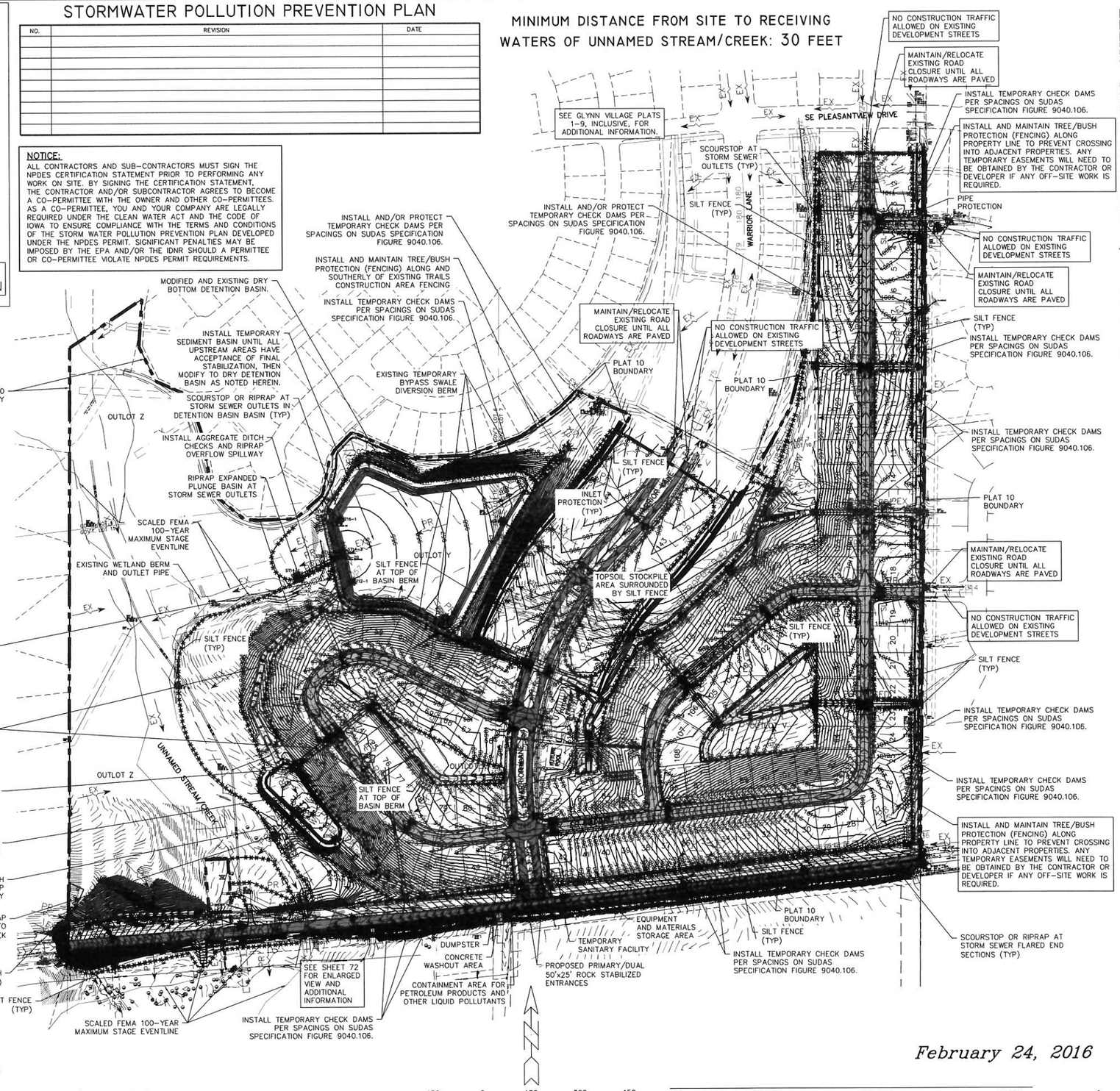
LEGEND

SP = SADDLE POINT	
R = RIM EL FOR INTAKE	
X = SPOT GRADE MARK (PAVED SURFACE)	
T/C = TOP OF CURB ELEVATION	
T/W = TOP OF SIDEWALK	
153	DENOTES EXISTING CONTOUR
155	DENOTES PROPOSED CONTOUR
X 56.85	DENOTES PROPOSED SPOT ELEVATION
T/W	DENOTES TOP OF WALL ELEVATION
B/W	DENOTES BOTTOM OF WALL ELEVATION
X=77.08G	DENOTES EXISTING GUTTER ELEVATION
X=74.02TC	DENOTES EXISTING TOP OF CURB ELEVATION
EX	DENOTES EXISTING FLOW/DRAINAGE DIRECTION
PR	DENOTES PROPOSED FLOW/DRAINAGE DIRECTION
	DENOTES PROPOSED INLET/PIPE PROTECTION
	DENOTES PROPOSED SCOURSTOP OR RIPRAP (SEE STORM SEWER/SECTION PLANS)
	DENOTES PROPOSED DITCH CHECK/CHECK DAM (SILT FENCE)
	DENOTES PROPOSED DITCH CHECK/CHECK DAM (AGGREGATE)

NOTICE:

ALL CONTRACTORS AND SUB-CONTRACTORS MUST SIGN THE NPDES CERTIFICATION STATEMENT PRIOR TO PERFORMING ANY WORK ON SITE. BY SIGNING THE CERTIFICATION STATEMENT, THE CONTRACTOR AND/OR SUBCONTRACTOR AGREES TO BECOME A CO-PERMITTEE WITH THE OWNER AND OTHER CO-PERMITTEES. AS A CO-PERMITTEE, YOU AND YOUR COMPANY ARE LEGALLY REQUIRED UNDER THE CLEAN WATER ACT AND THE CODE OF IOWA TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE STORM WATER POLLUTION PREVENTION PLAN DEVELOPED UNDER THE NPDES PERMIT. SIGNIFICANT PENALTIES MAY BE IMPOSED BY THE EPA AND/OR THE IDNR SHOULD A PERMITTEE OR CO-PERMITTEE VIOLATE NPDES PERMIT REQUIREMENTS.

MINIMUM DISTANCE FROM SITE TO RECEIVING WATERS OF UNNAMED STREAM/CREEK: 30 FEET



February 24, 2016

SWPPP MANAGER (PRINT NAME)	COMPANY	DATES
SWPPP INSPECTOR (PRINT NAME)	COMPANY	DATES

A

GLYNN VILLAGE PLAT 10 – INITIAL STARTUP STORMWATER POLLUTION PREVENTION PLAN/EROSION CONTROL SHEET

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NOTE:

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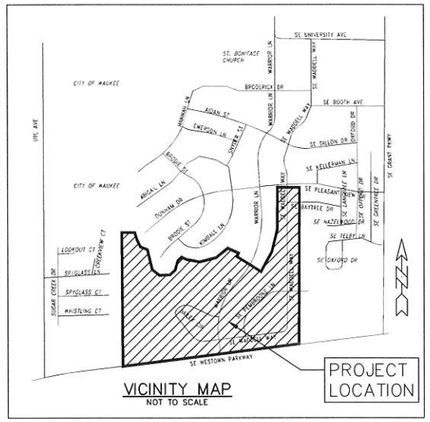


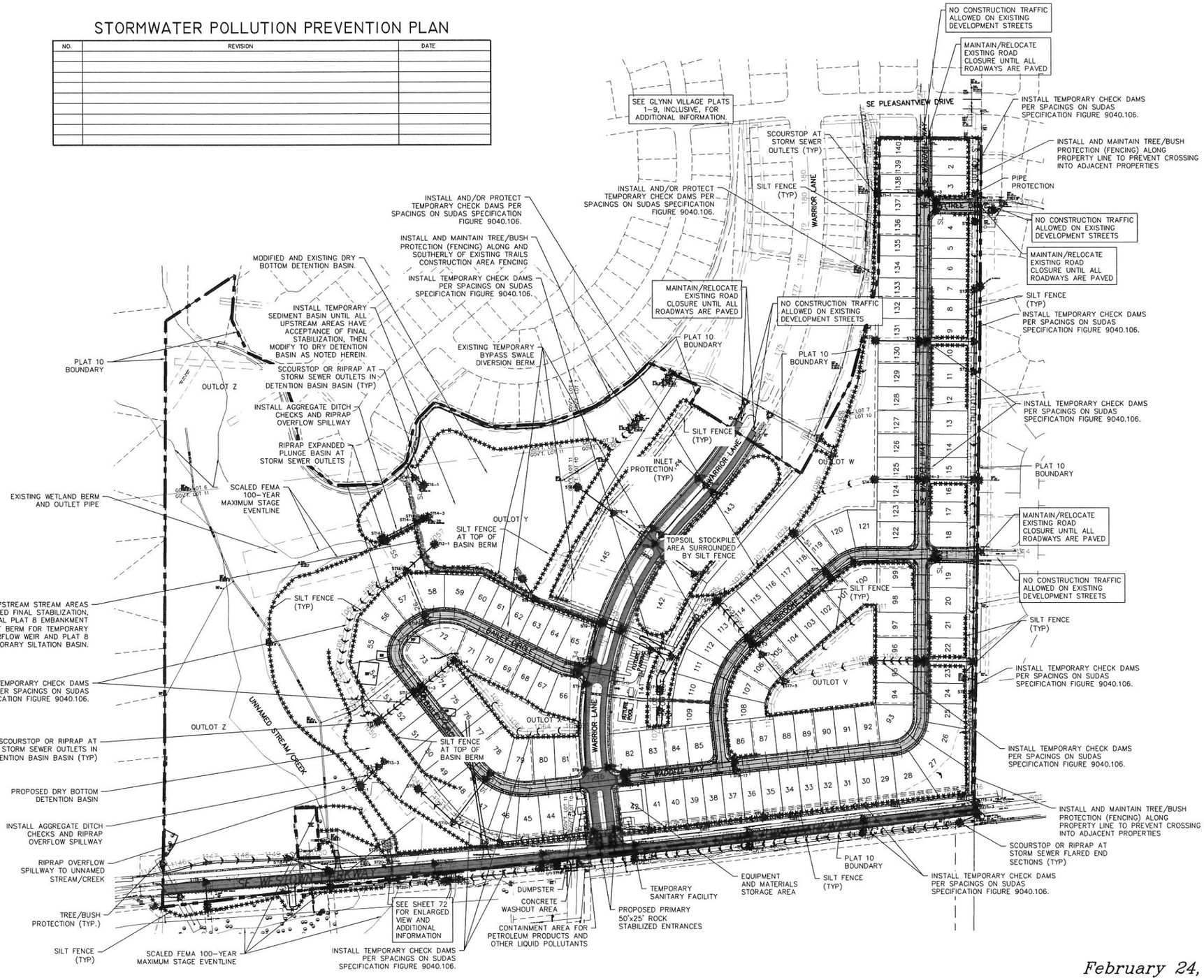
VICINITY MAP
NOT TO SCALE

NOTE:

1. SEE SWPPP SHEETS "A" & "C" FOR ADDITIONAL INFORMATION.

STORMWATER POLLUTION PREVENTION PLAN

NO.	REVISION	DATE



February 24, 2016

SWPPP MANAGER (PRINT NAME)	COMPANY	DATES
SWPPP INSPECTOR (PRINT NAME)	COMPANY	DATES

B

GLYNN VILLAGE PLAT 10 – SWPPP SITE PLAN

NOTE:

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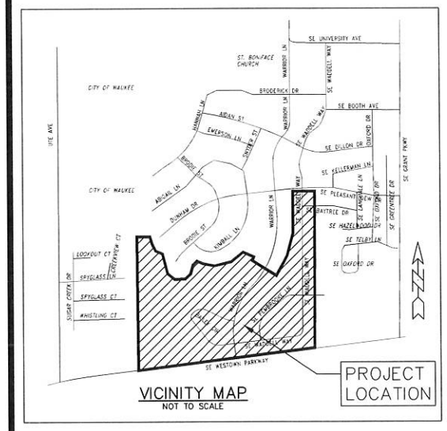
STORMWATER POLLUTION PREVENTION PLAN

NO.	REVISION	DATE



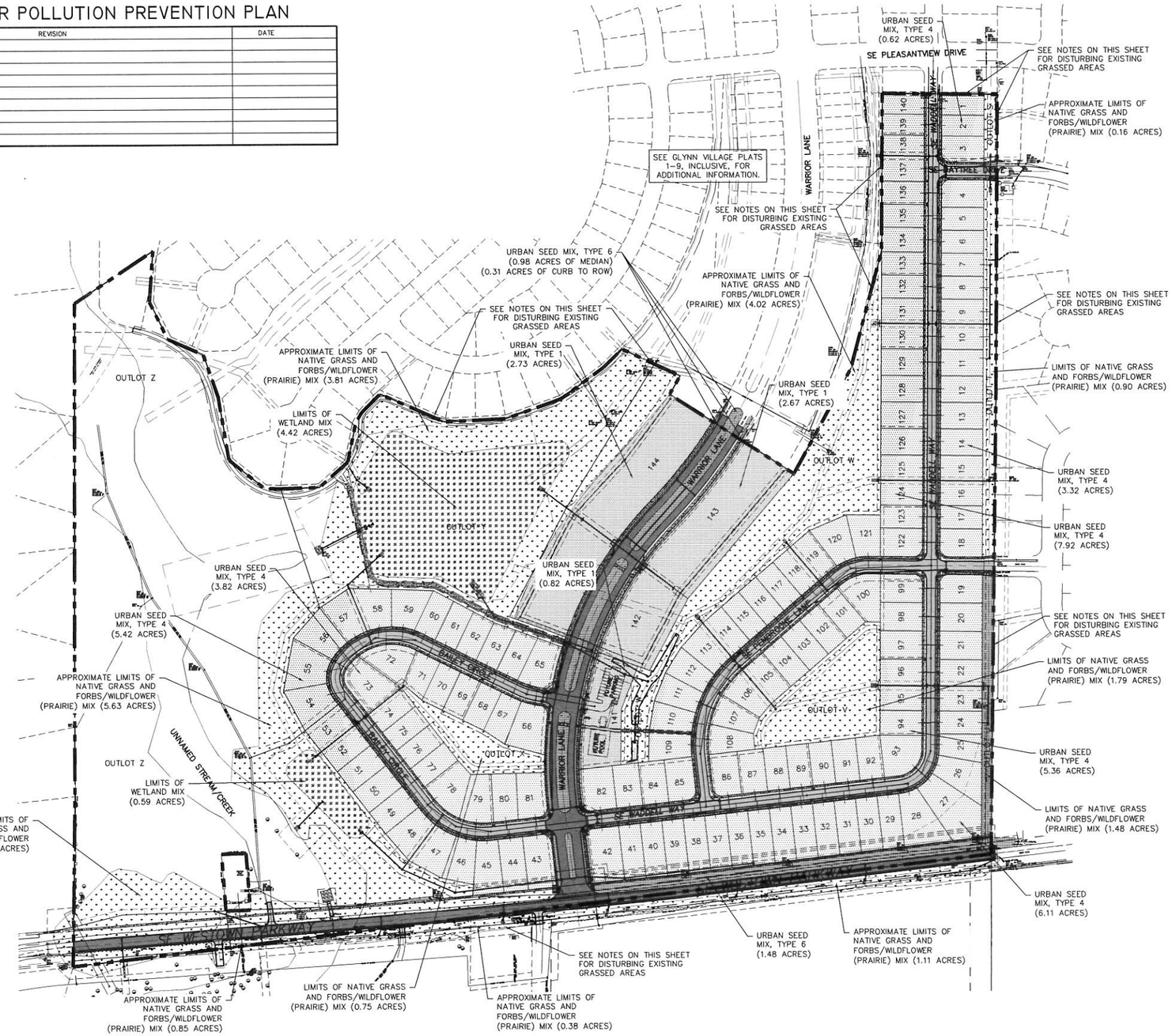
VICINITY MAP
NOT TO SCALE

NOTES:

1. SEE ADDITIONAL PLANTING AND SWPPP NOTES ON INITIAL STARTUP STORMWATER POLLUTION PREVENTION PLAN/EROSION CONTROL SHEET – SHEET "A" & "B".
2. ALL SEEDING SHALL BE DONE IN ACCORDANCE WITH SUDAS SPECIFICATION 9010 WITH ANY REFERENCED FIGURES AND SPECIFICATIONS.
3. ALL SODDING SHALL BE DONE IN ACCORDANCE WITH SUDAS SPECIFICATION 9020 WITH ANY REFERENCED FIGURES AND SPECIFICATIONS.
4. ALL PLANTINGS MATERIALS AND PLANTING SHALL BE DONE IN ACCORDANCE WITH SUDAS SPECIFICATION 9030 WITH ANY REFERENCED FIGURES AND SPECIFICATIONS.
5. SEE WARRIOR LANE MEDIAN GROUND COVER PLAN SHEET 74 FOR ENLARGED WARRIOR LANE INFORMATION.
6. SEE SHEETS 75 TO 76, INCLUSIVE, FOR ADDITIONAL PLANTING INFORMATION IN LANDSCAPING BUFFER EASEMENTS.
7. SEE 'GREENBELT' SHEETS 55 TO 69, INCLUSIVE FOR ADDITIONAL SWALE/DITCH PROTECTION INFORMATION.
8. WETLAND SEEDING AREA SHALL BE PREPARED WITH 12 INCHES MINIMUM DEPTH OF TOPSOIL FOR ALL AREAS LOCATED BELOW WETLAND OUTLET STRUCTURE SIDE OPENING ELEVATION.
9. ALL SEEDING MIXTURES AND/OR SODDING SHALL ALSO INCLUDE, BUT NOT LIMITED TO: LOOSENING AND SMOOTHING TOPSOIL TO FINISHED GRADE, MULCH, FERTILIZER, WATERING, RE-SEEDING, CLEANUP AS NECESSARY UNTIL ACCEPTANCE OF FINAL STABILIZATION.
10. ALL AREAS SHOWN INCLUDE SIDEWALK AND/OR TRAIL AREAS BY THE DEVELOPER'S CONTRACTOR(S) OR THE INDIVIDUAL HOME BUILDER'S CONTRACTOR(S).
11. FOR ALL DISTURBED AREAS OUTSIDE OF THE PLAT 10 BOUNDARY, REPLACE EXISTING (RESIDENTIAL) GRASSED AREAS WITH SOD AND WATER UNTIL ESTABLISHED – MAINLY ALONG THE NORTHERLY AND EASTERLY BOUNDARIES.

LEGEND:

- NATIVE GRASS AND FORBS/WILDFLOWER (PRAIRIE) MIX
- URBAN SEED MIX, TYPE 1
- URBAN SEED MIX, TYPE 4
- URBAN SEED MIX, TYPE 6
- WETLAND MIX



February 24, 2016

SWPPP MANAGER (PRINT NAME)	COMPANY	DATES
SWPPP INSPECTOR (PRINT NAME)	COMPANY	DATES

C

GLYNN VILLAGE PLAT 10 – SWPPP & STABILIZATION SITE PLAN