

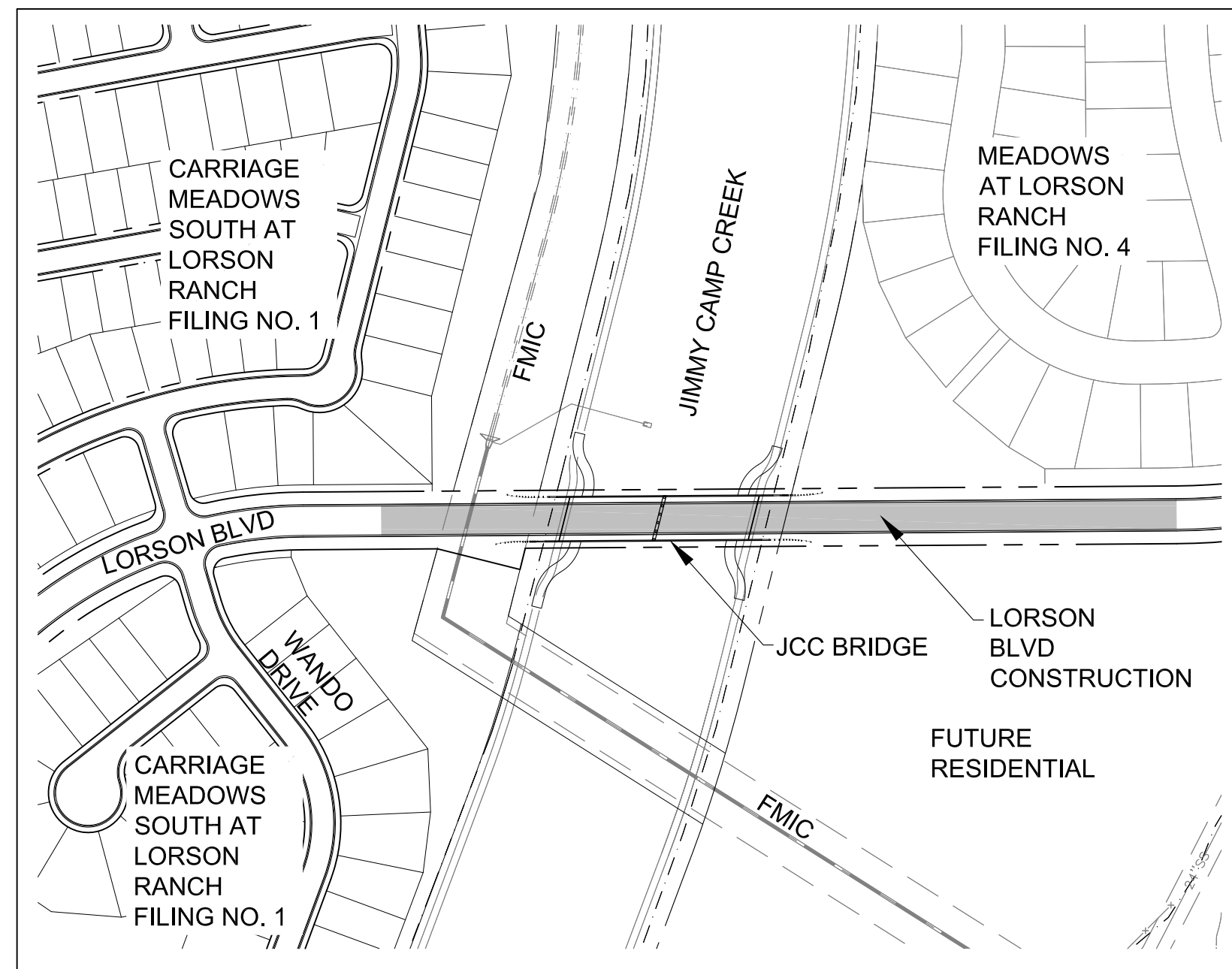
# CONSTRUCTION PLANS FOR LORSON BLVD BRIDGE OVER JIMMY CAMP CREEK MAIN CHANNEL

## FINAL GRADING/EROSION CONTROL PLAN WATERMAIN AND STREET CONSTRUCTION PLANS

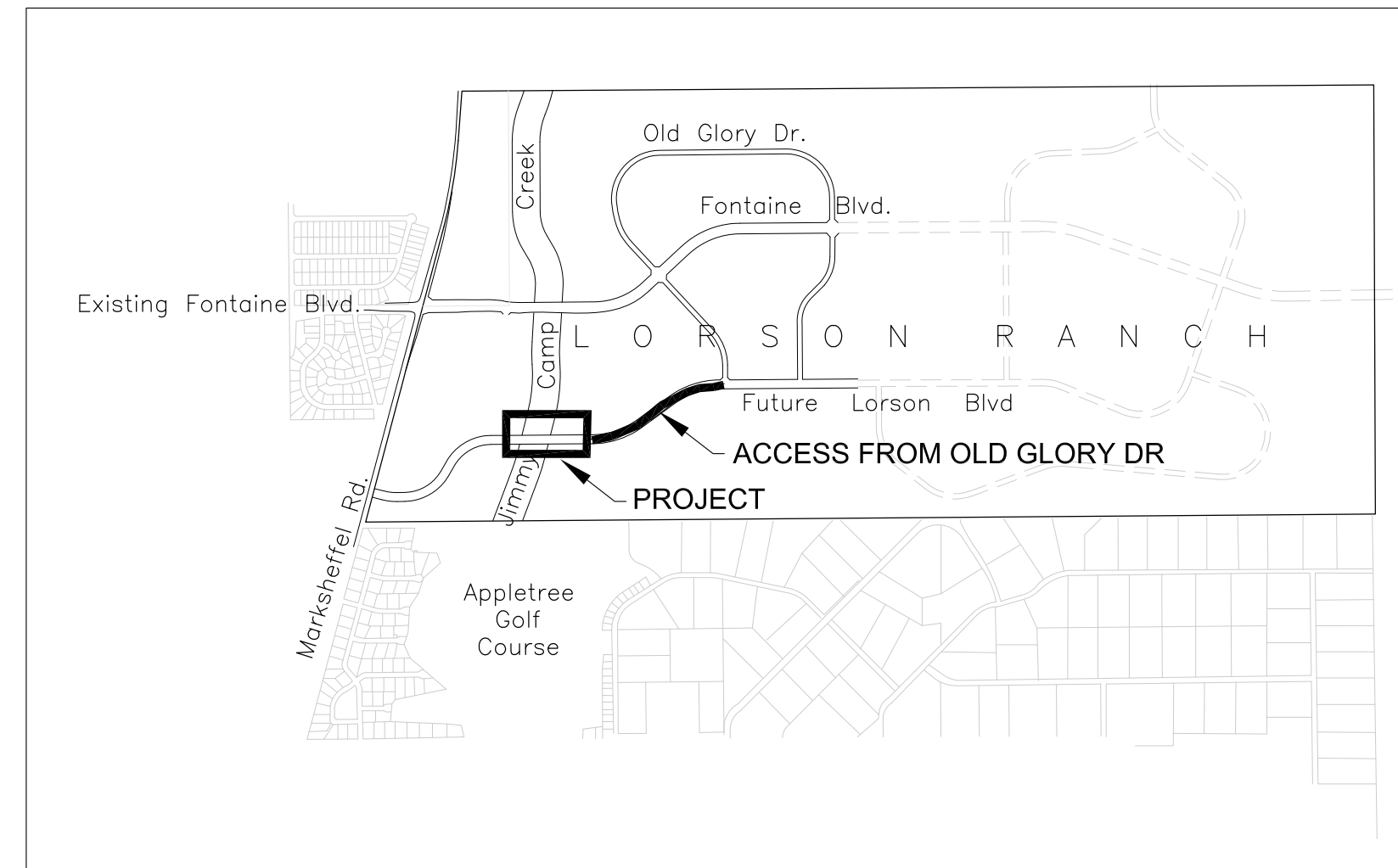


**Know what's below.  
Call before you dig.**

CALL 2-BUSINESS DAYS IN ADVANCE  
BEFORE YOU DIG, GRADE OR  
EXCAVATE FOR THE MARKING OF  
UNDERGROUND MEMBER UTILITIES



**KEY MAP**  
SCALE: 1"=200'



**VICINITY MAP**  
NO SCALE

SHEET INDEX	
SHEET NO.	SHEET DESCRIPTION
C1.1	COVER SHEET
C1.2	NOTES - GRADING/E.C., STREET, WATERMAIN
C1.3	WATERMAIN DETAILS & STREET TYPICAL SECTION
C4.1	GRADING & EROSION CONTROL PLAN
C6.1-C6.2	STREET PLAN AND PROFILE
C8.1-C8.2	WATERMAIN PLAN AND PROFILE
C12.1	GRADING/EROSION CONTROL DETAILS
B01-B27	JCC BRIDGE PLANS - LORIS & ASSOCIATES

**DEVELOPER'S STATEMENT**

THE UNDERSIGNED OWNER/DEVELOPER HAS READ AND WILL COMPLY WITH ALL THE REQUIREMENTS SPECIFIED IN THESE CONSTRUCTION PLANS AND THE ACCOMPANYING DRAINAGE REPORT.

BUSINESS NAME   LORSON, LLC  

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

TITLE \_\_\_\_\_

ADDRESS   212 N. WAHSATCH AVE., SUITE 301    
  COLORADO SPRINGS, CO 80903  

**WATER / SANITARY**  
WIDEFIELD WATER AND SANITATION DISTRICT  
37 WIDEFIELD BLVD.  
SECURITY, CO 80911  
719-390-7111

**CABLE**  
COMCAST  
P.O. BOX 173838  
DENVER, CO 80217  
970-641-4774

**ELECTRIC**  
MOUNTAIN VIEW ELECTRIC  
11140 E. WOODMEN RD.  
COLORADO SPRINGS, CO 80831  
719-495-2283

**SECURITY FIRE PROTECTION DISTRICT**  
400 SECURITY BOULEVARD  
SECURITY, CO 80911  
719-392-7121

PREPARED FOR:  
**LORSON, LLC**  
212 N. WAHSATCH AVE., SUITE 301  
COLORADO SPRINGS, CO 80903  
719-635-3200  
CONTACT: JEFF MARK

PREPARED BY:  
**CORE ENGINEERING GROUP**  
15004 1ST AVENUE S.  
BURNSVILLE, MN 55306  
719-570-1100  
CONTACT: RICHARD L. SCHINDLER P.E.

**LORIS & ASSOCIATES**  
100 SUPERIOR PLAZA WAY, SUITE 220  
SUPERIOR, CO, 80027  
303-444-2073  
CONTACT: DAN BELTZER P.E.

**TELEPHONE**  
CENTURYLINK  
7925 INDUSTRY ROAD  
COLORADO SPRINGS, CO 80939  
719-278-4651

**GAS**  
BLACK HILLS ENGERGY  
7060 ALLEGRE ST.  
FOUNTAIN, CO 80817  
719-393-6639

**EL PASO COUNTY**  
PLANNING AND COMMUNITY DEVELOPMENT  
2880 INTERNATIONAL CIRCLE  
COLORADO SPRINGS, CO 80910  
719-520-6300

**CONSTRUCTION APPROVAL**

FOUNTAIN MUTUAL IRRIGATION COMPANY FOR CONSTRUCTION WITHIN THE FMIC EASEMENT

FMIC REPRESENTATIVE \_\_\_\_\_ DATE \_\_\_\_\_

**DISTRICT APPROVAL (WATER)**

THE WIDEFIELD WATER AND SANITATION DISTRICT RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN. THE WIDEFIELD WATER AND SANITATION DISTRICT HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY.

WIDEFIELD WATER AND SANITATION DISTRICT  
WATER DESIGN APPROVAL

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

PROJECT NO. \_\_\_\_\_

IN CASE OF ERRORS OR OMISSIONS WITH THE WATER DESIGN AS SHOWN ON THIS DOCUMENT THE STANDARDS AS DEFINED IN THE "RULES AND REGULATIONS FOR INSTALLATION OF WATER MAINS AND SERVICES" SHALL RULE.

APPROVAL EXPIRES 180 DAYS FROM DESIGN APPROVAL

**CONSTRUCTION APPROVAL**

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUALS VOLUME 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED. CONSTRUCTION DOCUMENTS WILL BE VALID FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER.

JENNIFER IRVINE, COUNTY ENGINEER/ECM ADMINISTRATOR \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITIONS:

**ENGINEER'S APPROVAL**

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

RICHARD L. SCHINDLER, P.E. # 33997  
FOR AND ON BEHALF OF CORE ENGINEERING GROUP

**BASIS OF BEARING**

BEARINGS ARE BASED ON THE SOUTH LINE OF THE NORTH HALF OF SECTION 23, TOWNSHIP 15 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN AS BEING SOUTH 89°41'52" WEST. THE EAST QUARTER CORNER OF SAID SECTION 23 IS A FOUND 3-1/2" ALUMINUM CAP MONUMENT AND THE WEST QUARTER CORNER OF SAID SECTION 23 IS A FOUND 2-1/2" ALUMINUM CAP MONUMENT

**BENCHMARK**

FIMS MONUMENT F204 LOCATED AT THE NORTHWEST CORNER OF FONTAINE BLVD AND COTTONWOOD GROVE DR. ELEVATION 5724.072 (N.G.V.D. 29)

**TRAFFIC CONTROL NOTE**

THE CONTRACTOR SHALL PROVIDE ALL TRAFFIC CONTROL DEVICES AND MONITORING NECESSARY TO SAFELY COMPLETE THE WORK SHOWN IN THESE CONSTRUCTION DOCUMENTS IN CONFORMANCE WITH M.U.T.C.D. GUIDELINES. THE CONTRACTOR SHALL COMPLETE ALL NECESSARY WORK FOR PLAN REVIEW, PERMITS AND PROCESSING. TRAFFIC CONTROL WILL NOT BE PAID SEPARATELY BUT IS INCLUDED IN THE COST OF THE PROJECT.

CORE ENGINEERING GROUP  
15004 1ST AVENUE S.  
BURNSVILLE, MN 55306  
PH: 719.570.1100  
CONTACT: RICHARD L. SCHINDLER, P.E.  
EMAIL: Rich@ceg1.com

DATE

DESCRIPTION

NO.

DRAWN: LJA

DESIGNED: RLS

CHECKED: RLS

PROJECT:

LORSON, LLC  
212 N. WAHSATCH AVE., SUITE 301  
COLORADO SPRINGS, COLORADO 80903  
(719) 635-3200  
CONTACT: JEFF MARK

PROJECT:

JCC BRIDGE  
JCC MAIN CHANNEL - LORSON BLVD.  
EL PASO COUNTY, COLORADO

DATE

PROJECT NO.

SHEET NUMBER

**C1.1**

TOTAL SHEETS: 36

COVER SHEET

BRIDGE AT JCC MAIN CHANNEL

CONSTRUCTION PLANS



**CONSTRUCTION NOTES**

- ALL WORK SHALL COMPLY WITH THE CODES AND POLICIES FOR EL PASO COUNTY.
- EXISTING TOPOGRAPHIC INFORMATION SHOWN ON THIS GRADING PLAN WAS OBTAINED FROM DREXEL, BARRELL & CO., JULY, 2005. THE CONTRACTOR SHALL BE RESPONSIBLE TO EXAMINE THE SITE AND BE FAMILIAR WITH THE EXISTING CONDITIONS.
- DEPTH OF MOISTURE-DENSITY CONTROL FOR THIS PROJECT SHALL BE AS FOLLOWS:  
BASE OF ALL CUTS AND FILLS - 12 INCHES,  
FULL DEPTH OF ALL EMBANKMENTS
- THE CONTRACTOR IS RESPONSIBLE FOR THE RE-ESTABLISHMENT OF ALL SURVEY MONUMENTS DISTURBED WITHIN THE PROJECT LIMITS.
- THE CONTRACTOR SHALL PROTECT ALL WORK AREAS AND FACILITIES FROM FLOODING AT ALL TIMES. AREAS AND FACILITIES SUBJECTED TO FLOODING, REGARDLESS OF THE SOURCE OF WATER, SHALL BE PROMPTLY DEWATERED AND RESTORED.
- PRIOR TO PAVING OPERATIONS, THE ENTIRE SUBGRADE SHALL BE PROOF-ROLLED WITH A LOADED 988 FRONT-END LOADER OR SIMILAR HEAVY RUBBER TIRED VEHICLE (GVW OF 50,000 POUNDS WITH 18 KIP PER AXLE AT TIRE PRESSURES OF 90 PSI) TO DETECT ANY SOFT OR LOOSE AREAS. IN AREAS WHERE SOFT OR LOOSE SOILS, PUMPING OR EXCESSIVE MOVEMENT IS OBSERVED, THE EXPOSED MATERIALS SHALL BE OVER-EXCAVATED TO A MINIMUM DEPTH OF TWO FEET BELOW PROPOSED FINAL GRADE OR TO A DEPTH AT WHICH SOILS ARE STABLE. AFTER THIS HAS BEEN COMPLETED, THE EXPOSED MATERIALS SHALL BE SCARIFIED TO A DEPTH OF 12 INCHES AND MOISTURE CONDITIONED. THE SUBGRADE SHALL THEN BE UNIFORMLY COMPACTED TO A MINIMUM OF 95% OF STANDARD PROCTOR DENSITY (ASTM D-698) AT 0 TO +4.0% OF OPTIMUM MOISTURE CONTENT FOR A-6 AND A-7-6 SOILS ENCOUNTERED. OTHER SUBGRADE TYPES SHALL BE UNIFORMLY COMPACTED TO A MINIMUM OF 95% OF MODIFIED PROCTOR DENSITY (ASTM D-1557) AT PLUS OR MINUS 2.0% OF OPTIMUM MOISTURE CONTENT. AREAS WHERE STABLE NATURAL SOILS ARE ENCOUNTERED AT PROPOSED SUBGRADE ELEVATION SHALL ALSO BE SCARIFIED (18 INCHES FOR A-7-6 SOILS BELOW FULL-DEPTH ASPHALT CONCRETE) AND COMPACTED AS OUTLINED ABOVE PRIOR TO PAVING OPERATIONS. SUBGRADE FILL SHALL BE PLACED IN SIX-INCH LIFTS AND UNIFORMLY COMPACTED, MEETING THE REQUIREMENTS AS PREVIOUSLY DESCRIBED.
- SUBGRADE MATERIALS DEEMED UNSUITABLE BY THE ENGINEER SHALL BE EXCAVATED, DISPOSED OF AND REPLACED WITH APPROVED MATERIALS.
- FILL SHALL BE PLACED IN 8-INCH MAXIMUM LOOSE LIFTS AND SHALL BE COMPACTED PRIOR TO SUCCESSIVE LIFTS.
- THE CONTRACTOR IS RESPONSIBLE FOR PREVENTING AND CONTROLLING EROSION DURING CONSTRUCTION ACTIVITIES AT ALL TIMES DURING GRADING AND CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE THE FOLLOWING EROSION AND SEDIMENT CONTROL MEASURES:
  - HAY BALE BARRIERS WHERE NEEDED AND/OR AS DIRECTED BY THE ENGINEER.
  - SILT FENCE WHERE NEEDED AND/OR AS DIRECTED BY THE ENGINEER.
  - TEMPORARY SEDIMENTATION BASINS WHERE NEEDED AND/OR AS DIRECTED BY THE ENGINEER.
  - MULCHING AND SEEDING OF EXCESSIVE SLOPED AREAS AS NEEDED OR AS DIRECTED BY THE ENGINEER.
  - TEMPORARY VEHICLE TRACKING CONTROL AS NEEDED AND/OR DIRECTED BY THE ENGINEER.
  - CONCRETE WASH AREAS.
  - INLET PROTECTION.
 THESE AND ALL EROSION CONTROL BEST MANAGEMENT PRACTICES AS SHOWN IN THE GRADING AND EROSION CONTROL PLANS SHALL BE STRICTLY ADHERED TO.
- FINISHED CONTOURS/SPOT ELEVATIONS SHOWN HEREON REPRESENT FINISHED GRADES. ALL PAVEMENT SUBGRADES ARE BASED ON THE COMPOSITE ASPHALT PAVEMENT RECOMMENDATIONS MADE IN THE "GEOTECHNICAL STUDY" FOR LORSON RANCH.

Provide date

EL PASO COUNTY STANDARD CONSTRUCTION NOTES:

- ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
- CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
  - EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
  - CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
  - COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION CDOT M & S STANDARDS
- NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
- CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (PCD) - INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
- CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND PCD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
- ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY PCD.
- CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.
- SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY PUBLIC WORK DEPARTMENT AND MUTCD CRITERIA.
- CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY PWD, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
- THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.

WIDEFIELD WATER AND SANITATION DISTRICT GENERAL NOTES

- ALL UTILITY CONSTRUCTION TO BE CONDUCTED IN CONFORMANCE WITH THE CURRENT WIDEFIELD WATER AND SANITATION DISTRICT SPECIFICATIONS. COMPACTION REQUIREMENTS SHALL BE 95% STANDARD PROCTOR AS DETERMINED BY ASTM D698, UNLESS OTHERWISE APPROVED BY THE WIDEFIELD WATER AND SANITATION DISTRICT OR A HIGHER STANDARD IS IMPOSED BY ANOTHER AGENCY HAVING RIGHT-OF-WAY JURISDICTION.
- ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE WIDEFIELD WATER AND SANITATION DISTRICT. THE WIDEFIELD WATER AND SANITATION DISTRICT RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO ITS STANDARDS AND SPECIFICATIONS.
- THE DEVELOPER OR HIS ENGINEER HAS LOCATED ALL FIRE HYDRANTS AND FUTURE SERVICE STUBS. ANY REQUIRED REALIGNMENT, EITHER HORIZONTAL OR VERTICAL, SHALL BE AT THE EXPENSE OF THE DEVELOPER.
- ALL DUCTILE IRON PIPE, TO INCLUDE FITTINGS, VALVES AND FIRE HYDRANTS WILL BE WRAPPED WITH POLYETHYLENE TUBING, BONDED AT EACH JOINT AND ELECTRICALLY ISOLATED.
- ALL DUCTILE IRON PIPE SHALL BE DOUBLE BONDED. DIP SHALL HAVE CATHODIC PROTECTION USING NO. 6 WIRE WITH 17 LB. MAGNESIUM ANODES EVERY 400 FEET.
- PVC MAIN LINES SHALL BE INSTALLED WITH COATED NO. 12 TRACER WIRE.
- ALL FITTINGS SHALL BE DUCTILE IRON -MECHANICAL JOINT AND HAVE 1 LB. MAGNESIUM ANODES AT EVERY FITTING.
- THE CONTRACTOR IS REQUIRED TO NOTIFY THE WIDEFIELD WATER AND SANITATION DISTRICT (390-7111) A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO NOTIFY AFFECTED UTILITY COMPANIES 48 HOURS PRIOR TO CONSTRUCTION ADJACENT TO THE KNOWN UTILITY LINES.
- THE LOCATION OF ALL UTILITIES AS SHOWN ON THESE DRAWINGS ARE APPROXIMATE ONLY. THE LOCATION OF ALL UTILITIES SHALL BE VERIFIED PRIOR TO CONSTRUCTION BY THE CONTRACTOR.
- THE CONTRACTOR SHALL FIELD EXCAVATE AND VERIFY THE VERTICAL AND HORIZONTAL LOCATION OF ALL TIE-INS. CONTRACTOR SHALL NOTIFY THE WIDEFIELD WATER AND SANITATION DISTRICT AND THE ENGINEER OF THE FIELD VERIFIED INFORMATION PRIOR TO CONSTRUCTION.
- ALL BENDS SHALL BE FIELD STAKED PRIOR TO CONSTRUCTION.
- ANY WATER UTILITY MATERIAL REMOVED AND NOT REUSED SHALL BE RETURNED TO THE WIDEFIELD WATER AND SANITATION DISTRICT IF THE DISTRICT SO REQUESTS.
- THE CONTRACTOR SHALL AT HIS EXPENSE SUPPORT AND PROTECT ALL UTILITY MAINS SO THAT THEY WILL FUNCTION CONTINUOUSLY DURING CONSTRUCTION. SHOULD A UTILITY MAIN FAIL AS A RESULT OF THE CONTRACTOR'S OPERATION, IT WILL BE REPLACED IMMEDIATELY BY EITHER THE CONTRACTOR OR THE WIDEFIELD WATER AND SANITATION DISTRICT AT FULL COST OF LABOR AND MATERIALS TO THE CONTRACTOR.
- ANY PUMPING OR BYPASS OPERATIONS MUST BE REVIEWED AND APPROVED PRIOR TO EXECUTION BY BOTH THE WIDEFIELD WATER AND SANITATION DISTRICT AND THE ENGINEER.
- DISINFECTION SHALL BE ACCOMPLISHED BY GLUING TABLETS TO THE TOP OF THE LINE. POWDER OR GRANULER HTH SHALL NOT BE USED. SEE WIDEFIELD SPECS FOR FURTHER DEFINITION OF DISINFECTION TECHNIQUES.
- CONTRACTOR MUST REPLACE OR REPAIR ANY DAMAGE TO ALL SURFACE IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO FENCES, CURB AND GUTTER AND/OR ASPHALT THAT MAY BE CAUSED DURING CONSTRUCTION.
- ALL WATER LINES 6" AND LARGER, AND ALL SEWER LINES 8" AND LARGER, SHALL HAVE AS "AS-BUILT" PLANS PREPARED AND APPROVED PRIOR TO FINAL ACCEPTANCE BY THE WIDEFIELD WATER AND SANITATION DISTRICT.
- PRIOR TO CONSTRUCTION, A PRE-CONSTRUCTION CONFERENCE IS REQUIRED A MINIMUM OF 72 HOURS IN ADVANCE OF COMMENCEMENT OF WORK. TO SET THE PRE-CONSTRUCTION CONFERENCE, CONTACT BRANDON BERNARD-WATER SUPERINTENDENT (464-2051) AND/OR MARK MCCORMICK, WASTEWATER SUPERINTENDENT OF THE WIDEFIELD WATER AND SANITATION DISTRICT FOR A TIME. NO PRE-CONSTRUCTION CONFERENCE TIMES WILL BE SET UNTIL 4 SETS OF SIGNED DRAWINGS ARE RECEIVED BY THE WIDEFIELD W & S DISTRICT. PRE-CONSTRUCTION DATE /INITIALS\_\_\_\_\_.

WIDEFIELD WATER AND SANITATION DISTRICT UTILITY CONSTRUCTION NOTES

- ALL DUCTILE IRON PIPE AND FITTINGS SHALL HAVE CATHODIC PROTECTION AND 1 LB MAGNESIUM ANODES AT EVERY FITTING.
- ALL FIRE HYDRANTS SHALL BE MUELLER SUPER CENTURION 200 OR AMERICAN AVK SERIES 2700, (MODERN)

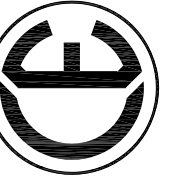
STANDARD NOTES FOR EL PASO COUNTY GRADING AND EROSION CONTROL PLANS

- CONSTRUCTION MAY NOT COMMENCE UNTIL A CONSTRUCTION PERMIT IS OBTAINED FROM PCD AND A PRECONSTRUCTION CONFERENCE IS HELD WITH PCD INSPECTIONS.
- STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON-SITE OR OFF SITE WATERS, INCLUDING WETLANDS.
- NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
- A SEPARATE STORMWATER MANAGEMENT PLAN (SWMP) FOR THIS PROJECT SHALL BE COMPLETED AND AN EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP) ISSUED PRIOR TO COMMENCING CONSTRUCTION. DURING CONSTRUCTION THE SWMP IS THE RESPONSIBILITY OF THE DESIGNATED STORMWATER MANAGER, SHALL BE LOCATED ON SITE AT ALL TIMES AND SHALL BE KEPT UP TO DATE WITH WORK PROGRESS AND CHANGES IN THE FIELD.
- ONCE THE ESQCP HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL THE INITIAL STAGE EROSION AND SEDIMENT CONTROL BMPS AS INDICATED ON THE GEC. A PRECONSTRUCTION MEETING BETWEEN THE CONTRACTOR, ENGINEER, AND EL PASO COUNTY WILL BE HELD PRIOR TO ANY CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE THE MEETING TIME AND PLACE WITH COUNTY PCD INSPECTIONS STAFF.
- SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 21 CALENDAR DAYS AFTER FINAL GRADING, OR FINAL EARTH DISTURBANCE, HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21 DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE SEEDED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMPS SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND ESTABLISHED.
- TEMPORARY SOIL EROSION CONTROL FACILITIES SHALL BE REMOVED AND EARTH DISTURBANCE AREAS GRADED AND STABILIZED WITH PERMANENT SOIL EROSION CONTROL MEASURES PURSUANT TO STANDARDS AND SPECIFICATION PRESCRIBED IN THE DCM VOLUME II AND THE ENGINEERING CRITERIA MANUAL (ECM) APPENDIX I.
- ALL PERSONS ENGAGED IN EARTH DISTURBANCE SHALL IMPLEMENT AND MAINTAIN ACCEPTABLE SOIL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING BMPS IN CONFORMANCE WITH THE EROSION CONTROL TECHNICAL STANDARDS OF THE DRAINAGE CRITERIA MANUAL (DCM) VOLUME II AND IN ACCORDANCE WITH THE STORMWATER MANAGEMENT PLAN (SWMP).
- ALL TEMPORARY EROSION CONTROL FACILITIES INCLUDING BMPS AND ALL PERMANENT FACILITIES INTENDED TO CONTROL EROSION OF ANY EARTH DISTURBANCE OPERATIONS, SHALL BE INSTALLED AS DEFINED IN THE APPROVED PLANS, THE SWMP AND THE DCM VOLUME II AND MAINTAINED THROUGHOUT THE DURATION OF THE EARTH DISTURBANCE OPERATION.
- ANY EARTH DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY REDUCE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF TIME.
- ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE DESIGNED TO LIMIT THE DISCHARGE TO A NON-EROSIVE VELOCITY.
- CONCRETE WASH WATER SHALL BE CONTAINED AND DISPOSED OF IN ACCORDANCE WITH THE SWMP. NO WASH WATER SHALL BE DISCHARGED TO OR ALLOWED TO RUNOFF TO STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
- EROSION CONTROL BLANKETING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
- BUILDING, CONSTRUCTION, EXCAVATION, OR OTHER WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. BMP'S MAY BE REQUIRED BY EL PASO COUNTY PCD IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES.
- VEHICLE TRACKING OF SOILS AND CONSTRUCTION DEBRIS OFF-SITE SHALL BE MINIMIZED. MATERIALS TRACKED OFFSITE SHALL BE CLEANED UP AND PROPERLY DISPOSED OF IMMEDIATELY.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL WASTES FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO CONSTRUCTION DEBRIS, TREE SLASH, BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
- THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, AND SAND THAT MAY ACCUMULATE IN THE STORM SEWER OR OTHER DRAINAGE CONVEYANCE SYSTEM AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
- THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS.
- NO CHEMICALS ARE TO BE USED BY THE CONTRACTOR, WHICH HAVE THE POTENTIAL TO BE RELEASED IN STORMWATER UNLESS PERMISSION FOR THE USE OF A SPECIFIC CHEMICAL IS GRANTED IN WRITING BY THE ECM ADMINISTRATOR. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
- BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND OTHER CHEMICALS SHALL HAVE ADEQUATE PROTECTION SO AS TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING STATE WATERS, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
- NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE FLOW LINE OF THE CURB AND GUTTER OR IN THE DITCHLINE.
- INDIVIDUALS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS), AND THE "CLEAN WATER ACT" (33 USC 1344), IN ADDITION TO THE REQUIREMENTS INCLUDED IN THE DCM VOLUME II AND THE ECM APPENDIX I. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION (NPDES, FLOODPLAIN, 404, FUGITIVE DUST, ETC.). IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL, STATE, OR COUNTY AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
- ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
- PRIOR TO ACTUAL CONSTRUCTION THE PERMITEE SHALL VERIFY THE LOCATION OF EXISTING UTILITIES.
- A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING EARTHWORK OPERATIONS AND UTILIZED AS REQUIRED TO MINIMIZE DUST FROM EARTHWORK EQUIPMENT AND WIND.
- THE SOILS REPORT FOR THIS SITE HAS BEEN PREPARED BY RMG AND SHALL BE CONSIDERED A PART OF THESE PLANS.
- AT LEAST TEN DAYS PRIOR TO THE ANTICIPATED START OF CONSTRUCTION, FOR PROJECTS THAT WILL DISTURB 1 ACRE OR MORE, THE OWNER OR OPERATOR OF CONSTRUCTION ACTIVITY SHALL SUBMIT A PERMIT APPLICATION FOR STORMWATER DISCHARGE TO THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION. THE APPLICATION CONTAINS CERTIFICATION OF COMPLETION OF A STORMWATER MANAGEMENT PLAN (SWMP), OF WHICH THIS GRADING AND EROSION CONTROL PLAN MAY BE A PART. FOR INFORMATION OR APPLICATION MATERIALS CONTACT:

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT  
WATER QUALITY CONTROL DIVISION  
WOOD - PERMITS  
4300 CHERRY CREEK DRIVE SOUTH  
DENVER, CO 80246-1530  
ATTN: PERMITS UNIT

Provide date

**CORE ENGINEERING GROUP**  
1500 WEST AVENUE, SUITE 500  
DENVER, CO 80202  
PHONE: 719.570.1100  
CONTACT: RICHARD L. SCHINDLER, P.E.  
EMAIL: Rich@ceng1.com



DATE	X
DESCRIPTION	
NO.	X
1.	
PROJECT:	JCC BRIDGE JCC MAIN CHANNEL - LORSON BLVD. EL PASO COUNTY, COLORADO
PREPARED FOR:	LORSON, LLC 212 N. WAHATCH AVE., SUITE 301 COLORADO SPRINGS, COLORADO 80903 (719) 636-3200 CONTACT: JEFF MARK

DRAWN: RLS  
DESIGNED: RLS  
CHECKED: RLS

**NOTES - WATERMAIN, STREET,  
GRADING AND EROSION CONTROL  
JCC BRIDGE AT MAIN CHANNEL**

DATE  
**SEPT 15, 2017**

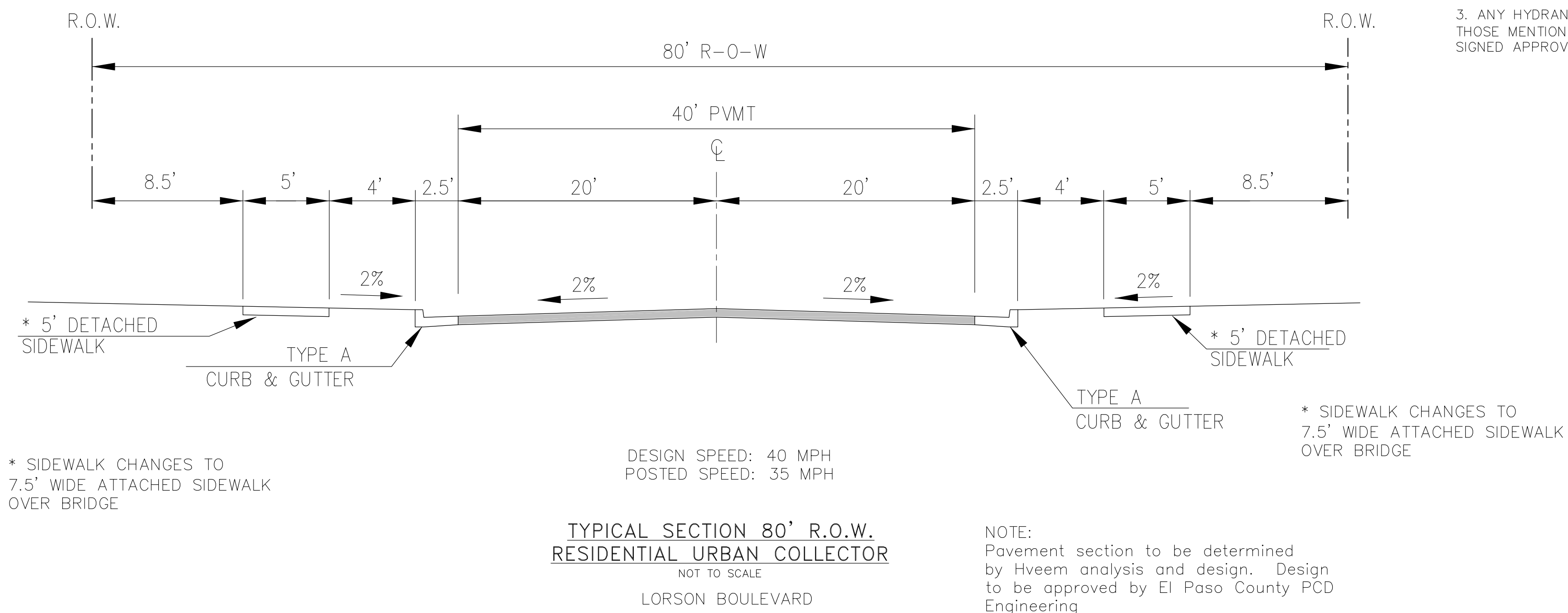
PROJECT NO.  
**100.030**

SHEET NUMBER

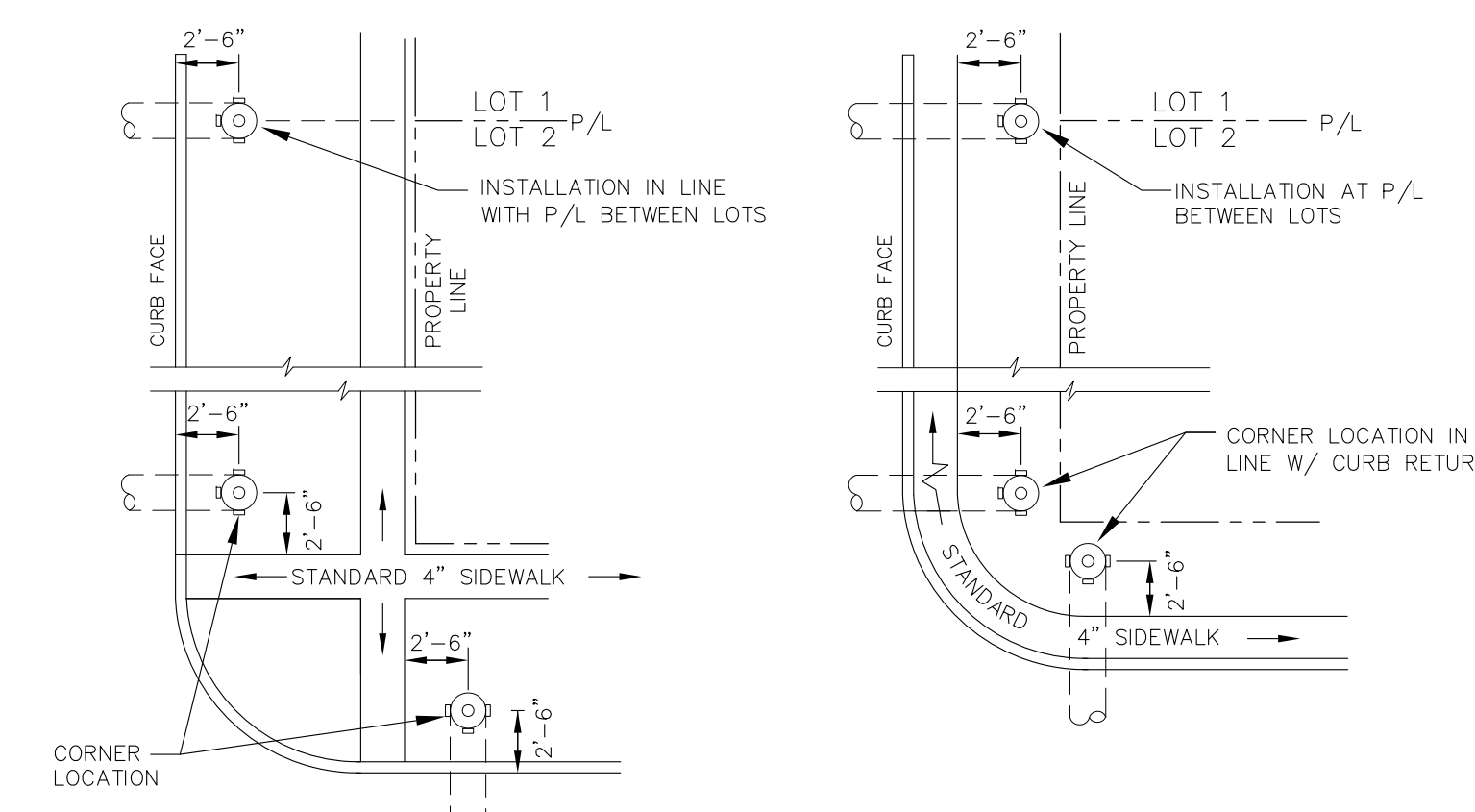
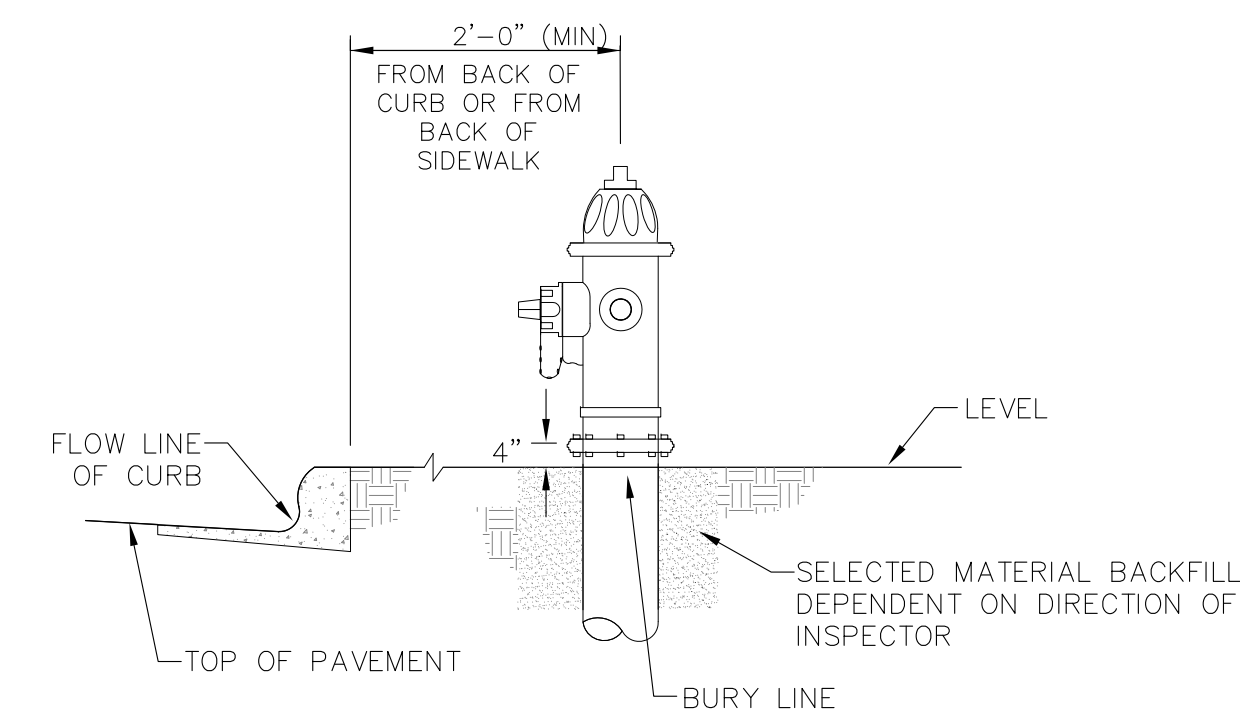
**C1.2**

TOTAL SHEETS: **36**





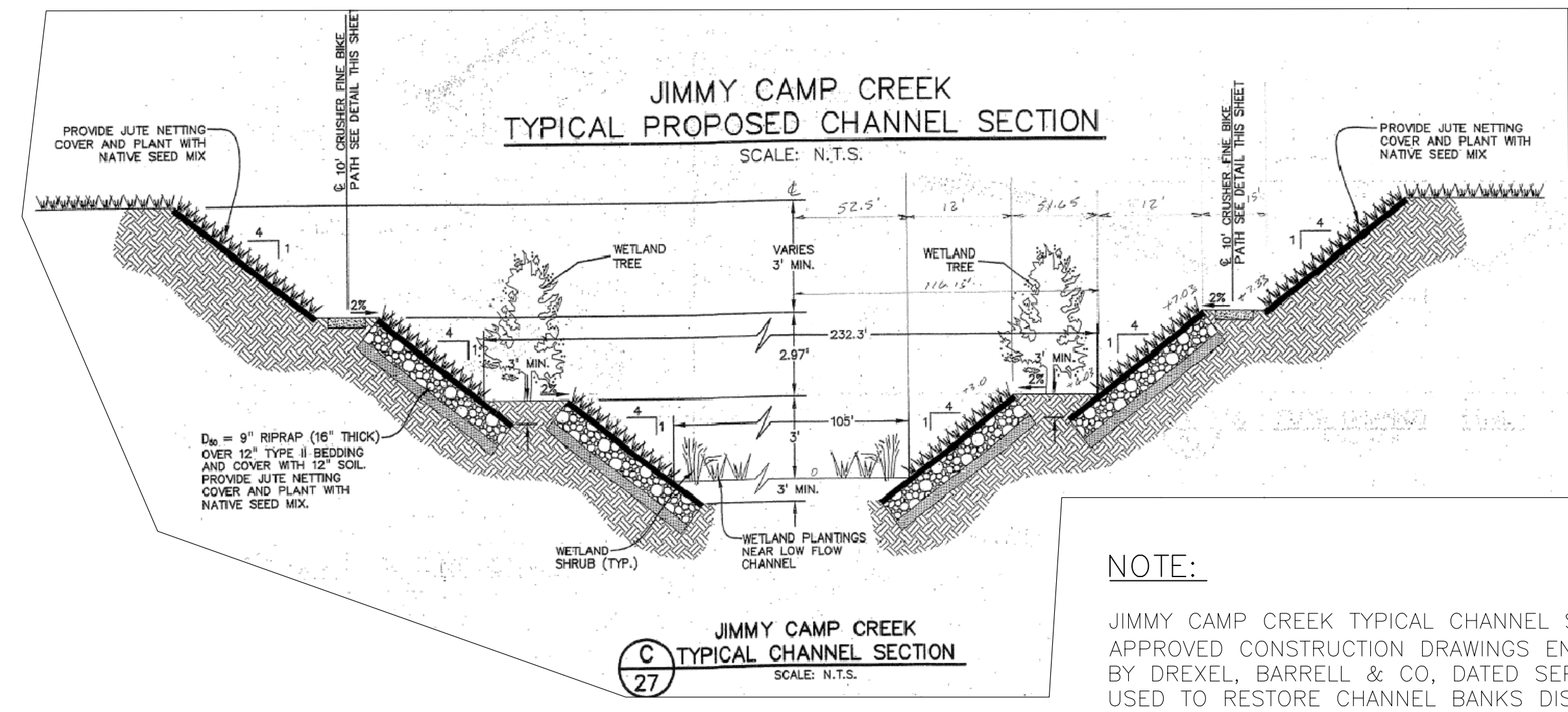
- NOTE**  
ALL HYDRANTS SHALL BE MEULLER SUPER CENTURION 200.
- NOTES**
1. HYDRANT NOZZLE SHALL BE POSITIONED AT RIGHT ANGLES TO CURB. IF NO CURB OR SIDEWALK EXIST, NOZZLE SHALL BE PLACED AT RIGHT ANGLE TO STREET OR ALLEY.
  2. HYDRANTS WILL BE PLACED A MINIMUM OF 5.0 FEET FROM ANY UTILITY OR DRAINAGE STRUCTURE (TO BE CO-ORDINATED WITH JOINT TRENCH INSTALLATION)
  3. ANY HYDRANT BEING INSTALLED WITH CONDITIONS OTHER THAN THOSE MENTIONED AND/OR DETAILED BELOW WILL REQUIRE SIGNED APPROVAL FROM SECURITY FIRE PROTECTION DISTRICT.



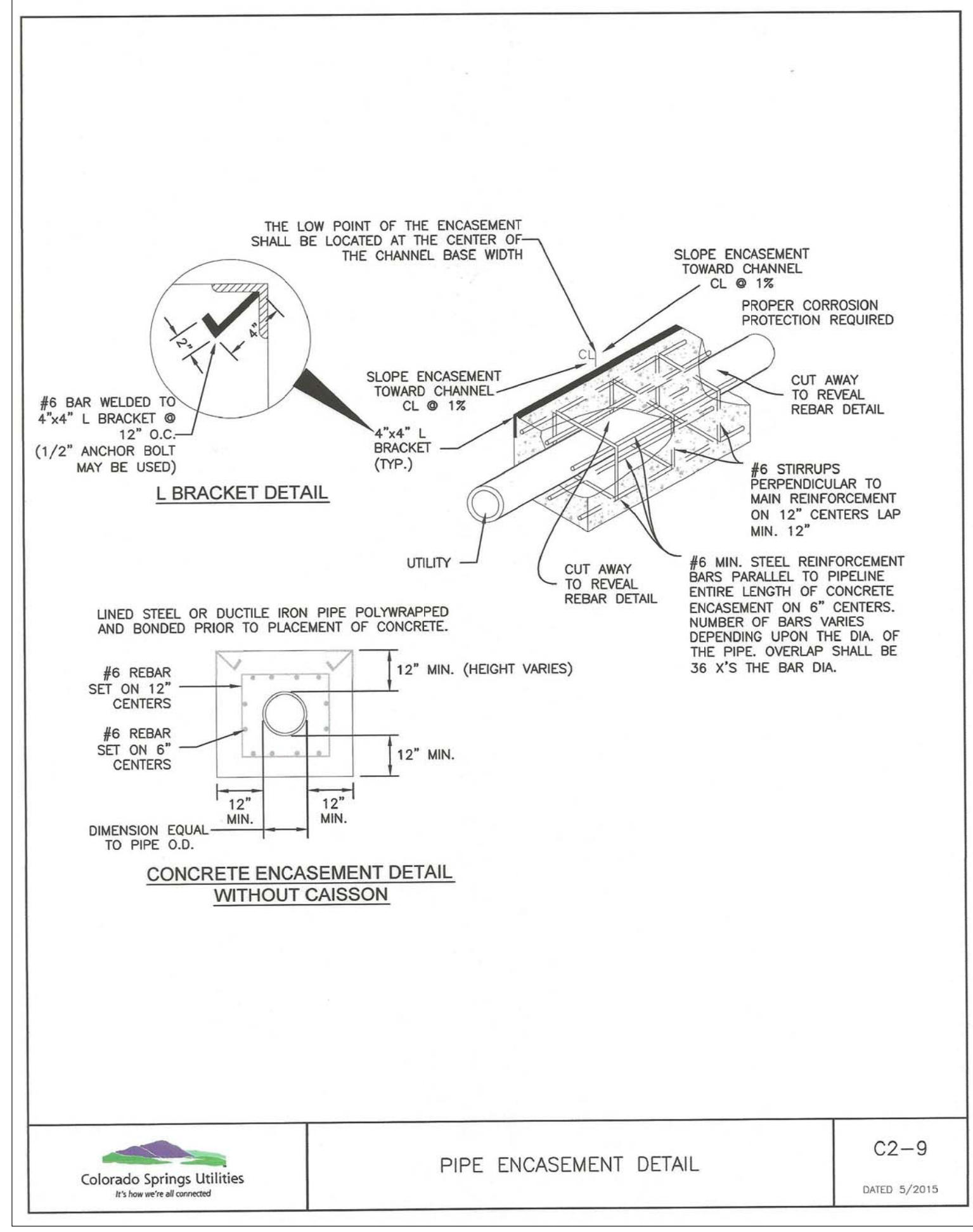
**DETACHED SIDEWALK LOCATION**  
NO SCALE

**ATTACHED SIDEWALK LOCATION**  
NO SCALE

**FIRE HYDRANT LOCATIONS**  
NO SCALE



**NOTE:**  
JIMMY CAMP CREEK TYPICAL CHANNEL SECTION IS TAKEN FROM APPROVED CONSTRUCTION DRAWINGS ENTITLED "JIMMY CAMP CREEK REALIGNMENT" BY DREXEL, BARRELL & CO, DATED SEPTEMBER 6, 2005. THIS SECTION IS TO BE USED TO RESTORE CHANNEL BANKS DISTURBED BY WATERMAIN CONSTRUCTION SHOWN ON SHEET C8.1 TO THE ARMORED CONDITION.



NO.	DESCRIPTION	DATE
1.		X
X		

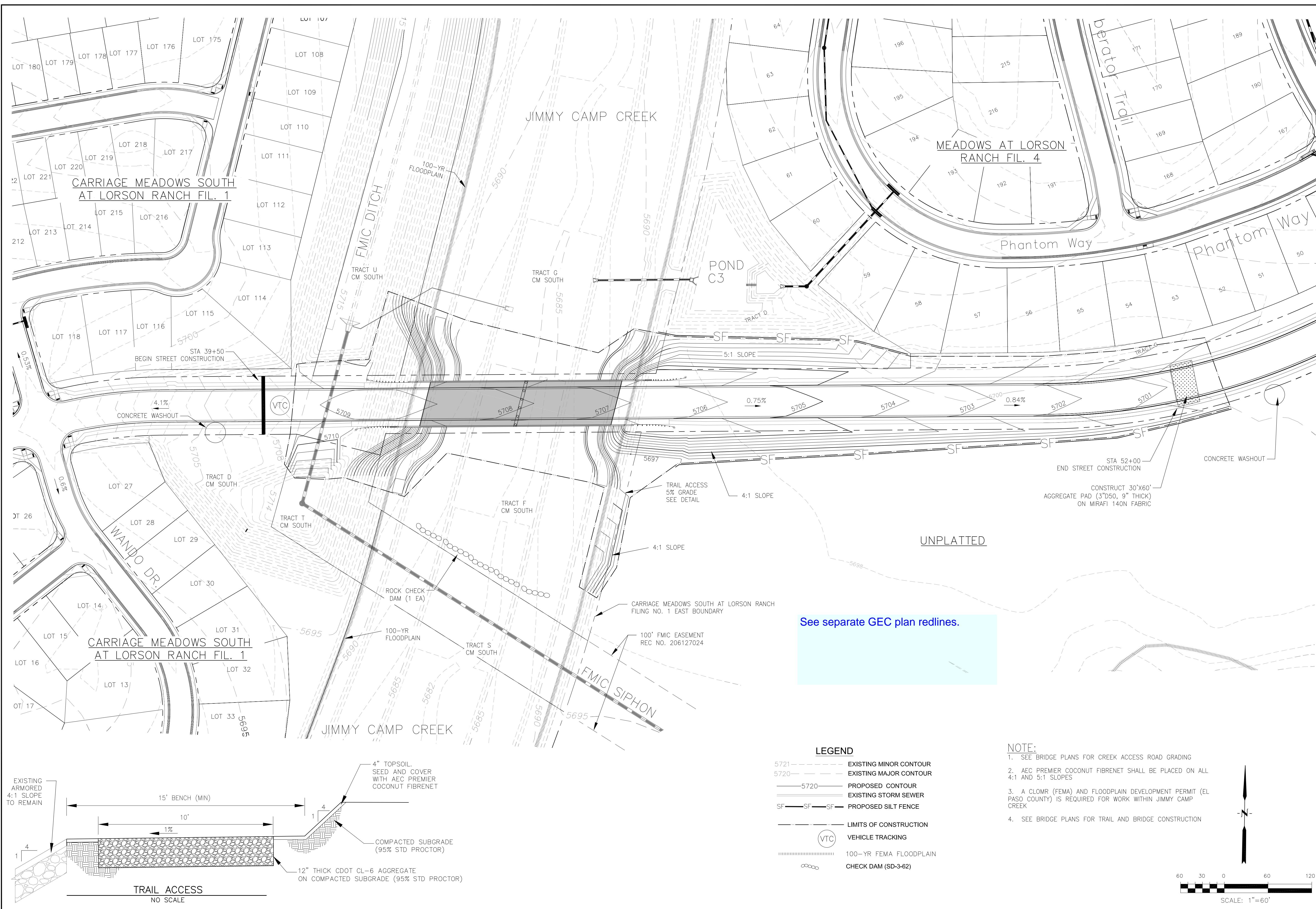
PROJECT: JCC BRIDGE  
JCC MAIN CHANNEL - LORSON BLVD.  
EL PASO COUNTY, COLORADO

PREPARED FOR: LORSON, LLC  
212 N. WAHSATCH AVE., SUITE 301  
COLORADO SPRINGS, COLORADO 80903  
CONTACT: JEFF MARK

DRAWN: LJA  
DESIGNED: RLS  
CHECKED: RLS

**WATERMAIN DETAILS AND STREET TYPICAL SECTION  
JCC BRIDGE AT MAIN CHANNEL**





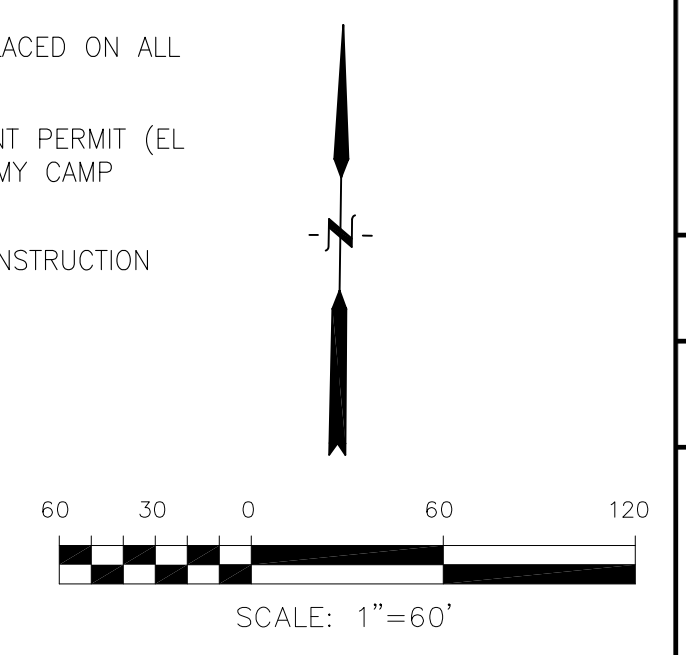
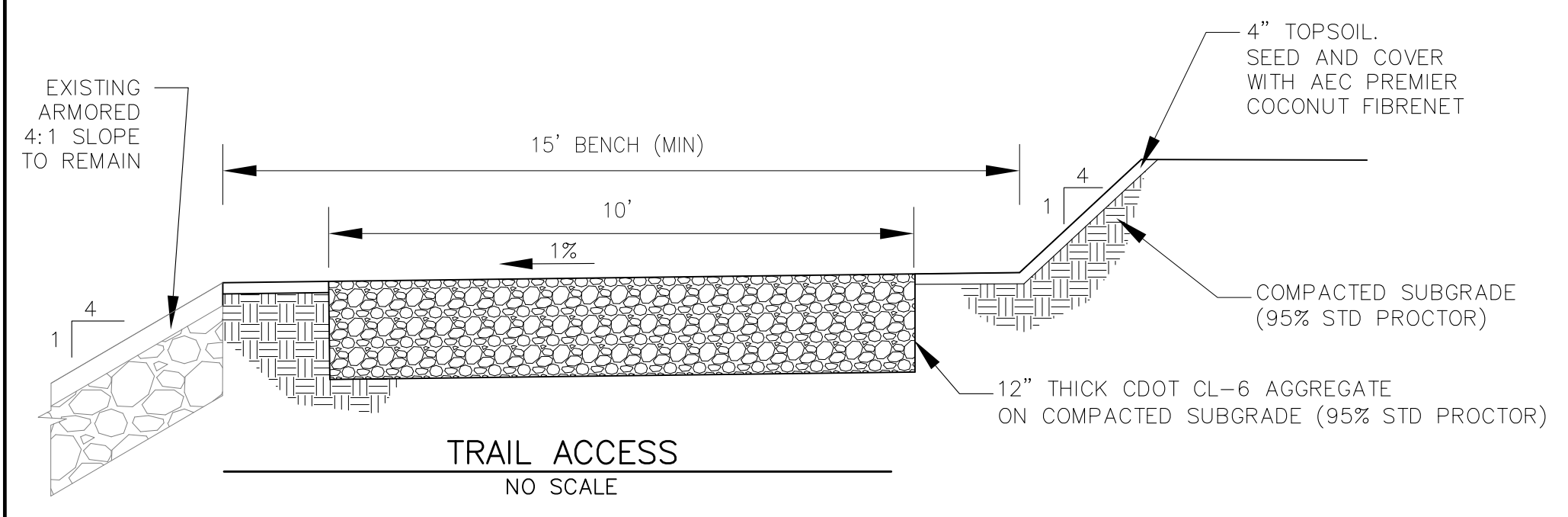
See separate GEC plan redlines.

**LEGEND**

- 5721 - - - - - EXISTING MINOR CONTOUR
- 5720 - - - - - EXISTING MAJOR CONTOUR
- 5720 ——— PROPOSED CONTOUR
- — — — — EXISTING STORM SEWER
- SF — SF — SF — PROPOSED SILT FENCE
- — — — — LIMITS OF CONSTRUCTION
- (VTC) VEHICLE TRACKING
- ⋯⋯⋯ 100-YR FEMA FLOODPLAIN
- ⊙⊙⊙⊙ CHECK DAM (SD-3-62)

**NOTE:**

1. SEE BRIDGE PLANS FOR CREEK ACCESS ROAD GRADING
2. AEC PREMIER COCONUT FIBRENET SHALL BE PLACED ON ALL 4:1 AND 5:1 SLOPES
3. A CLOMR (FEMA) AND FLOODPLAIN DEVELOPMENT PERMIT (EL PASO COUNTY) IS REQUIRED FOR WORK WITHIN JIMMY CAMP CREEK
4. SEE BRIDGE PLANS FOR TRAIL AND BRIDGE CONSTRUCTION



**CORE ENGINEERING GROUP**  
 1500S 151ST AVENUE, SUITE 301  
 COLORADO SPRINGS, CO 80903  
 PH: 719.570.1100  
 CONTACT: RICHARD L. SCHINDLER, P.E.  
 EMAIL: Rich@ceg1.com

DATE: X  
 DESCRIPTION: X  
 NO. 1. X  
 PROJECT: JCC BRIDGE  
 JCC MAIN CHANNEL - LORSON BLVD.  
 EL PASO COUNTY, COLORADO  
 PREPARED FOR: LORSON, LLC  
 212 N. WAHSATCH AVE., SUITE 301  
 COLORADO SPRINGS, COLORADO 80903  
 CONTACT: JEFF MARK

DRAWN: LJA  
 DESIGNED: RLS  
 CHECKED: RLS

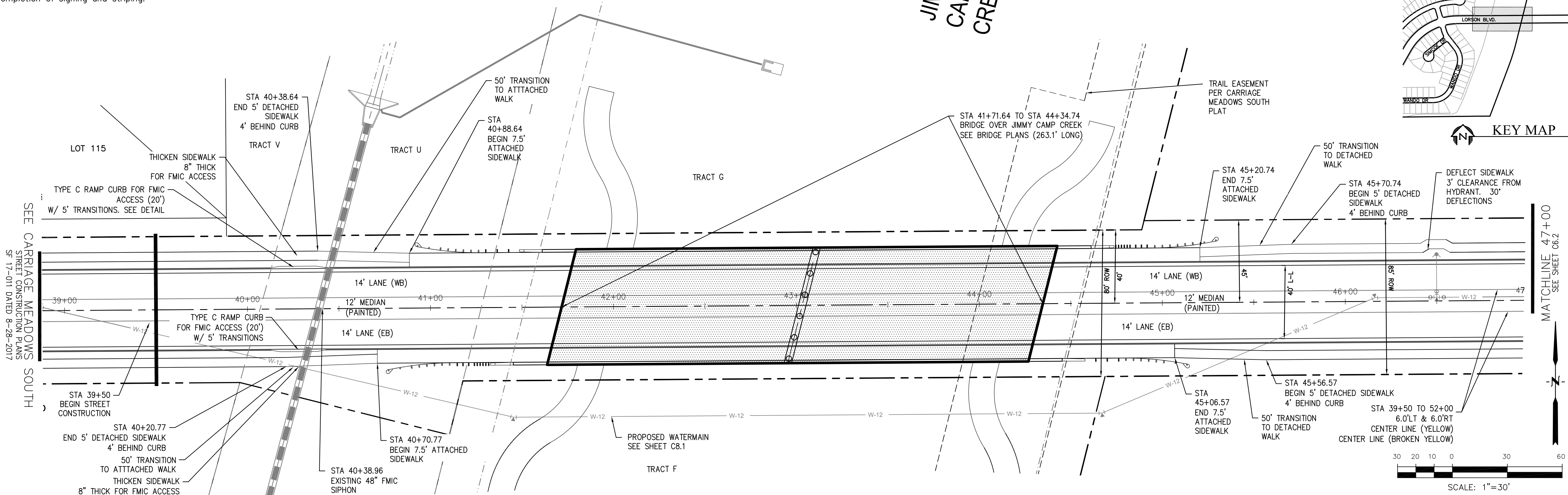
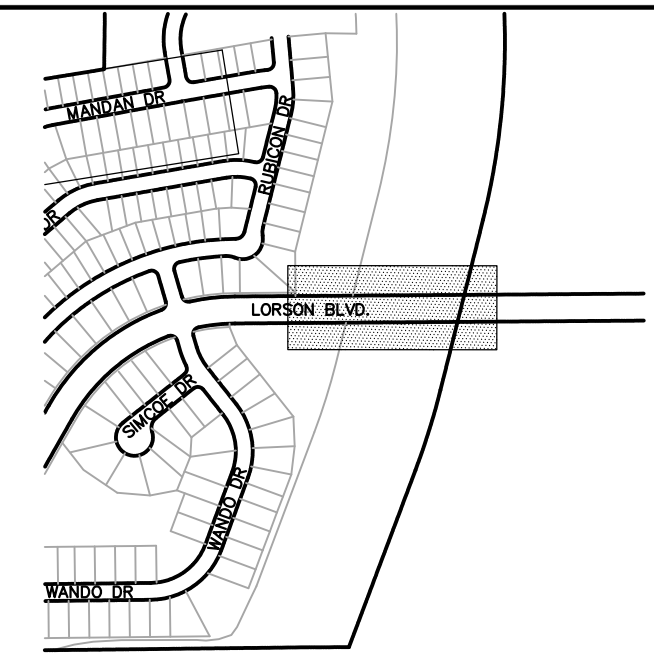
**GRADING AND EROSION CONTROL PLAN  
 JCC BRIDGE AT MAIN CHANNEL**

DATE: SEPT 15, 2017  
 PROJECT NO.: 100.030  
 SHEET NUMBER: C4.1  
 TOTAL SHEETS: 36



- Striping Notes:
1. All pavement markings shall be in compliance with the current Manual on Uniform Traffic Control Devices (MUTCD).
  2. Any deviation from the striping plan shall be approved by El Paso County Planning and Community Development.
  3. All longitudinal lines shall be a minimum 15mil thickness epoxy paint.
  4. The contractor shall notify El Paso County Planning and Community Development (719) 520-6819 prior to and upon completion of signing and striping.

JIMMY  
CAMP  
CREEK



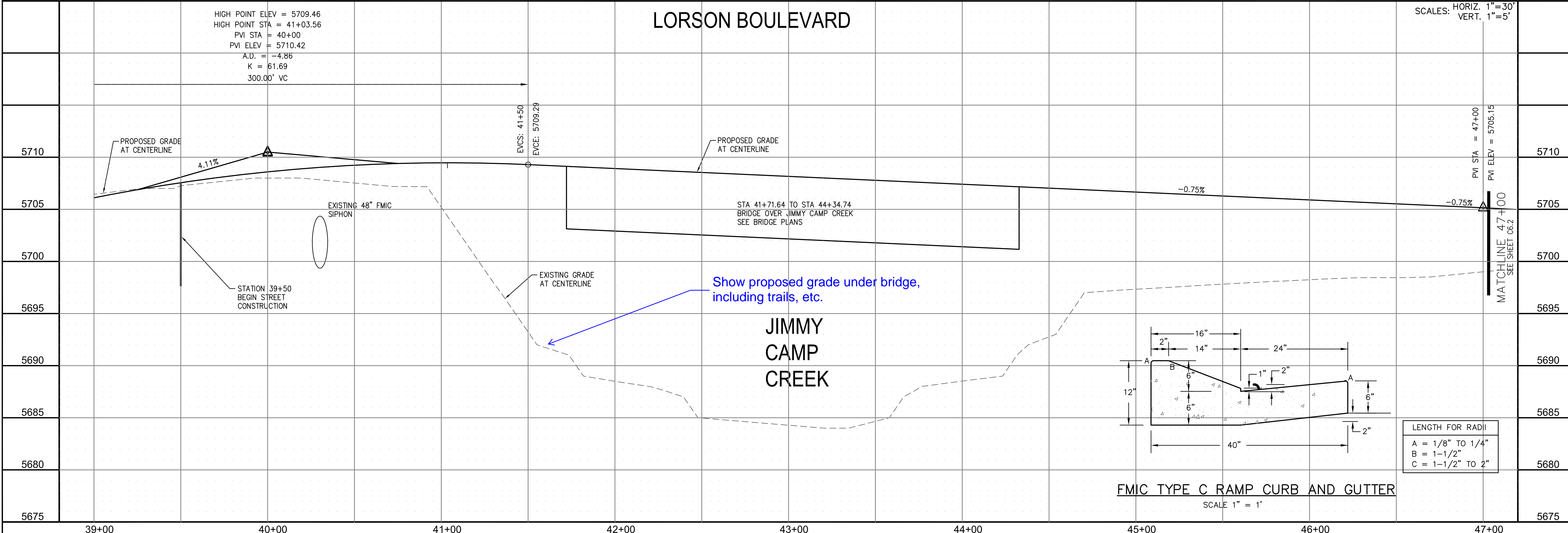
**CORE ENGINEERING GROUP**  
 15004 1ST AVENUE S.  
 BLDG 79 S701100  
 P.O. BOX 5506  
 COLORADO SPRINGS, COLORADO 80903  
 CONTACT: RICHARD L. SCHINDLER, P.E.  
 EMAIL: Rich@cegi.com

DATE: X  
 DESCRIPTION: X  
 NO. 1  
 PROJECT: JCC BRIDGE - LORSON BLVD.  
 JCC MAIN CHANNEL - LORSON BLVD.  
 EL PASO COUNTY, COLORADO  
 PREPARED FOR: LORSON, LLC  
 212 N. WAHSATCH AVE., SUITE 301  
 COLORADO SPRINGS, COLORADO 80903  
 CONTACT: JEFF MARK

LORSON BOULEVARD

HIGH POINT ELEV = 5709.46  
 HIGH POINT STA = 41+03.56  
 PVI STA = 40+00  
 PVI ELEV = 5710.42  
 A.D. = -4.86  
 K = 61.69  
 300.00' VC

SCALES: HORIZ. 1"=30'  
 VERT. 1"=5'

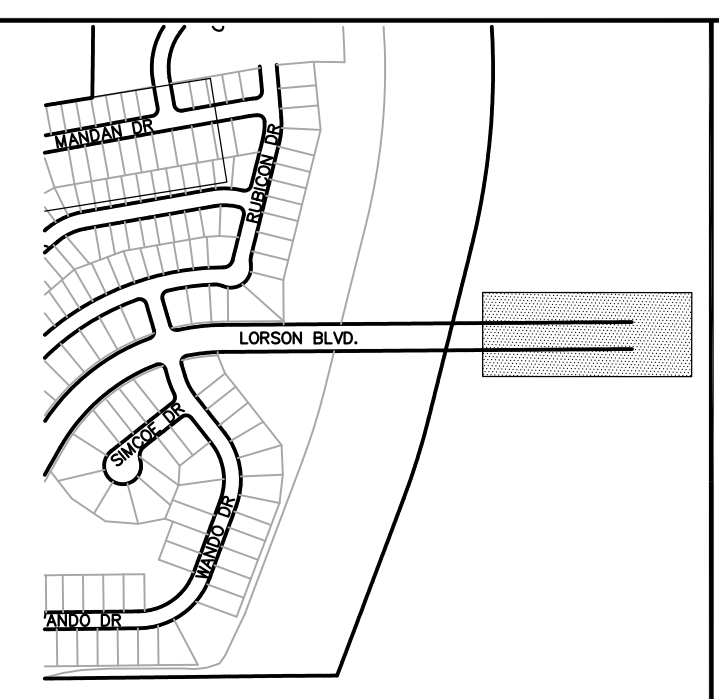


Show proposed grade under bridge, including trails, etc.

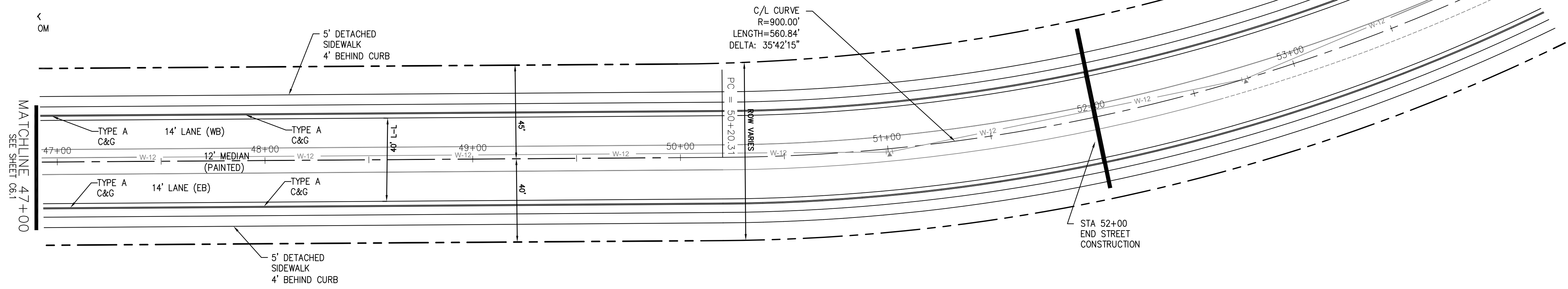
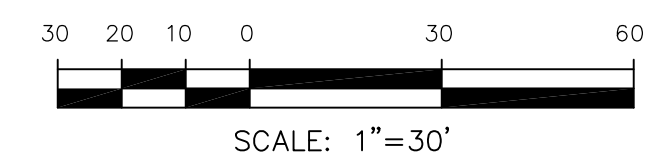
STREET STA 39+50 TO STA 47+00  
 LORSON BOULEVARD

DATE: SEPT 15, 2017  
 PROJECT NO. 100.030  
 SHEET NUMBER C6.1  
 TOTAL SHEETS: 36



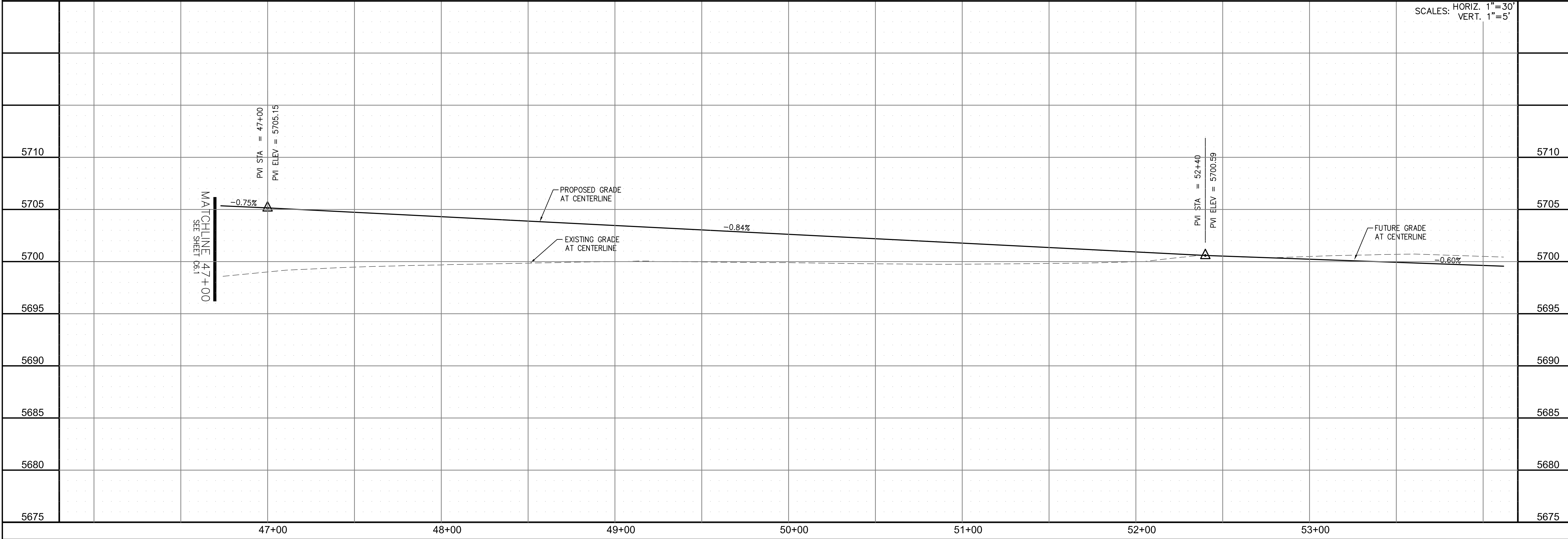


KEY MAP



LORSON BOULEVARD

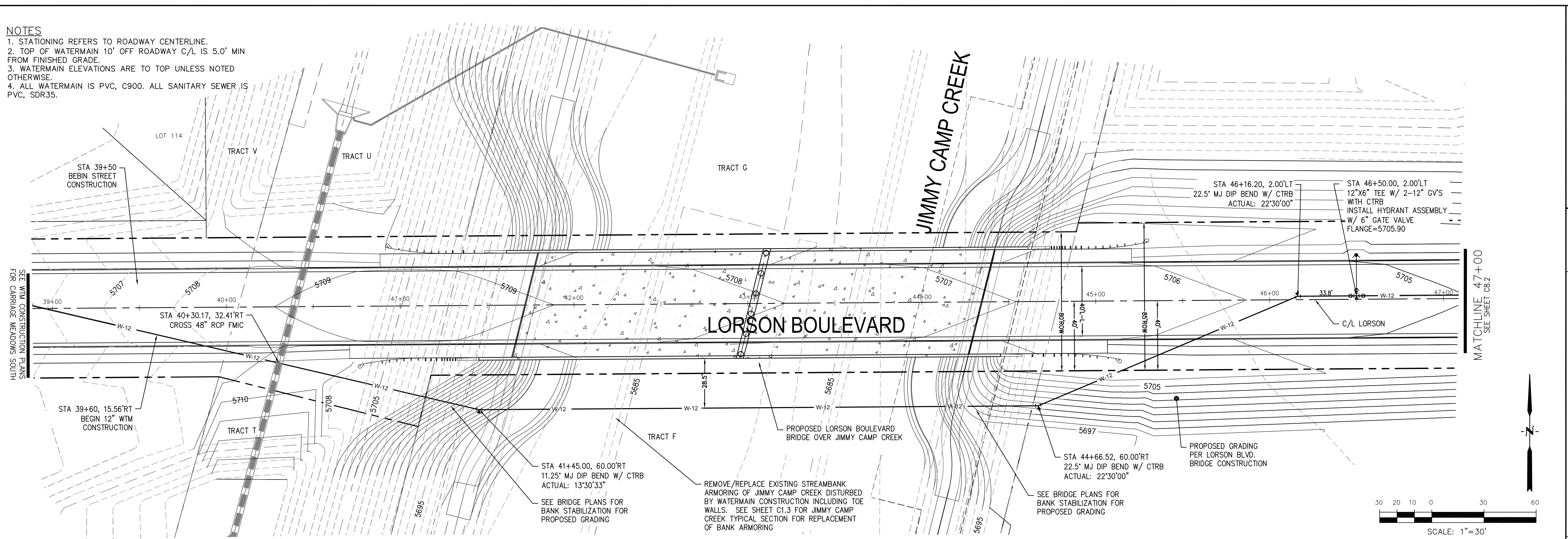
SCALES: HORIZ. 1"=30'  
 VERT. 1"=5'



STREET  
 STA 47+00 TO STA 52+00  
 LORSON BOULEVARD

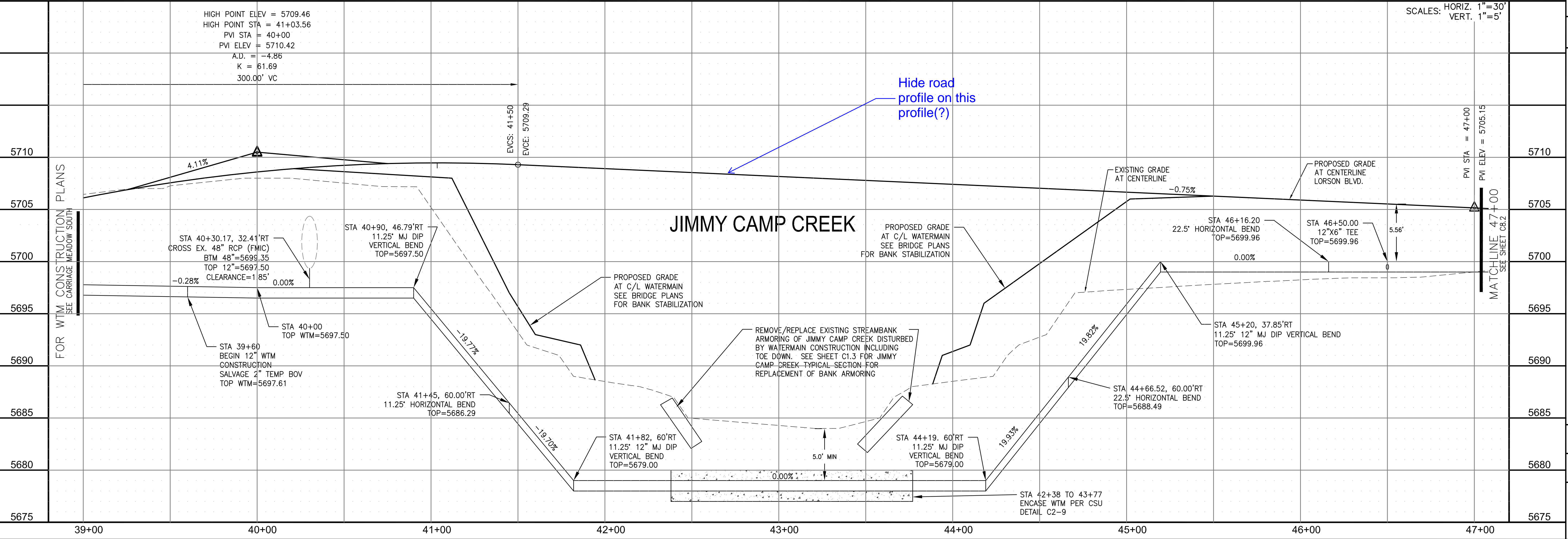


- NOTES**
1. STATIONING REFERS TO ROADWAY CENTERLINE.
  2. TOP OF WATERMAIN 10' OFF ROADWAY C/L IS 5.0' MIN FROM FINISHED GRADE.
  3. WATERMAIN ELEVATIONS ARE TO TOP UNLESS NOTED OTHERWISE.
  4. ALL WATERMAIN IS PVC, C900. ALL SANITARY SEWER IS PVC, SDR35.



**CORE ENGINEERING GROUP**  
 15004 1ST AVENUE S.  
 BLDG 7900  
 BLDG 7900, SUITE 1100  
 COLORADO SPRINGS, COLORADO 80903  
 CONTACT: RICHARD L. SCHINDLER, P.E.  
 EMAIL: Rich@cegi.com

DATE: X  
 DESCRIPTION: X  
 NO.: 1  
 PROJECT: JCC BRIDGE  
 JCC MAIN CHANNEL - LORSON BLVD.  
 EL PASO COUNTY, COLORADO  
 PREPARED FOR: LORSON, LLC  
 212 N. WAHSATCH AVE., SUITE 301  
 COLORADO SPRINGS, COLORADO 80903  
 CONTACT: JEFF MARK



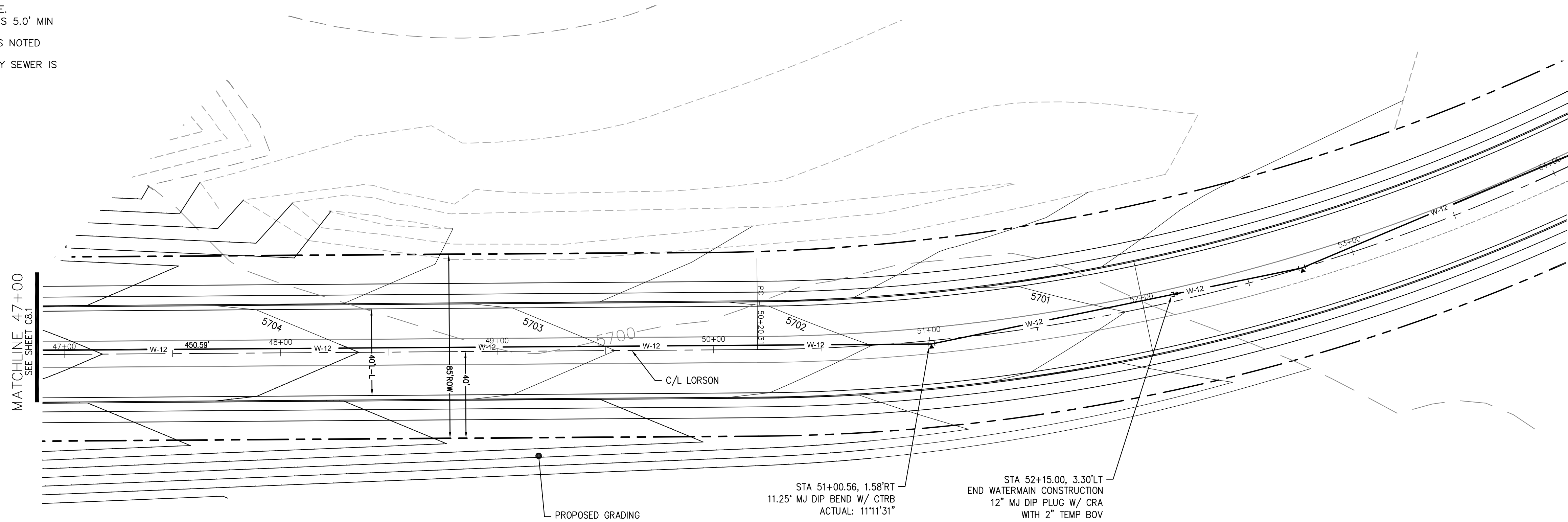
SCALES: HORIZ. 1"=30'  
 VERT. 1"=5'

DATE: SEPT 15, 2017  
 PROJECT NO: 100.030  
 SHEET NUMBER: C8.1  
 TOTAL SHEETS: 36

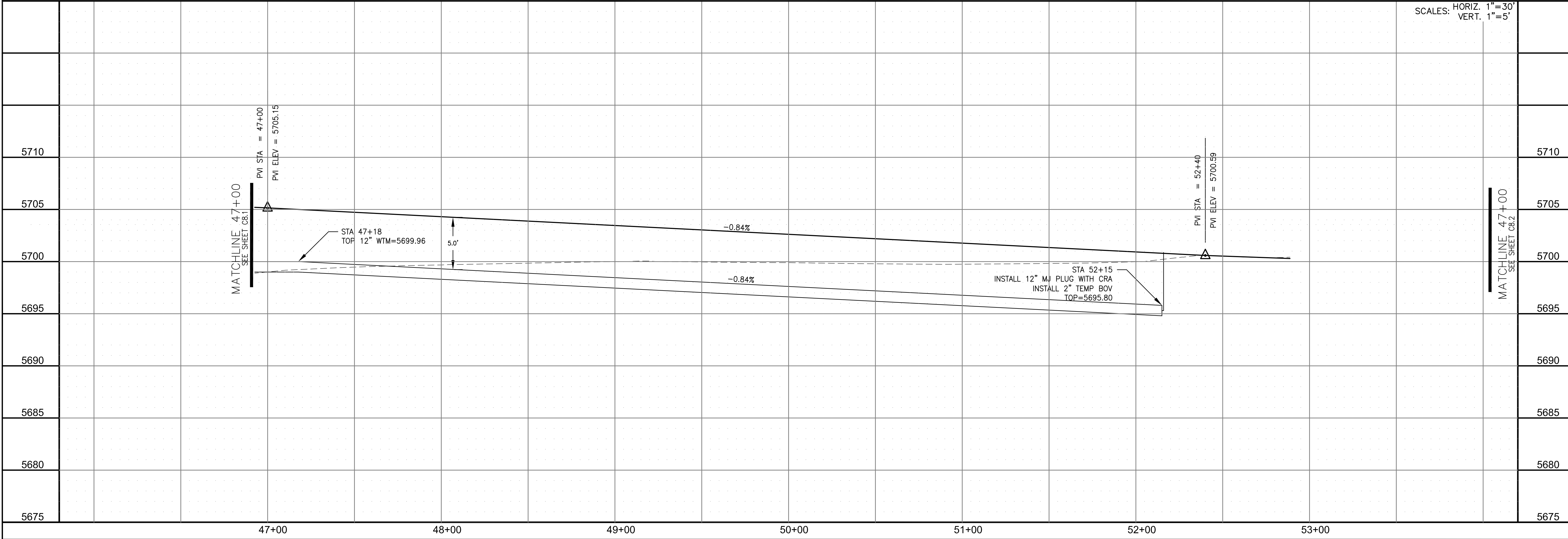
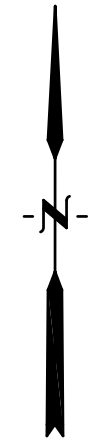
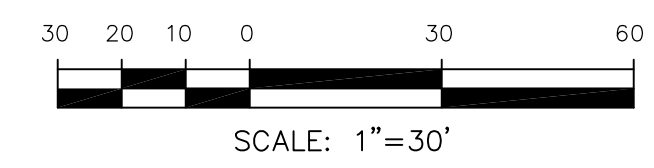


**NOTES**

1. STATIONING REFERS TO ROADWAY CENTERLINE.
2. TOP OF WATERMAIN 10' OFF ROADWAY C/L IS 5.0' MIN FROM FINISHED GRADE.
3. WATERMAIN ELEVATIONS ARE TO TOP UNLESS NOTED OTHERWISE.
4. ALL WATERMAIN IS PVC, C900. ALL SANITARY SEWER IS PVC, SDR35.



**LORSON BOULEVARD**



SCALES: HORIZ. 1"=30'  
VERT. 1"=5'

**CORE ENGINEERING GROUP**  
 15004 1ST AVENUE S.  
 BLDG 100, SUITE 301  
 BIRMGHAM, AL 35206  
 CONTACT: RICHARD L. SCHINDLER, P.E.  
 EMAIL: Rich@cegi.com

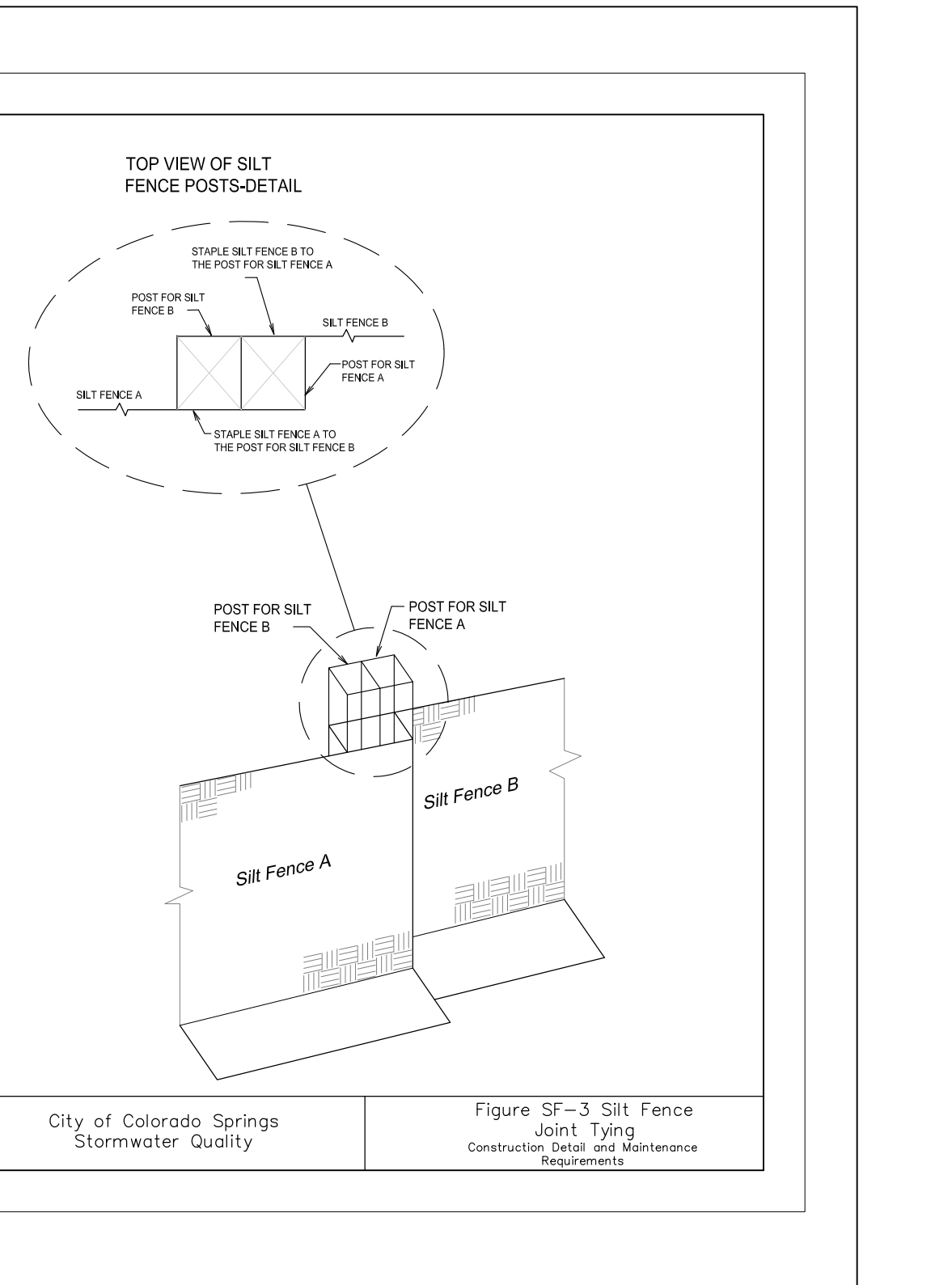
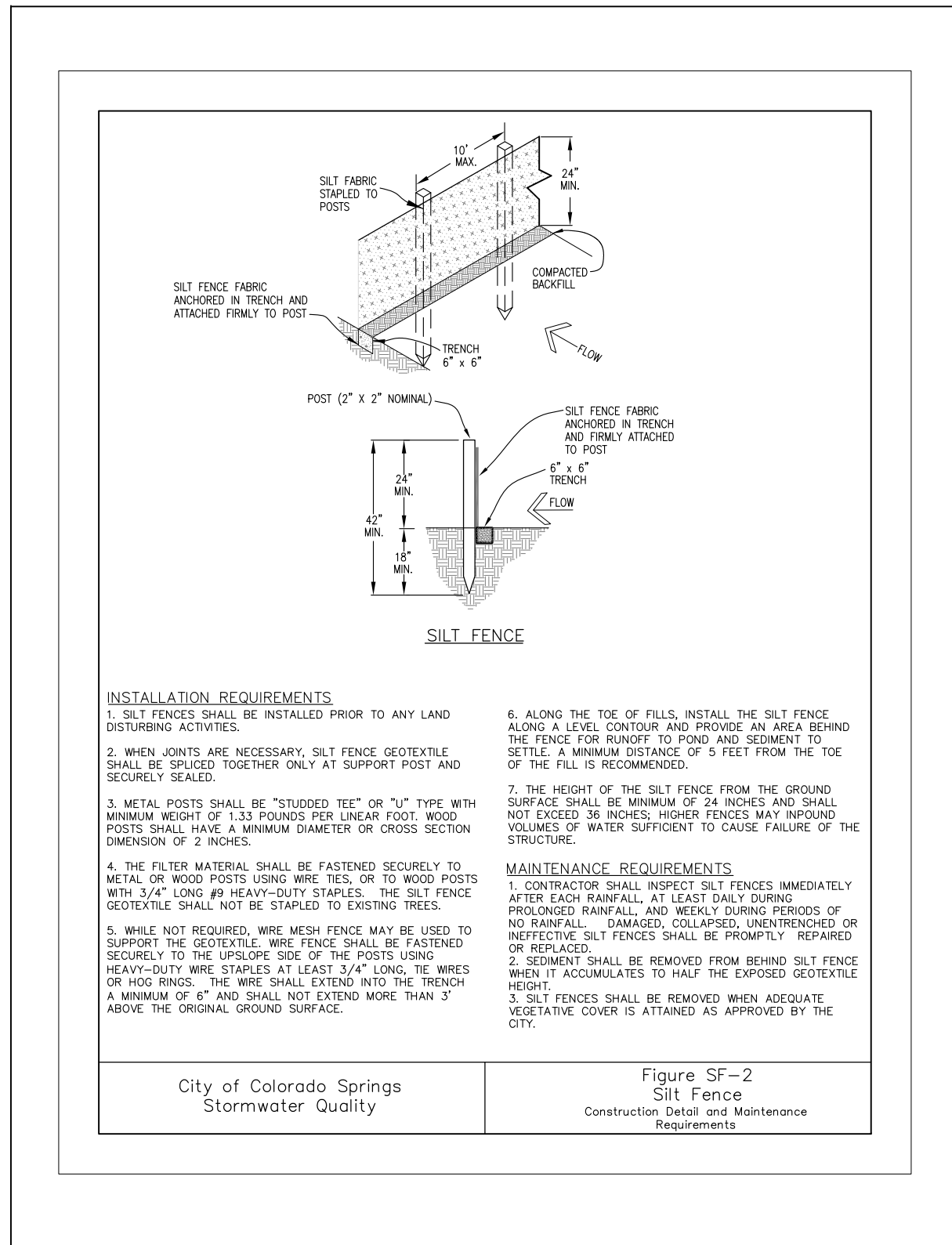
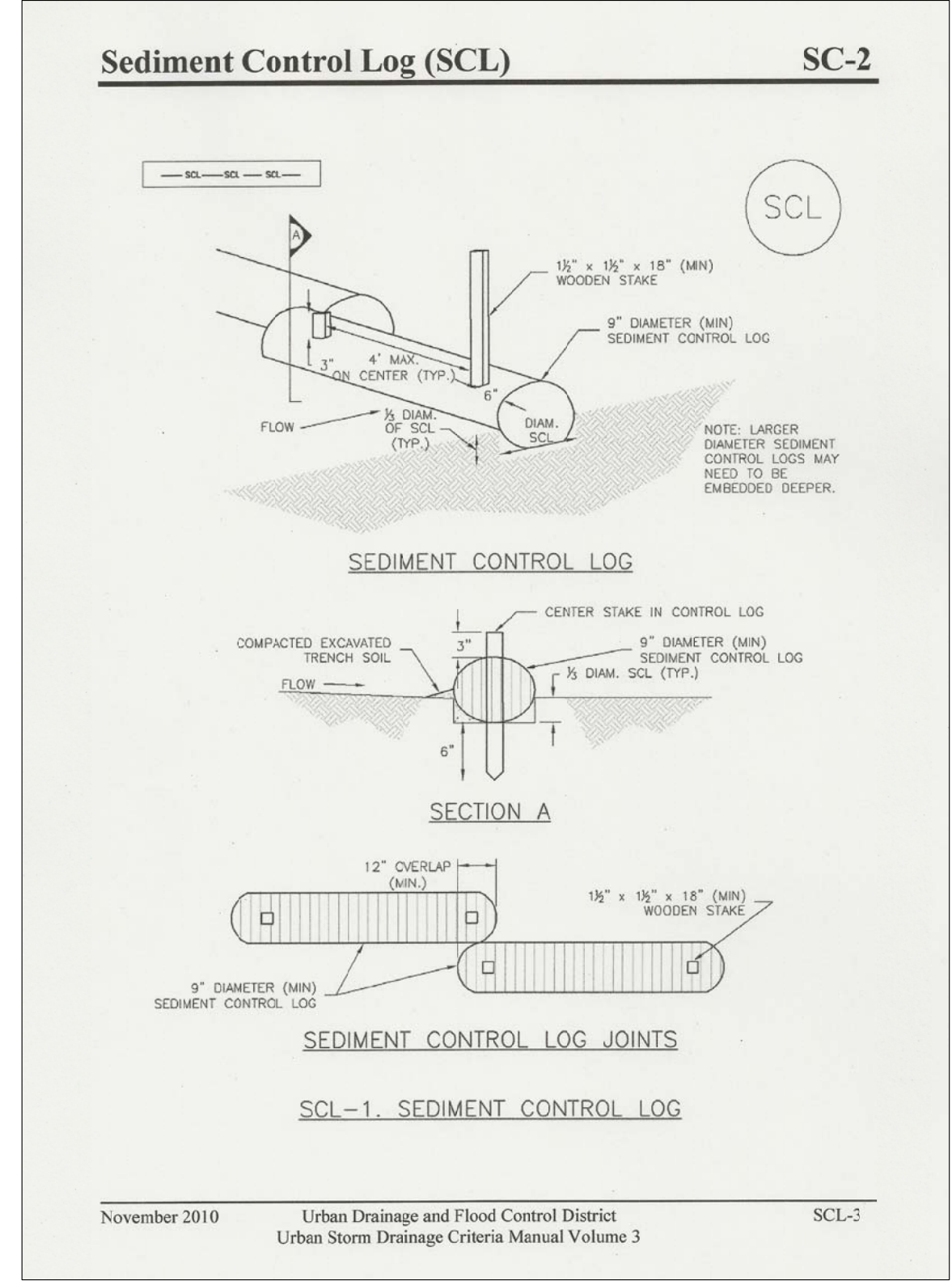
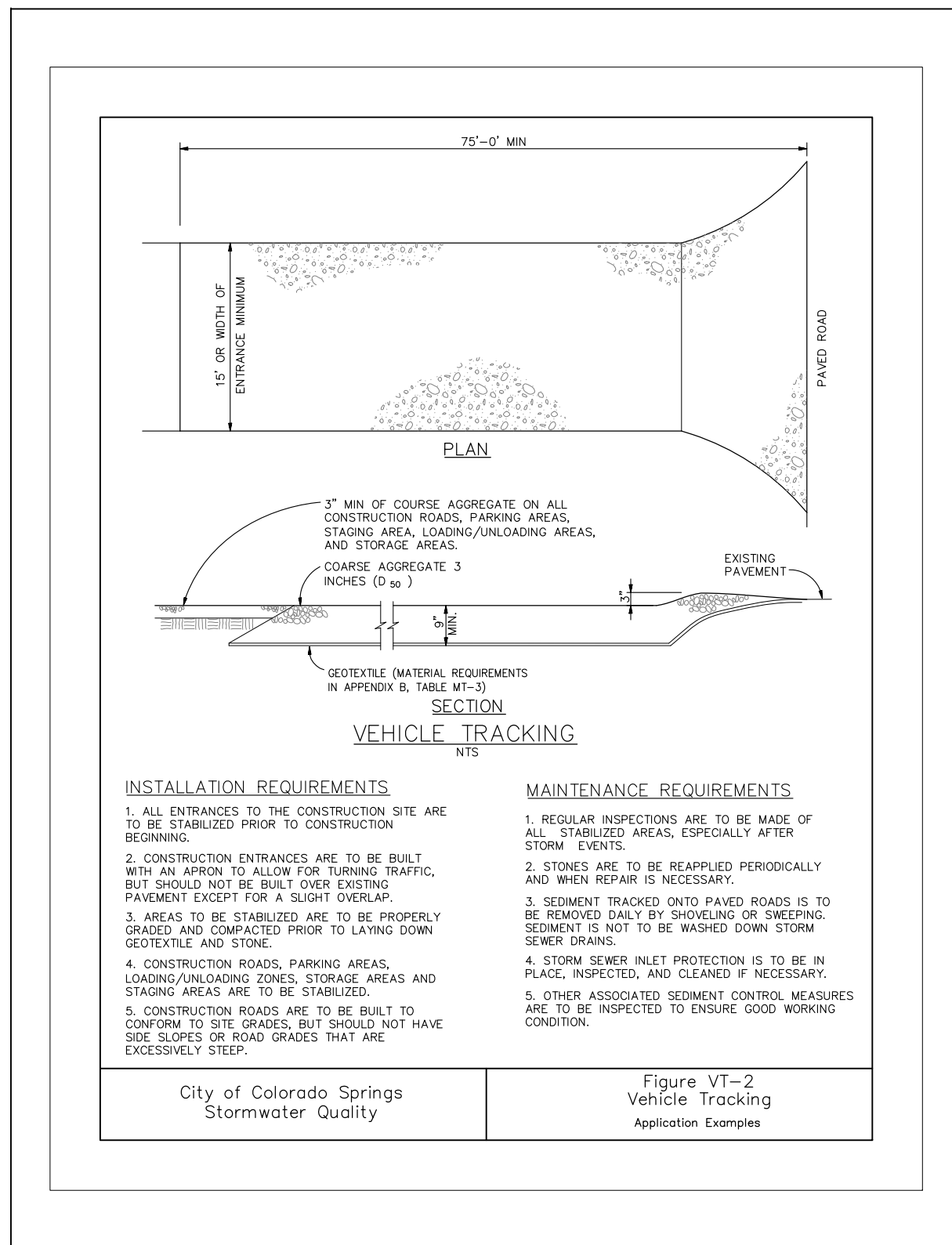
DATE: X  
 DESCRIPTION: X  
 NO.: 1  
 PROJECT: JCC BRIDGE  
 JCC MAIN CHANNEL - LORSON BLVD.  
 EL PASO COUNTY, COLORADO  
 PREPARED FOR: LORSON, LLC  
 212 N. WAHSATCH AVE., SUITE 301  
 COLORADO SPRINGS, COLORADO 80903  
 CONTACT: JEFF MARK

DRAWN: RLS  
 DESIGNED: RLS  
 CHECKED: RLS

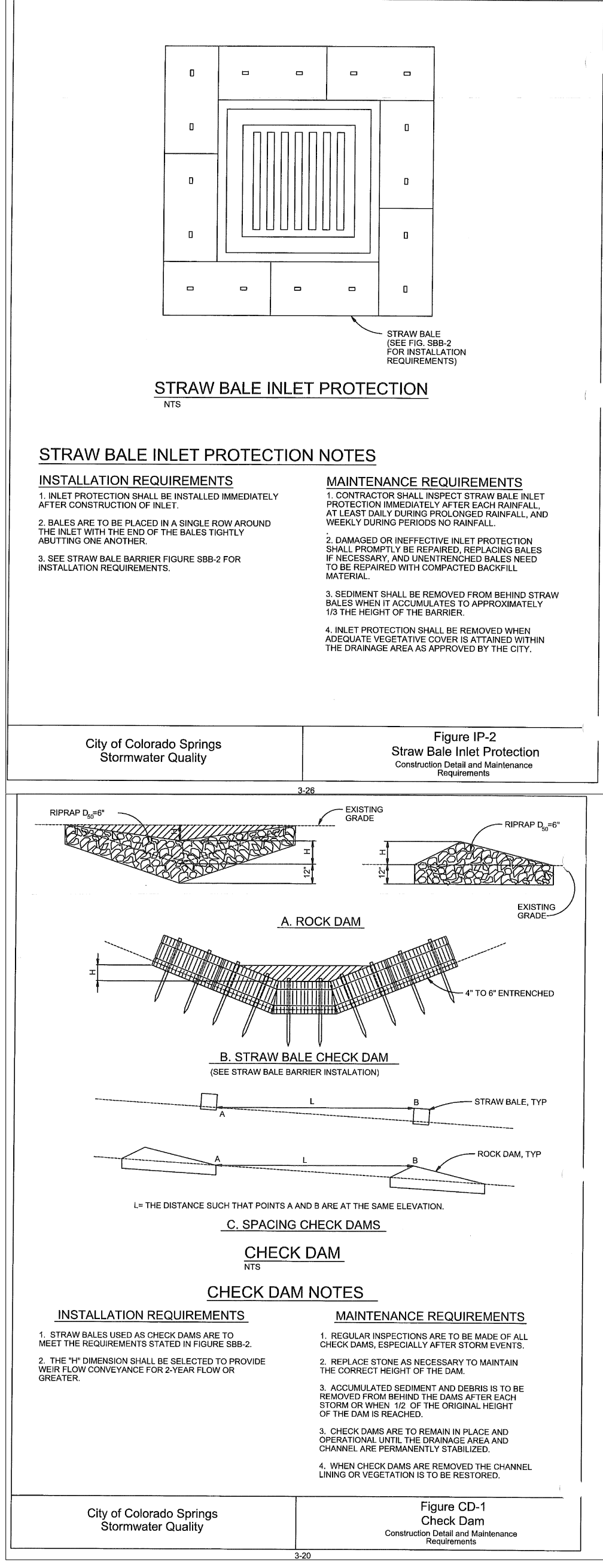
**WATERMAIN**  
**STA 47+00 TO STA 52+15**  
**LORSON BOULEVARD**

DATE: SEPT 15, 2017  
 PROJECT NO.: 100.030  
 SHEET NUMBER: C8.2  
 TOTAL SHEETS: 36





SEED MIX TABLE		
GRASS MIX FOR QUICK REVEGETATION ALL SITES:		
GRASS	VARIETY	AMOUNT IN PLS LBS PER ACRE
CRESTED WHEAT GRASS	EPHRAIM OR HYCREST	4.0
PERENNIAL RYE	LINN	2.0
WESTERN WHEAT GRASS	BARTON	3.0
SMOOTH BROME GRASS	LINCOLN OR MANCHAR	5.0
SIDEOATS GRAMA	EL RENO	2.5
		TOTAL 16.5 LBS
GRASS MIX FOR SANDY SOILS:		
GRASS	VARIETY	AMOUNT IN PLS LBS PER ACRE
SIDEOATS GRAMA	EL RENO	3.0
WESTERN WHEAT GRASS	BARTON	2.5
SLENDER WHEAT GRASS	NATIVE	2.0
LITTLE BLUESTEM	PASTURA	2.0
SAND DROPSEED	NATIVE	0.5
SWITCH GRASS	NEBRASKA 28	3.0
WEEPING LOVE GRASS	MORPHA	1.0
		TOTAL 14.0 LBS
GRASS MIX FOR HEAVIER SOIL AREAS:		
GRASS	VARIETY	AMOUNT IN PLS LBS PER ACRE
WESTERN WHEAT GRASS	BARTON	5.0
SIDEOATS GRAMA	EL RENO	3.0
SLENDER WHEAT GRASS	SODAR	2.5
SMOOTH BROME	LINCOLN OR MANCHAR	4.0
CRESTEDWHEAT GRASS	EPHRAIM	3.0
		TOTAL 17.5 LBS



**CORE ENGINEERING GROUP**  
1500 15TH AVENUE, SUITE 300  
BOULDER, CO 80506  
PH: 719.570.1100  
CONTACT: RICHARD L. SCHINDLER, P.E.  
EMAIL: Rich@cge1.com

DATE: X / X / X  
DESCRIPTION: X  
NO. 1  
PROJECT: JCC BRIDGE  
JCC MAIN CHANNEL - LORSON BLVD.  
EL PASO COUNTY, COLORADO

DRAWN: LJA  
DESIGNED: RLS  
CHECKED: RLS

**EROSION CONTROL DETAILS**  
**JCC BRIDGE AT MAIN CHANNEL**

DATE: SEPT 15, 2017  
PROJECT NO.: 100.030  
SHEET NUMBER: C12.1  
TOTAL SHEETS: 36



**BRIDGE DESCRIPTION:**

2-SPAN, 263'-1 3/16" LONG (BACK FACE ABUTMENT - BACK FACE ABUTMENT) BY 63'-0" WIDE PRESTRESSED CONCRETE BULB-TEE GIRDER SUPERSTRUCTURE OVER JIMMY CAMP CREEK. SPAN LENGTHS ARE 130'-0" & ABUTMENT #1 BEARINGS TO & PIER; 130'-0" & PIER TO & ABUTMENT #3 BEARINGS. ROADWAY ON TANGENT ALIGNMENT. 75°33'38" SKEW.

**GENERAL NOTES:**

- A. ALL WORK SHALL BE IN ACCORDANCE WITH THE COLORADO DEPARTMENT OF TRANSPORTATION 2011 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
- B. EXCEPT AS SHOWN ON THE PLANS, STRUCTURE EXCAVATION AND BACKFILL SHALL BE IN ACCORDANCE WITH M-206-2 FOR BRIDGES.
- C. EXPANSION JOINT MATERIAL SHALL MEET AASHTO SPECIFICATION M213.
- D. THE FINAL FINISH FOR THE SURFACES OF THE TYPE 7 BRIDGE RAIL AND CURBS SHALL BE CLASS 2. ALL OTHER EXPOSED CONCRETE SURFACES SHALL RECEIVE A CLASS 1 FINISH TO ONE FOOT BELOW FINISHED GRADE.
- E. LEVELING PADS ARE UNLAMINATED BEARINGS. THEY SHALL BE CUT OR MOLDED FROM AASHTO ELASTOMER GRADE 3, 4, OR 5 AS DESCRIBED IN TABLES 705-1 AND 705-2 WITH A DUROMETER (SHORE "A") HARDNESS OF 60.
- F. GRADE 60 REINFORCING STEEL IS REQUIRED.
- G. ALL REINFORCING STEEL SHALL BE EPOXY COATED UNLESS OTHERWISE NOTED. (N) DENOTES NON-EPOXY COATED REINFORCING STEEL.
- H. ALL STRUCTURAL STEEL NOT OTHERWISE NOTED SHALL BE A588 WEATHERING STEEL IN ACCORDANCE WITH SECTION 509 OF THE STANDARD SPECIFICATIONS.
- I. THE FOLLOWING STRUCTURAL STEEL SHALL BE AASHTO M270 GRADE 50 (ASTM A-572): BEARING PLATES AND PILING. THE FOLLOWING STRUCTURAL STEEL SHALL BE ASTM A-53, GRADE B: PEDESTRIAN HANDRAIL ON BRIDGE RAIL TYPE 7 (SPECIAL).
- J. ALL RAILING STEEL SHALL BE PAINTED AFTER FABRICATION IN ACCORDANCE WITH SECTION 509 OF THE STANDARD SPECIFICATIONS. COLOR SHALL BE SELECTED BY THE OWNER.
- K. ALL BOLTS SHALL BE 3/8" DIAMETER, HIGH STRENGTH, UNLESS NOTED OTHERWISE.
- L. AN EMERGENCY DECK CONSTRUCTION JOINT MAY BE LOCATED AT THE ONE QUARTER SPAN POINT BACK FROM AN ABUTMENT WITH RESPECT TO THE DIRECTION OF THE DECK PLACEMENT.
- M. ALL LONGITUDINAL AND TRANSVERSE DIMENSIONS ARE MEASURED HORIZONTALLY AND INCLUDE NO CORRECTION FOR GRADE.
- N. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING CONSTRUCTION.
- O. PERMANENT DECK FORMS ARE OPTIONAL.
- P. FOR STRUCTURE NUMBER INSTALLATION, SEE STANDARD S-614-12.
- Q. STATIONS, ELEVATIONS, AND DIMENSIONS CONTAINED IN THESE PLANS ARE CALCULATED FROM A RECENT FIELD SURVEY. THE CONTRACTOR SHALL VERIFY ALL DEPENDENT DIMENSIONS IN THE FIELD BEFORE ORDERING OR FABRICATING ANY MATERIAL.
- R. THE INFORMATION SHOWN ON THESE PLANS CONCERNING THE TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO AT 1-800-922-1987 AT LEAST 2 DAYS (NOT INCLUDING THE DAY OF NOTIFICATION) PRIOR TO ANY EXCAVATION OR OTHER EARTHWORK.
- S. CONCENTRATIONS OF WATER-SOLUBLE SULFATES WERE MEASURED TO BE 0.08 PERCENT. THE CONCRETE SULFATE EXPOSURE FOR THIS PROJECT IS CLASS 0.
- T. THE FOLLOWING TABLE GIVES THE MINIMUM LAP SPlice LENGTH FOR EPOXY COATED REINFORCING BARS PLACED IN ACCORDANCE WITH SUBSECTION 602.06. THESE SPlice LENGTHS SHALL BE INCREASED BY 25% FOR BARS SPACED AT LESS THAN 6" ON CENTER OR LESS THAN 3" OF LATERAL COVER.
 

BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
SPlice LENGTH FOR CLASS B OR D CONCRETE	1'-3"	1'-7"	2'-5"	2'-10"	3'-8"	4'-8"	5'-11"	7'-3"

WHEN THE CONTRACTOR ELECTS TO SUBSTITUTE EPOXY COATED REINFORCEMENT FOR BLACK REINFORCING BARS, THE MINIMUM LAP SPlice SHALL BE AS DESCRIBED ABOVE.
- U. THE FOLLOWING TABLE GIVES THE MINIMUM LAP SPlice LENGTH FOR BLACK REINFORCING BARS PLACED IN ACCORDANCE WITH SUBSECTION 602.06. THESE SPlice LENGTHS SHALL BE INCREASED BY 25% FOR BARS SPACED AT LESS THAN 6" ON CENTER OR LESS THAN 3" OF LATERAL COVER.
 

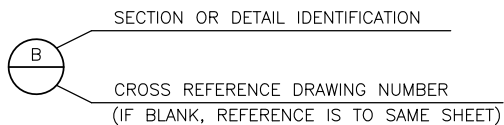
BAR SIZE	#4	#5	#6	#7	#8	#9	#10	#11
SPlice LENGTH FOR CLASS B OR D CONCRETE	1'-1"	1'-4"	1'-7"	1'-11"	2'-6"	3'-1"	3'-11"	4'-10"
- V. THE ABOVE SPlice LENGTHS SHALL BE INCREASED BY 20% FOR 3 BAR BUNDLES AND 33% FOR 4 BAR BUNDLES.

**DESIGN DATA:**

- G. AASHTO, SIXTH EDITION LRFD WITH CURRENT INTERIMS.
- H. DESIGN METHOD: LOAD AND RESISTANCE FACTOR DESIGN.
- LIVE LOAD: HL-93 (DESIGN TRUCK OR TANDEM, AND DESIGN LANE LOAD)
- DEAD LOAD: ASSUMES 36 POUNDS PER SQUARE FOOT FOR BRIDGE DECK OVERLAY  
ASSUMES 5 POUNDS PER SQUARE FOOT FOR PERMANENT STEEL DECK FORMS  
ASSUMES 5 POUNDS PER SQUARE FOOT FOR UTILITIES

**I. REINFORCED CONCRETE:**

CLASS B CONCRETE: f'c = 4,500 PSI  
 CLASS D CONCRETE: f'c = 4,500 PSI  
 CLASS BZ CONCRETE: f'c = 4,000 PSI  
 REINFORCING STEEL: fy = 60,000 PSI  
 PRECAST PRESTRESSED CONCRETE:  
 CLASS PS CONCRETE: f'c = (SEE DETAILS)  
 f's = 270,000 PSI



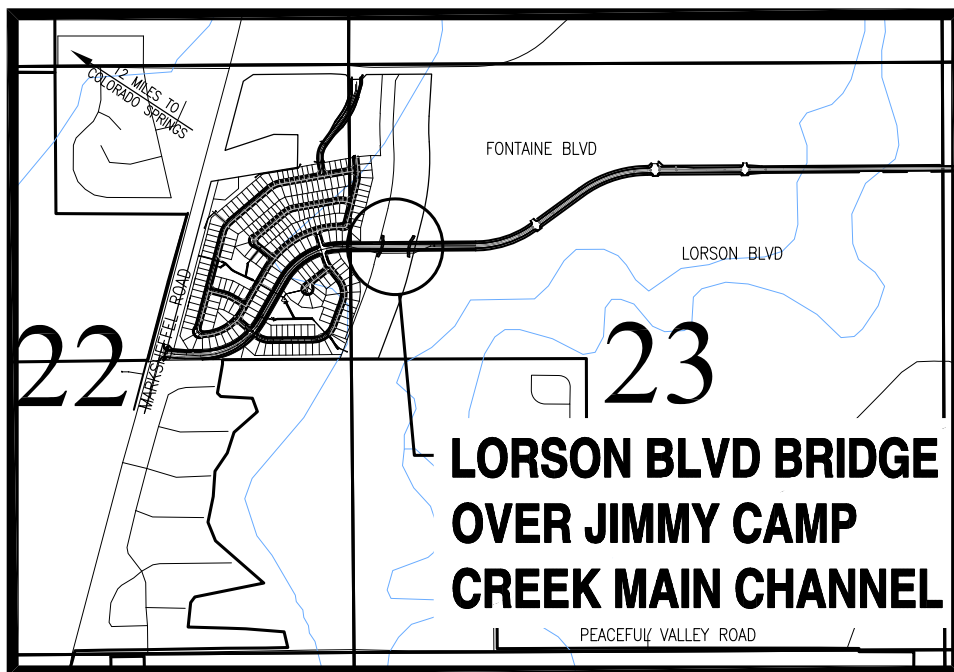
STRUCTURAL STEEL:  
 AASHTO M270 (ASTM A709) GRADE 36; fy = 36,000 PSI  
 AASHTO M270 (ASTM A709) GRADE 50; fy = 50,000 PSI



**PRELIMINARY  
NOT FOR CONSTRUCTION**

**FOUNDATION NOTES:**

- A. **GEOTECHNICAL REPORT:** STRUCTURAL FOUNDATION DESIGN FOR THIS PROJECT IS BASED ON THE RECOMMENDATIONS OF A GEOTECHNICAL INVESTIGATION BY RMG - ROCKY MOUNTAIN GROUP, DATED APRIL 3, 2017 (RMG REPORT 155271).
- B. **DRIVEN PILES:** A REPRESENTATIVE FROM RMG, (719) 548-0060, SHALL BE PRESENT TO OBSERVE FOUNDATION INSTALLATION OPERATIONS. COST TO BE INCLUDED IN ITEM 502. PILES SHALL BE INSTALLED TO PRACTICAL REFUSAL AS DEFINED IN THE STANDARD SPECIFICATIONS.
- C. **PILE DRIVING ANALYZER (PDA):** ONE PILE PER SUBSTRUCTURE SHALL BE MONITORED USING A PDA PER THE STANDARD SPECIFICATIONS. THE CONTRACTOR'S ENGINEER SHALL BE RESPONSIBLE FOR MONITORING AND REPORTING RESULTS TO THE CONTRACTOR AND ENGINEER.
- D. **MINIMUM TIP PENETRATION:** THE MINIMUM PILE PENETRATION SHALL BE 15 FEET BELOW THE BOTTOM OF THE BOTTOM OF ABUTMENT AT EACH SUBSTRUCTURE.
- E. **DRILLING HOLES TO FACILITATE PILE DRIVING (PRE-DRILLING):** SEE PROJECT SPECIAL PROVISIONS



VICINITY MAP  
 N.T.S.  
 SECTION 23  
 TOWNSHIP 15 SOUTH  
 RANGE 65 WEST

**BRIDGE & ROADWAY ABBREVIATIONS**

⊙ = AT EACH	E = EPOXY COATED	MIN = MINIMUM	ξ = SURVEY LINE
ABC = AGGREGATE BASE COURSE	EF = EACH FACE	MK = MARK	SCJ = SAW CUT JOINT
ABUT = ABUTMENT	EL/ELEV = ELEVATION	NF = NEAR FACE	SHT = SHEET
ALT = ALTERNATE	EOP = EDGE OF PAVEMENT	NTS = NOT TO SCALE	SIM = SIMILAR
ARCH = ARCHITECTURAL	ETW = EDGE OF TRAVELED WAY	OC = ON CENTER	SPA = SPACING/SPACES
BF = BACK FACE	EST = ESTIMATED	OF = OUTSIDE FACE	SPEC = SPECIFICATIONS
BM = BEAM	EW = EACH WAY	OH = OVERHEAD	SO = SQUARE
BOF = BOTTOM OF FOOTING	EQUIP = EQUIPMENT	OPNG = OPENING	STA = STATION
BOW = BOTTOM OF WALL	EXIST = EXISTING	OPP = OPPOSITE	STD = STANDARD
BRG = BEARING	EXP = EXPANSION	P = PLATE	SYM = SYMMETRICAL
BTM = BOTTOM	FF = FAR FACE	PC = POINT OF CURVATURE	T & B = TOP & BOTTOM
ε = CENTERLINE	FTG = FOOTING	PEJF = PREFORMED EXPANSION JOINT FILLER	TAN = TANGENT
(CIP) = (COMPLETE IN PLACE)	GAVL = GALVANIZED	PGL = PROFILE GRADE LINE	TH = TEST HOLE
CJ = CONTROL JOINT	GEOTECH = GEOGRAPHICAL	PI = POINT OF INTERSECTION	TOC = TOP OF CONCRETE
CLR = CLEARANCE	GRD EM = GRADE BEAM	PK = KNOWN POINT	TOF = TOP OF FOOTING
CONST JNT = CONSTRUCTION JOINT	HORIZ = HORIZONTAL	PP = POWER POLE	TOW = TOP OF WALL
COL = COLUMN	HCL = HORIZONTAL CONTROL LINE	PROJ = PROJECTION	TYP = TYPICAL
CONC = CONCRETE	IF = INSIDE FACE	PROP = PROPOSED	UNO = UNLESS NOTED OTHERWISE
CONT = CONTINUOUS	INV EL = INVERT ELEVATION	PT = POINT OF TANGENCY	VERT = VERTICAL
CP = CONTROL POINT	LP = LIGHT POLE	QTY = QUANTITY	VC = VERTICAL CURVE
φ = DIAMETER	MAS = MASONRY	R/RAD = RADIUS	VPC = VERTICAL POINT OF CURVATURE
DET = DETAIL	MATL = MATERIAL	REF = REFERENCE	VPI = VERTICAL POINT OF INTERSECTION
DIAG = DIAGONAL	MAX = MAXIMUM	REQD = REQUIRED	VPT = VERTICAL POINT OF TANGENCY
DWG = DRAWING	MB = MAIL BOX	ROW = RIGHT OF WAY	WL = WORKING LINE
DWLS = DOWELS	MFR = MANUFACTURER	± = EXISTING FEATURE DIMENSION	WP = WORKING POINT
			WWF = WELDED WIRE FABRIC

**DESIGN ENGINEER'S STATEMENT:**

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

PETER J. LORIS, P.E. LICENSE #

DATE

**OWNER/DEVELOPER'S STATEMENT:**

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH ALL OF THE REQUIREMENTS SPECIFIED IN THESE DETAILED PLANS AND SPECIFICATIONS.

JEFF MARK, PRESIDENT

DATE

LORSON, LLC  
 212 N. WASATCH AVE, SUITE 301  
 COLORADO SPRINGS, CO 80903

**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION	SHEET NO.	DESCRIPTION
B01	BRIDGE GENERAL INFORMATION	B13	PIER #2 PLAN & ELEVATION
B02	BRIDGE GENERAL LAYOUT	B14	PIER #2 DETAILS
B03	ENGINEERING GEOLOGY	B15	PIER DIAPHRAGM DETAILS
B04-B05	HYDRAULIC INFORMATION	B16	SUPERSTRUCTURE DETAILS
B06	CONSTRUCTION LAYOUT	B17	DECK REINFORCING PLAN
B07	FOUNDATION LAYOUT	B18-B19	PRESTRESSED CONCRETE I
B08-B09	ABUTMENTS 1 & 3 PLAN & ELEVATION	B20-B21	PRECAST CONCRETE DECK FORMS
B10-B11	ABUTMENT & WINGWALL DETAILS	B22-B23	BRIDGE RAIL TYPE 7 (SPECIAL)
B12	EXCAVATION AND BACKFILL DETAILS	B24-B27	DECK ELEVATIONS

**SUMMARY OF QUANTITIES**

CONTRACT ITEM NO.	CONTRACT ITEM DESCRIPTION	UNIT	ABUT #1	PIER #2	ABUT #3	SUPERSTRUCTURE	TOTAL
206	FILTER MATERIAL (CLASS A)	CY	24	30	120	-	265
206	STRUCTURE EXCAVATION	CY	204	712	120	-	1,362
206	STRUCTURE BACKFILL (CLASS 1)	CY	504	-	503	-	1,322
206	MECHANICAL REINFORCEMENT OF SOIL	CY	441	-	480	-	922
420	GEOTEXTILE (DRAINAGE) (CLASS 1)	SY	510	136	539	-	1,185
502	PILING (HP 14x89)	LF	625	-	504	-	1,129
503	DRILLED CAISSON (36 INCH)	LF	-	324	-	-	324
506	RIPRAP (24 INCH)	CY	680	-	718	-	1,399
506	RIPRAP (30 INCH)	CY	-	339	-	-	339
601	CONCRETE CLASS D (BRIDGE)	CY	49	65	49	832	997
602	REINFORCING STEEL	LB	7,003	19,124	7,003	-	224,830
602	REINFORCING STEEL (EPOXY COATED)	LB	13,004	1,986	13,004	117,100	145,093
606	BRIDGE RAIL TYPE 10M (SPECIAL)	LF	-	-	-	596	596
606	TRANSITION TYPE 3G	EA	-	-	-	-	2
606	TRANSITION TYPE 3H	EA	-	-	-	-	2
606	END ANCHORAGE (FLARED)	EA	-	-	-	-	4
613	4" DIAMETER SCH 80 PVC	LF	-	-	-	263	263
613	2" DIAMETER SCH 80 PVC	LF	-	-	-	526	526
613	12.5" CARRIER PIPE ASSEMBLY	LF	-	-	-	714	714
618	PRESTRESSED CONCRETE I (BT 72)	LF	-	-	-	1,820	1,820

Print Date:	
File Name:	
Horiz. Scale:	Vert. Scale: As Noted
Unit Information:	Unit Leader Initials

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Date:	Comments	Init.

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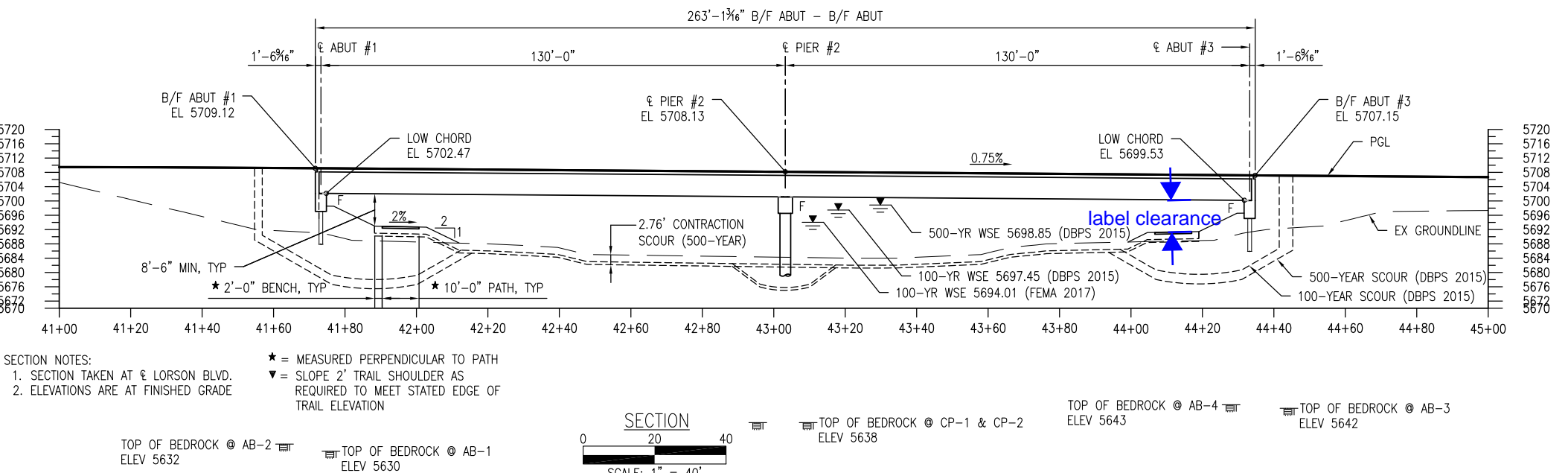
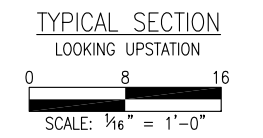
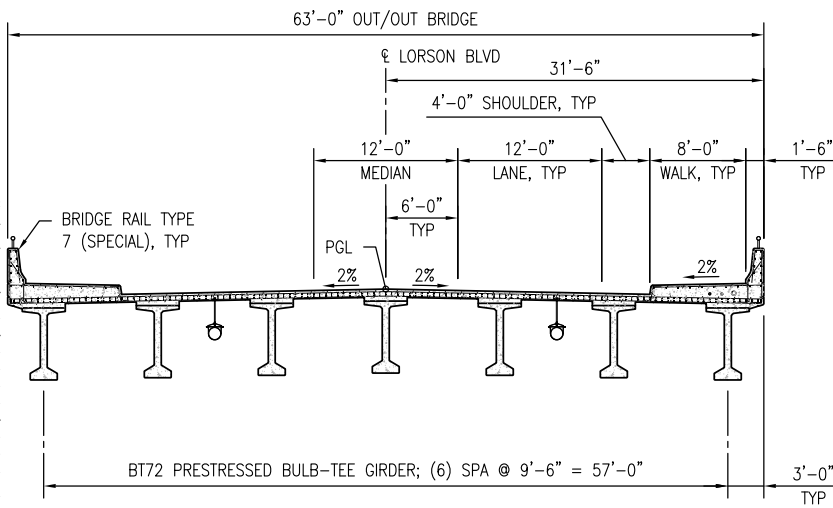
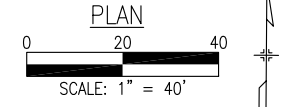
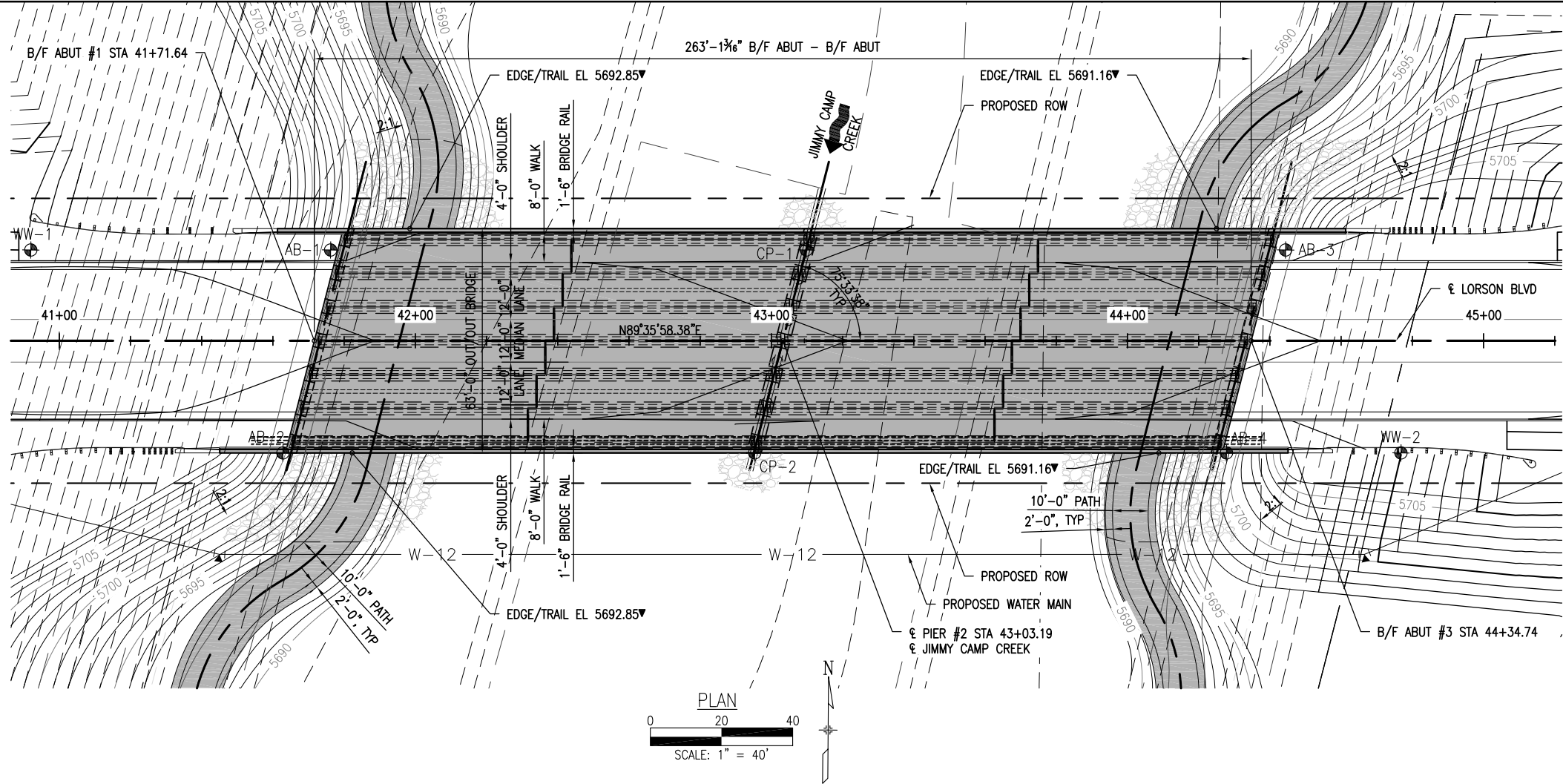
As Constructed
No Revisions:
Revised:
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LORSON BRIDGE BRIDGE GENERAL INFORMATION			
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Detailer:	TDB	Subset Sheets:	
Sheet Subset:		Subset Sheets:	

Project No./Code	-
Sheet Number	B01

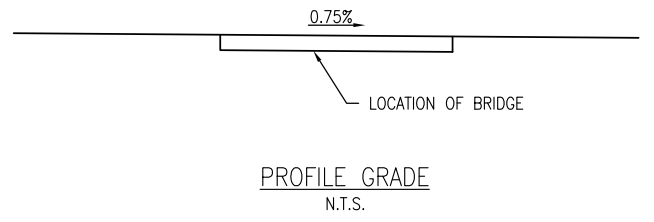
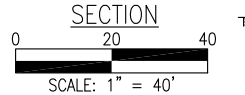


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SECTION NOTES:  
 1. SECTION TAKEN AT  $\epsilon$  LORSON BLVD.  
 2. ELEVATIONS ARE AT FINISHED GRADE

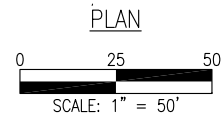
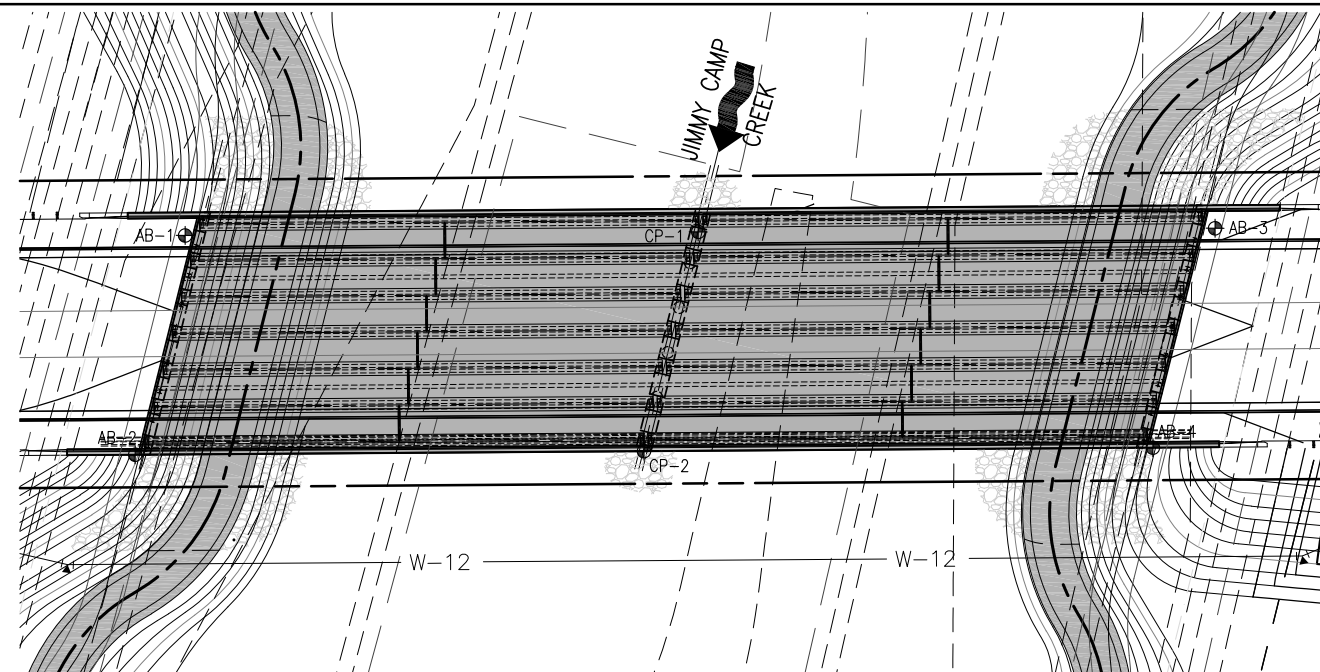
\* = MEASURED PERPENDICULAR TO PATH  
 ▼ = SLOPE 2' TRAIL SHOULDER AS REQUIRED TO MEET STATED EDGE OF TRAIL ELEVATION



C:\7.2 Clients\369 - Lorson Bridge\16136 (B02) Bridge General Layout.dwg Sep 26, 2017 - 4:14pm

Print Date:		Sheet Revisions		Loris and Associates, Inc. 100 Superior Plaza Way, Suite 220 Superior, Colorado 80027 303.444.2073 www.LorisandAssociates.com	 THE LANDHUIS COMPANY 212 N. WASHATCH, SUITE 801 COLORADO SPRINGS, CO 80903 PHONE: 719-635-9200	 212 N. WASHATCH AVE., SUITE 206 COLORADO SPRINGS, CO 80903 PH: 719-570-1100 FAX: 719-570-1106 CONTACT: RICHARD L. SCHINDLER, P.E. EMAIL: RichS@cegi.com	As Constructed	LORSON BRIDGE BRIDGE GENERAL LAYOUT		Project No./Code
File Name:		Date:	Comments				Init.	No Revisions:	Designer:	TDB
Horiz. Scale:	Vert. Scale: As Noted				Revised:	Detailer:	TDB		-	
Unit Information	Unit Leader Initials				Void:	Sheet Subset:		Subset Sheets:	Sheet Number	B02





**Legend**

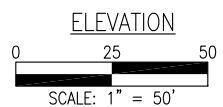
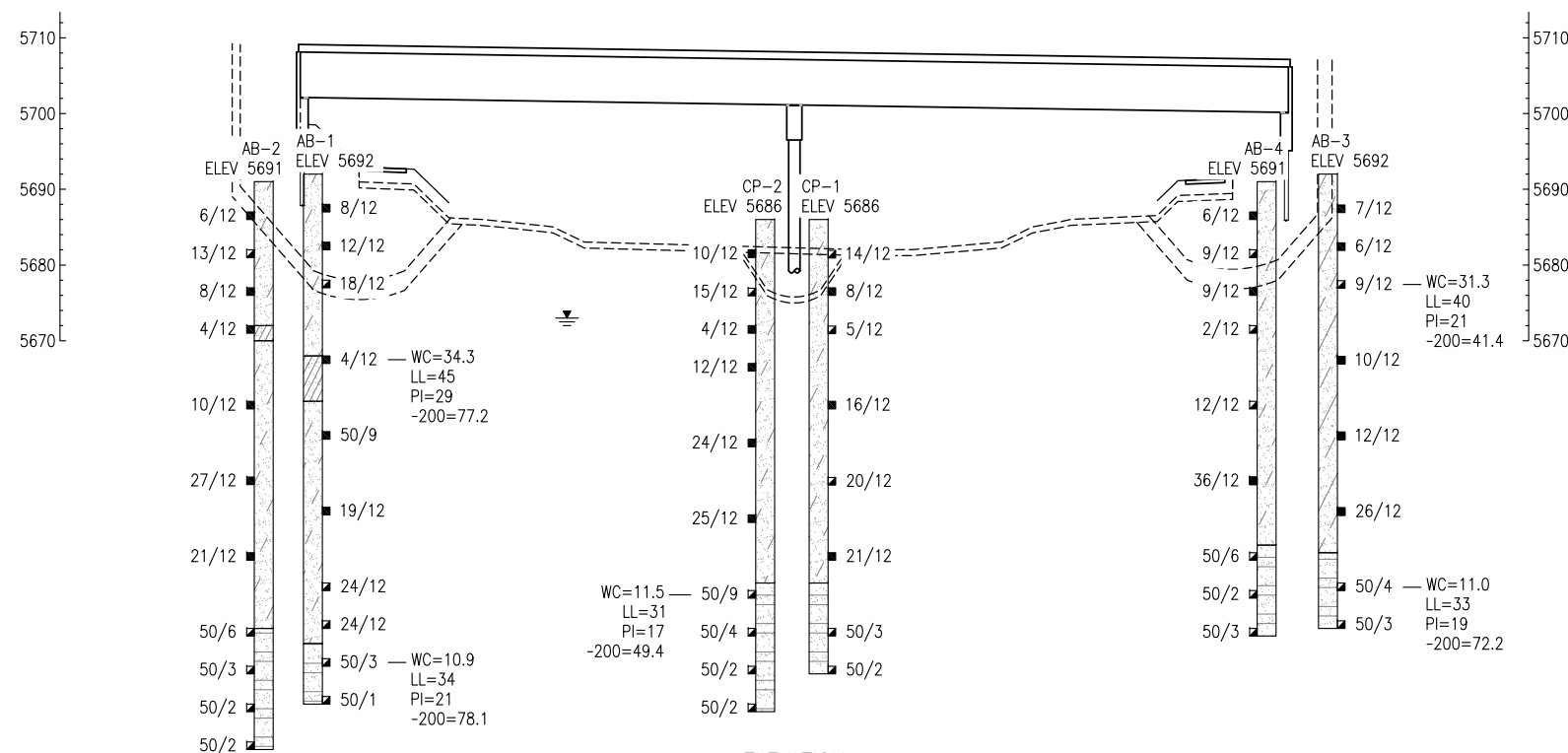
- Sand, Silty, light brown to brown, loose to medium dense, moist to wet
- Clay, Sandy, brown, soft, moist to wet
- Sand, Silty to Clayey, brown, moist to wet, loose to medium dense
- Shale, Sandy, blue to gray, moist to wet, very hard
- Depth to water level encountered at the time of drilling
- Drive sample, Standard Penetration Test, 2-inch OD split barrel sample. The symbol 9/12 indicates that 9 blows hammer were required to drive the sampler 12 inches
- Drive sample, 2 1/2-inch OD modified California sample. The symbol 9/12 indicates that 9 blows hammer were required to drive the sampler 12 inches

**Notes**

- 1) Borings were advanced with a power-driven, continuous-flight auger rig on April 3, 2017.
- 2) Elevations of the Borings were provided by M&S Civil Group.
- 3) Samples were obtained in general accordance with ASTM D-1586 utilizing a 2-inch OD split barrel sampler.
- 4) The lines between materials shown on the logs represent the approximate boundaries between material types. In-situ transitions may actually be gradual.
- 5) Water level readings shown on the logs were made while drilling. Fluctuations in the water level may occur with time.

**NOTE:**

1. TEST HOLE DRILLING FIELD EXPLORATION WAS PERFORMED BY ROCKY MOUNTAIN GROUP (RMG). ALL WORK SHALL CONFORM TO RECOMMENDATIONS, AS APPLICABLE, DISCUSSED IN THE GEOTECHNICAL REPORT TITLED "SUBSURFACE SOIL INVESTIGATION" - LORSON BLVD. BRIDGE OVER JIMMY CAMP CREEK, DATED APRIL 3, 2017.
2. ELEVATIONS SHOWN ARE APPROXIMATE.
3. ALL INFORMATION ON THIS SHEET WAS TAKEN DIRECTLY FROM THE GEOTECHNICAL REPORT. REFER TO EXPLORATORY BORING LOGS SUBSET FOR COMPLETE BORING LOGS WITH TEST RESULTS.



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Unit Information	Unit Leader Initials

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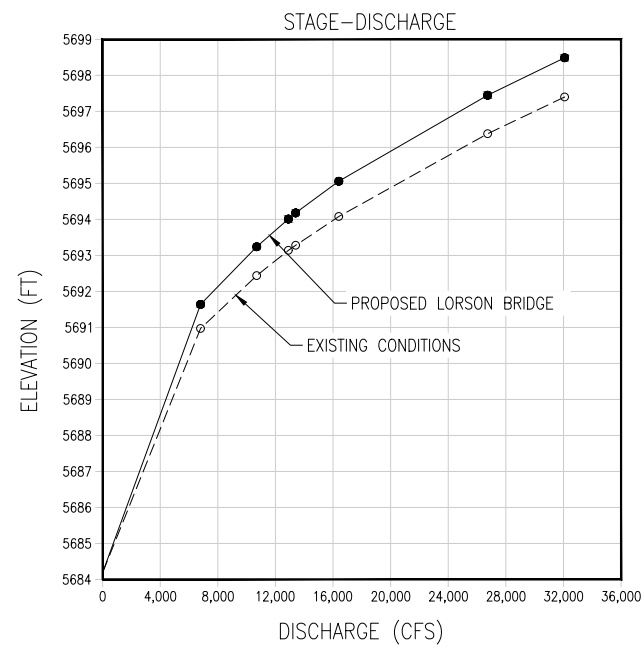
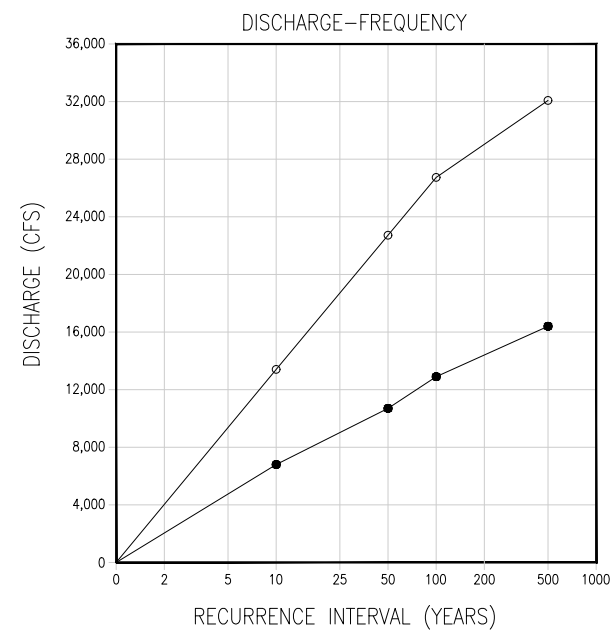
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LORSON BRIDGE ENGINEERING GEOLOGY			
Designer:	TDB	Structure	
Detailer:	JWJ	Numbers	
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Project No./Code	
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Sheet Number	<b>B03</b>



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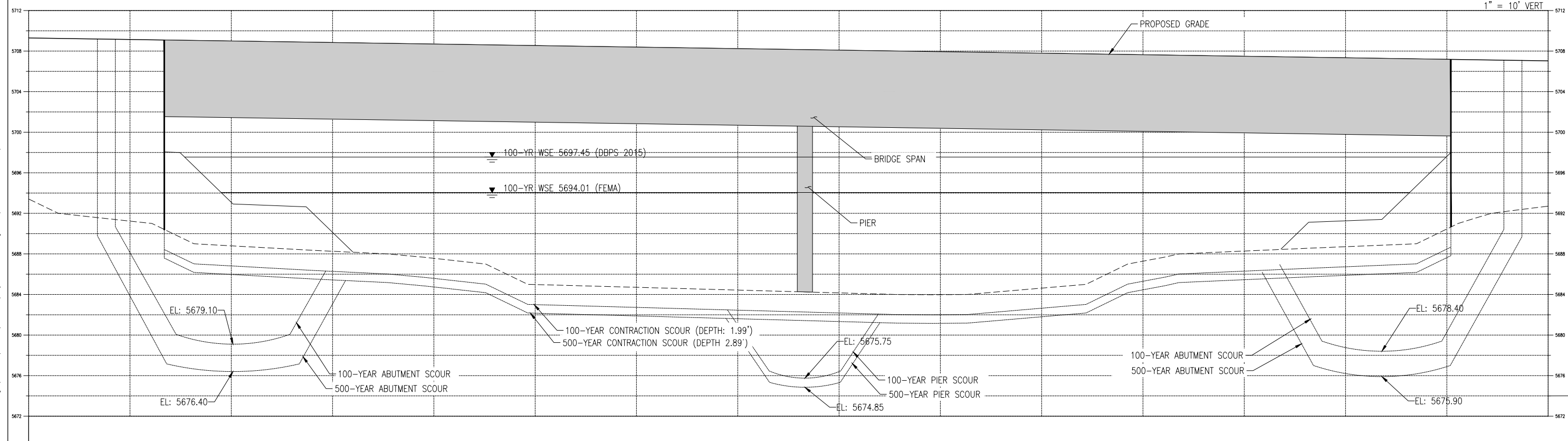
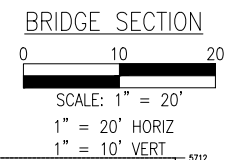


RECURRENT INTERVAL (YEARS)	DISCHARGE AT BRIDGE (CFS)	DISCHARGE OVER ROAD (CFS)	VELOCITY AT BRIDGE (FT/SEC)	WSEL (FT-NGVD)	ABUTMENT SCOUR ELEV (FT-NGVD)	PIER SCOUR ELEV (FT-NGVD)
FEMA						
10	6,800	0.0	7.40	5691.64	-	-
50	10,700	0.0	9.00	5693.24	-	-
100	12,900	0.0	9.64	5694.01	-	-
500	16,400	0.0	10.57	5695.06	-	-
DBPS						
10	13,402	0.0	9.76	5694.18	-	-
100	26,734	0.0	13.14	5697.45	5678.40	5675.75
500	32,081	0.0	14.32	5698.49	5675.90	5674.85

**HYDRAULIC DATA:**  
 DRAINAGE AREA: 44.16 SQUARE MILES  
 AVERAGE CHANNEL SLOPE: 0.0061 FT/FT  
 MANNING'S n FOR DESIGN:  
 OVERBANK: 0.040 CHANNEL: 0.040 (EXISTING)  
 OVERBANK: 0.040 CHANNEL: 0.040, 0.090, 0.067 (PROPOSED)  
 DEBRIS:  
 BRUSH  TREES/LOGS  ICE  NONE  
 HYDROLOGY DATA:  
 TWO SETS OF FLOOD FREQUENCY DATA WERE USE FOR THE ANALYSIS OF THE PROPOSED LORSON BRIDGE. THE FIRST SET OF DISCHARGES WERE TAKEN FROM THE LOMR PREPARED FOR THE CHANNEL REALIGNMENT AND CONSTRUCTION OF FONTAINE BOULEVARD BRIDGE OVER JIMMY CAMP CREEK, SUBMITTED TO FEMA AND EFFECTIVE AUGUST 29, 2007. THE SECOND SET OF PEAK DISCHARGES ARE TAKEN FROM THE DRAINAGE BASIN PLANNING STUDY (DBPS) OF JIMMY CAMP CREEK, PREPARED BY KIOWA ENGINEERING CORPORATION, DATED MARCH OF 2015.

- NOTES**
1. STAGE-DISCHARGE CURVE AT UPSTREAM OF FACE OF BRIDGE.
  2. WSEL SHOWN IN STAGE-DISCHARGE CURVE ARE TAKE AT THE UPSTREAM FACE OF BRIDGE.
  3. VELOCITY AT BRIDGE ARE AVERAGE VELOCITY.
  4. BRIDGE DESIGN RECURRENT INTERVAL IS 100-YEAR STORM.
  5. ABUTMENT AND PIER SCOUR ELEVATIONS INCLUDE CONTRACTION SCOUR.

**GEOTECHNICAL DATA:**  
 BOTTOM MATERIAL:  
 COHESIVE  NON-COHESIVE  
 BOTTOM MATERIAL SIZE:  
 CLAY  SILT  SAND  
 GRAVEL  COBBLES  OTHER  
 STREAM PLANFORM:  
 STRAIGHT  MEANDERING  BRAIDED  
 CHANNEL STABILITY:  
 STABLE  AGGRADING  DEGRADED  
 ICE:  
 YES  NO  UNKNOWN



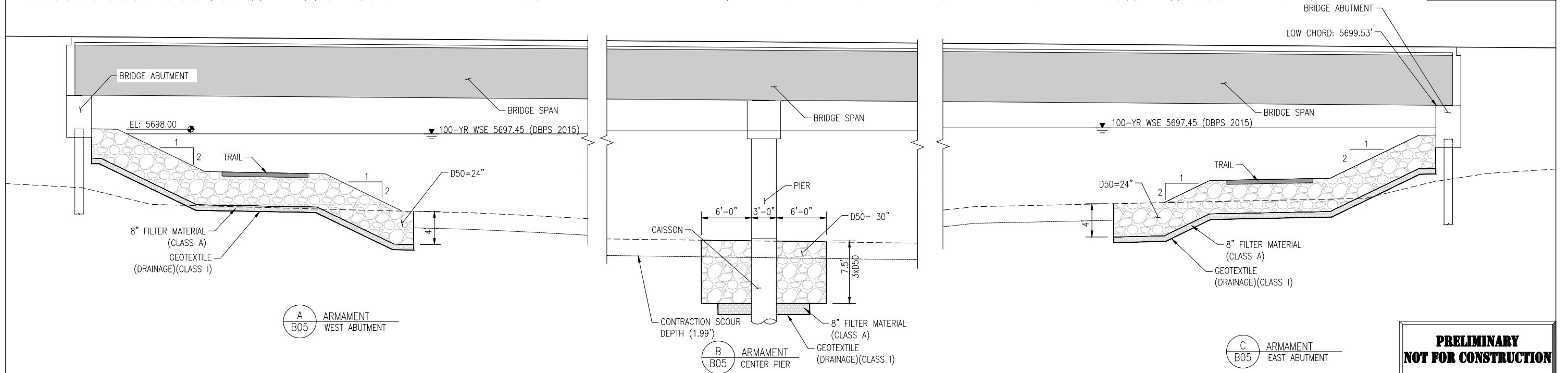
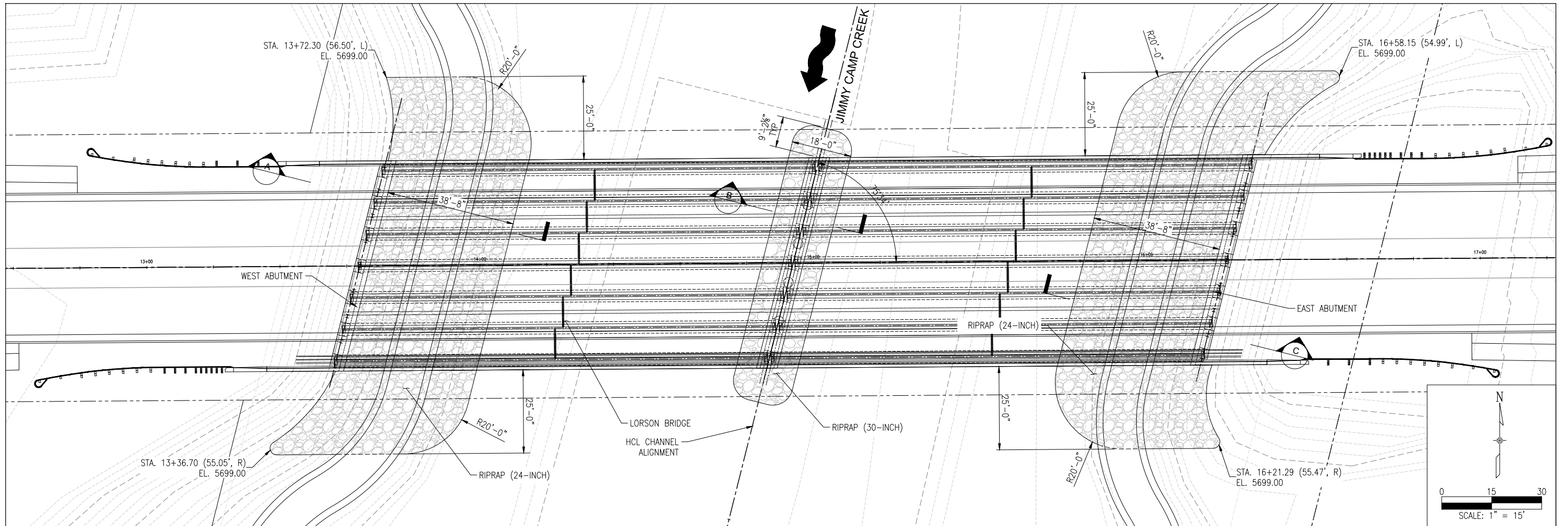
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Unit Information	Unit Leader Initials

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			No Revisions:		Designer: CJB		Structure		-	
			Revised:		Detailer: CJB		Numbers		-	
			Void:		Sheet Subset:		Subset Sheets:		Sheet Number B04	





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EMAIL: RichS@ceg1.com

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No Revisions:	
Revised:	
Void:	

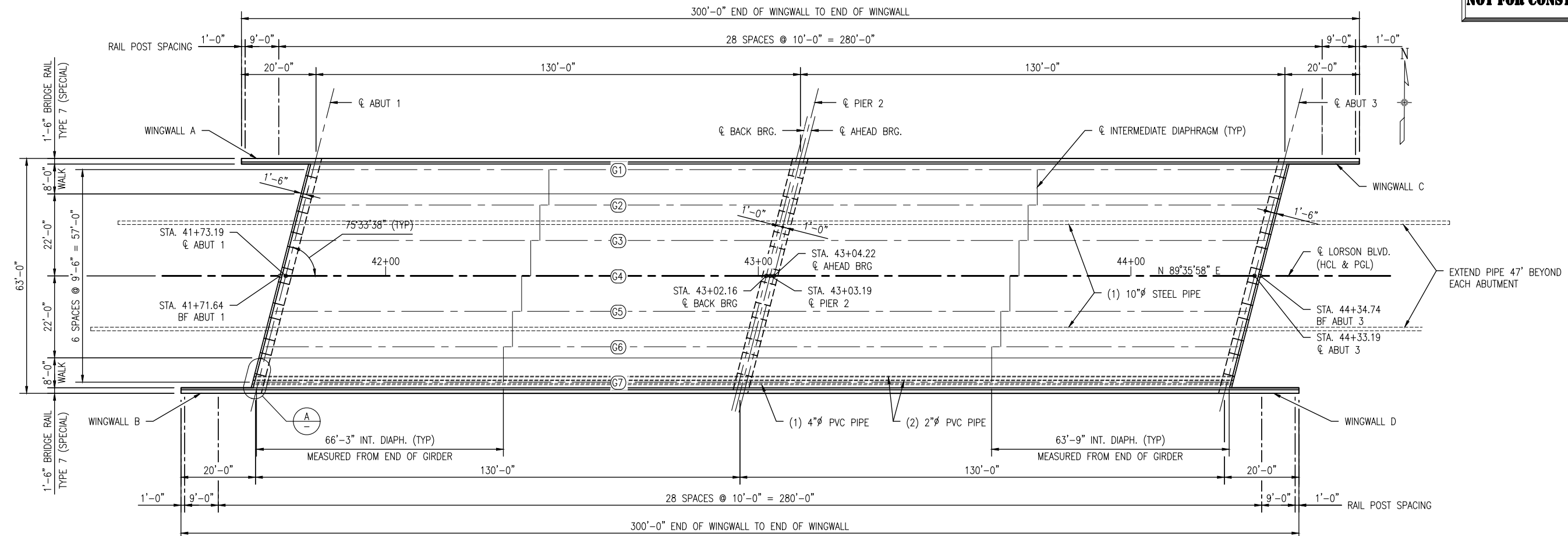
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Detailer:	CJB	Numbers	
Sheet Subset:		Subset Sheets:	

Project No./Code	
	-
Sheet Number	B05

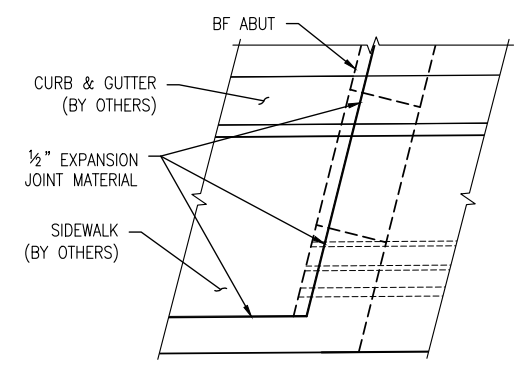
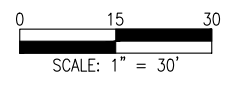
G:\7.2 Clients\369 - Lorson Bridge\16136 - Lorson Bridge\50 DWG\16136 (B04-B05) Hydraulic Data.dwg Sep 27, 2017 - 9:13am



**PRELIMINARY  
NOT FOR CONSTRUCTION**



**CONSTRUCTION LAYOUT**



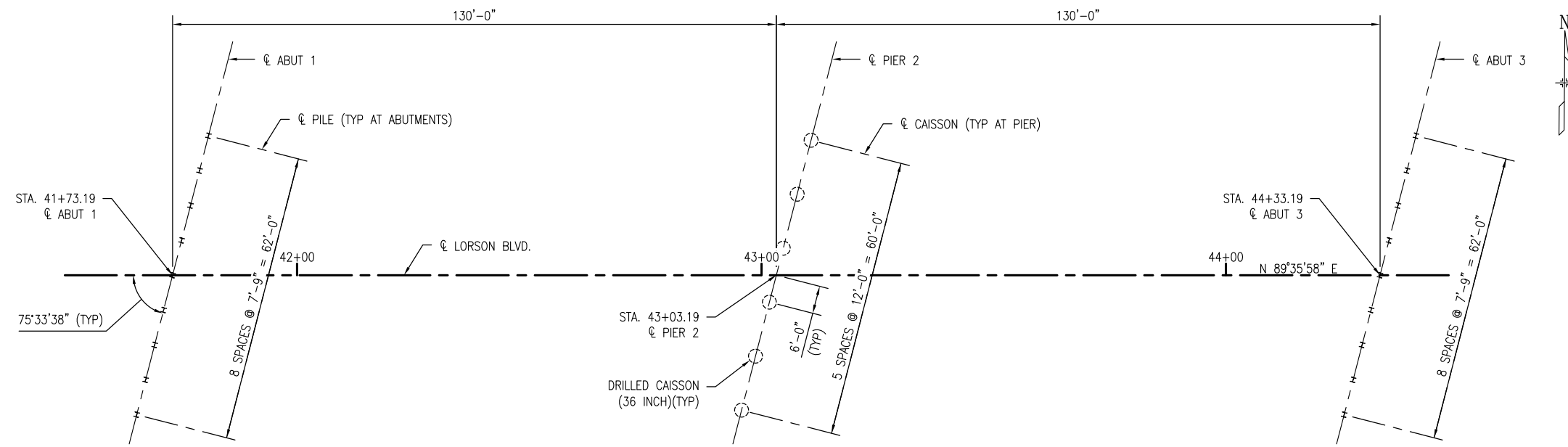
**A** DETAIL  
NTS

- NOTES**
- INTERMEDIATE DIAPHRAGMS MEASURED FROM GIRDER END.
  - SEE SHEET B16 FOR UTILITY DETAILS.

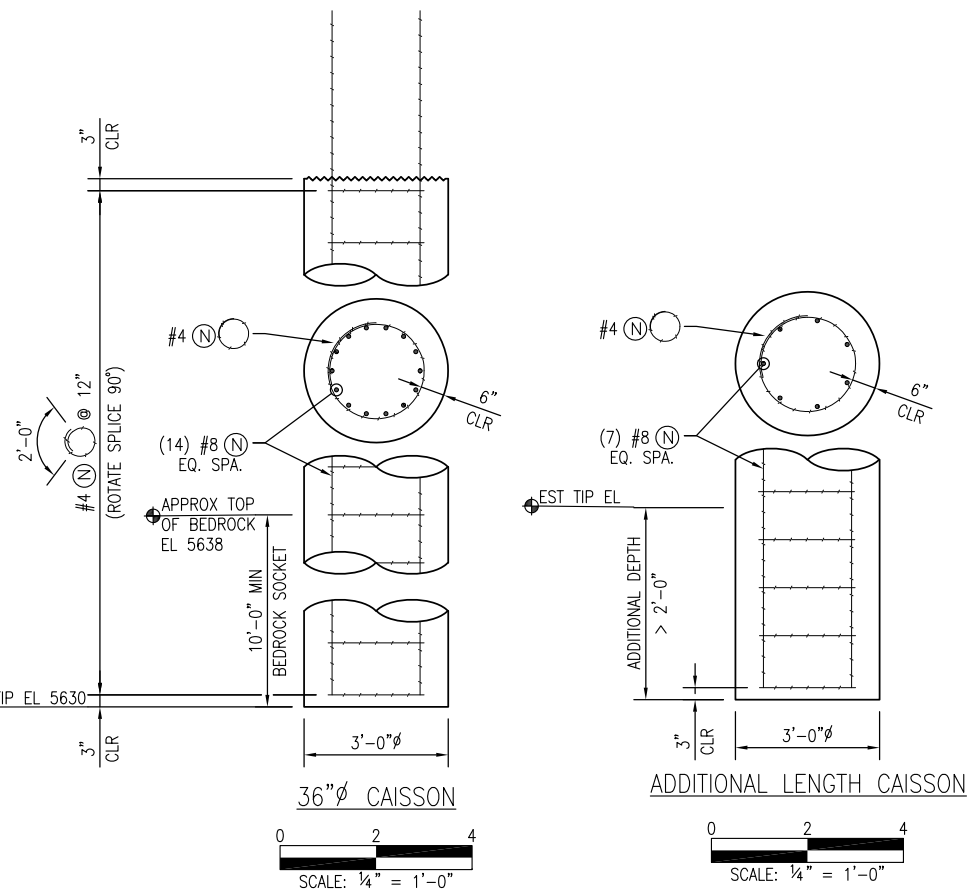
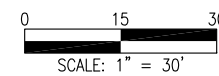
G:\7.2 Clients\369 - Lorson Bridge\16136 - Lorson Bridge\16136 (B06) Construction Layout.dwg Sep 28, 2017 - 8:59am

Print Date:	Sheet Revisions			Loris and Associates, Inc. 100 Superior Plaza Way, Suite 220 Superior, Colorado 80027 303.444.2073 www.LorisandAssociates.com	 THE LANDLUS COMPANY 212 N. WASHATCH, SUITE 301 COLORADO SPRINGS, CO 80903 PHONE: 719-686-9200	 212 N. WASHATCH AVE., SUITE 206 COLORADO SPRINGS, CO 80903 PH: 719-570-1100 FAX: 719-570-1106 CONTACT: RICHARD L. SCHINDLER, P.E. EMAIL: RichS@cej1.com	As Constructed		LORSON BRIDGE CONSTRUCTION LAYOUT		Project No./Code	
File Name:	Date:	Comments:	Init.:				No Revisions:	Designer:			TDB	Structure
Horiz. Scale:	Vert. Scale:	Unit Information		Unit Leader Initials	Revised:	Detailer:	JWJ	Numbers	-		Sheet Number	B06
					Void:	Sheet Subset:	Subset Sheets:					





FOUNDATION LAYOUT



CAISSON DATA

LOCATION	CAISSON SIZE	TOP OF CAISSON ELEV.	EST. BEDROCK ELEV.	MINIMUM PENETRATION INTO BEDROCK (FT)	EST TIP ELEV.	FACTORED MAXIMUM LOADS (TONS)
PIER 2	36"Ø	5682.0	5638.0	10.0	5628.0	390

PILING DATA

LOCATION	PILE SIZE	PILE CUTOFF ELEV.	EST. BEDROCK ELEV.	EST PENETRATION INTO BEDROCK (FT)	EST TIP ELEV.	FACTORED MAXIMUM LOADS (TONS)
ABUTMENT 1	HP 14x89	5697.42	5631.0	3.0	5628.0	178
ABUTMENT 3	HP 14x89	5695.47	5642.5	3.0	5639.5	178

**NOTES:**

- ALL PILING SHALL BE DRIVEN TO REFUSAL.
- PILE TIPS ARE NOT REQUIRED. IF HOWEVER, UNEXPECTED HARD DRIVING CONDITIONS ARE ENCOUNTERED, PILE TIPS SHALL BE INSTALLED. PILE TIPS SHALL BE COMMERCIAL TIP APF HARD BITE 77600, 77750, DFP H-776, VERSA-STEEL VS-300, CONSTRUCTION SUPPLY HT-3300, OR APPROVED ALTERNATE.
- CAISSON CONCRETE SHALL BE CONCRETE CLASS BZ AND REINFORCING STEEL SHALL BE GRADE 60.
- BARs PROJECTING FROM TOP OF CAISSON SHALL BE PLACED TO FIT INSIDE THE REINFORCING CAGE OF THE PIER COLUMN.
- PILING SHALL BE ASTM A709 GR 50.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
- THE BOTTOM OF THE CAISSON SHALL EXTEND THE MINIMUM PENETRATION SHOWN IN THE "CAISSON DATA", OR TO THE ESTIMATED TIP ELEVATION, WHICHEVER PRODUCES THE LOWER ELEVATION.
- IF ADDITIONAL DEPTH IS REQUIRED FOR BEDROCK EMBEDMENT, THE CAISSON SHALL BE EXTENDED AS SHOWN IN ADDITIONAL LENGTH DETAIL.
- THE FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL ENGINEERING STUDY PREPARED BY ROCKY MOUNTAIN GROUP, JOB NO. 155271, DATED APRIL, 2017.
- THE CAISSONS ARE DESIGNED USING AASHTO LRFD METHODOLOGY WITH THE FOLLOWING PARAMETERS:
 

ULTIMATE BEARING CAPACITY	=	150.5 KSF
RESISTANCE FACTOR FOR END BEARING	=	0.50
ULTIMATE SIDE SHEAR RESISTANCE	=	17.4 KSF
RESISTANCE FACTOR FOR SIDE SHEAR	=	0.45
- THE DRIVEN PILES ARE DESIGNED USING AASHTO LRFD METHODOLOGY WITH THE FOLLOWING PARAMETERS:
 

ULTIMATE PILE STRESS	=	40 KSI
RESISTANCE FACTOR	=	0.65
- THIS RESISTANCE FACTOR IS BASED ON A MINIMUM OF ONE PILE PER ABUTMENT BEING TESTED BY PDA TO THE MAXIMUM FACTORED LOAD SHOWN FOR THAT LOCATION.

G:\7.2 Clients\369 - Lorson Bridge\50 DWG\16136 (B07) Foundation Layout.dwg Sep 26, 2017 - 4:15pm

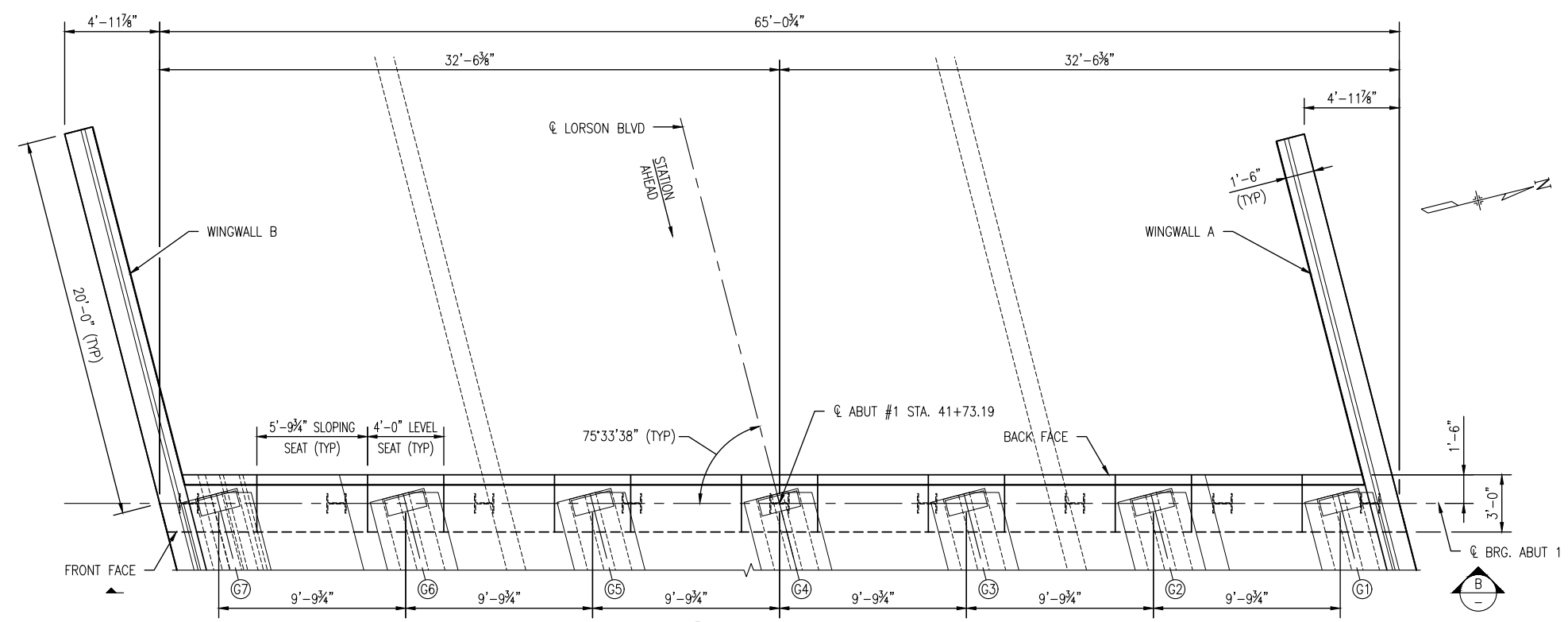
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File Name:	
Horiz. Scale:	Vert. Scale: As Noted
Unit Information	Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

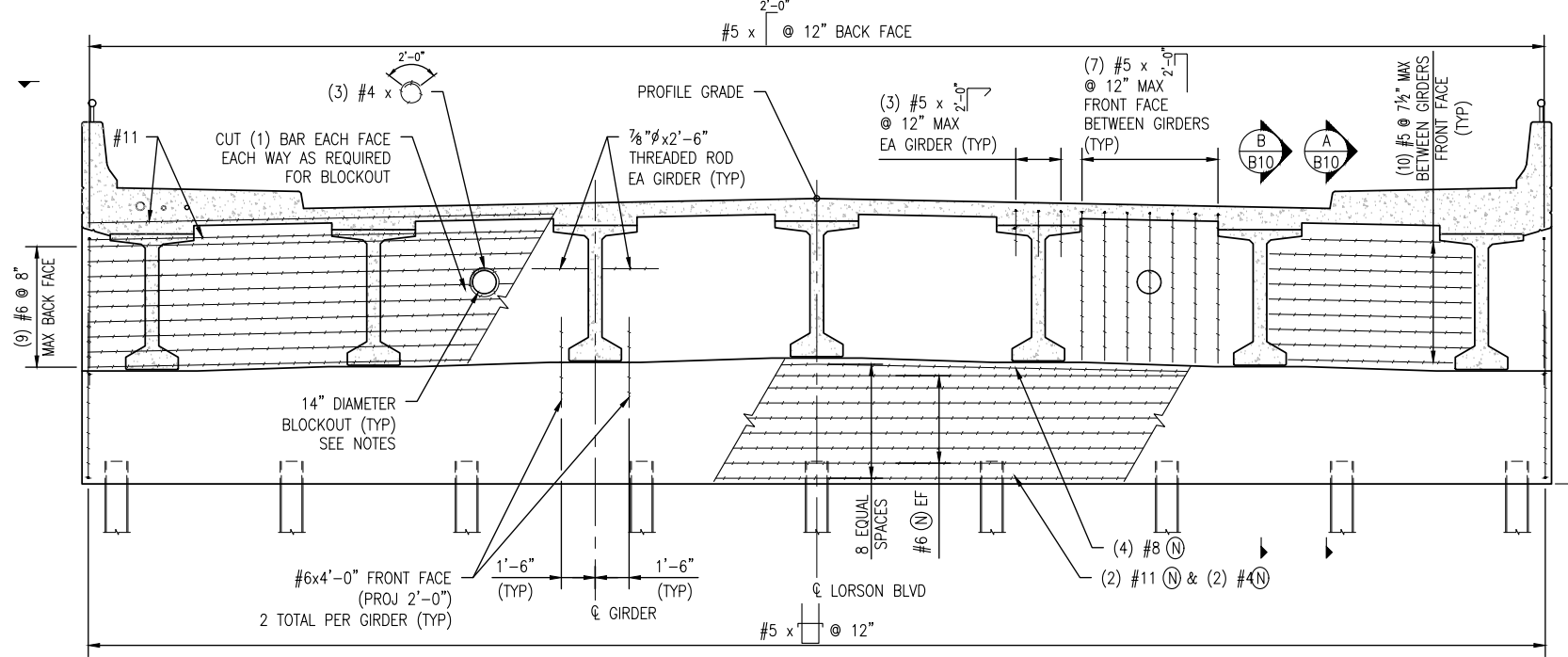
 100 Superior Plaza Way, Suite 220 Superior, Colorado 80027 303.444.2078 www.LorisandAssociates.com	 THE LANDHUIS COMPANY 212 N. WASHINGTON, SUITE 801 COLORADO SPRINGS, CO 80903 PHONE: 719.636.9200	 212 N. WASHINGTON AVE., SUITE 206 COLORADO SPRINGS, CO 80903 PH: 719.570.1100 FAX: 719.570.1106 CONTACT: RICHARD L. SCHINDLER, P.E. EMAIL: RichS@ceg1.com	LORSON BRIDGE FOUNDATION LAYOUT		Project No./Code - - Sheet Number <b>B07</b>		
			As Constructed				
			No Revisions:				
			Revised:			Designer: TDB	Structure: JWW
Void:		Sheet Subset: Subset Sheets:					



**PRELIMINARY  
NOT FOR CONSTRUCTION**



**A**  
B08  
ABUTMENT #1 PLAN  
SCALE: 1/8" = 1'-0"



**B**  
B08  
ABUTMENT #1 ELEVATION  
SCALE: 1/8" = 1'-0"

**SEAT ELEVATIONS**

GIRDER	ELEVATION
G1	5701.43
G2	5701.63
G3	5701.84
G4	5702.05
G5	5701.87
G6	5701.70
G7	5701.52

- NOTES**
1. ABUTMENT SHALL BE CONCRETE CLASS D.
  2. DECK AND DIAPHRAGM SHALL BE PLACED MONOLITHICALLY.
  3. SEAT ELEVATIONS SHOWN ARE AT  $\phi$  ABUTMENT AND  $\phi$  GIRDER.
  4. FOR WINGWALL REINFORCING PROJECTING INTO ABUTMENT SEE SHEET B11.
  5. FOR SIDEWALK REINFORCING PROJECTING INTO ABUTMENT SEE SHEET B16.
  6. FOR BRIDGE RAIL REINFORCING PROJECTING INTO ABUTMENT SEE SHEET B22.
  7. THREADED ROD SHALL BE PLACED IN 7/8"  $\phi$  INSERTS PROVIDED IN GIRDERS.
  8. PLACE STIRRUP REINFORCING PARALLEL TO  $\phi$  GIRDER.
  9. AFTER INSTALLATION OF CONDUIT, SEAL GAP BETWEEN THE CONDUIT AND THE BLOCKOUT WITH MASTIC.

C:\7.2 Clients\369 - Lorson Bridge\50 DWG\16136 (B08-B11) Abutment & Wingwall Details.dwg Sep 28, 2017 - 9:07am

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Unit Information:	Unit Leader Initials

Sheet Revisions		
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EMAIL: RichS@cegi.com

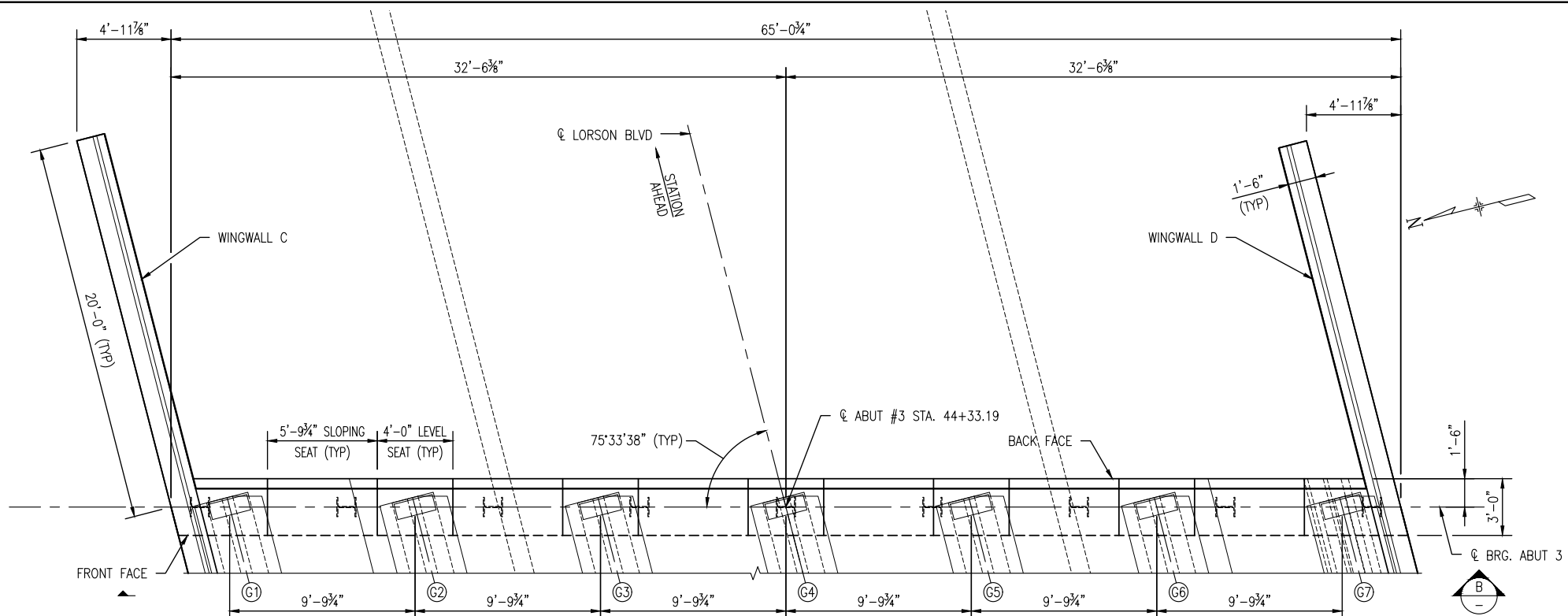
As Constructed
No Revisions:
Revised:
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LORSON BRIDGE ABUTMENT #1 PLAN & ELEVATION			
Designer:	TDB	Structure	
Detailer:	JWJ	Numbers	
Sheet Subset:		Subset Sheets:	

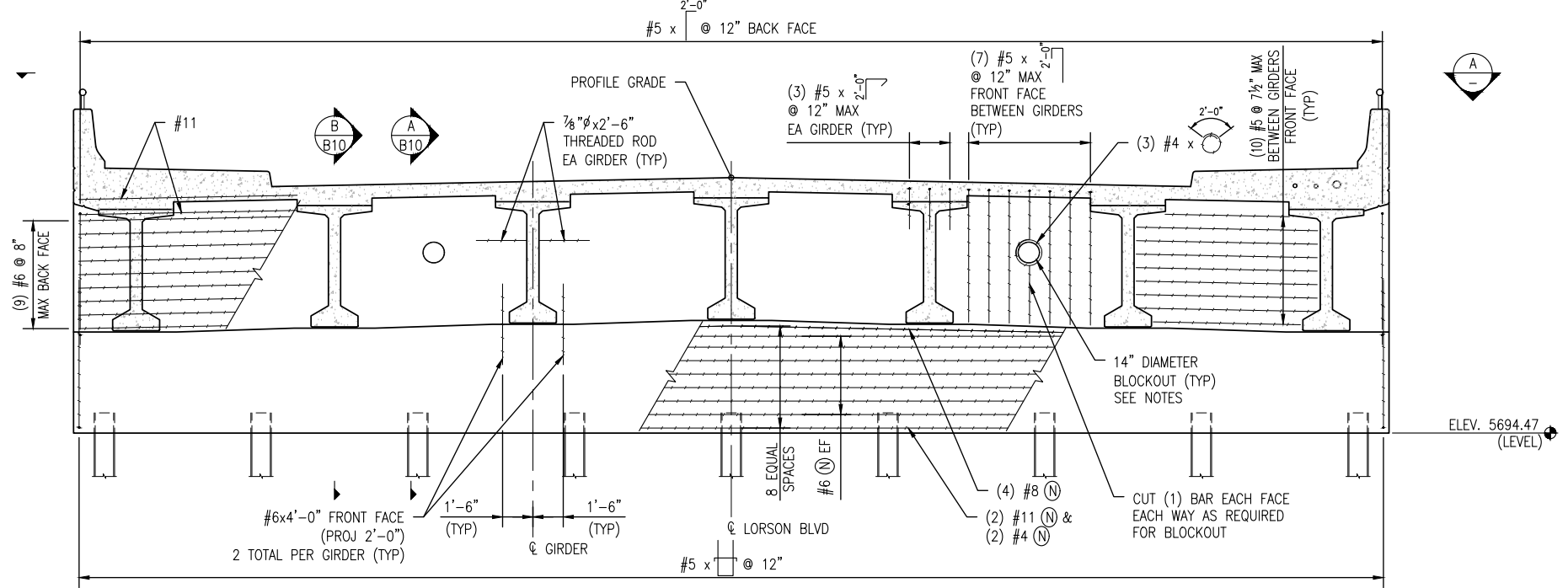
Project No./Code	
Sheet Number	B08



**PRELIMINARY  
NOT FOR CONSTRUCTION**



**A**  
B09  
ABUTMENT #3 PLAN  
SCALE: 1/8" = 1'-0"



**B**  
B09  
ABUTMENT #3 ELEVATION  
SCALE: 1/8" = 1'-0"

**SEAT ELEVATIONS**

GIRDER	ELEVATION
G1	5699.48
G2	5699.68
G3	5699.89
G4	5700.10
G5	5699.92
G6	5699.75
G7	5699.57

- NOTES**
1. ABUTMENT SHALL BE CONCRETE CLASS D.
  2. DECK AND DIAPHRAGM SHALL BE PLACED MONOLITHICALLY.
  3. SEAT ELEVATIONS SHOWN ARE AT  $\phi$  ABUTMENT AND  $\phi$  GIRDER.
  4. FOR WINGWALL REINFORCING PROJECTING INTO ABUTMENT SEE SHEET B11.
  5. FOR SIDEWALK REINFORCING PROJECTING INTO ABUTMENT SEE SHEET B16.
  6. FOR BRIDGE RAIL REINFORCING PROJECTING INTO ABUTMENT SEE SHEET B22.
  7. THREADED ROD SHALL BE PLACED IN 7/8"  $\phi$  INSERTS PROVIDED IN GIRDERS.
  8. PLACE STIRRUP REINFORCING PARALLEL TO  $\phi$  GIRDER.
  9. AFTER INSTALLATION OF CONDUIT, SEAL GAP BETWEEN THE CONDUIT AND THE BLOCKOUT WITH MASTIC.

G:\7.2 Clients\369 - Lorson Bridge\50 DWG\16136 (B08-B11) Abutment & Wingwall Details.dwg Sep 28, 2017 - 9:04am

Print Date:	
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Unit Information:	Unit Leader Initials

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EMAIL: RichS@cegi.com

As Constructed
No Revisions:
Revised:
Void:

LORSON BRIDGE ABUTMENT #3 PLAN & ELEVATION			
Designer:	TDB	Structure	
Detailer:	JWJ	Numbers	
Sheet Subset:		Subset Sheets:	

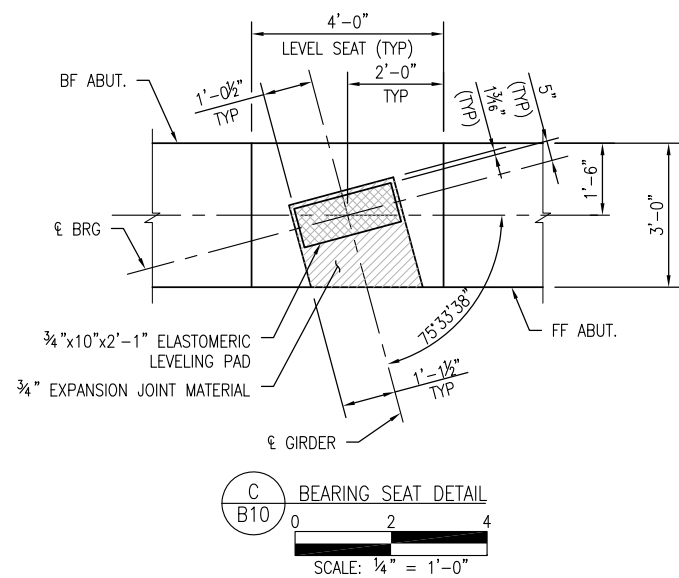
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Sheet Number	B09



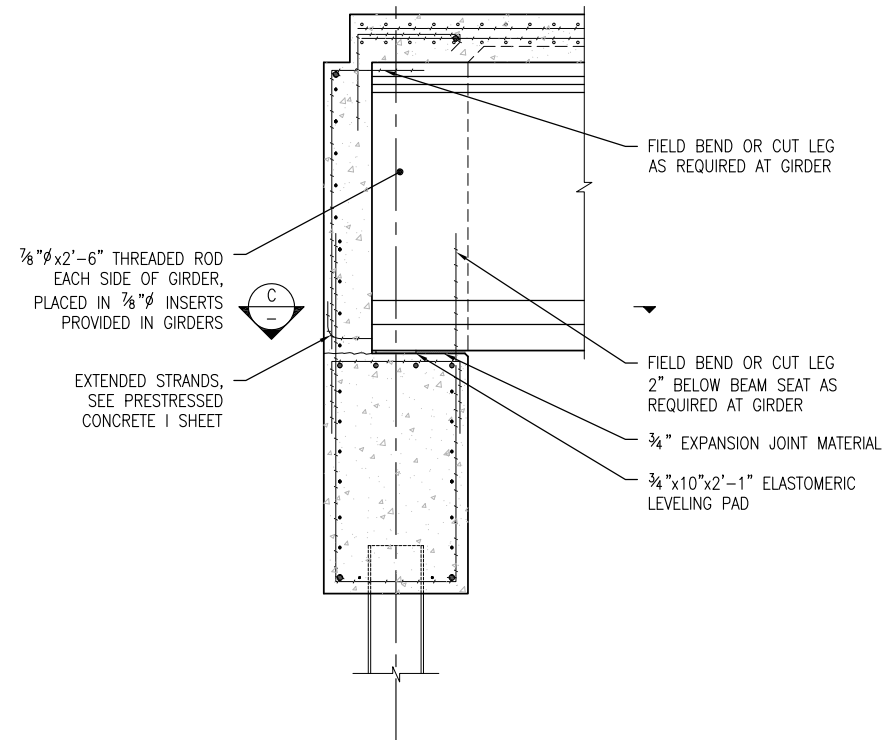
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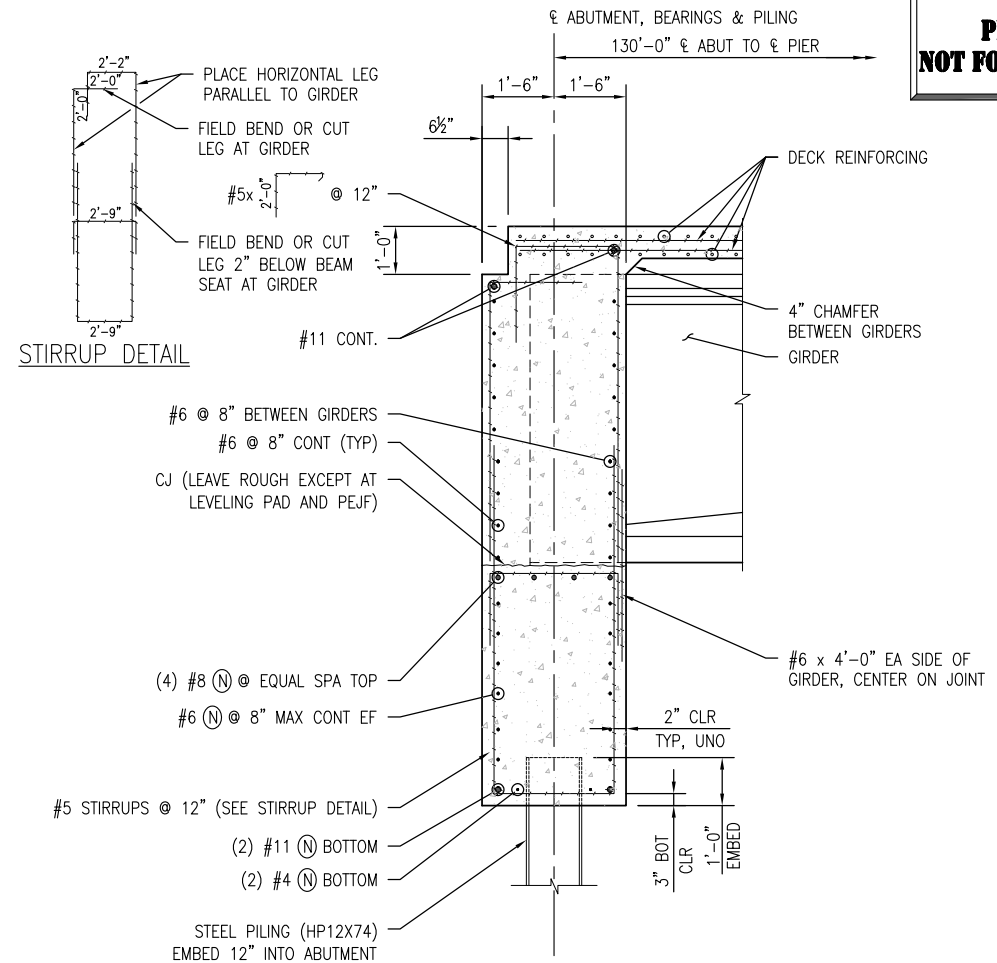
NOTE: UNLESS NOTED OTHERWISE, ALL INFORMATION SHOWN ON SECTION A/- APPLIES TO THIS SECTION.



**C**  
B10  
BEARING SEAT DETAIL  
SCALE: 1/4" = 1'-0"



**B**  
B10  
TYPICAL ABUTMENT SECTION AT GIRDERS  
SCALE: 1/4" = 1'-0"



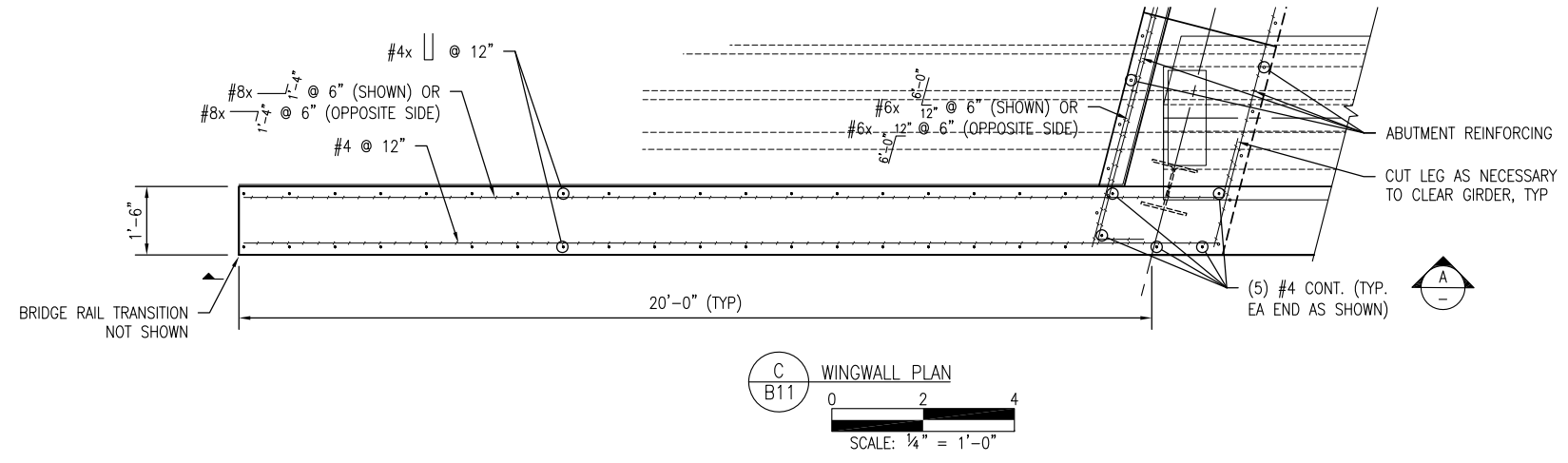
**A**  
B10  
TYPICAL ABUTMENT SECTION BETWEEN GIRDERS  
SCALE: 1/4" = 1'-0"

G:\2 Clients\369 - Lorson Bridge\16136 - Lorson Bridge\50 DWG\16136 (B08-B11) Abutment & Wingwall Details.dwg Sep 26, 2017 - 4:15pm

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File Name:		Date:	Comments	Init.				No Revisions:			-		-	
Horiz. Scale:	Vert. Scale: As Noted							Revised:	Designer:	TDB	Structure		-	
Unit Information	Unit Leader Initials							Void:	Detailer:	TDB	Numbers		-	
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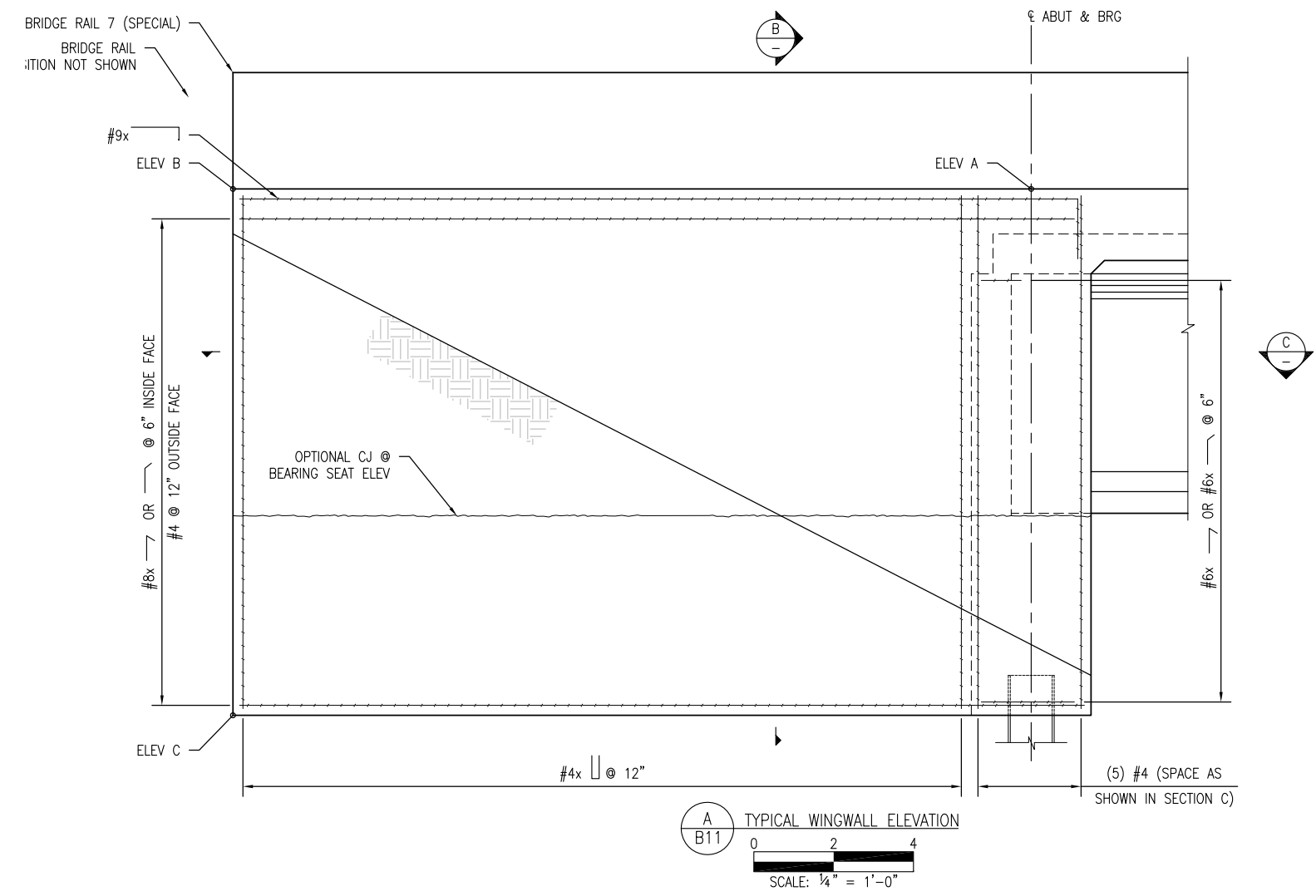


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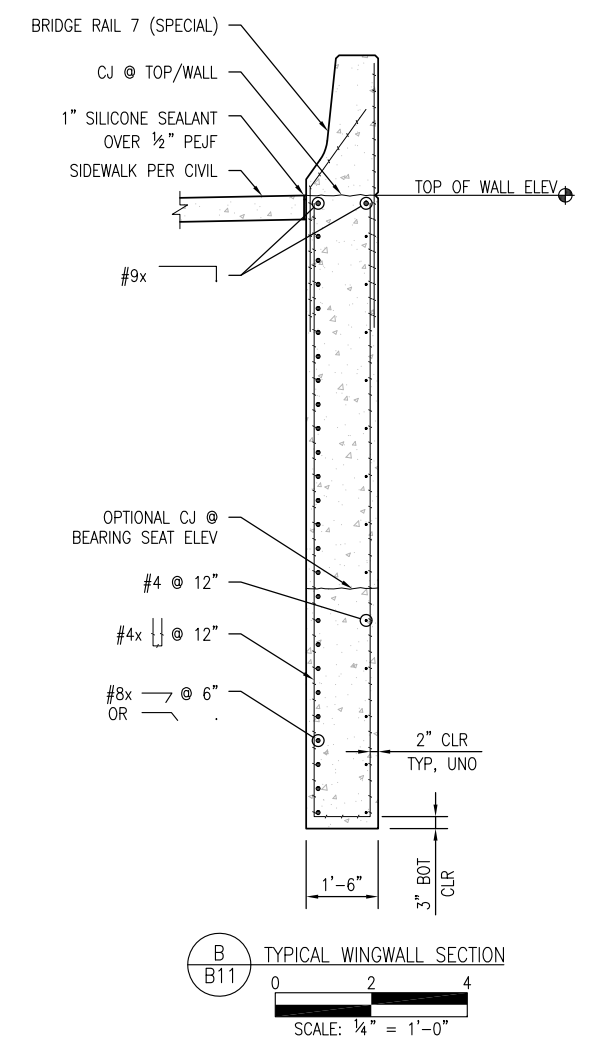


WINGWALL ELEVATIONS			
WINGWALL	ELEV. A	ELEV. B	ELEV. C
A	5709.55	5709.70	5696.43
B	5709.67	5709.82	5696.43
C	5707.60	5707.45	5694.48
D	5707.72	5707.57	5694.48

**C**  
B11  
WINGWALL PLAN  
0 2 4  
SCALE: 1/4" = 1'-0"



**A**  
B11  
TYPICAL WINGWALL ELEVATION  
0 2 4  
SCALE: 1/4" = 1'-0"

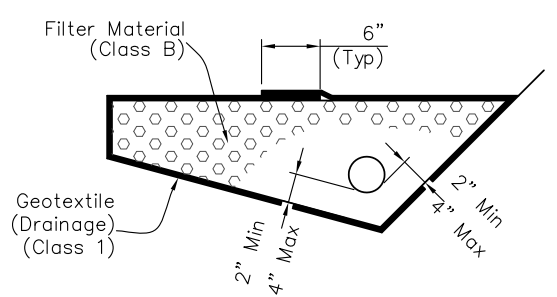
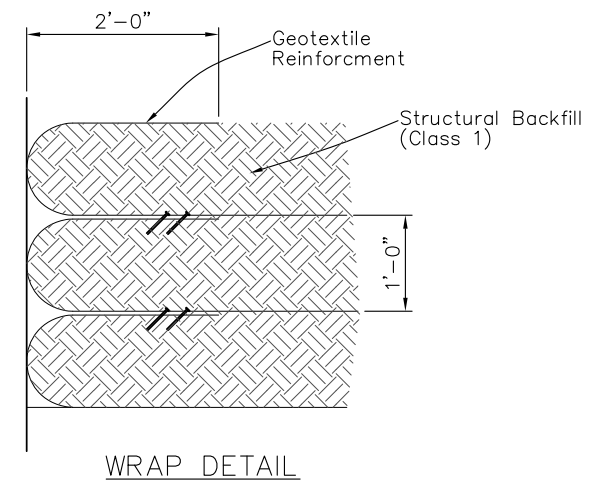
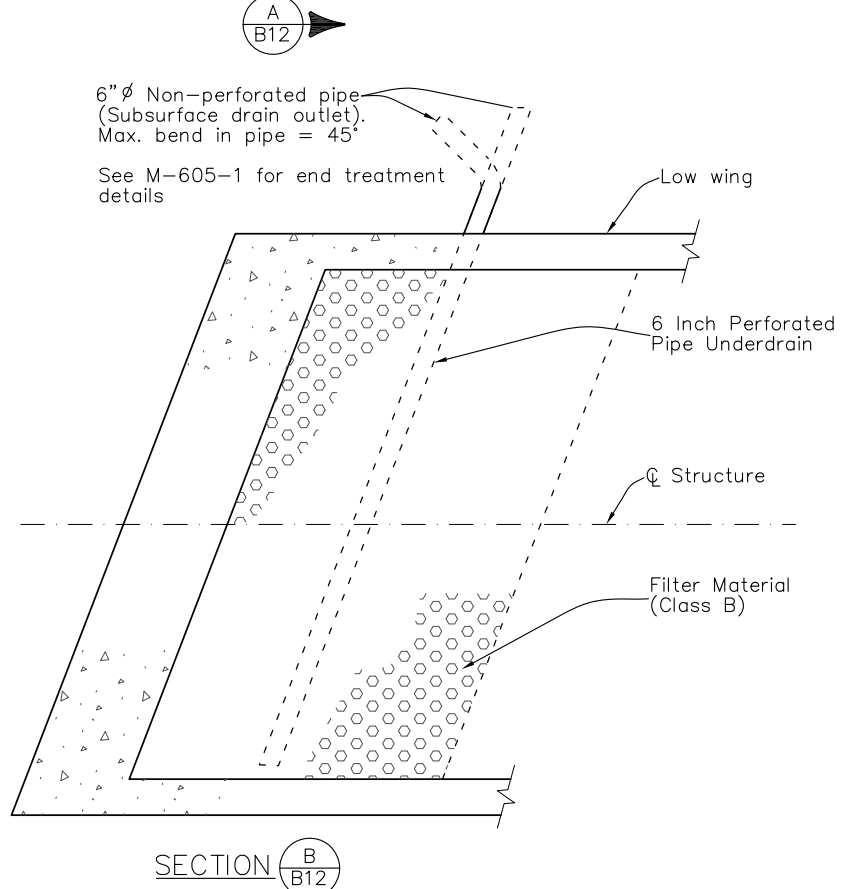
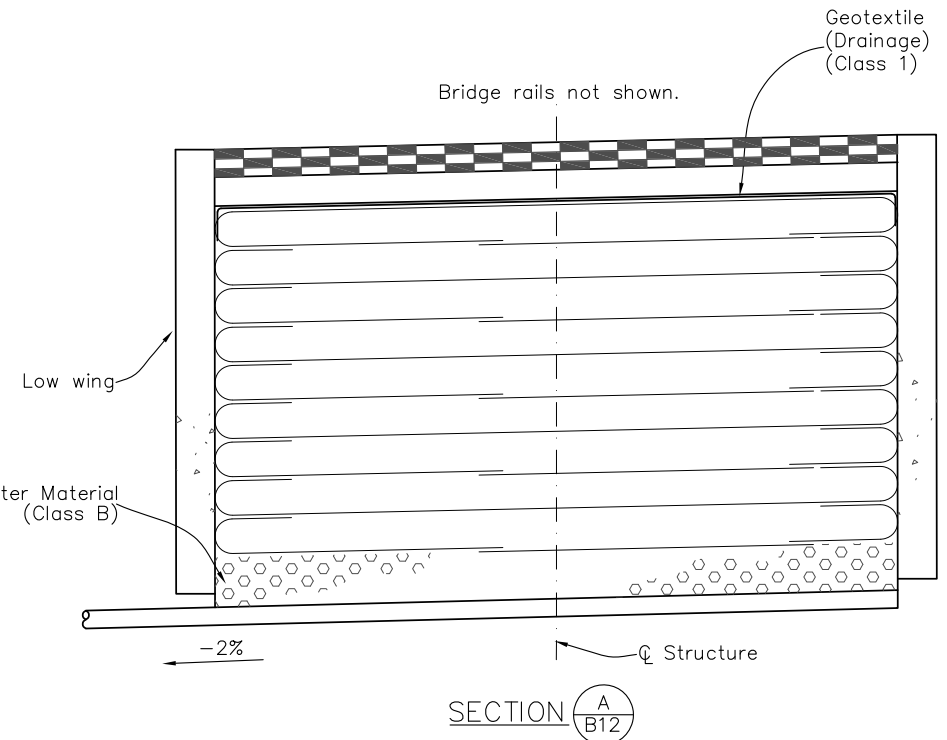
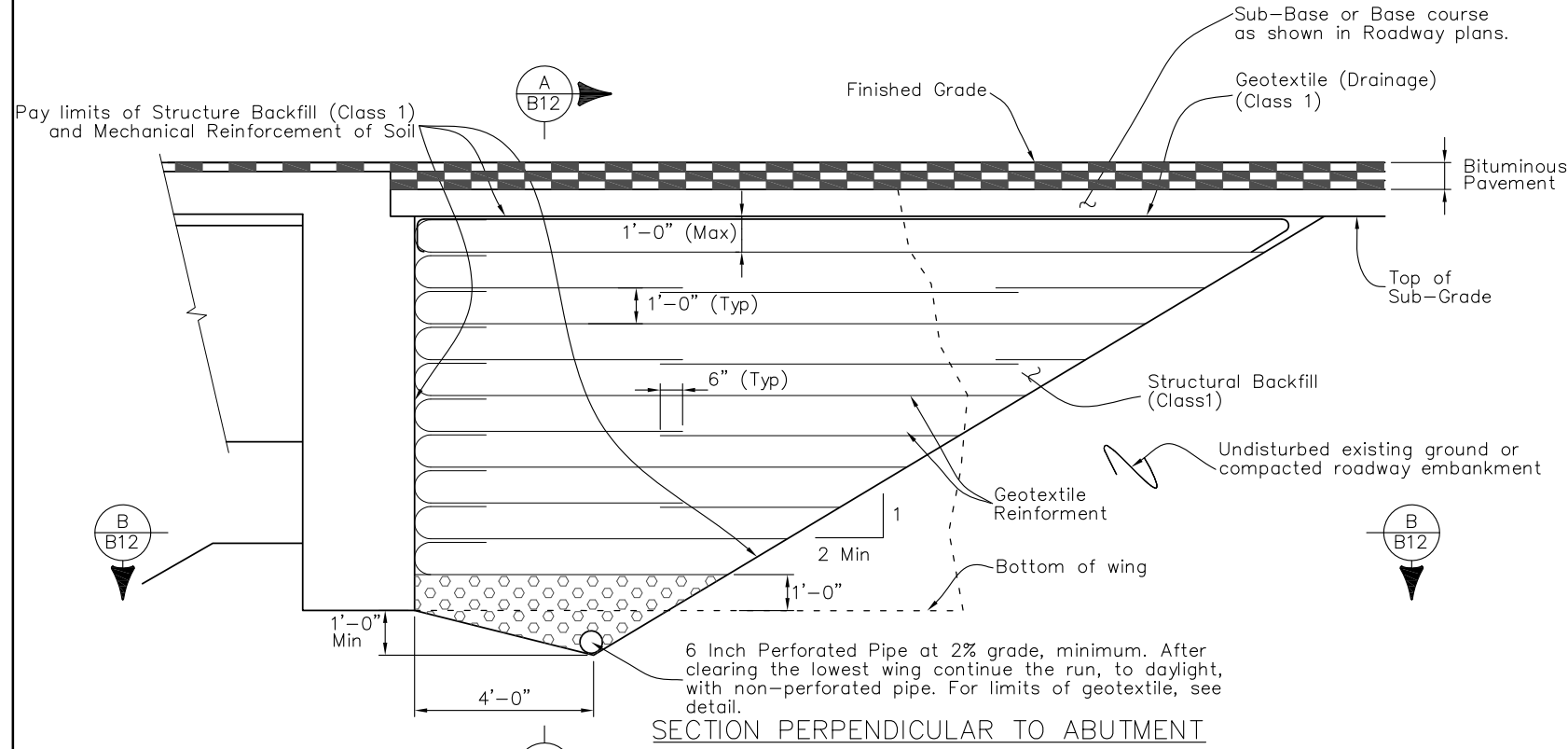


**B**  
B11  
TYPICAL WINGWALL SECTION  
0 2 4  
SCALE: 1/4" = 1'-0"

G:\7.2 Clients\369 - Lorson Bridge\16136 - Lorson Bridge\50 DWG\16136 (B08-B11) Abutment & Wingwall Details.dwg Sep 26, 2017 - 4:15pm

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File Name:		Date:	Comments	Init.				No Revisions:					
Horiz. Scale:	Vert. Scale: As Noted							Revised:	Designer:	TDB	Structure		
Unit Information	Unit Leader Initials							Void:	Detailer:	TDB	Numbers		
						Sheet Subset:		Subset Sheets:		Sheet Number <b>B11</b>			

**PRELIMINARY  
NOT FOR CONSTRUCTION**



**6 INCH PERFORATED PIPE UNDERDRAIN**  
6 Inch Perforated Pipe Underdrain includes all Filter Material (Class B) and Geotextile (Drainage) (Class 1) surrounding the Filter Material (Class B).

- NOTES:**
- Geotextile Reinforcement shall be woven fabric with a Minimum Average Roll Value of 2400 lb/ft based on ASTM D4595.
  - Geotextile Reinforcement shall be placed by alternating Machine Direction (MD) with Cross Machine Direction (XD) from layer to layer.
  - The Geotextile Reinforcement wrap at Back Face of Abutment shall be pulled back slack free with its end anchored to soil underneath with staples or pins.
  - Minimum splice of all Geofabric shall consist of 6" of overlap.
  - Payment for all work items shown will be made under item 206 Mechanical Reinforcement of Soil (CY) and item 206 Structure Backfill (Class 1) (CY) and shall include the cost for 6 Inch Perforated Pipe Underdrain and Subsurface Drain Outlet (6" Non-Perforated Pipe).
  - Installation of Pipe Underdrain and Subsurface Drain Outlet will Conform to the Construction requirements of Section 605.03 and 605.06, respectively.

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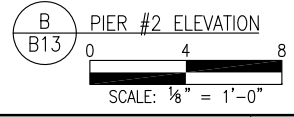
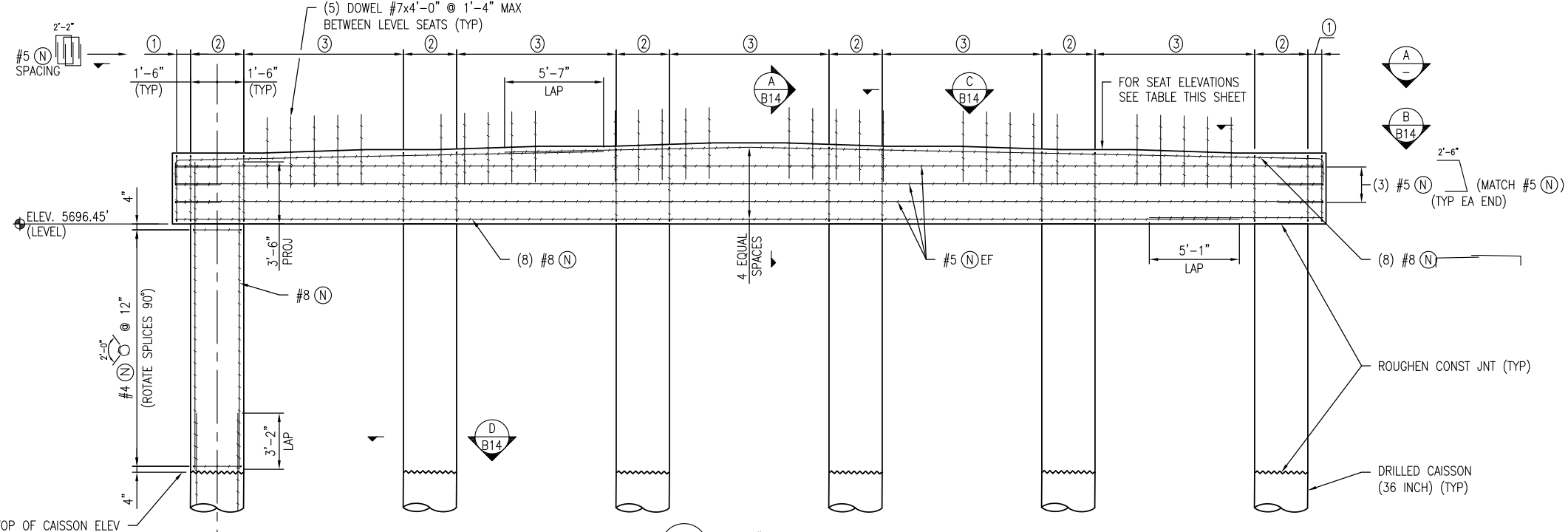
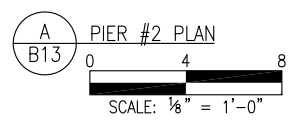
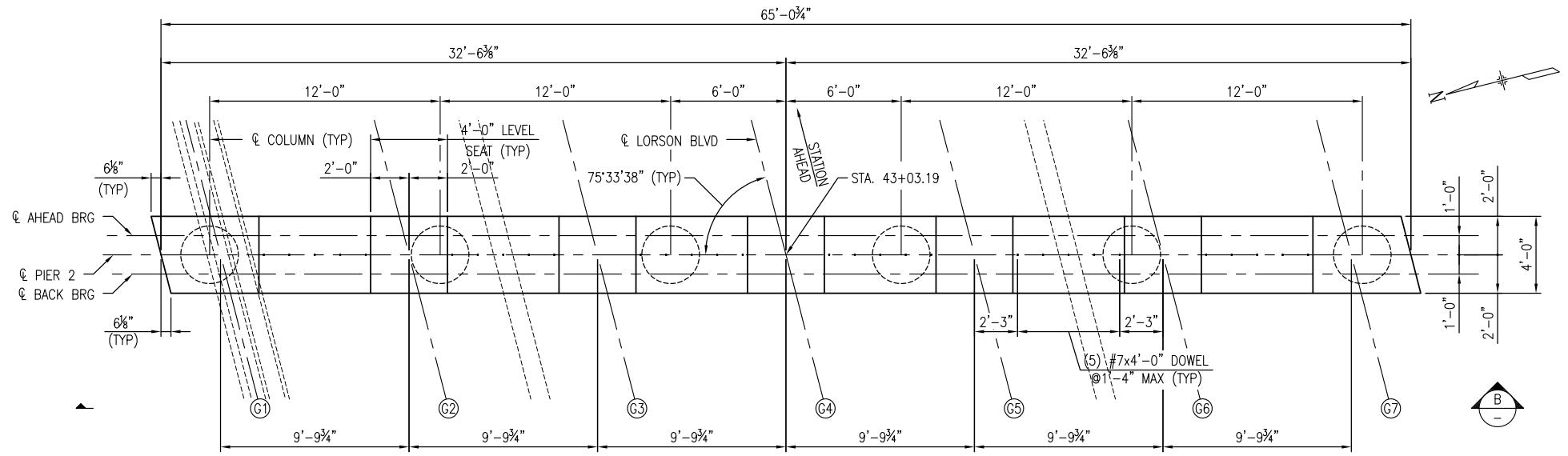
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Unit Information:	Unit Leader Initials

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Date:	Comments	Init.

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			No Revisions:			-	
			Revised:	Designer: TDB	Structure Numbers	-	
			Void:	Detailer: JWJ	Subset Sheets:	Sheet Number	B12



**PRELIMINARY  
NOT FOR CONSTRUCTION**



- ① (2) SPACES @ 9" MAX
- ② (3) SPACES @ 1'-0" = 3'-0"
- ③ (12) SPACES @ 9" = 9'-0"

SEAT ELEVATIONS	
GIRDER	ELEVATION
G1	5700.46
G2	5700.65
G3	5700.86
G4	5701.07
G5	5700.90
G6	5700.73
G7	5700.54

- NOTES**
- PIER SHALL BE CONCRETE CLASS D.
  - ALTERNATE LAP SPLICES AS SHOW.
  - SEAT ELEVATIONS SHOWN ARE AT @ PIER AND @ GIRDER FOR TOP OF CAISSON ELEVATIONS SEE SHEET B07
  - FOR BEARING SEAT DETAIL SEE SHEET B13

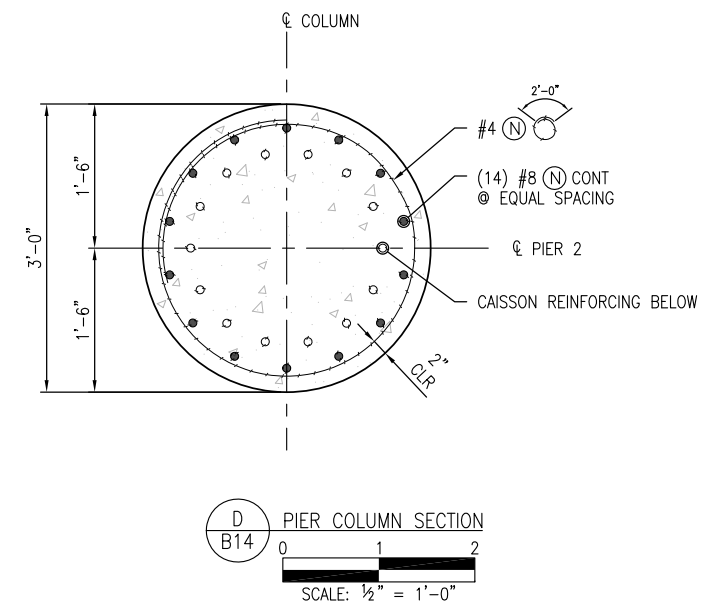
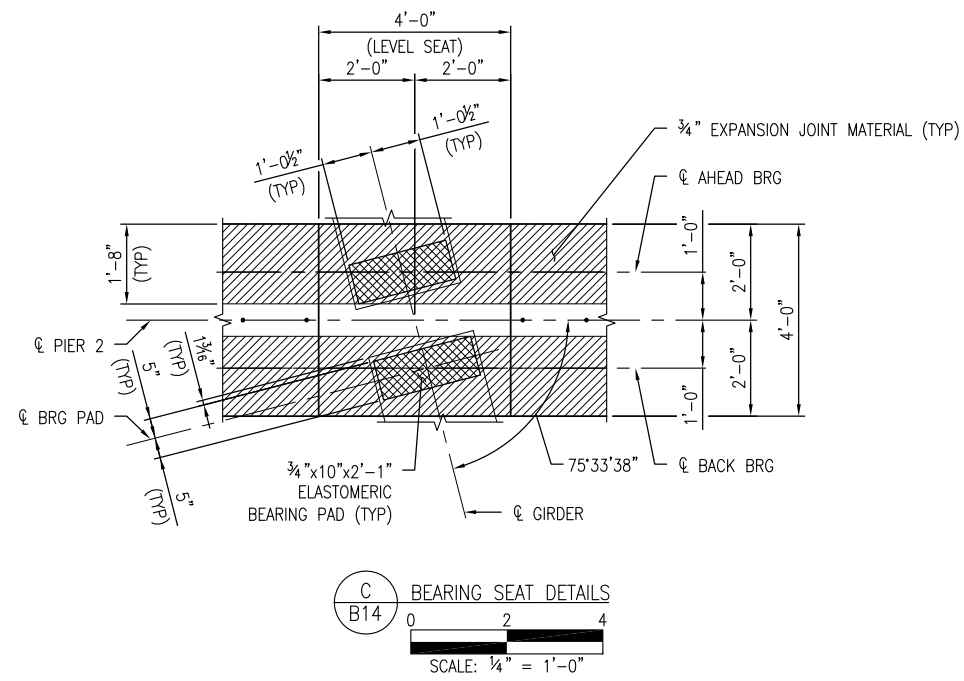
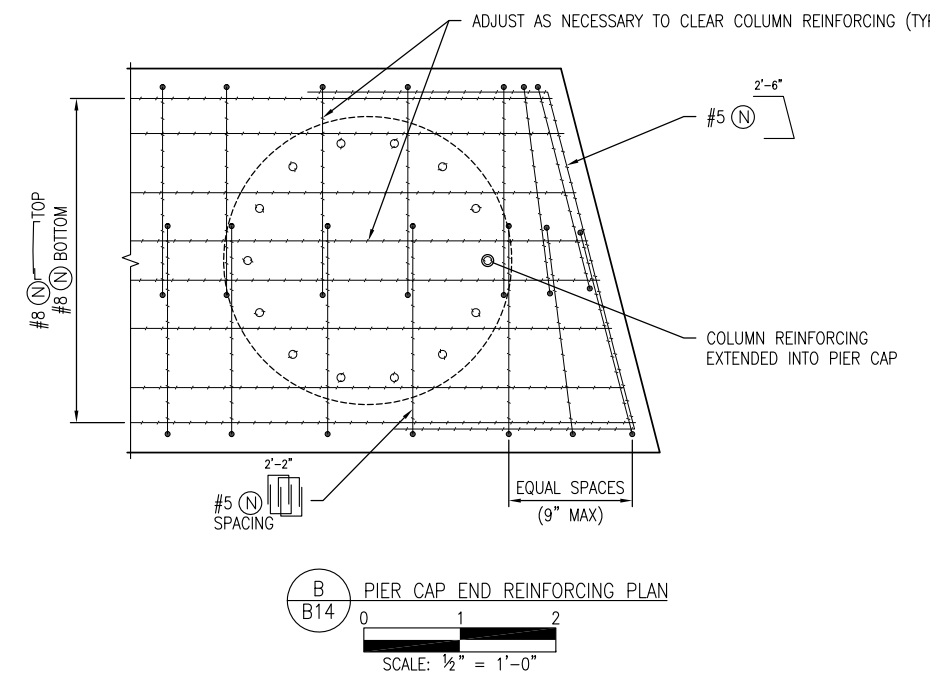
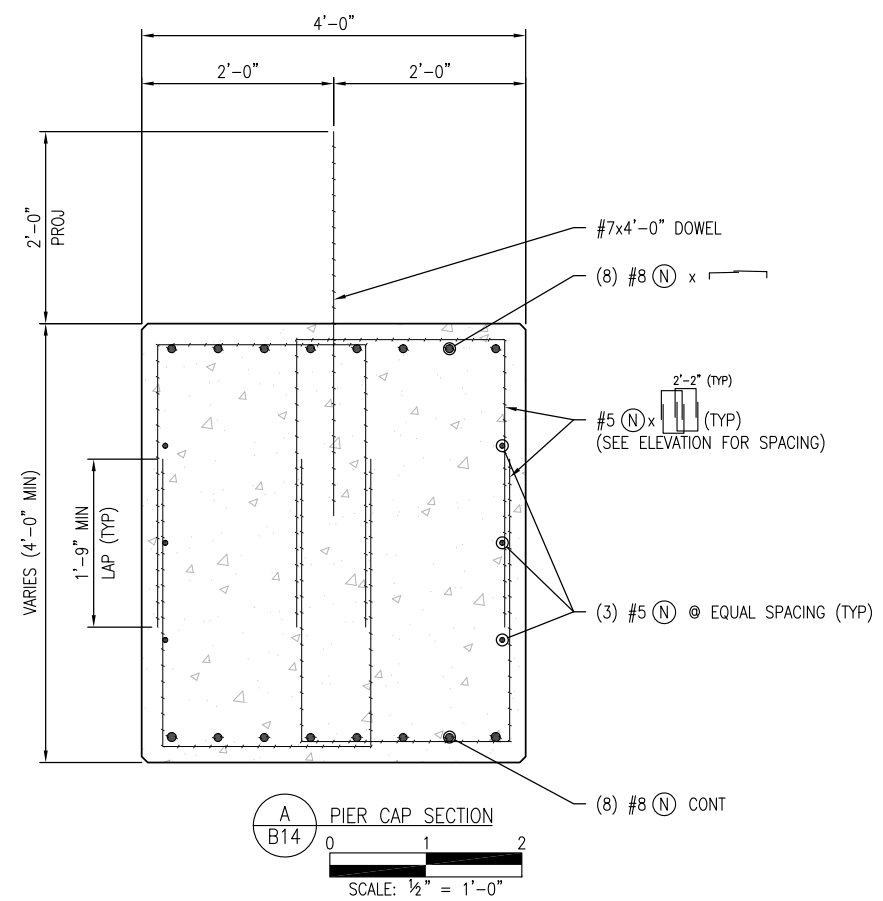
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Unit Information:	Unit Leader Initials

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Date:	Comments	Init.

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			No Revisions:				-				
			Revised:	Designer: TDB	Structure			-			
			Void:	Detailer: JWJ	Numbers			-			
		Sheet Subset:	Subset Sheets:		Sheet Number		B13				

**PRELIMINARY  
NOT FOR CONSTRUCTION**



G:\7.2 Clients\369 - Lorson Bridge\16136 - Lorson Bridge\50 DWG\16136 (B13-B14) Pier Details.dwg Sep 26, 2017 - 4:15pm

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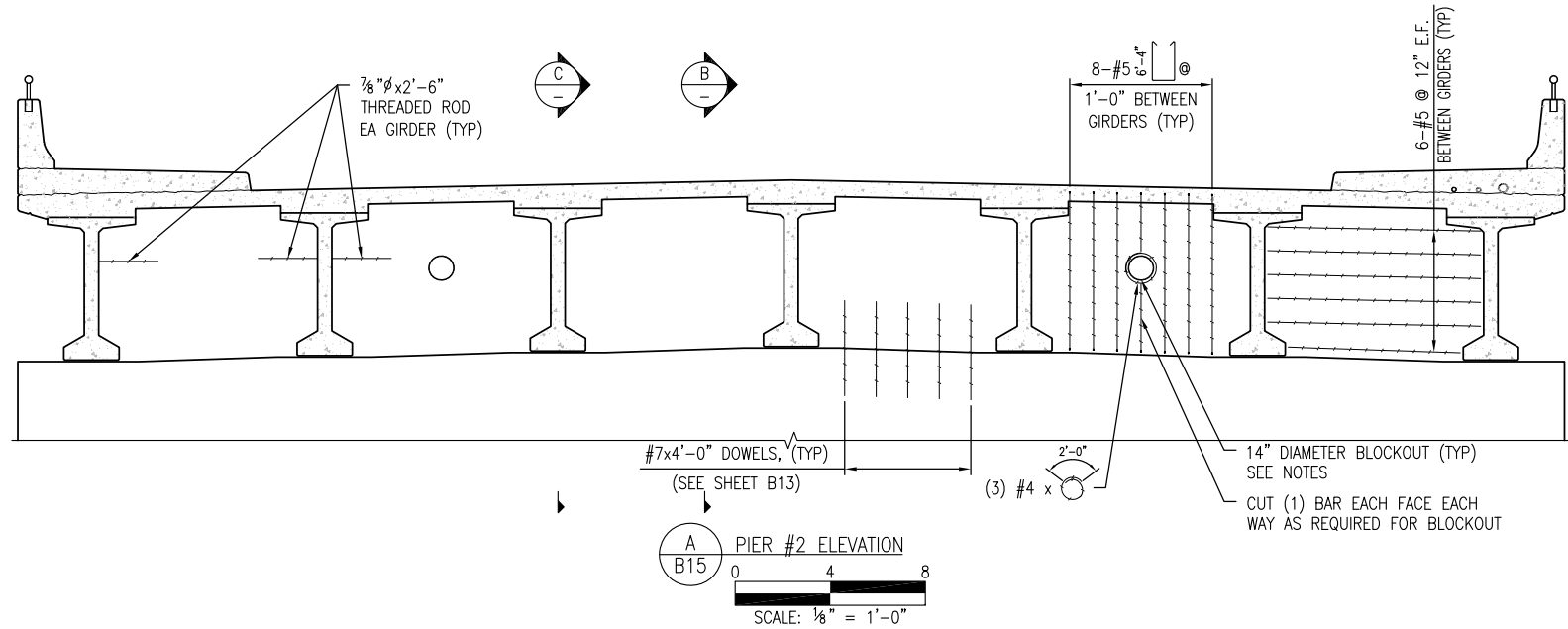
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Detailer:	JWJ	Numbers	
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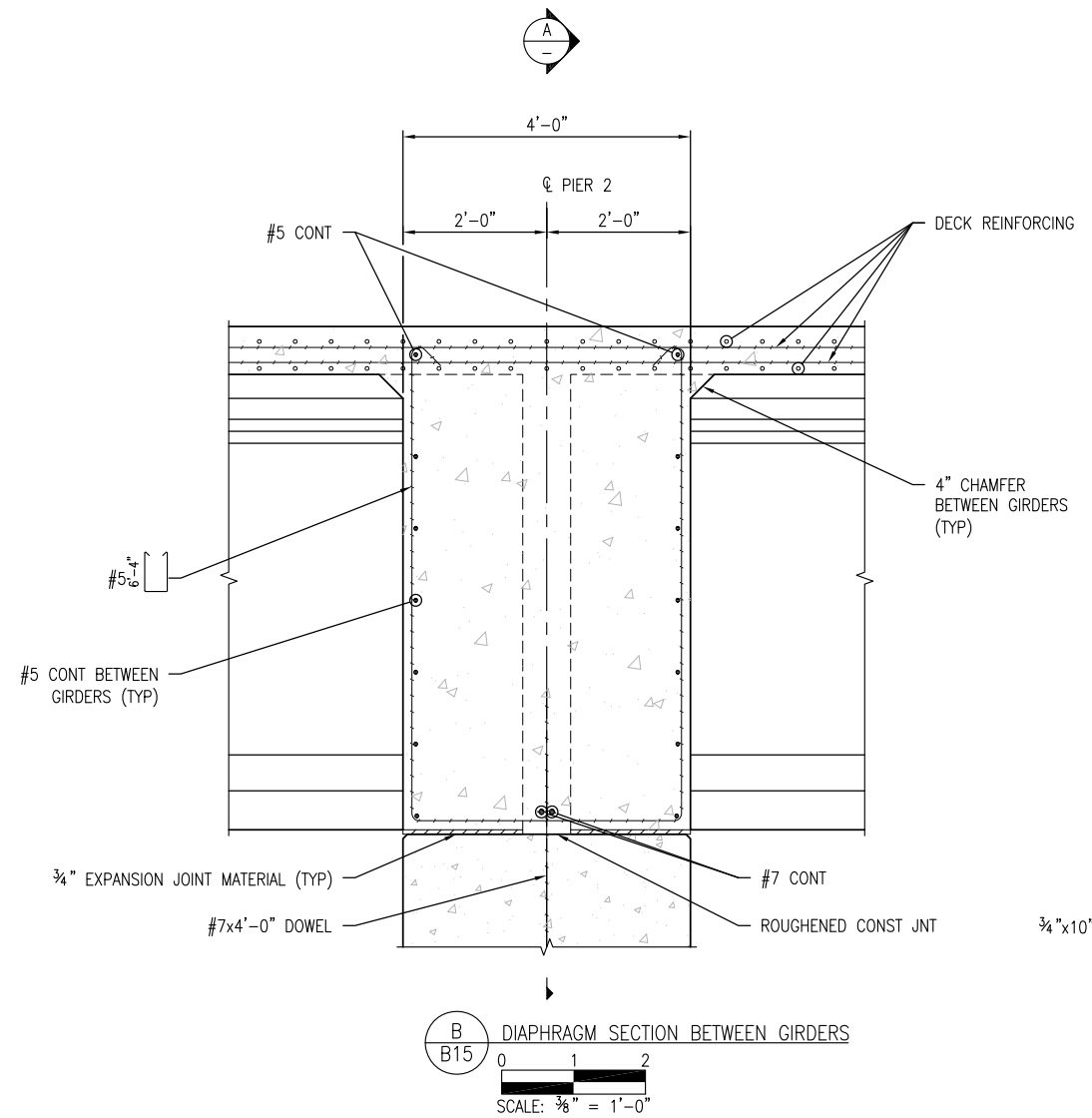
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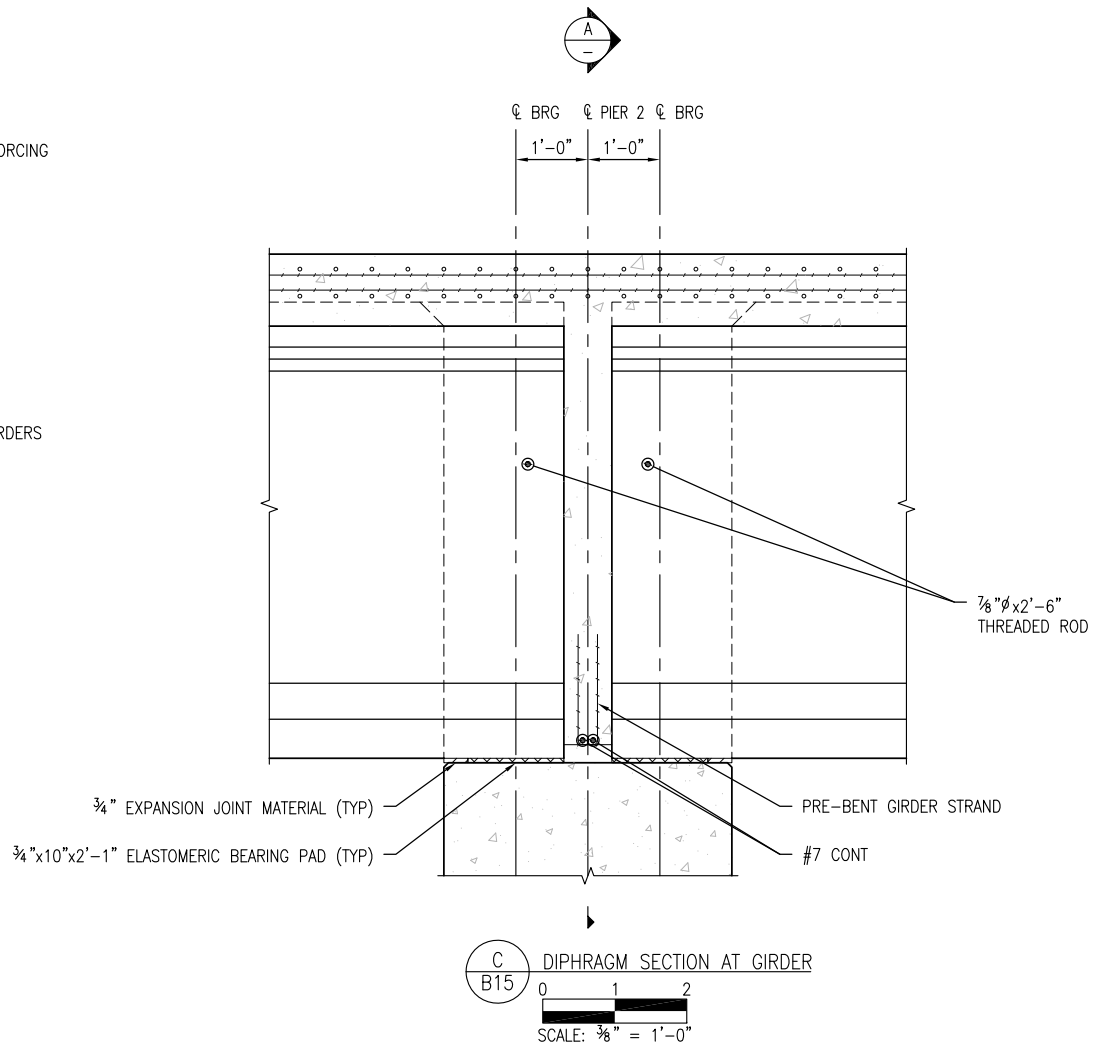
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**A**  
B15  
PIER #2 ELEVATION  
0 4 8  
SCALE: 1/8" = 1'-0"



**B**  
B15  
DIAPHRAGM SECTION BETWEEN GIRDERS  
0 1 2  
SCALE: 3/8" = 1'-0"



**C**  
B15  
DIAPHRAGM SECTION AT GIRDER  
0 1 2  
SCALE: 3/8" = 1'-0"

**NOTES**

1. PIER DIAPHRAGM SHALL BE CONCRETE CLASS D.
2. DECK AND PIER DIAPHRAGM SHALL BE PLACED MONOLITHICALLY.
3. THREADED ROD SHALL BE PLACED IN 7/8" φ INSERTS PROVIDED IN GIRDERS. PROVIDE TWO BARS PER GIRDER END AT INTERIOR GIRDERS AND ONE BAR PER END AT EXTERIOR GIRDERS AS SHOWN.
4. PLACE STIRRUP REINFORCING PARALLEL TO φ GIRDER.
5. AFTER INSTALLATION OF CONDUIT, SEAL GAP BETWEEN THE CONDUIT AND THE BLOCKOUT WITH MASTIC.

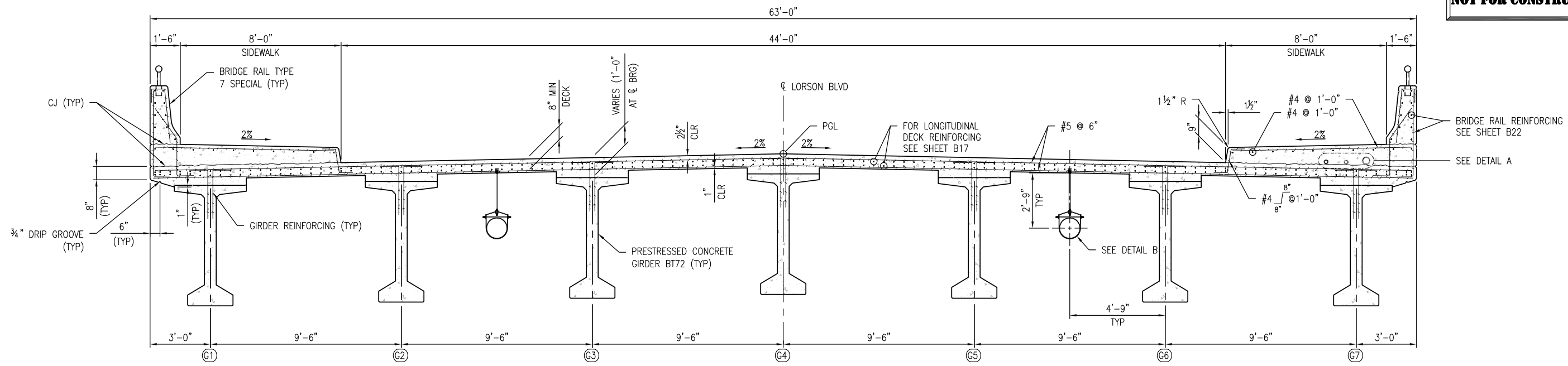
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File Name:	
Horiz. Scale:	Vert. Scale: As Noted
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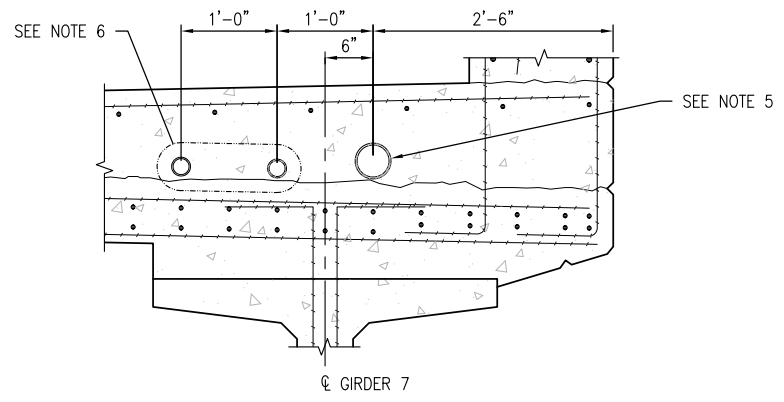
Sheet Revisions		
Date:	Comments	Init.

 100 Superior Plaza Way, Suite 220 Superior, Colorado 80027 303.444.2073 www.LorsonAssociates.com	 THE LANDHUIS COMPANY 212 N. WASHATCH, SUITE 801 COLORADO SPRINGS, CO 80903 PHONE: 719.636.3200	 212 N. WASHATCH AVE., SUITE 206 COLORADO SPRINGS, CO 80903 PH: 719.570.1100 FAX: 719.570.1106 CONTACT: RICHARD L. SCHINDLER, P.E. EMAIL: Rich@cegi.com	As Constructed		LORSON BRIDGE PIER#2 DIAPHRAGM DETAILS		Project No./Code			
			No Revisions:				-			
			Revised:		Designer:	TDB	Structure		-	
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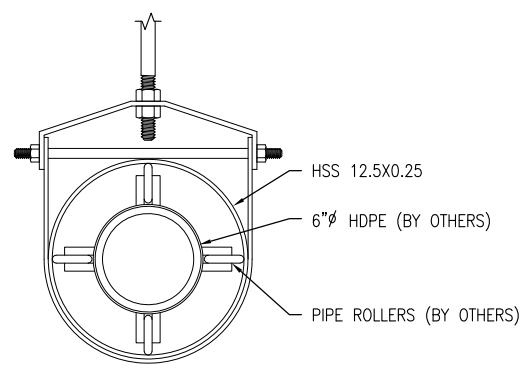
**PRELIMINARY  
NOT FOR CONSTRUCTION**



**TYPICAL SECTION**  
LOOKING UPSTATION  
SCALE: 1/16" = 1'-0"



**DETAIL A**  
SCALE: 1/2" = 1'-0"



**DETAIL B**  
SEE NOTE 7  
SCALE: 1" = 1'-0"

- NOTES**
- DECK SHALL BE CONCRETE CLASS D.
  - SIDEWALK SURFACE SHALL BE BROOM-FINISHED IN ACCORDANCE WITH SECTION 608.
  - FOR BRIDGE RAIL REINFORCING PROJECTING FROM DECK, SEE SHEET B17.
  - PLACE TRANSVERSE BARS PARALLEL TO  $\phi$  BRG.
  - FOR CENTURY LINK, PROVIDE (1) 4"  $\phi$  SCHEDULE 80 PVC.
  - FOR COMCAST, PROVIDE (2) 2"  $\phi$  SCHEDULE 80 PVC.
  - FOR MOUNTAIN VIEW ELECTRIC ASSOCIATION, INC. (MVEA), PROVIDE TWO (2); CARRIER PIPES, AND HANGER ASSEMBLY. CARRIER PIPE SHALL BE ASTM A847; Fy=50 KSI. HANGER ASSEMBLY SHALL BE GALVANIZED ADJUSTABLE CLEVIS HANGER WITH 3/8" ALL-THREAD RODS, HEX NUTS AND SCREW CONCRETE INSERT AS MANUFACTURED BY ANVIL INTERNATIONAL, INC. OR APPROVED EQUIVALENT. LONGITUDINAL SPACING SHALL BE 16'-0" MAX. SUBMIT SHOP DRAWINGS TO MVEA FOR APPROVAL PRIOR TO CONSTRUCTION.

G:\7.2 Clients\369 - Lorson Bridge\16136 - Lorson Bridge\50 DWG\16136 (B16) Superstructure Details.dwg Sep 26, 2017 - 4:15pm

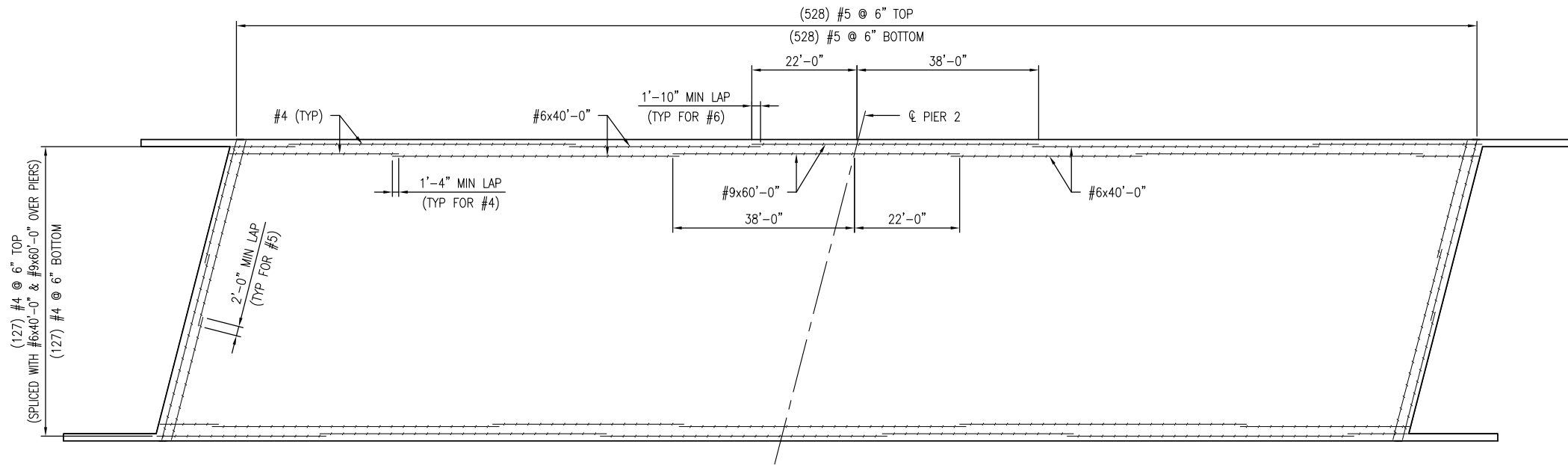
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Horiz. Scale:	Vert. Scale: As Noted
Unit Information:	Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

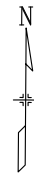
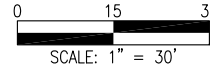
 100 Superior Plaza Way, Suite 220 Superior, Colorado 80027 303.444.2078 www.LorisandAssociates.com	 THE LANDHUIS COMPANY 212 N. WASHATCH, SUITE 801 COLORADO SPRINGS, CO 80903 PHONE: 719.636.3200	 212 N. WASHATCH AVE., SUITE 206 COLORADO SPRINGS, CO 80903 PH: 719.570.1100 FAX: 719.570.1106 CONTACT: RICHARD L. SCHINDLER, P.E. EMAIL: RichS@ceg1.com	As Constructed	LORSON BRIDGE SUPERSTRUCTURE DETAILS		Project No./Code	
			No Revisions:			-	
			Revised:	Designer: TDB	Structure	-	
			Void:	Detailer: JWJ	Numbers	-	
			Sheet Subset:	Subset Sheets:	Sheet Number <b>B16</b>		



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DECK PLAN - REINFORCING



**NOTES**

1. ALTERNATE LAP SPLICES AS SHOWN.
2. FOR TOP REINFORCING IN ABUTMENT DIAPHRAGMS SEE SHEET B10.
3. FOR REINFORCING IN SIDEWALK SEE SHEET B16.
4. FOR TOP REINFORCING IN PIER DIAPHRAGMS SEE SHEET B14.
5. FOR BRIDGE RAIL REINFORCING PROJECTIONS FROM DECK SEE SHEET B22.

C:\7.2 Clients\369 - Lorson\16136 - Lorson Bridge\50 DWG\16136 (B17) Deck Reinforcing Plan.dwg Sep 26, 2017 - 4:15pm

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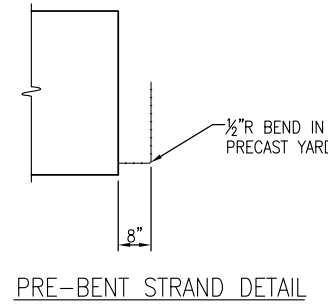
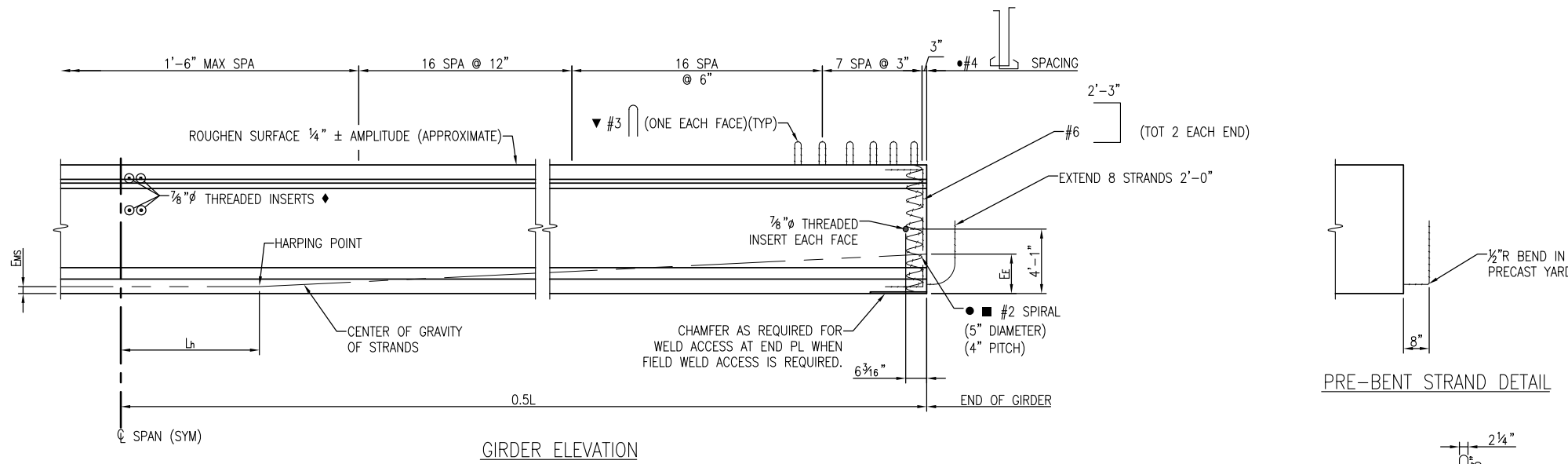
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LORSON BRIDGE DECK REINFORCING PLAN			
Designer:	TDB	Structure	
Detailer:	JWJ	Numbers	
Sheet Subset:		Subset Sheets:	

Project No./Code	-
Sheet Number	<b>B17</b>



**NOTES:**

ALL WORK NECESSARY TO FABRICATE AND INSTALL THE INTEGRAL PARTS OF THE GIRDER (INCLUDING THE INTERMEDIATE DIAPHRAGMS, 7/8" Ø THREADED RODS, AND LEVELING PADS), AS SHOWN ON THE PLANS, SHALL BE INCLUDED IN THE BID PRICE FOR ITEM NO. 618, PRESTRESSED CONCRETE I (BT72), WITH A PAY UNIT OF LF WHICH SHALL BE MEASURED BY DIMENSION L.

WHEN APPROVED BY THE ENGINEER, A MINIMUM OF TACK WELDING WILL BE PERMITTED ON ASTM A706 UNCOATED REINFORCING STEEL.

REINFORCING PROJECTING FROM THE TOP OF THE GIRDER AND REINFORCING WITHIN EIGHT FEET OF AN EXPANSION DEVICE IN THE BRIDGE DECK SHALL BE EPOXY COATED. DAMAGED COATING ON GIRDER REINFORCING NEED NOT BE REPAIRED. THE MINIMUM COVER FOR REINFORCING STEEL IS 1".

AT GIRDER ENDS NOT EMBEDDED IN CONCRETE DIAPHRAGMS, CUT STRANDS OFF 1" BELOW THE SURFACE OF THE CONCRETE AND FINISH WITH AN APPROVED EPOXY GROUT. AT GIRDER ENDS EMBEDDED IN CONCRETE DIAPHRAGMS, CUT STRANDS TO PROJECT 3", EXCEPT AS SHOWN. DO NOT MAKE COSMETIC REPAIRS (DAMAGE LESS THAN 1/2" DEEP) TO THE PARTS OF THE GIRDERS EMBEDDED IN CONCRETE.

USE LOW RELAXATION STRANDS MEETING THE REQUIREMENTS OF ASTM A-416 GRADE 270. THE MINIMUM CLEAR DISTANCE BETWEEN GROUPS OR INDIVIDUAL STRANDS SHALL BE 2.3(d<sub>s</sub>) BUT NOT LESS THAN 1 1/4". THE MINIMUM COVER FOR PRESTRESSING STEEL IS 1 1/2".

A MINIMUM OF TWO HARPING POINTS SHALL BE USED PER GIRDER. HARPED STRANDS SHALL BE WELL DISTRIBUTED AT THE GIRDER ENDS, STARTING WITHIN 4" OF THE TOP OF THE GIRDER AND DISTRIBUTED SUCH THAT THERE IS NO SPACE BETWEEN STRANDS GREATER THAN 1'-0" AT THE END OF THE GIRDER. AS AN ALTERNATE THE CONTRACTOR MAY PLACE #4 ● X 10'-0" IN THE SIDES OF THE END OF THE WEB PARALLEL TO THE HARPED STRANDS SUCH THAT THERE IS NO SPACE GREATER THAN 1'-0".

A<sub>s</sub>\* = MINIMUM AREA OF THE PRESTRESSING STEEL.  
 d<sub>s</sub> = NOMINAL STRAND DIAMETER.  
 f<sub>s</sub> = ULTIMATE STRENGTH OF PRESTRESSING STEEL.  
 F<sub>j</sub> = JACKING FORCE PER GIRDER.  
 F<sub>f</sub> = FINAL FORCE PER GIRDER AFTER ALL LOSSES.  
 f'<sub>ci</sub> = REQUIRED CONCRETE STRENGTH AT RELEASE OF PRESTRESS FORCE.  
 f'<sub>c</sub> = REQUIRED CONCRETE STRENGTH AT 28 DAYS OF AGE.  
 L = LENGTH OF GIRDER ALONG THE GRADE OF THE GIRDER.  
 Δ = DEFLECTION AT CENTERLINE OF SPAN DUE TO CAST-IN-PLACE SLAB, DIAPHRAGMS, ASPHALT, CURBS, RAILS, AND WALKS.

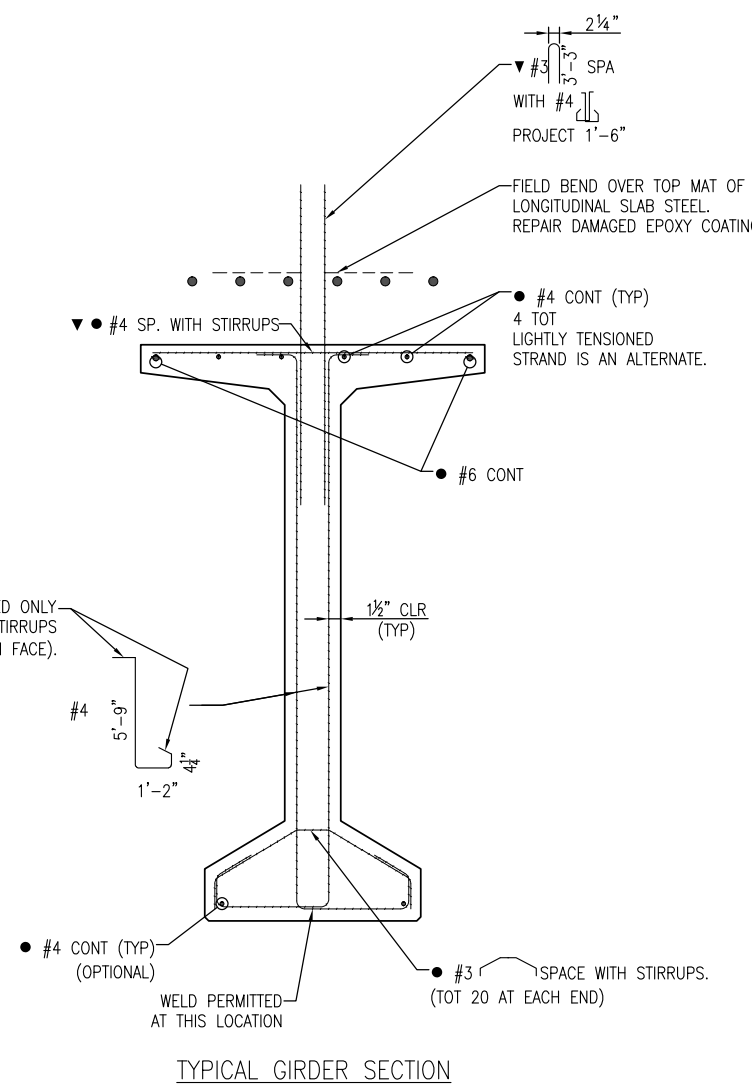
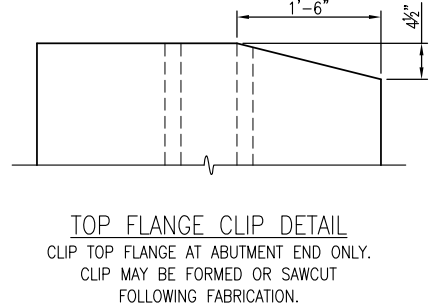
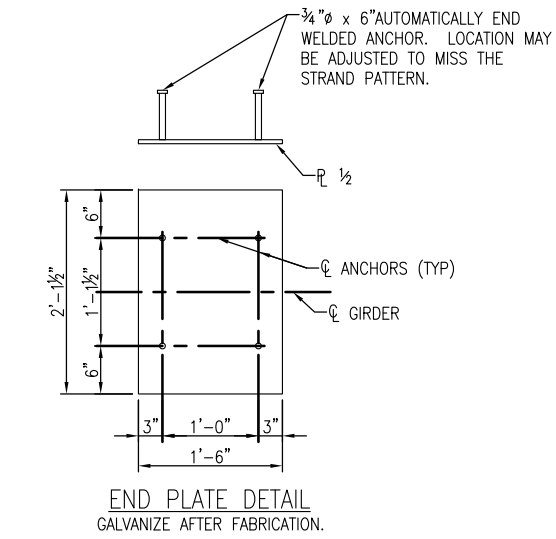
CONCRETE SHALL BE CLASS PS.

ENTRAINED AIR IS NOT REQUIRED FOR GIRDER CONCRETE.

USE 1/2" CHAMFER ON ALL CORNERS, EXCEPT AS NOTED.

PREDICTED CAMBER IS THE CAMBER FOR THE GIRDER ALONE AT 60 DAYS. ACCEPTABLE CAMBER VARIABILITY IS LIMITED TO 20% OVER THE PREDICTED CAMBER AND 50% UNDER THE PREDICTED CAMBER OR 1 INCH, WHICHEVER IS GREATER. THE CONTRACTOR SHALL REPORT TO THE ENGINEER VALUES OF CAMBER WHICH REQUIRE REMEDIAL MEASURES. THE REMEDIAL MEASURES SHALL BE REVIEWED AND APPROVED BY THE ENGINEER. THE COSTS ASSOCIATED WITH ALL REMEDIAL MEASURES SHALL BE BORNE BY THE CONTRACTOR.

- ▼ SPACE WITH #4 [ ] FOR STIRRUP SPACINGS OF 9" OR MORE. SPACE AT 1'-0" FOR STIRRUP SPACINGS LESS THAN 9".
- D20 WIRES MAY BE USED IN LIEU OF #4.  
 2 - D20 WIRES MAY BE USED IN LIEU OF #6.  
 D11 OR W10.9 WIRES MAY BE USED IN LIEU OF #3.  
 W5 WIRES MAY BE USED IN LIEU OF #2.
- THE CONTRACTOR MAY SUBMIT AN ALTERNATE CROSS TIE ARRANGEMENT, AT THE END OF THE WEB, FOR APPROVAL BY THE ENGINEER.
- ◆ SEE CONSTRUCTION LAYOUT FOR INTERMEDIATE DIAPHRAGM LOCATIONS.



GIRDER SCHEDULE													
GIRDER TYPE	SPAN NO.	GIRDER NO.	L (FEET)	L <sub>h</sub> (FEET)	A <sub>s</sub> * (SQ. INCH)	E <sub>MS</sub> (INCH)	E <sub>E</sub> (INCH)	F <sub>j</sub> (KIPS)	F <sub>f</sub> (KIPS)	CONCRETE STRENGTH		Δ (INCH)	PREDICTED CAMBER (INCH)
										f' <sub>ci</sub> (PSI)	f' <sub>c</sub> (PSI)		
BT72	1 & 2	G1-G7	130'-0"	13'-0"	8.680	5.05	15.45	1757.7	1369.0	7500	9000	2.34	4.72

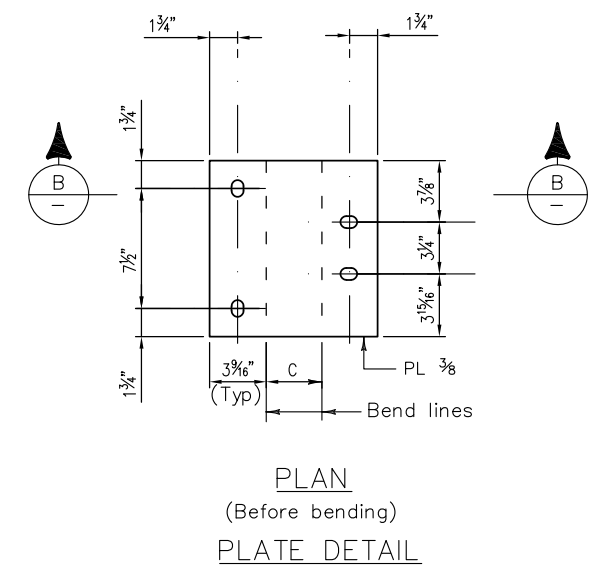
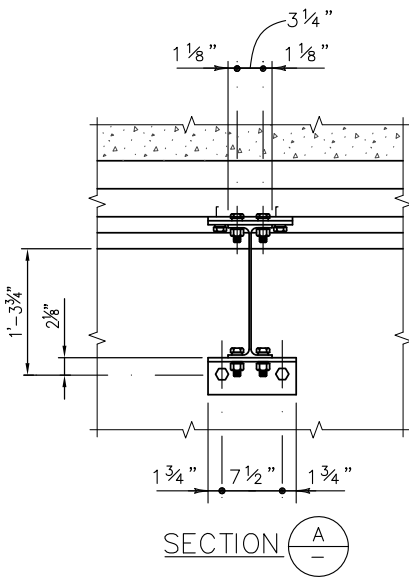
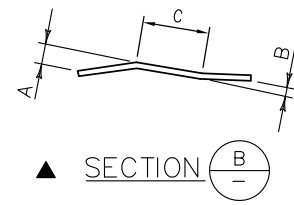
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File Name:	Date:	Comments:	Init.				No Revisions:			-
Horiz. Scale:	Vert. Scale:						Revised:	Designer: TDB	Structure Numbers	-
Unit Information:	Unit Leader Initials:						Void:	Detailer: JWJ		
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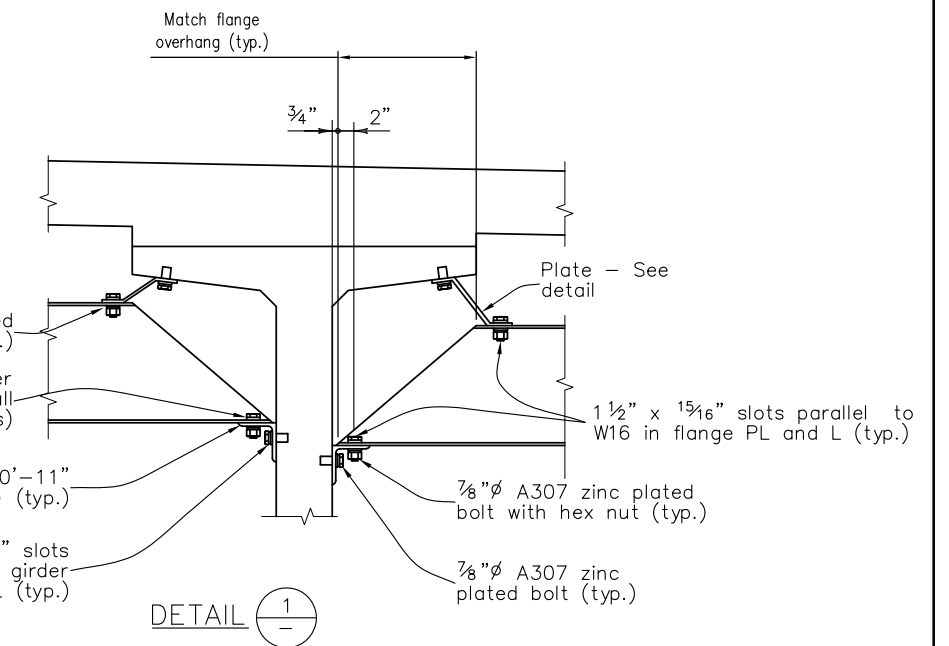
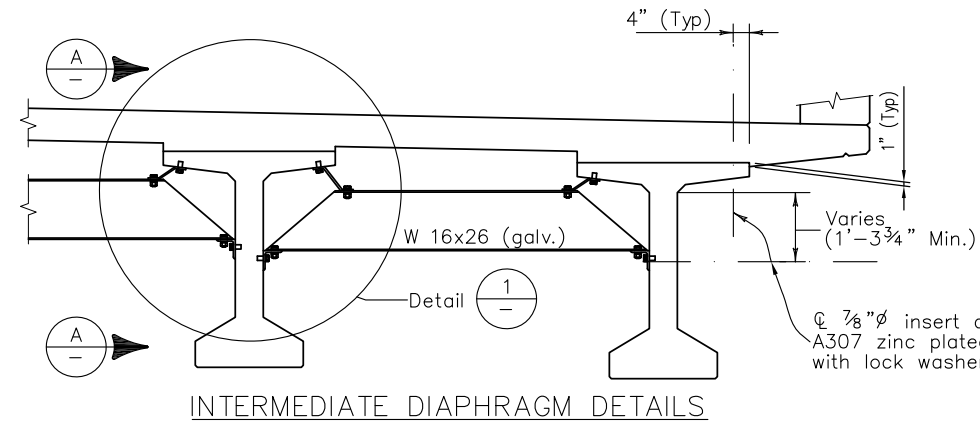
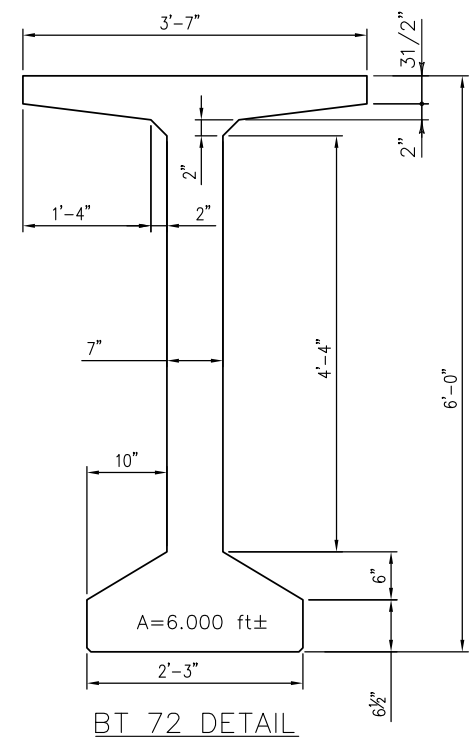


**PRELIMINARY  
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**NOTES**

- All diaphragm materials, including bolts, nuts, and washers shall be galvanized. Galvanize after fabrication.
- ★ If the construction layout does not specify diaphragms, there shall be at least one diaphragm at mid span.
- Bolts, nuts and lock washers may be zinc plated in lieu of being galvanized.
- ▲ Dimensions A, B and C shall be shown on the shop drawings.
- The diaphragms may be placed on a skew such that they are between 80° and 100° to the girders. Additionally, all diaphragms shall be installed level.
- The Contractor is responsible for determining necessary bracing requirements and for providing adequate bracing for the specific wind and weather conditions to be encountered for each specific project.
- When bracing or diaphragms are required, no girders shall be erected and left unbraced. The intermediate diaphragms (when used) shall be connected to the adjacent girders simultaneously with the erection of the girders.
- Use and installation of the intermediate diaphragms shall not relieve the Contractor of full responsibility to construct the Work in a manner which provides all necessary rigidity, supports all loads imposed, and provides in the finished structure the lines and grades indicated on the plans.



C:\7.2 Clients\369 - Lorson Bridge\16136 - Lorson Bridge\50 DWG\16136 (B19) Intermediate Diaphragm Details.dwg Sep 26, 2017 - 4:16pm

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File Name:	Date:	Comments:	Init.:				No Revisions:			-				
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Unit Information	Unit Leader Initials						Void:	Detailer:	JWJ	Numbers				
							Sheet Subset:		Subset Sheets:		Sheet Number		B19	

**Notes:**

Sawing of panels is acceptable in areas where projecting reinforcement is not required. It is desirable to have the prestressing strands project from the panels as long as the projecting strands do not interfere with other bridge components.

- Reinforcing perpendicular to strands may be deformed reinf. bars, welded wire fabric, or welded deformed bar mats, and shall be placed directly above the strands. Minimum area of reinforcing perpendicular to strands shall be 0.11 sq. in. per ft. Tensioned or untensioned strands may also be used. These individual bars or wires shall be no larger than .375" diameter. For location of longitudinal bar extensions, see sheet 2 of 2.

- May be reduced to 3/8" strands at 9 1/2" when the panel width is less than 5'-7" and the design span is less than 7'-7".

The longitudinal reinforcing steel in the cast-in-place portion of the deck may rest directly on the panels as necessary to obtain clearances at the top of deck, unless otherwise noted.

ⓔ denotes epoxy coated reinforcing.

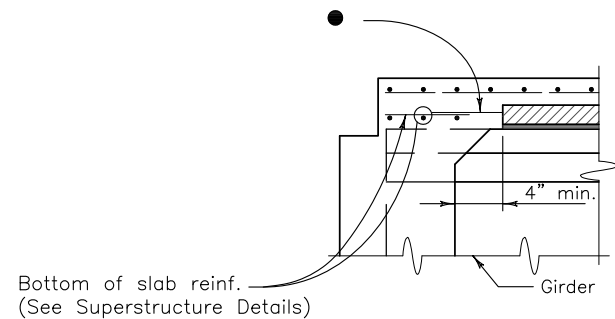
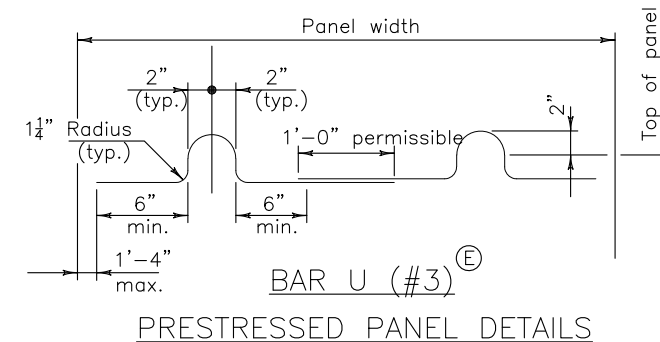
The tolerance on strand placement shall not exceed ± 1/4".

The tolerance on panel thickness shall not exceed ± 1/4".

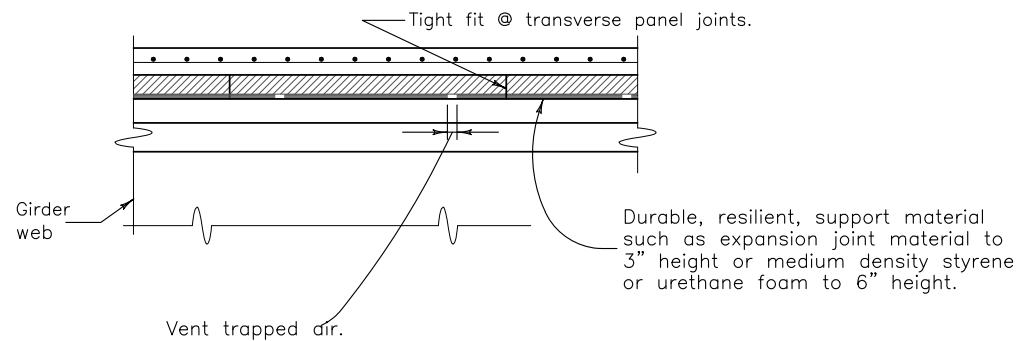
Concentrated construction loads shall not exceed 500 lb for 3" panels, 700 lb for 3.5" panels, nor 1100 lb for 4" panels unless the load is distributed to less than 117 psf.

Total loads applied to any panel during construction shall not exceed 117 psf.

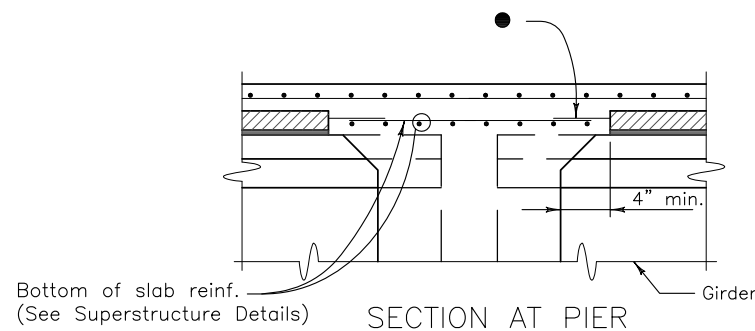
Bottom flexural cracks, sags greater than .5", or cambers greater than .5" will be considered evidence of mishandling, overloading, or exceeding allowable tolerances, and may be cause for rejecting panels at the Engineer's discretion.



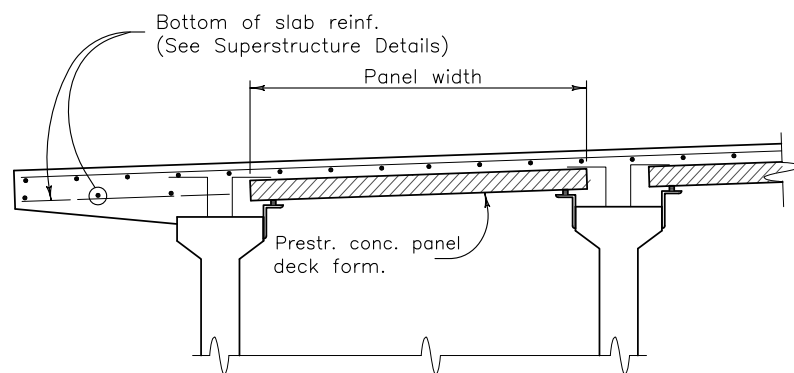
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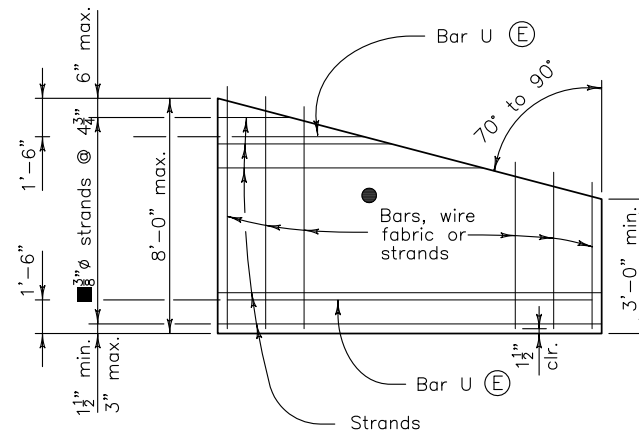
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PANEL JOINTS



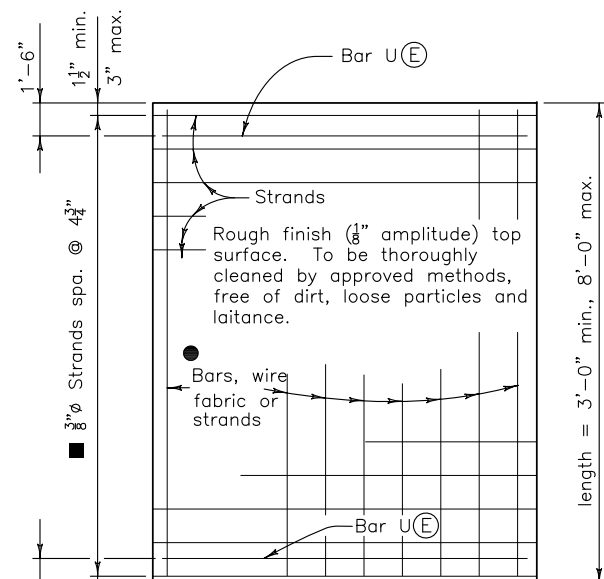
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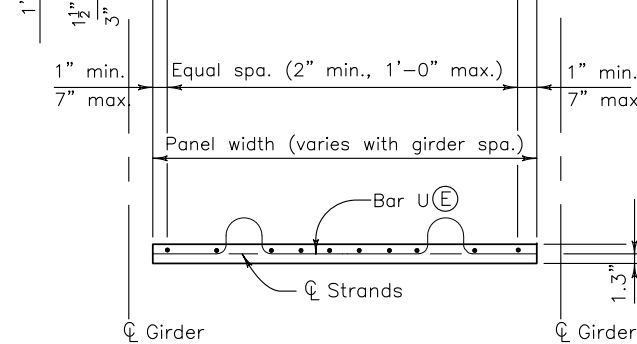
SECTION



PLAN - SKEWS 70° TO 90°  
OPTIONAL END PANEL



PLAN - NORMAL



PRESTRESSED PANEL DETAILS

C:\7.2 Clients\369 - Lorson Bridge\16136 - Lorson Bridge\50 DWG\16136 (B20-B21) Pre-cast Deck Form.dwg Sep 26, 2017 - 4:16pm

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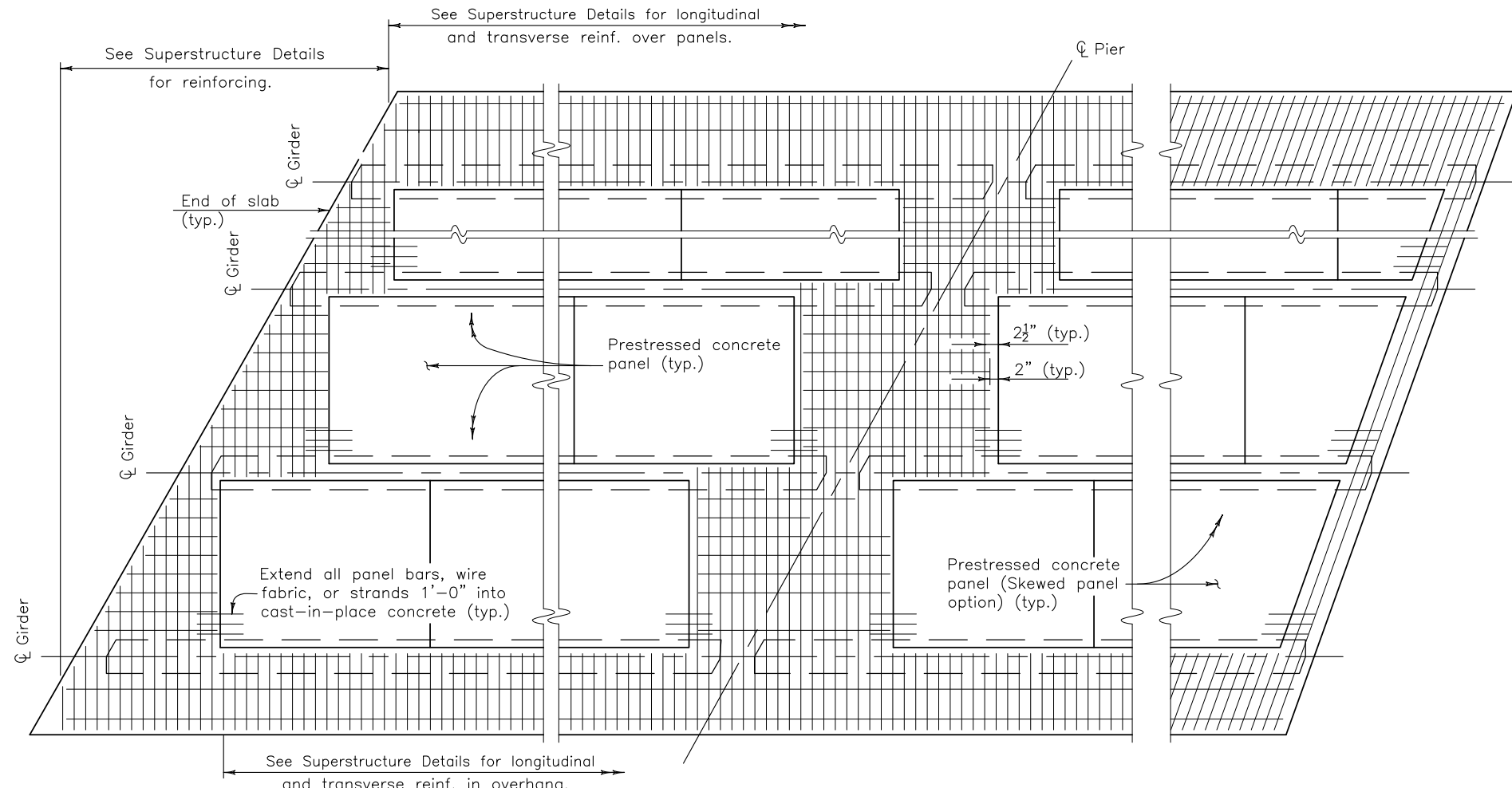
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As Constructed	LORSON BRIDGE PRECAST PANEL DECK FORM (SHEET 1)		Project No./Code
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Void:	Detailer: JWJ	Sheet Subset:	Sheet Number B20
		Subset Sheets:	



C:\7.2 Clients\369 - Lorson Bridge\16136 - Lorson Bridge\50 DWG\16136 (B20-B21) Pre-cast Deck Form.dwg Sep 26, 2017 - 4:16pm



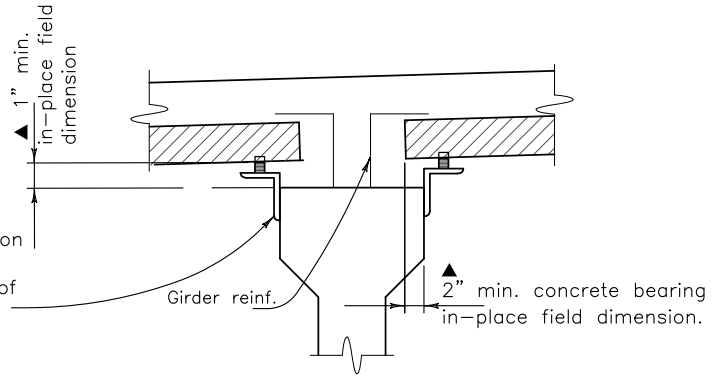
**END OF SLAB  
RECTANGULAR PANEL OPTION AND  
SKEWS LESS THAN 70°**

**CONTINUOUS SLAB  
OVER PIER**

**END OF SLAB  
SKEWED PANEL OPTION FOR  
SKEWS 70° TO 90°**

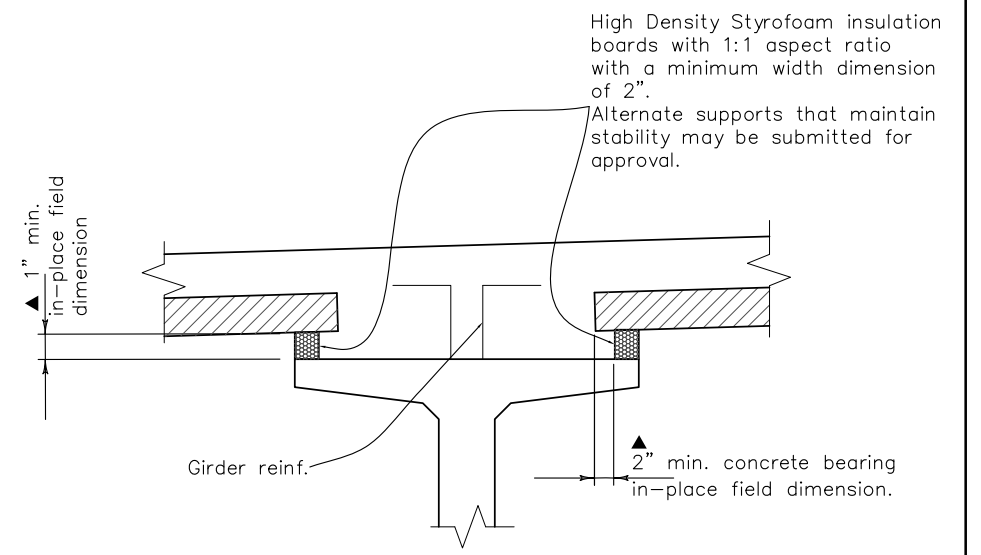
**PART PLAN**

Rectangular panel option shall be used for skews less than 70°.



**SUPPORT DETAIL**

The angle and resilient material are shown for illustration and show only one potential method of support. The Contractor is responsible for the selection and design of the panel support and attachment to the girder. Support details shall be shown on the shop plans. Alternate methods for support may be used, provided they are shown on the shop plans and approved by the Engineer.



**ALTERNATE SUPPORT DETAIL**

**NOTES:**  
Composite total slab designed for HS 25-44 and Alternate Military Loading.

All concrete shall be Class PS with release strength  $f'_{ci} = 4500$  psi and minimum 28 day strength  $f'_c = 6000$  psi. The strength shall be at least 5000 psi at the time of the deck pour.

Use  $\frac{3}{8}$ "  $\phi$  low relaxation strands meeting the requirements of ASTM A416 grade 270. Jacking force per strand ( $F_j$ ) shall be at least 17.2 kips. Final force per strand ( $F_f$ ) is estimated to be 14.2 kips.

Installation of Bar U (#3) is mandatory. All four Bar U (#3) loops shall be used simultaneously for lifting the panels. Alternate methods may be used, for lifting, provided they are shown on the shop plans and approved by the Engineer.

Care must be taken to ensure proper cleaning of construction debris and consolidation of concrete mortar under the edges of the panels. It is also important that adequate space ( $\blacktriangle$  min. 1" x 2") is provided for the concrete to fill the space under the panel as the slab concrete is placed. Panel lengths and width shall be determined by the Contractor and shown on the shop plans.

The Contractor is responsible for the stability of the panels on the girders. Erected panels shall be uniformly supported along the length of the panel. The Contractor is responsible for meeting the total slab thickness shown on the Superstructure Details.

All planes of reinforcing steel shown in the superstructure details are required for areas not formed with precast panels.

**PRELIMINARY  
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Print Date:		<b>Sheet Revisions</b>		<b>As Constructed</b>	<b>LORSON BRIDGE PRECAST PANEL DECK FORM (SHEET 2)</b>			Project No./Code
File Name:		Date:	Comments	No Revisions:				-
Horiz. Scale:	Vert. Scale: As Noted		Init.	Revised:	Designer:	TDB	Structure	-
Unit Information	Unit Leader Initials			Void:	Detailer:	JWJ	Numbers	-
					Sheet Subset:		Subset Sheets:	Sheet Number <b>B21</b>

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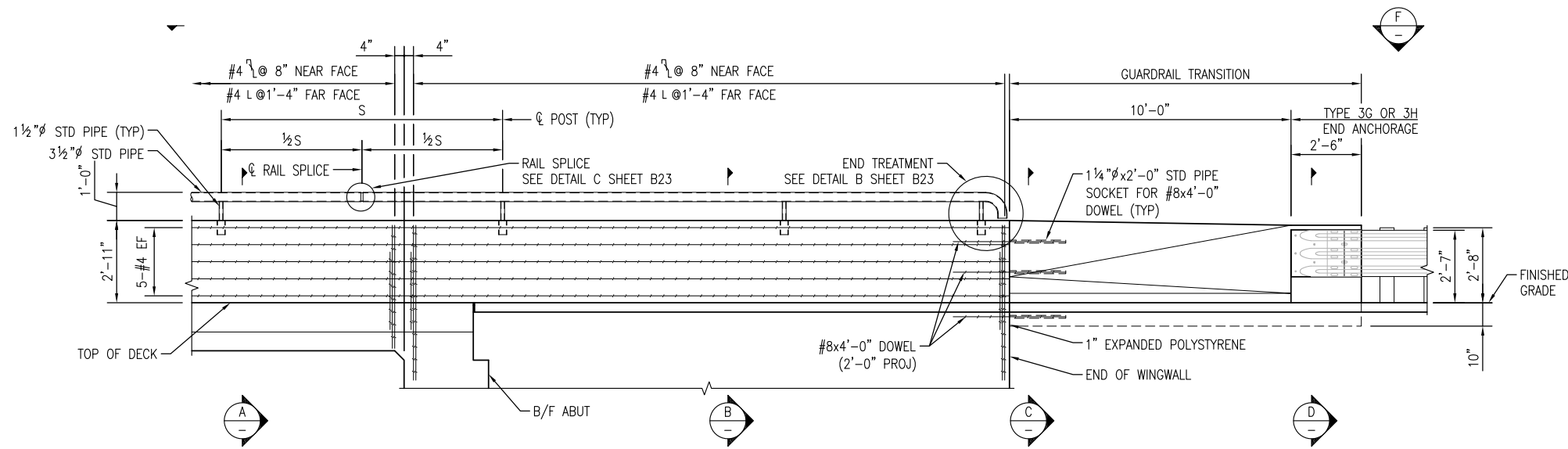
**LORSON RANCH**  
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PHONE: 719.636.3200

**CORE ENGINEERING GROUP**  
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EMAIL: RichS@cegi.com

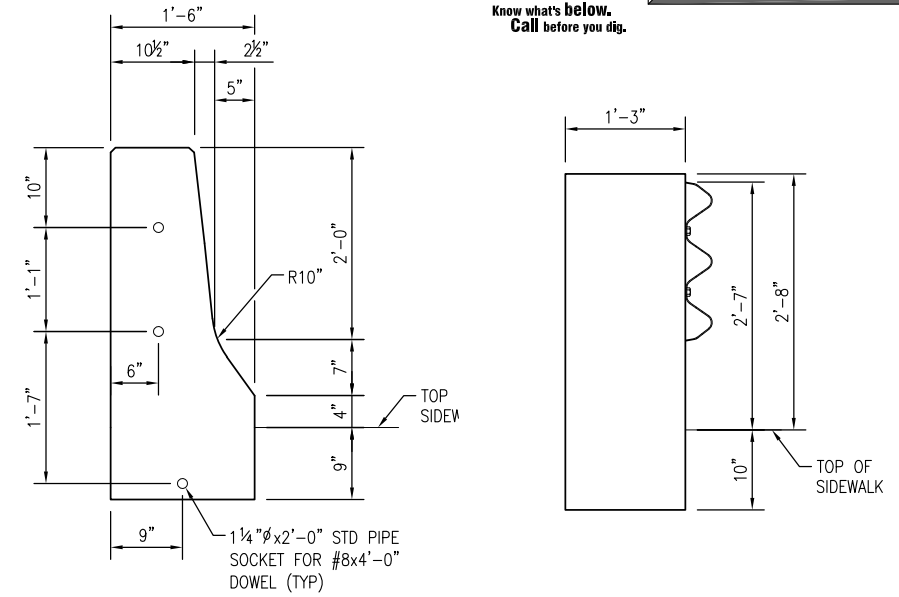


Know what's below.  
Call before you dig.

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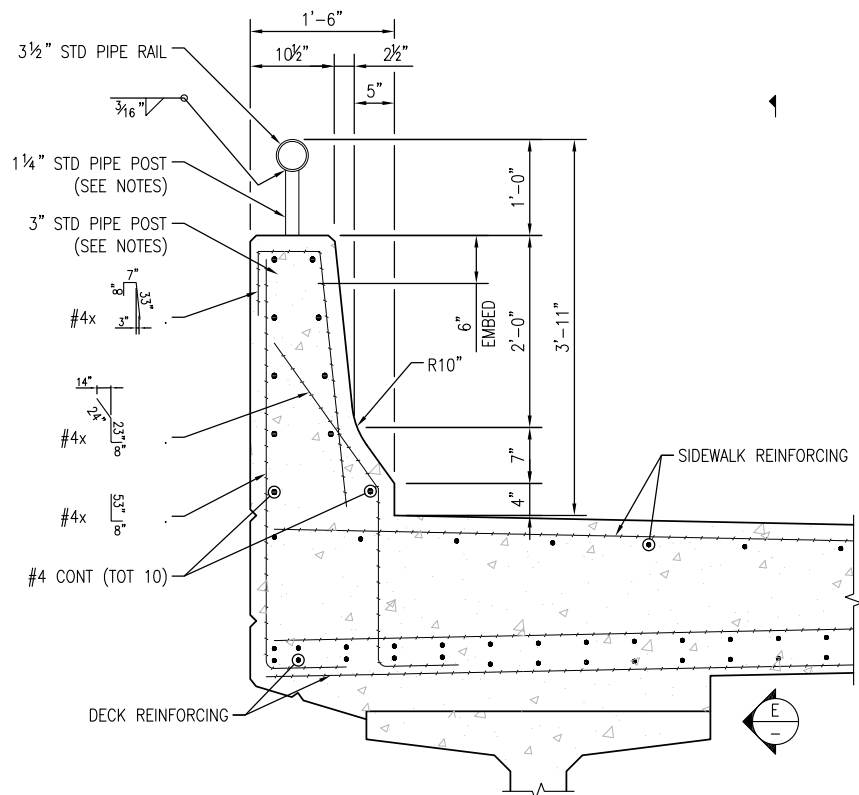


**E BRIDGE RAIL ELEVATION**  
SCALE: 3/16" = 1'-0"

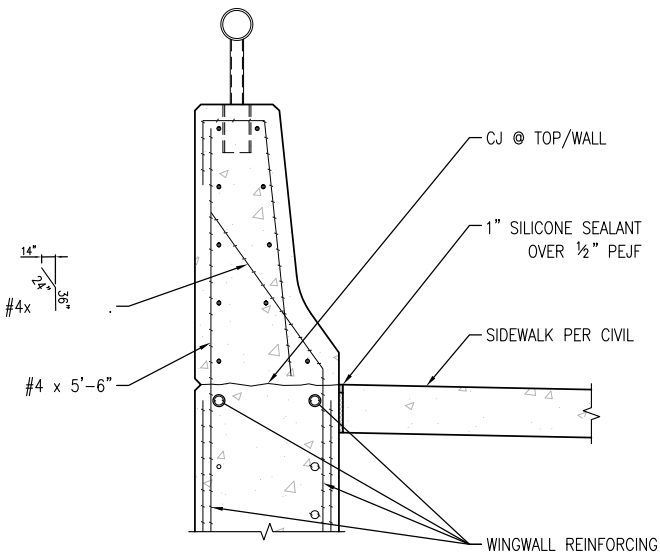


**C SECTION**  
SCALE: 1/2" = 1'-0"

**D SECTION**  
SCALE: 1/2" = 1'-0"



**A TYPICAL BRIDGE RAIL SECTION ON DECK**  
SCALE: 1/2" = 1'-0"



NOTE: ALL INFORMATION SHOWN ON SECTION A/- APPLIES TO THIS SECTION, UNO.

**B TYPICAL BRIDGE RAIL SECTION ON WINGWALL**  
SCALE: 1/2" = 1'-0"

**NOTES:**

- FOR DETAILS OF GUARDRAIL TYPE 3 AND END ANCHORAGE, SEE CDOT STD PLAN NOS. M-606-1 AND M-606-13. SEE DRAWING B23 FOR LOCATIONS.
- RAIL SHALL BE CONTINUOUS OVER NOT LESS THAN TWO POSTS. MAXIMUM SPLICE SPACING SHALL BE 20'-0". NO WELD BUTT SPLICES WILL BE ALLOWED IN THE RAIL LOCATIONS.
- FOR POST SPACING, SEE DRAWING B3.
- GROUT POSTS INTO SLEEVES WITH APPROVED NON-SHRINK GROUT.
- BACKFILL ABUTMENT AND WINGWALLS BEFORE BARRIER IS PLACED.
- ALL BRIDGE RAIL CONCRETE SHALL BE CLASS D.
- LONGITUDINAL REINFORCEMENT SHALL STOP AT ALL EXPANSION JOINTS.
- BRIDGE RAIL SHALL BE CONSTRUCTED PLUMB.
- CONCRETE AND REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF SECTIONS 601 AND 602, RESPECTIVELY.
- THE SURFACE OF THE RAIL SHALL BE TESTED WITH A 10 FOOT STRAIGHT EDGE LAID ALONG THE SURFACE IN THE LONGITUDINAL DIRECTION. DEVIATION OF THE CONCRETE SURFACE FROM THE STRAIGHT EDGE SHALL BE LESS THAN 1/4" PLUS ALLOWANCE FOR THE ROADWAY HORIZONTAL AND VERTICAL CLEARANCE, IF ANY.
- STEEL ELEMENTS SHALL CONFORM TO THE REQUIREMENTS OF 509.
- WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1.
- ALL PIPE SHALL BE ASTM A-53, GRADE B.
- ALL RAILING STEEL SHALL BE PAINTED AFTER FABRICATION IN ACCORDANCE WITH SECTION 509 OF THE STANDARD SPECIFICATIONS. COLOR SHALL BE SELECTED BY THE OWNER.
- PIPE SLEEVES SHALL BE GALVANIZED IN ACCORDANCE WITH SECTION 509.
- POSTS SHALL BE PERPENDICULAR TO THE LONGITUDINAL ROADWAY GRADE.
- PRIOR TO FABRICATION OF THIS ITEM, THREE SETS OF WORKING DRAWINGS WHICH COMPLY WITH THE REQUIREMENTS OF SECTION 105, SHALL BE SUBMITTED TO THE ENGINEER, FOR INFORMATION ONLY.
- FOR END TREATMENT AND RAIL SPLICE DETAILS, SEE DRAWING B23.

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EMAIL: RichS@cegi.com

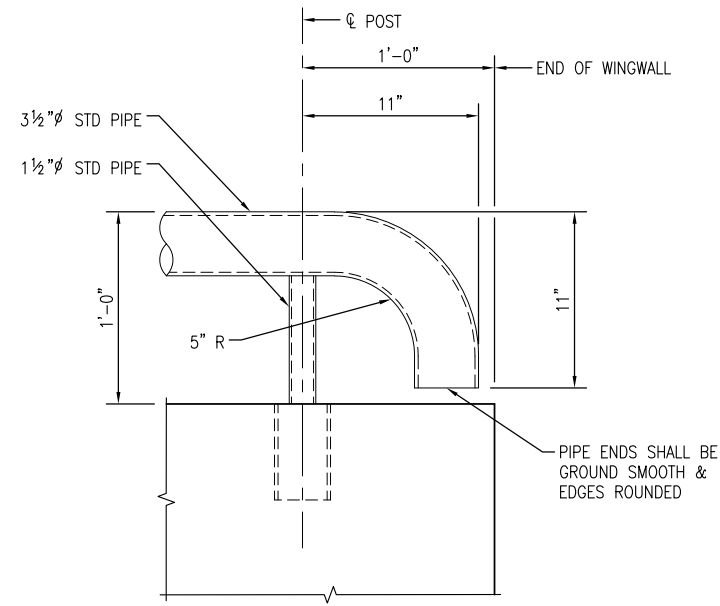
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No Revisions:
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Detailer:	TDB	Numbers	
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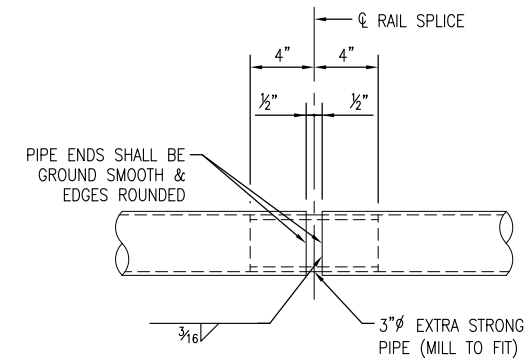
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Sheet Number	B22



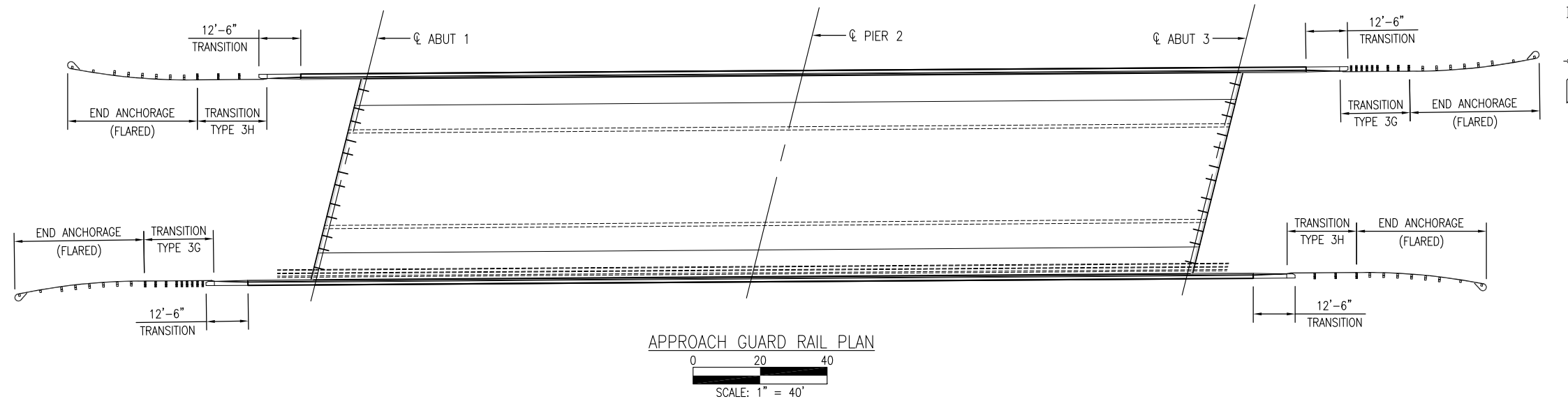
**PRELIMINARY  
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**A**  
B22 TYPICAL END TREATMENT ON DECK  
0 1/2 1  
SCALE: 1" = 1'-0"



**B**  
B22 RAIL SPLICE  
0 1/2 1  
SCALE: 1" = 1'-0"



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Unit Information	Unit Leader Initials

Sheet Revisions		
Date:	Comments	Init.

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Revised:
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LORSON BRIDGE BRIDGE RAIL TYPE 7 (SPECIAL) (SHEET 2)	
Designer:	TDB
Detailer:	TDB
Sheet Subset:	Subset Sheets:

Project No./Code	-
Sheet Number	B23

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Table for GIRDER 1, PARALLEL TO HORIZONTAL CONTROL, AT FINISHED GRADE. Columns: BENT LINE, STATION, OFFSET, ELEVATION, ELEV+DL, X, Y, BENT LNTH, SKEW, GIRDER LNTH, CRS-SLP. Rows include BF ABUT 1, CL ABUT 1, F-1 through F-9, BK BRG P2, CL PIER 2, AH BRG P2, F-1 through F-9, CL ABUT 3, BF ABUT 3.

Table for GIRDER 3, PARALLEL TO HORIZONTAL CONTROL, AT FINISHED GRADE. Columns: BENT LINE, STATION, OFFSET, ELEVATION, ELEV+DL, X, Y, BENT LNTH, SKEW, GIRDER LNTH, CRS-SLP. Rows include BF ABUT 1, CL ABUT 1, F-1 through F-9, BK BRG P2, CL PIER 2, AH BRG P2, F-1 through F-9, CL ABUT 3, BF ABUT 3.

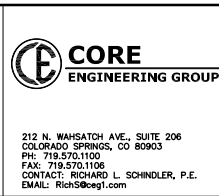
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Table for GIRDER 4, PARALLEL TO HORIZONTAL CONTROL, AT FINISHED GRADE. Columns: BENT LINE, STATION, OFFSET, ELEVATION, ELEV+DL, X, Y, BENT LNTH, SKEW, GIRDER LNTH, CRS-SLP. Rows include BF ABUT 1, CL ABUT 1, F-1 through F-9, BK BRG P2, CL PIER 2, AH BRG P2, F-1 through F-9, CL ABUT 3, BF ABUT 3.

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Sheet Revisions table: Columns: Date, Comments, Init. Includes three empty rows for revisions.



As Constructed / No Revisions / Revised / Void status table.

Design information table: Designer: TDB, Detailer: JWJ, Sheet Subset, Subset Sheets.

Project information table: Project No./Code, Sheet Number B25.

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GIRDER 5

PARALLEL TO HORIZONTAL CONTROL

AT FINISHED GRADE

Table with columns: BENT LINE, STATION, OFFSET, ELEVATION, ELEV+DL, X, Y, BENT LNTH, SKEW, GIRDER LNTH, CRS-SLP. Rows include BF ABUT 1, CL ABUT 1, F-1 to F-9, BK BRG P2, CL PIER 2, AH BRG P2, and CL ABUT 3.

GIRDER 6

PARALLEL TO HORIZONTAL CONTROL

AT FINISHED GRADE

Table with columns: BENT LINE, STATION, OFFSET, ELEVATION, ELEV+DL, X, Y, BENT LNTH, SKEW, GIRDER LNTH, CRS-SLP. Rows include BF ABUT 1, CL ABUT 1, F-1 to F-9, BK BRG P2, CL PIER 2, AH BRG P2, and BF ABUT 3.

GIRDER 7

PARALLEL TO HORIZONTAL CONTROL

AT FINISHED GRADE

Table with columns: BENT LINE, STATION, OFFSET, ELEVATION, ELEV+DL, X, Y, BENT LNTH, SKEW, GIRDER LNTH, CRS-SLP. Rows include BF ABUT 1, CL ABUT 1, F-1 to F-9, BK BRG P2, CL PIER 2, AH BRG P2, and BF ABUT 3.

RIGHT GUTTER

PARALLEL TO HORIZONTAL CONTROL

AT FINISHED GRADE

Table with columns: BENT LINE, STATION, OFFSET, ELEVATION, ELEV+DL, X, Y, BENT LNTH, SKEW, GIRDER LNTH, CRS-SLP. Rows include BF ABUT 1, CL ABUT 1, F-1 to F-9, BK BRG P2, CL PIER 2, AH BRG P2, and BF ABUT 3.

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Form containing: Print Date, File Name, Horiz. Scale, Unit Information, Sheet Revisions table, Loris and Associates, Inc. logo, CORE ENGINEERING GROUP logo, THE LANDHUIS COMPANY logo, As Constructed/No Revisions/Revised/Void status, LORSON BRIDGE DECK ELEVATIONS (SHEET 3) designer/detailer information, and Project No./Code B26.

RIGHT EDGE OF DECK		PARALLEL TO HORIZONTAL CONTROL					AT FINISHED GRADE			
BENT LINE	STATION	OFFSET	ELEVATION	ELEV+DL	X	Y	BENT LNTH	SKEW	GIRDER LNTH	CRS-SLP
BF ABUT 1	41+63.5301	31.5000	5708.5508		31.5000	-9.6599	32.5275	14 26 22.00	-1.5489	-0.020000
CL ABUT 1	41+65.0791	31.5000	5708.5392	708.5392	31.5000	-8.1109	32.5275	14 26 22.00	0.0000	-0.020000
F-1	41+78.1823	31.5000	5708.4409	708.5018	31.5000	4.9923			13.1033	-0.020000
F-2	41+91.2856	31.5000	5708.3427	708.4575	31.5000	18.0956			26.2065	-0.020000
F-3	42+04.3888	31.5000	5708.2444	708.4020	31.5000	31.1988			39.3098	-0.020000
F-4	42+17.4921	31.5000	5708.1461	708.3312	31.5000	44.3021			52.4130	-0.020000
F-5	42+30.5954	31.5000	5708.0478	708.2425	31.5000	57.4054			65.5163	-0.020000
F-6	42+43.6986	31.5000	5707.9496	708.1347	31.5000	70.5086			78.6196	-0.020000
F-7	42+56.8019	31.5000	5707.8513	708.0089	31.5000	83.6119			91.7228	-0.020000
F-8	42+69.9052	31.5000	5707.7530	707.8679	31.5000	96.7152			104.8261	-0.020000
F-9	42+83.0084	31.5000	5707.6547	707.7156	31.5000	109.8184			117.9294	-0.020000
BK BRG P2	42+94.0464	31.5000	5707.5720	707.5818	31.5000	120.8564	32.5275	14 26 22.00	128.9674	-0.020000
CL PIER 2	42+95.0791	31.5000	5707.5642	707.5692	31.5000	121.8891	32.5275	14 26 22.00	130.0000	-0.020000
AH BRG P2	42+96.1117	31.5000	5707.5565	707.5565	31.5000	122.9217	32.5275	14 26 22.00	131.0326	-0.020000
F-1	43+09.1633	31.5000	5707.4586	707.5194	31.5000	135.9733			144.0842	-0.020000
F-2	43+22.2149	31.5000	5707.3607	707.4756	31.5000	149.0249			157.1359	-0.020000
F-3	43+35.2666	31.5000	5707.2628	707.4205	31.5000	162.0766			170.1875	-0.020000
F-4	43+48.3182	31.5000	5707.1649	707.3500	31.5000	175.1282			183.2391	-0.020000
F-5	43+61.3698	31.5000	5707.0670	707.2616	31.5000	188.1798			196.2908	-0.020000
F-6	43+74.4215	31.5000	5706.9691	707.1543	31.5000	201.2315			209.3424	-0.020000
F-7	43+87.4731	31.5000	5706.8713	707.0289	31.5000	214.2831			222.3940	-0.020000
F-8	44+00.5247	31.5000	5706.7734	706.8883	31.5000	227.3347			235.4457	-0.020000
F-9	44+13.5764	31.5000	5706.6755	706.7363	31.5000	240.3864			248.4973	-0.020000
CL ABUT 3	44+25.0791	31.5000	5706.5892	706.5966	31.5000	251.8891	32.5275	14 26 22.00	260.0000	-0.020000
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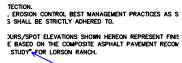
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Unit Information	Unit Leader Initials						Void:	Sheet Subset:		Sheet Number B27



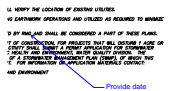
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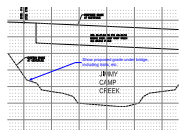
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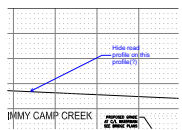
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See separate GEC plan redlines.



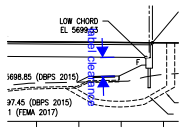
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Show proposed grade under bridge, including trails, etc.



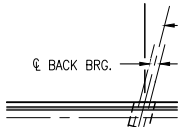
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label clearance



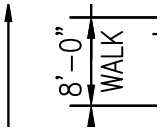
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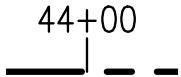
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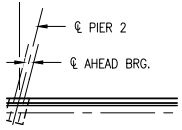
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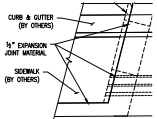
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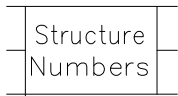
63'-9" INT. DIAPH. (TYP)





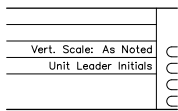
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THE LANDHUIS COMPANY 212 N. WASATCH,  
SUITE 301 COLORADO SPRINGS, CO 80903  
PHONE: 719-635-3200



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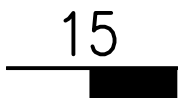
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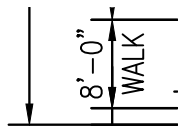
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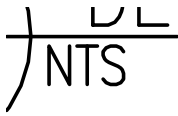
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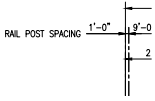


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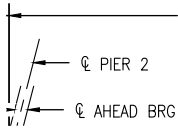
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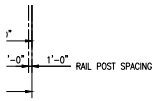
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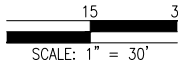


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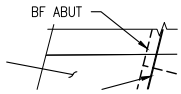
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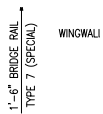
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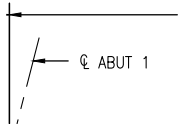




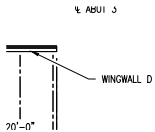
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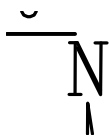
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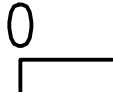
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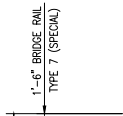
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212 N. WAHSATCH AVE., SUITE 206  
 COLORADO SPRINGS, CO 80903 PH:  
 719.570.1100 FAX: 719.570.1106 CONTACT:  
 RICHARD L. SCHINDLER, P.E. EMAIL:  
 RichS@ceg1.com



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1'-6" BRIDGE RAIL



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~2G7

INTERMEDIATE DIMENSIONS MEASURED FROM ORDER  
SEE SHEET B10 FOR UTILITY DETAILS.

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CONSTRUCTION LAYOUT	
15	TOR Structure
:	JWJ Number
Subset:	Subset Sheets:

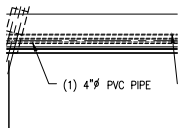
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Sheet Revisions	
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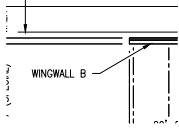
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B10 FOR UTILITY DETAILS.

LORSON BRIDGE	
CONSTRUCTION LAYOUT	

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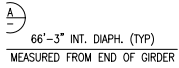




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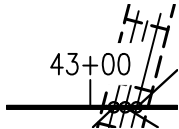
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**B06**

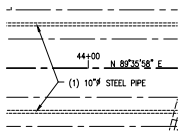
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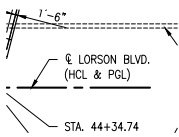
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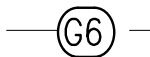
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www.LorisandAssociates.com



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^c^L LORSON BLVD. (HCL & PGL)



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Loris and Associates, Inc.



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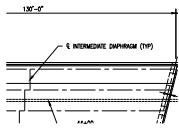
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Subset Sheets:

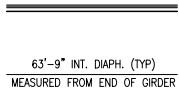
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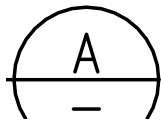
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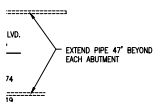
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1'-6" BRIDGE RAIL

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Detailer:
Sheet Subset:

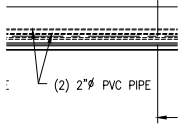
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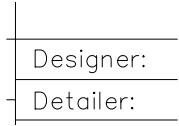


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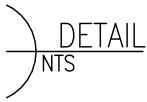
EXTEND PIPE 47' BEYOND EACH ABUTMENT



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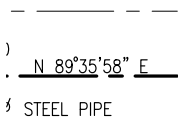
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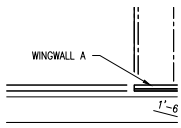
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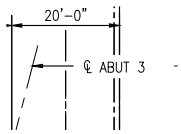
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WINGWALL A



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100 Superior Plaza Way, Suite 220 Superior, Colorado 80027



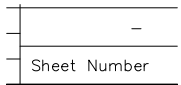
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^cC^L ABUT 3



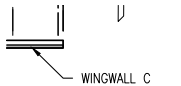
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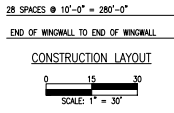
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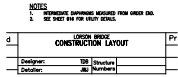
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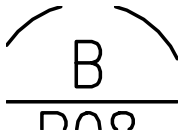
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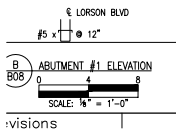
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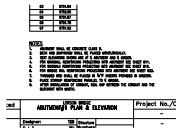
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%%u ABUTMENT #1 ELEVATION

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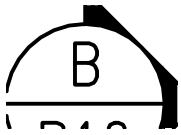
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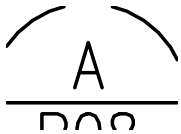
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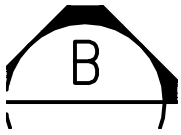
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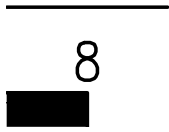
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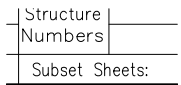
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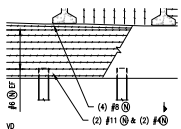
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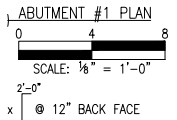
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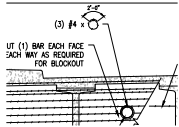
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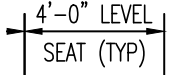
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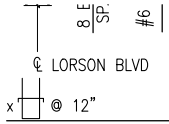
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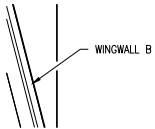
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^c^L LORSON BLVD



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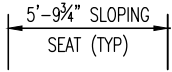
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 PHONE: 719-635-3200

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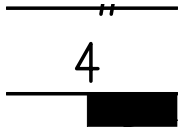
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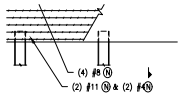
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Vert. Scale: As Noted	
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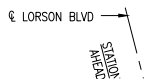
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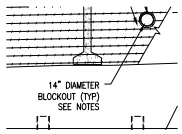
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LORSON BRIDGE



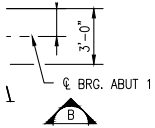
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14" DIAMETER BLOCKOUT (TYP) SEE NOTES



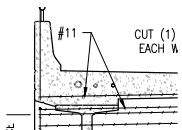
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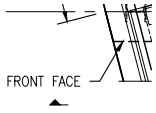
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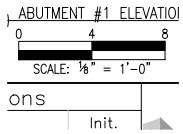


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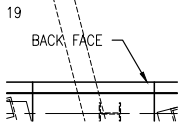
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G5

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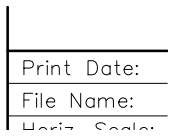
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BACK FACE



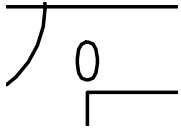
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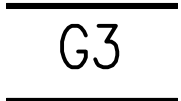
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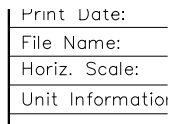
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G3



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Horiz. Scale:



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1'-6"



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5701.70  
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5701.52

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G6



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Designer:  
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B10

et Revisor  
Comments

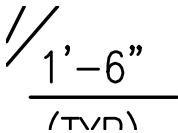
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Comments

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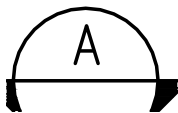
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A

- 6. FOR BRIDGE AND RETAINING PROJECTS AND RETAINMENT 5
- 7. TYPED SET SHALL BE PLACED IN 1/4" SPACES PROVIDED
- 8. PLACE STRIP RETAINING PARALLEL TO 1/4" SPACES
- 9. AFTER INSTALLATION OF CONCRETE, SEE HOW SPACES THE CO BLOCKOUT WITH MESH.

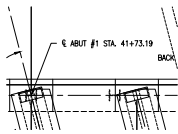
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Designer:	JMJ (Reviewed)
Sheet:	Sheet: 01/01

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ABUTMENT#1 PLAN & ELEVATION



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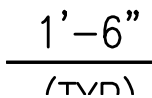
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^c^L ABUT #1 STA. 41+73.19



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G5



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1'-6"

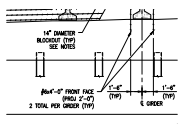
CONDUIT AND THE

Project No./Code
-
-

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Project No./Code





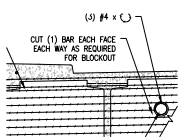
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#6x4'-0" FRONT FACE (PROJ 2'-0") 2 TOTAL PER GIRDER (TYP)



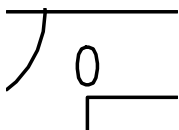
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TDB



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CUT (1) BAR EACH FACE EACH WAY AS REQUIRED FOR BLOCKOUT



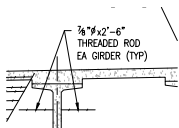
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B10

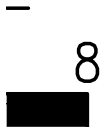


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1/2"~0x2'-6" THREADED ROD EA GIRDER (TYP)

As Constructed
No Revisions:
Revised:

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**Subject:** 8  
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Vert. Scale: As Noted
Unit Leader Initials

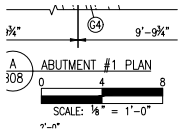
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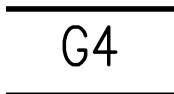
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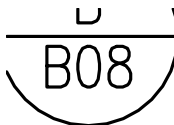
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212 N. WAHSATCH AVE., SUITE 206  
COLORADO SPRINGS, CO 80903 PH:  
719.570.1100 FAX: 719.570.1106 CONTACT:  
RICHARD L. SCHINDLER, P.E. EMAIL:  
RichS@ceg1.com



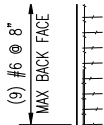
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G4



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B08



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(9) #6 @ 8"



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4'-0" LEVEL

ELEVATION  
5701.43  
5701.63

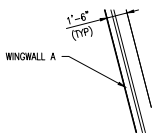
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5696.42  
(LEVEL)

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(LEVEL)



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WINGWALL A

Structure  
Numbers

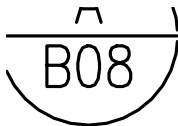
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Structure

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ELEVATION  
5701.43

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ELEVATION



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B08



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