N&S DOUGLAS CREEK PROJECTS 2013 – 3

CITY OF COLORADO SPRINGS, COLORADO

SOUTH DOUGLAS CREEK IMPROVEMENT PLANS

SEPTEMBER 2013

PROJECT MAP

SCALE: 1 : 500

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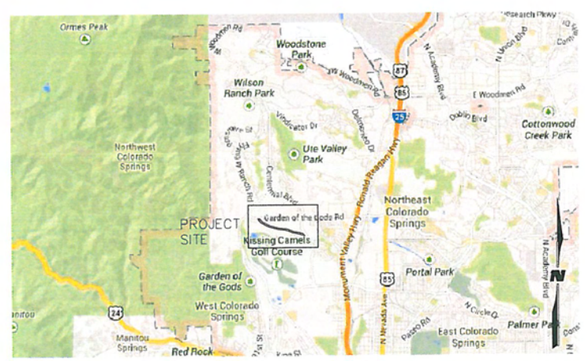

VICINITY MAP

SCALE: NTS

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LOCATION MAP

SCALE: NTS

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

PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON THE BEHALF OF WILSON & COMPANY ENGINEERS AND ARCHITECTS.

COLORADO LICENSED
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44542
9/20/13
PROFESSIONAL ENGINEER

RICHARD C MULLEDY, COLORADO P.E. #XXXXX

WILSON & COMPANY

Matrix DESIGN GROUP

CLIENT

CITY OF COLORADO SPRINGS

PROJECT NAME

N & S DOUGLAS CREEK
PROJECT 2013 – 3
CHANNEL IMPROVEMENT PLANS
CITY OF COLORADO SPRINGS
PUBLIC WORKS / CITY ENGINEERING
30 SOUTH NEVADA, SUITE 401

REV.	DATE	DESCRIPTION	BY

PROJECT NO:	13-600-408-00
DESIGNED BY:	GG
DRAWN BY:	MK
CHECKED BY:	RM
DATE:	SEP. 19, 2013

SHEET TITLE

TITLE SHEET

SHEET NO:

G1

SHEET: 1 of 10

GENERAL NOTES & SPECIFICATIONS

SCOPE OF WORK: THE WORK TO BE COMPLETED UNDER N&S DOUBLAS CREEK 2013-3 SHALL BE AS DEPICTED ON THESE CONSTRUCTION DRAWINGS AND SPECIFICATIONS AND SHALL INCLUDE ALL EQUIPMENT, LABOR, AND MATERIALS NECESSARY FOR THESE ITEMS AS WELL AS EROSION AND SEDIMENT CONTROL, CONTROL OF WATER DURING CONSTRUCTION, PROTECTION OF ADJACENT IMPROVEMENTS, IMPORT OR EXPORT OF EARTHEN MATERIALS, REMOVAL AND DISPOSAL OF ALL WASTE MATERIALS FROM THE SITE, AND RECLAMATION OF THE AREAS OF THE SITE DISTURBED BY CONSTRUCTION ACTIVITIES.

ALL MATERIALS AND INSTALLATION PROCEDURES SHALL BE IN COMPLIANCE WITH THE CITY OF COLORADO SPRINGS, CITY ENGINEERING DIVISION SUBDIVISION POLICY MANUAL, AND STANDARD SPECIFICATIONS MANUAL (LATEST EDITION), UNLESS OTHERWISE SPECIFIED IN SPECIAL PROVISIONS, SPECIAL TECHNICAL SPECIFICATIONS, THE PLANS, OR AS DIRECTED BY THE OWNER.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE ENGINEER AND REPRESENTATIVE OF THE CITY OF COLORADO SPRINGS FOR TESTING AND OBSERVATION AS ESTABLISHED AT THE PRECONSTRUCTION CONFERENCE AND AS REQUIRED BY THE PLANS AND SPECIFICATIONS.

THE CONTRACTOR SHALL PROVIDE THREE (3) COPIES OF ALL SUBMITTALS AND CERTIFICATIONS TO THE ENGINEER FOR APPROVAL A MINIMUM OF SEVEN (7) DAYS PRIOR TO THE ORDERING OF MATERIALS.

ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE CITY OF COLORADO SPRINGS ENGINEERING DIVISION. THE CITY RESERVES THE RIGHT TO ACCEPT OR REJECT MATERIALS AND WORKMANSHIP THAT DO NOT CONFORM TO THE PLANS AND SPECIFICATIONS.

THE CONTRACTOR SHALL NOTIFY THE CITY OF COLORADO SPRINGS ENGINEERING DIVISION (385-5465) A MINIMUM OF 48 HOURS PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING ANY OTHER AFFECTED UTILITY AGENCIES (OR THE LOCATING AGENCY) 72 HOURS IN ADVANCE OF CONSTRUCTION FOR UTILITY LOCATING.

THE CONTRACTOR SHALL HAVE ONE (1) SIGNED COPY OF THE PLANS AND SPECIFICATIONS (APPROVED BY THE CITY OF COLORADO SPRINGS ENGINEERING DIVISION) AT THE JOB SITE AT ALL TIMES.

THE CONTRACTOR IS REQUIRED TO OBTAIN THE NECESSARY CONSTRUCTION PERMITS PRIOR TO THE START OF WORK INCLUDING SWMP, ESQCP, TRAFFIC CONTROL, ETC.

THE CONTRACTOR SHALL CONDUCT THE WORK IN A SAFE AND WORKMANLIKE MANNER, AND SHALL COMPLY WITH ALL APPLICABLE GOVERNMENTAL REGULATIONS REGARDING HEALTH AND SAFETY, PARTICULARLY INCLUDING THOSE PERTAINING TO EXCAVATION AND TRENCHING.

THE CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES TO THOSE AREAS WITHIN THE CHANNEL ROW AS REQUIRED TO PROVIDE THE CHANNEL IMPROVEMENTS. ANY DISTURBANCES BEYOND THESE LIMITS SHALL BE RESTORED TO ORIGINAL CONDITION BY THE CONTRACTOR AT HIS OWN EXPENSE.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESETTING ANY LAND MONUMENTS AND/OR PROPERTY CORNERS DAMAGED DURING CONSTRUCTION. ANY MONUMENTS TO BE RESET WILL BE DONE UNDER THE DIRECT SUPERVISION OF A COLORADO REGISTERED LAND SURVEYOR AT THE CONTRACTORS EXPENSE.

THE CONTRACTOR SHALL OBTAIN AND BE FAMILIAR WITH ALL REGULATIONS GOVERNING THE CONSTRUCTION OF THIS PROJECT. IT IS REQUIRED THAT COPIES OF ALL LATEST EDITIONS OF ALL DESIGN STANDARDS AND SPECIFICATIONS BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION COMMENCING. A COPY OF THESE DOCUMENTS SHALL REMAIN ONSITE DURING CONSTRUCTION. COMPLIANCE WITH ALL LOCAL, COUNTY, STATE AND FEDERAL REQUIREMENTS IS THE ULTIMATE RESPONSIBILITY OF THE CONTRACTOR.

DIMENSIONS, ELEVATIONS, AND LOCATION OF EXISTING STRUCTURES, PIPELINES, AND UTILITIES ARE APPROXIMATE. THERE MAY BE OTHER STRUCTURES, PIPELINES, UTILITIES, ETC., NOT SHOWN ON THE DRAWINGS WHICH PRESENTLY EXISTING IN THE AREA OF CONSTRUCTION. THE ENGINEER AND/OR OWNER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION SHOWN. THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING AND PROTECTION OF ALL EXISTING STRUCTURES, PIPELINES, UTILITIES, ETC., WITHIN THE PROJECT SITE. THE CONTRACTOR SHALL, AT HIS EXPENSE, REPAIR ANY UTILITIES DISTURBED OR DISRUPTED BY THE CONSTRUCTION ACTIVITIES.

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 MATERIAL STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURE'S LABELS. MATERIAL SHALL NOT BE STORED IN A LOCATION WHERE THEY MAY BE CARRIED BY STORMWATER RUNOFF INTO A STATE WATER AT ANY TIME.

SPILL PREVENTION AND CONTAINMENT MEASURES SHALL BE USED AT STORAGE, AND EQUIPMENT FUELING AND SERVICING AREAS TO PREVENT THE POLLUTION OF ANY STATE WATERS OR WETLANDS. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY, OR CONTAINED UNTIL APPROPRIATE CLEANUP METHODS CAN BE EMPLOYED. MANUFACTURES RECOMMENDED METHODS OF SPILL CLEANUP SHALL BE FOLLOWED, ALONG WITH PROPER DISPOSAL METHODS.

THE CONTRACTOR SHALL PREPARE A STORMWATER MANAGEMENT PLAN FOR THE SITE THAT IS COMPATIBLE WITH THE CONTRACTOR'S PLAN FOR PERFORMING THE WORK. THE PLAN SHALL MEET THE REQUIREMENTS OF THE CITY OF COLORADO SPRINGS. THIS PLAN SHALL BE FOLLOWED IN THE EXECUTION OF THE WORK.

IN NO CASE SHALL CONCRETE OR CONCRETE WASHWATER BE POURED IN FLOWING WATER.

THE CITY OF COLORADO SPRINGS RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN; THE CITY HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY.

ANY ACCESS FROM PUBLIC RIGHT-OF-WAYS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY APPROVED ACCESS PLAN TO BE PREPARED BY THE CONTRACTOR. ALL ACCESS LOCATIONS AND ROADS SHALL BE RESTORED TO ORIGINAL CONDITION UPON COMPLETION OF THE PROJECT.

EROSION AND SEDIMENT CONTROL NOTES

EROSION AND SEDIMENT CONTROL AND PERMITTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL WORK SHALL BE PLANNED AND IMPLEMENTED TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENTATION AND TO MINIMIZE THE TIME OF UN-LINED CHANNEL EXPOSURE.

TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED PRIOR TO THE EARTHWORK OPERATIONS THEY PROVIDE CONTROL FOR. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED IN A MANNER THAT WILL PROTECT PROPERTIES, WETLANDS, WILDLIFE HABITAT, DOWN STREAM WATER COURSE AND PUBLIC FACILITIES FROM THE ADVERSE EFFECTS OF EROSION AND SEDIMENTATION AS A RESULT OF CONSTRUCTION AND EARTHWORKS ACTIVITIES WITHIN THE PROJECT SITE.

ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES THAT ARE NOT PAVED SHALL BE REVEGETATED IN CONFORMANCE WITH THE PLANS AND SPECIFICATIONS.

ALL EARTH DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED AND COMPLETED IN SUCH A MANNER 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, THOUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE DESIGNED AND PROTECTED TO MINIMIZE EROSION

NO PERSON SHALL CAUSE, PERMIT, OR CONTRIBUTE TO THE DISCHARGE INTO THE MUNICIPAL SEPARATE STORM SEWER POLLUTANTS THAT COULD CAUSE THE CITY OF COLORADO SPRINGS TO BE IN VIOLATION OF ITS COLORADO DISCHARGE PERMIT SYSTEM MUNICIPAL STORMWATER DISCHARGE PERMIT.

THE CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL BE RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, AND SAND THAT MAY ACCUMULATE IN THE CHANNEL OR OTHER DRAINAGE CONVEYANCE SYSTEM AND STORMWATER APPURTENANCES AS A RESULT OF SITE CONSTRUCTION.

ALL TEMPORARY EROSION CONTROL FACILITIES INCLUDING BMP'S AND ALL PERMANENT FACILITIES INTENDED TO CONTROL EROSION OF ANY EARTH DISTURBANCE OPERATIONS, SHALL BE INSTALLED AS DEFINED IN THE APPROVED PLANS AND SPECIFICATIONS AND MAINTAINED THROUGHOUT THE DURATION OF THE EARTH DISTURBANCE OPERATION.

PERMANENT SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN FOURTEEN (14) 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 AND BLANKETED AS REQUIRED. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMP'S SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.

THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ADEQUATE SEDIMENT AND EROSION CONTROL MEASURES FOR ALL AREAS DISTURBED BY THE CONTRACTOR IN THE PERFORMANCE OF THE PROJECT WORK.

EROSION AND SEDIMENT CONTROL STRUCTURES SHALL BE INSPECTED REGULARLY BY THE CONTRACTOR AND AFTER EVERY STORMWATER RUNOFF EVENT. EROSION AND SEDIMENT CONTROL STRUCTURES SHALL BE MAINTAINED CONTINUOUSLY AS REQUIRED TO MAINTAIN FUNCTION UNTIL FINAL STABILIZATION IS ACHIEVED.

DEWATERING AND TEMPORARY EROSION CONTROL FOR CONSTRUCTION WITHIN THE STREAM BED SHALL BE IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND ALL APPLICABLE STATE, COUNTY, CITY, AND FEDERAL REGULATIONS.

THE CONTRACTOR IS REQUIRED TO INSTALL VEHICLE TRACKING CONTROL (VTC) AT ACCEPTABLE LOCATIONS OF THE PROJECT INGRESS AND EGRESS IN ORDER TO MINIMIZE THE TRACKING OF SEDIMENT FROM THE SITE. CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN SEDIMENT FREE SURFACES ON ALL SURROUNDING ROADWAYS AND PAVED PARKING LOTS. THE CONTRACTOR IS RESPONSIBLE FOR PROMPT CLEANUP OF ANY SEDIMENT TRACKED ONTO ADJACENT STREETS AND PARKING LOTS FROM THE PROJECT AREA.

TO THE EXTENT PRACTICAL FLOW SHALL BE DIVERTED AROUND EARTH DISTURBING WORK PERFORMED IN THE ACTIVE STREAM BED.

GRAVEL FILTRATION PACKS OR OTHER APPROPRIATE FILTRATION OR SETTLING METHODS SHALL BE UTILIZED TO MINIMIZE SEDIMENT CONTENT IN PUMPAGE FROM DEWATERING OR DIVERSION ACTIVITIES.

NATIVE SEEDING SHALL CONSIST OF "FOOTHILLS" MIX AS DETAILED IN THE SPECIFICATIONS.

FERTILIZER SHALL BE APPLIED AT A RATE OF 50 LBS. OF AVAILABLE NITROGEN PER ACRE AND 40 LBS. OF AVAILABLE PHOSPHORUS PER ACRE.

EARTHWORK

TEMPORARY EXCAVATION SLOPES SHALL BE IN ACCORDANCE WITH O.S.H.A REQUIREMENTS.

WATER FOR COMPACTION WILL NOT BE MEASURED AND PAID SEPARATELY, BUT SHALL BE INCLUDED IN ALL EARTHWORK.

WATER SHALL BE USED AS A DUST PALLIATIVE WHERE REQUIRED. LOCATIONS SHALL BE AS ORDERED BY THE OWNER. WATER WILL NOT BE PAID FOR SEPARATELY, BUT WILL BE SUBSIDIARY TO EARTHWORK.

POSTIVE SURFACE DRAINAGE AWAY FROM BOTH EXISTING STRUCTURES AND NEW EXCAVATIONS SHALL BE PROVIDED DURING CONSTRUCTION.

FOUNDATION PREPARATION:

CHANNEL LINING SHALL BE PLACED ON COMPACTED SOILS. EXPOSED SUBGRADE SHALL BE COMPACTED TRO A MINIMUM OF 95% OF MODIFIED PROCTOR DENSITY (ASTM D1557). AREAS OF LOOSE MATERIALS ENCOUNTERED WITHIN FOUNDATION EXCAVATIONS SHALL BE REMOVED AND RECOMPACTED TO 95% OF MODIFIED PROCTOR DENSITY.

CONSTRACTOR TO PROVIDE ASSITANCE TO TESTING AGENCY IN CUTTING AND PATCHING CHANNEL BOTTOM TO OBTAIN PROCTOR TESTS.

BACKFILL SHALL BE AGGREGATED BASE COURSE AND/OR ENGINEERED FILL SHALL BE COMPACTED TO A MINIMUM OF 95% OF MODIFIED PROCTOR DENSITY (ASTM 1557) AND SHALL BE TESTED BY SOILS ENGINEER. SOILS SHALL BE THOROUGHLY MIXED WITHIN OPTIMUM MOISTURE (+2%).

STRUCTURAL NOTES

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES.

NOTES AND DETAILS ON THE DRAWINGS TAKE PRECEDENCE OVER THE STRUCTURAL NOTES. USE TYPICAL DETAILS AT ALL LOCATIONS WHICH ARE CONFIGURED SIMILARLY TO THE TYPICAL DETAILS UNLESS NOTED OTHERWISE.

SHOP DRAWINGS SHALL BE FURNISHED FOR REVIEW BEFORE ANY FABRICATION AND ERECTION IS STARTED. POORLY EXECUTED SHOP DRAWINGS WILL BE REJECTED AND SHALL BE RESUBMITTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING SAFE AND ADEQUATE SHORING FOR ALL PARTS OF THE STRUCTURE DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ALL WATER DIVERSION DURING CONSTRUCTION.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SURVEYING TO OBTAIN LINES AND GRADES OF THE CHANNEL MODIFICATIONS.

MATERIALS:

CAST IN PLACE CONCRETE: CONCRETE (UNIT WT. = 150 PCF) 4" SLUMP MAX.
AIR CONTENT 4-7%; F'C = 3000 PSI @ 28 DAYS (AIR ENTRAINED)

REINFORCING STEEL:
:

1. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60

2. REINFORCING STEEL SHALL BE FABRICATED AND PLACED IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-02) AND THE STANDARD MANUAL (ACI 315-99) AND TO THE DIMENSIONS SHOWN ON THE PLANS.

3. BAR SUPPORTS AND SPACERS FOR REBAR SHALL BE PROVIDED IN ACCORDANCE WITH ACI 315-99. CHAIRS WITH 22 GA. SAND PLATES SHALL BE PROVIDED FOR ALL REBAR SLABS ON GRADE.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SEEING THAT ALL REBAR IS PROPERLY ALIGNED AND TIED IN PLACE BEFORE PLACING CONCRETE. ALL STEEL SHALL BE ACCURATELY LOCATED AND SECURED IN PLACE SO THAT IT REMAINS IN POSITION DURING THE CONCRETE PLACING OPERATION. ANY REBAR FOUND TO BE IMPROPERLY INSTALLED SHALL BE REMOVED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

COLORADO LICENSED
RICHARD C. MULLEY
44542
9/20/13
PROFESSIONAL ENGINEER

WILSON & COMPANY

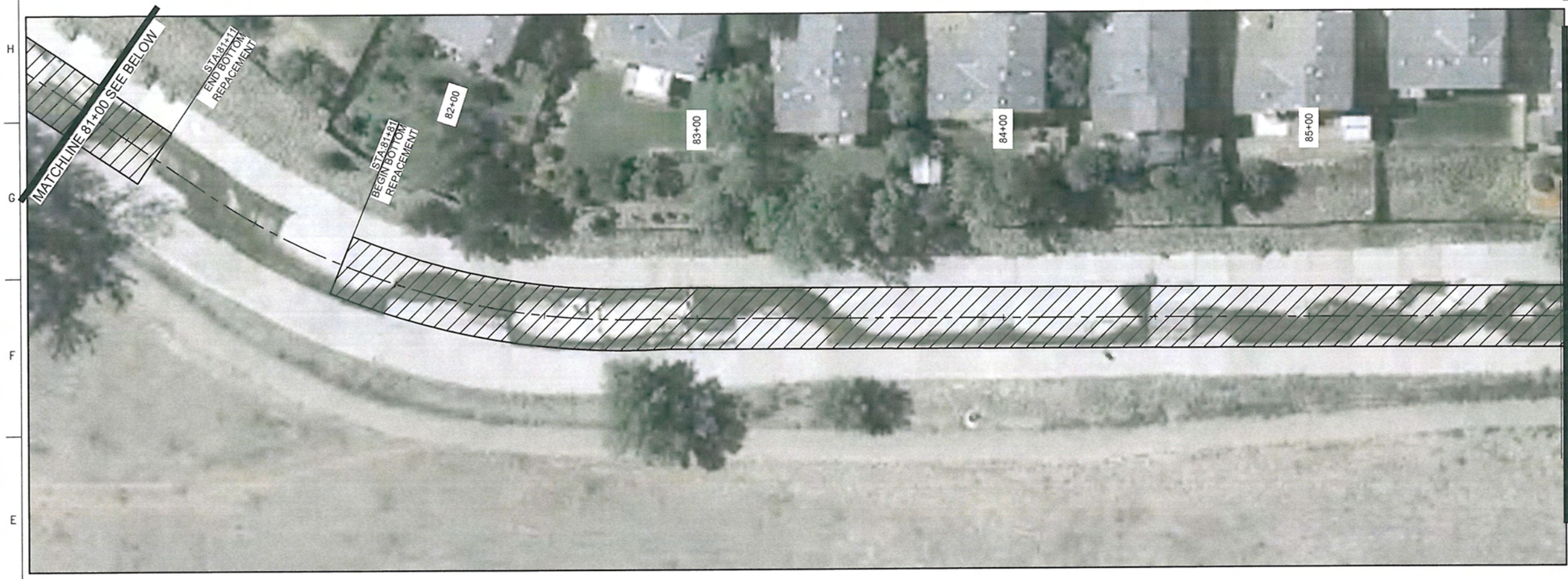
Matrix DESIGN GROUP

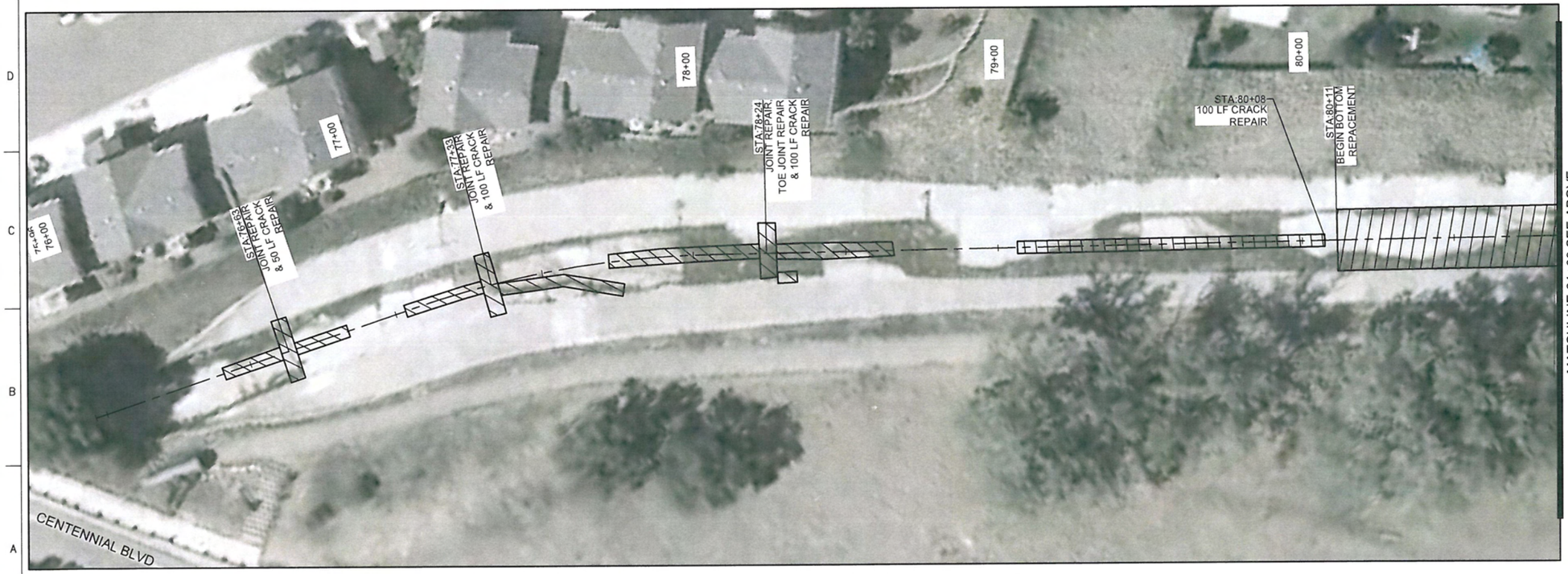
CLIENT
CITY OF COLORADO SPRINGS

PROJECT NAME
N & S DOUGLAS CREEK
PROJECT 2013 - 3
CHANNEL IMPROVEMENT PLANS
CITY OF COLORADO SPRINGS
PUBLIC WORKS / CITY ENGINEERING
30 SOUTH NEVADA, SUITE 401

REV.	DATE	DESCRIPTION	BY

PROJECT NO:	13-600-408-00
DESIGNED BY:	GG
DRAWN BY:	MK
CHECKED BY:	RM
DATE:	SEP. 19, 2013
SHEET TITLE	GENERAL NOTES
SHEET NO:	G2
SHEET:	2 of 10





LEGEND:

EXISTING CONCRETE CHANNEL LINING TO BE REMOVED

NOTE:
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SCALE FEET

WILSON & COMPANY

Matrix DESIGN GROUP

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COLORADO LICENSED
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PROJECT NO:	13-600-408-00
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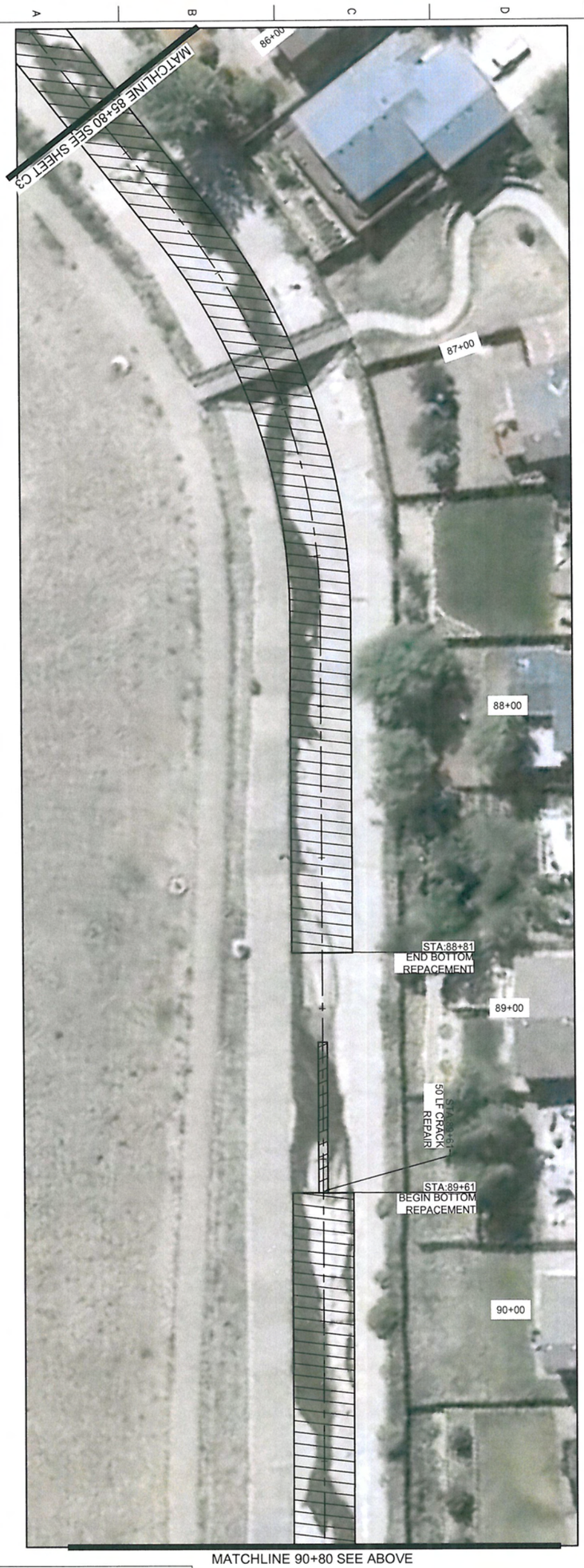
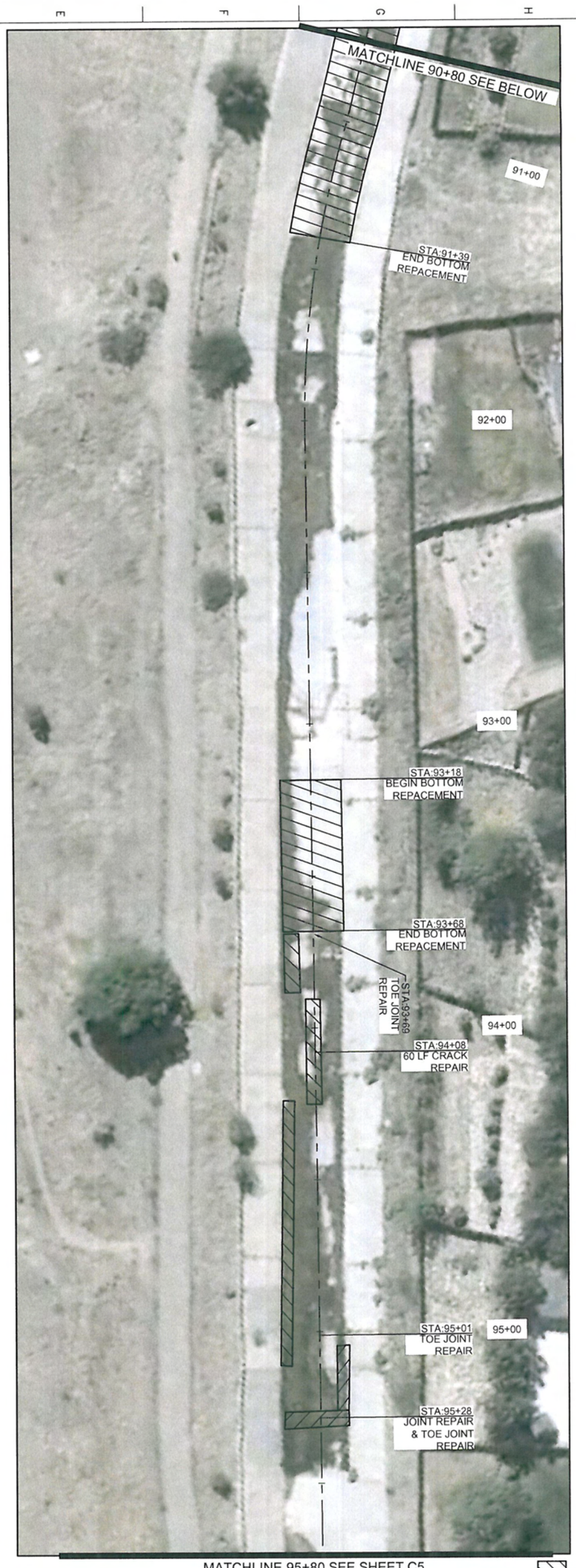
SHEET TITLE
CHANNEL IMPROVEMENTS

SHEET NO: C3

SHEET: 3 of 10



MATCHLINE 90+80 SEE ABOVE



MATCHLINE 95+80 SEE SHEET C5

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COLORADO LICENSED PROFESSIONAL ENGINEER
RICHARD C. WILLEDY
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SHEET TITLE	CHANNEL IMPROVEMENTS
SHEET NO.	C4
SHEET	4 of 10

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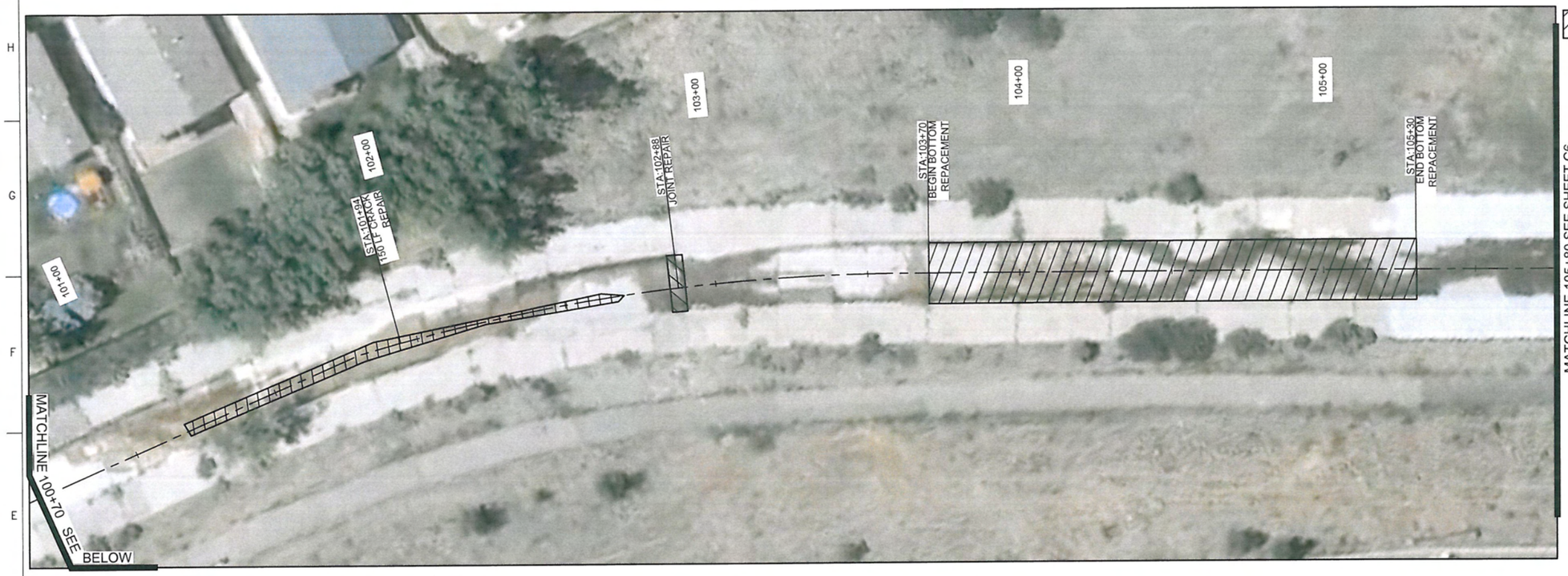

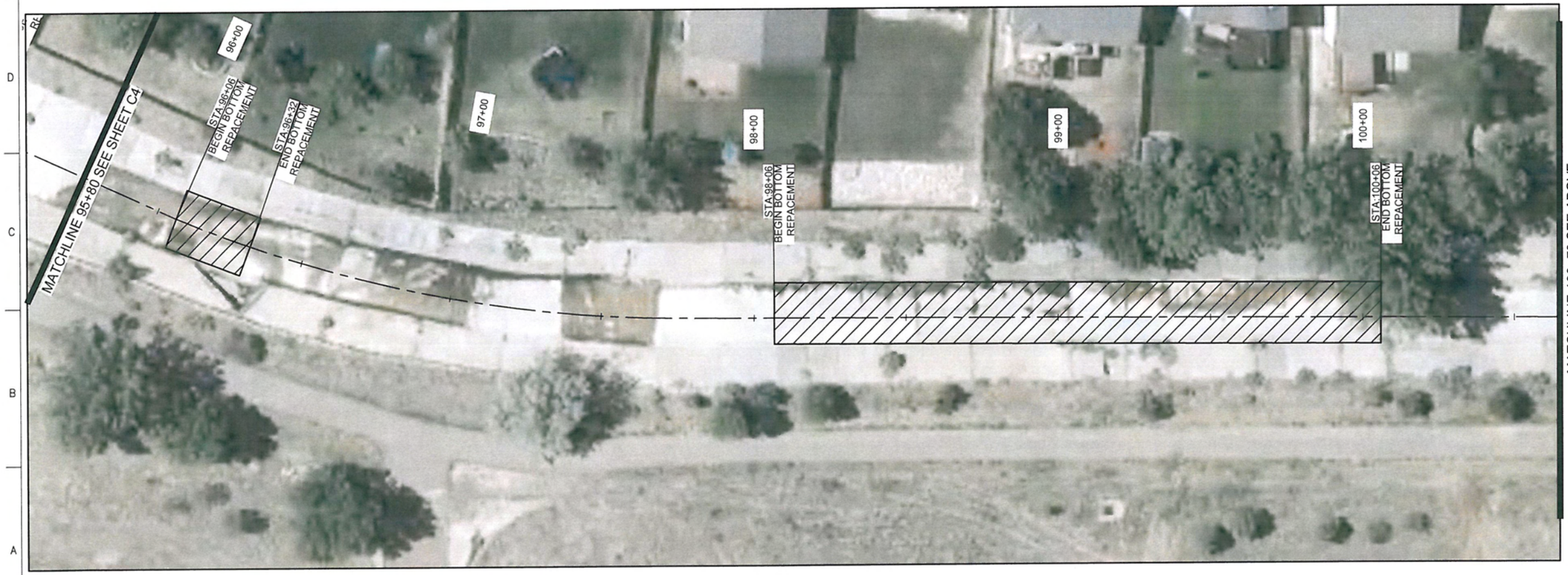

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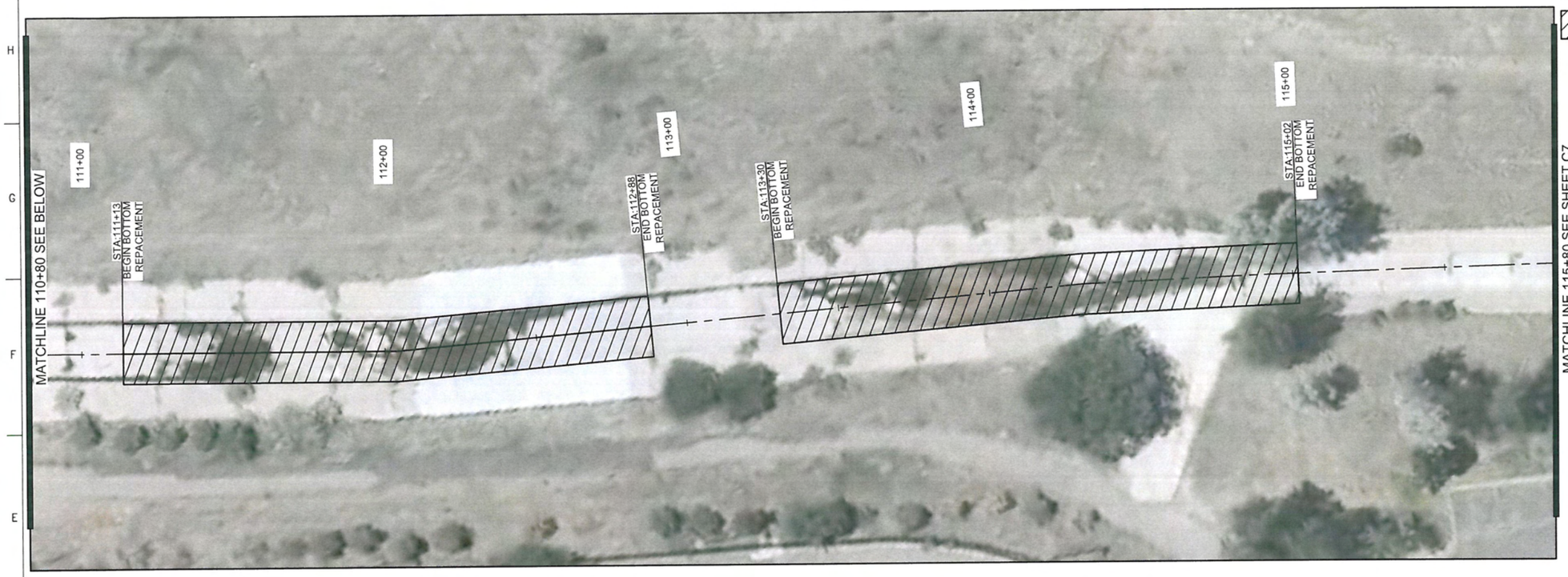
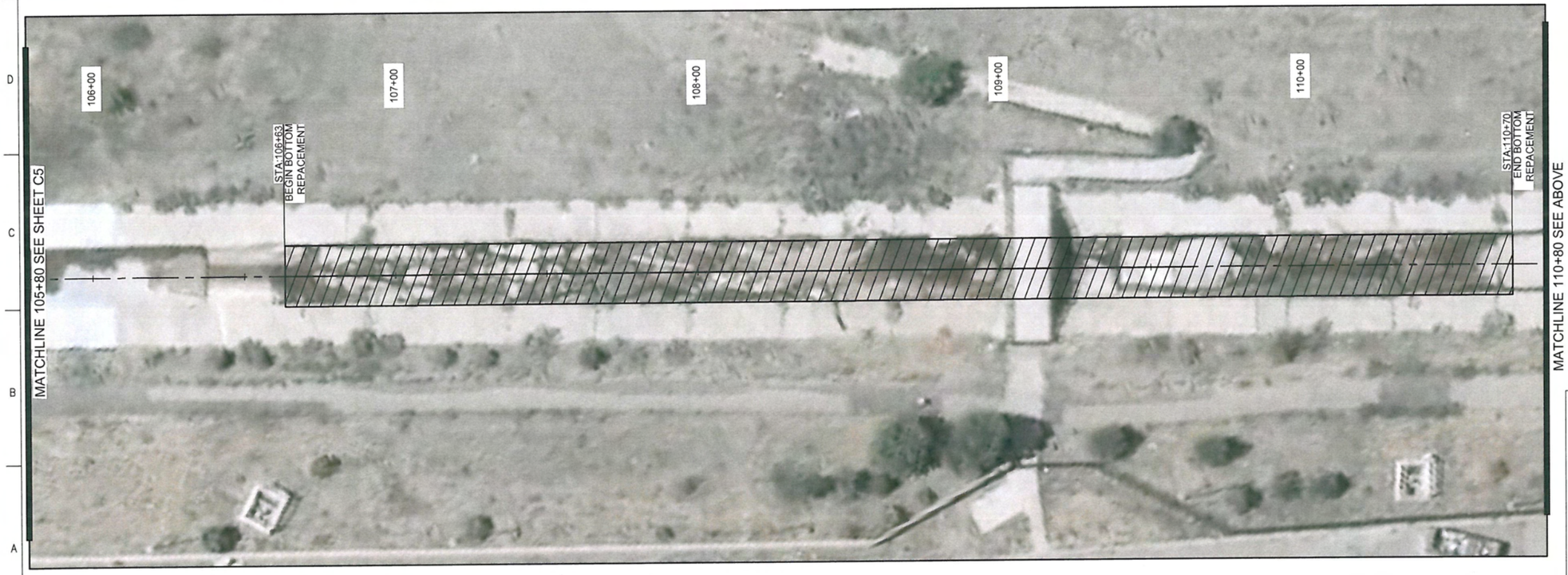
SHEET TITLE
CHANNEL IMPROVEMENTS

SHEET NO: C5

SHEET: 5 of 10





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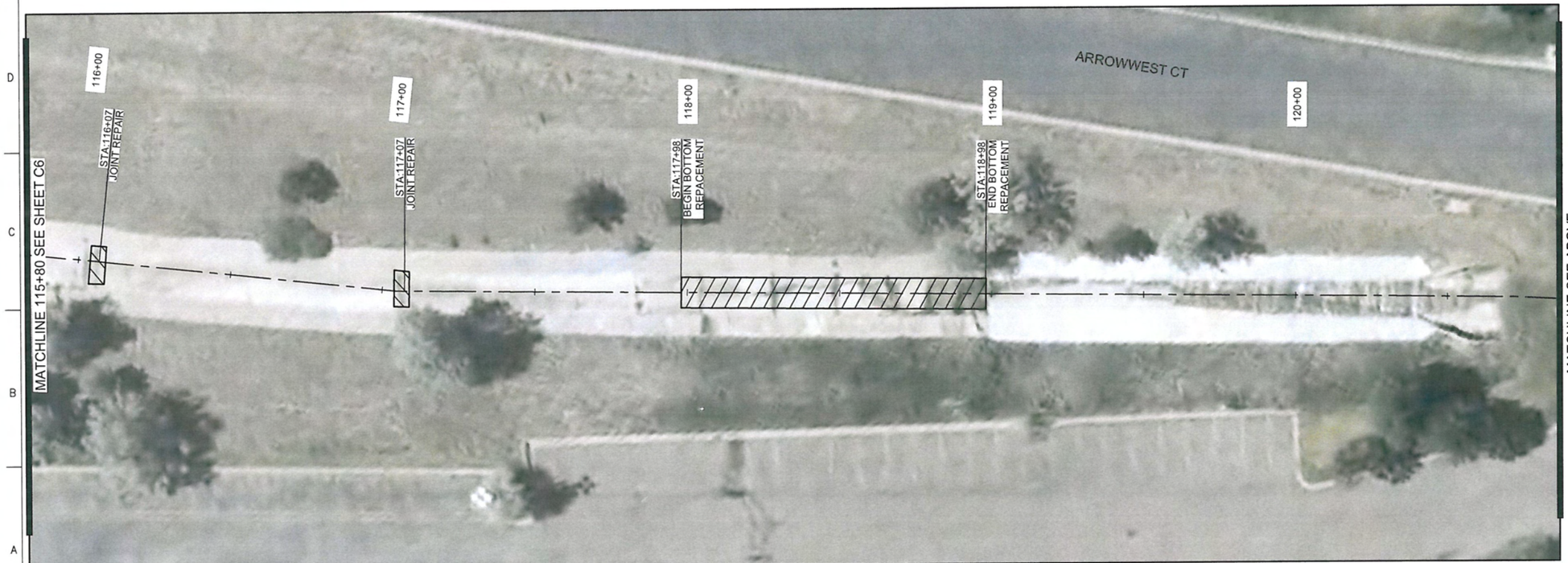
SHEET TITLE
CHANNEL IMPROVEMENTS

SHEET NO: C6

SHEET: 6 of 10



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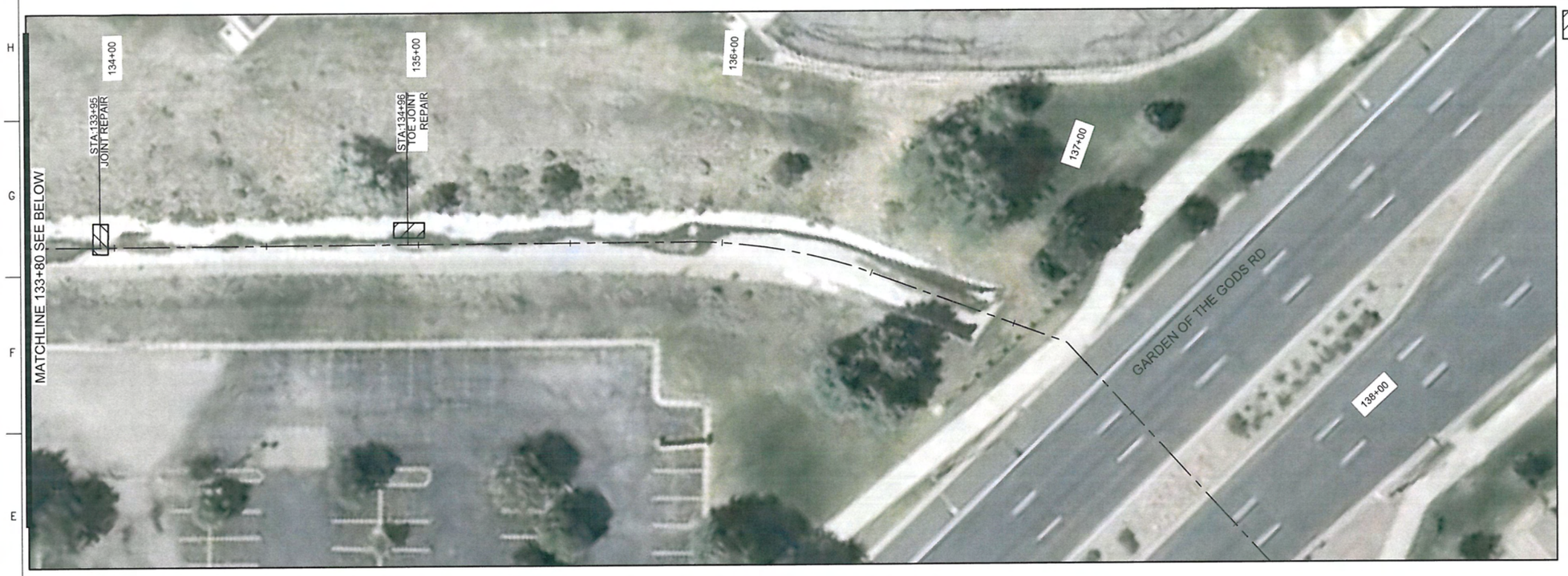
9/20/13
PROFESSIONAL ENGINEER

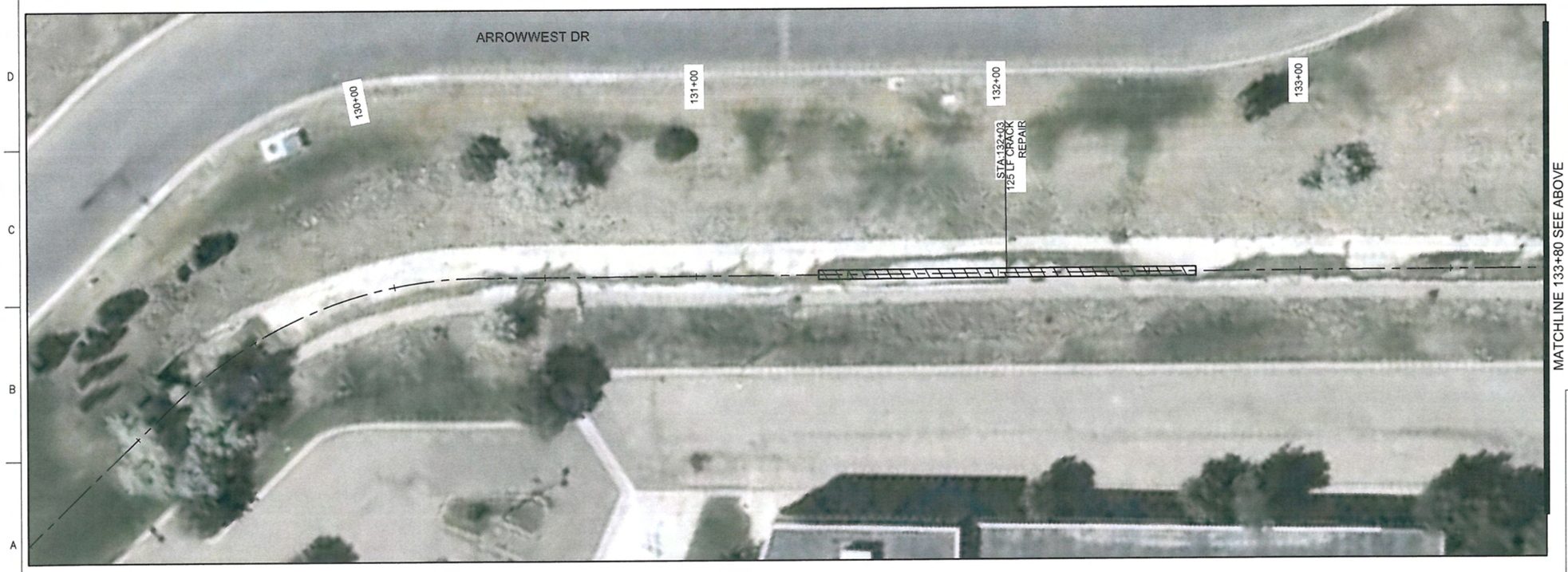
PROJECT NO:	13-600-408-00
DESIGNED BY:	GG
DRAWN BY:	MK
CHECKED BY:	RM
DATE:	SEP. 19, 2013

SHEET TITLE
CHANNEL IMPROVEMENTS

SHEET NO: C7

SHEET: 7 of 10





LEGEND:

EXISTING CONCRETE CHANNEL LINING TO BE REMOVED

NOTE:
AREAS SHOWN FOR REMOVAL AND/OR PATCHING ARE PROVIDED AS INFORMATION FOR BIDDING PURPOSES. THE ACTUAL LOCATIONS AND LIMITS WILL BE ESTABLISHED IN THE FIELD BY THE PROJECT ENGINEER.

20 0 20 40
SCALE FEET

20 0 20 40
SCALE FEET

WILSON & COMPANY

Matrix DESIGN GROUP

CLIENT
CITY OF COLORADO SPRINGS

PROJECT NAME
N & S DOUGLAS CREEK
PROJECT 2013 – 3
CHANNEL IMPROVEMENT PLANS
CITY OF COLORADO SPRINGS
PUBLIC WORKS / CITY ENGINEERING
30 SOUTH NEVADA, SUITE 401

REV.	DATE	DESCRIPTION	BY

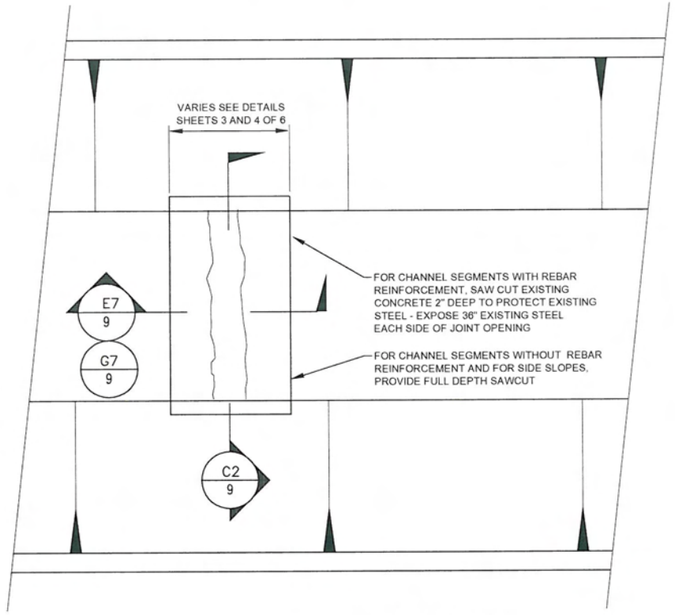
COLORADO LICENSED
RICHARD A. MULLEN
44542
9/20/13
PROFESSIONAL ENGINEER

PROJECT NO:	13-600-408-00
DESIGNED BY:	GG
DRAWN BY:	MK
CHECKED BY:	RM
DATE:	SEP. 19, 2013

SHEET TITLE
CHANNEL IMPROVEMENTS

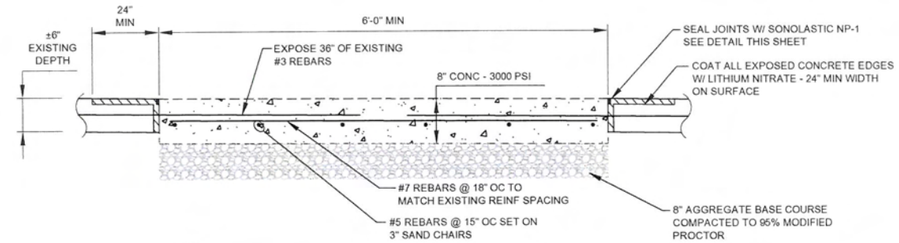
SHEET NO: C8

SHEET: 8 of 10



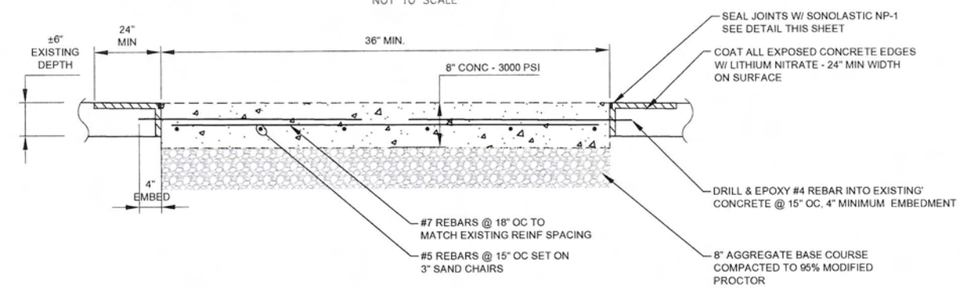
JOINT REPAIR PLAN VIEW

NOT TO SCALE



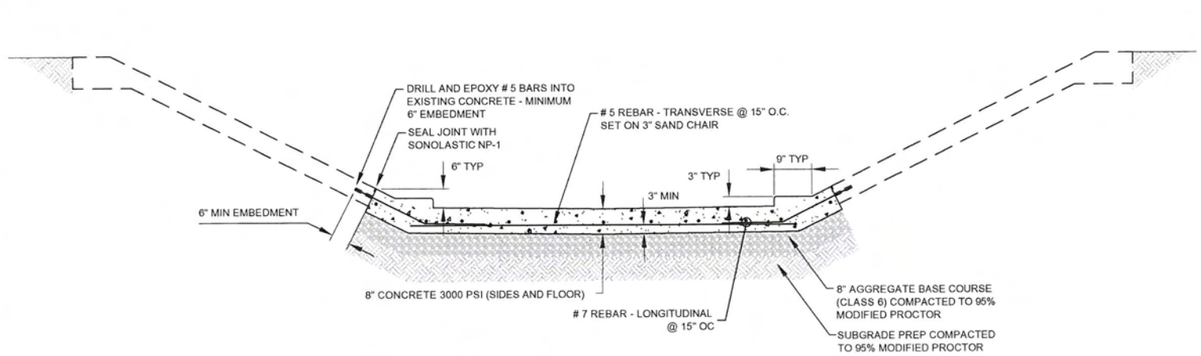
G7 / 9 JOINT REPAIR – DETAIL #1
WITH REBAR IN EXISTING CONCRETE SECTION

NOT TO SCALE



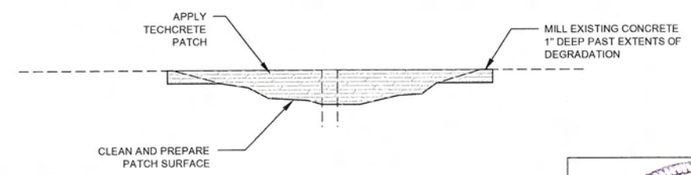
E7 / 9 JOINT REPAIR – DETAIL #2
NO REBAR IN EXISTING CONCRETE SECTION

NOT TO SCALE



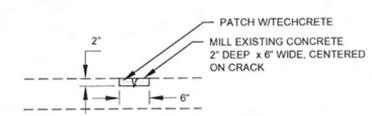
C2 / 9 JOINT REPAIR CHANNEL SECTION

NOT TO SCALE



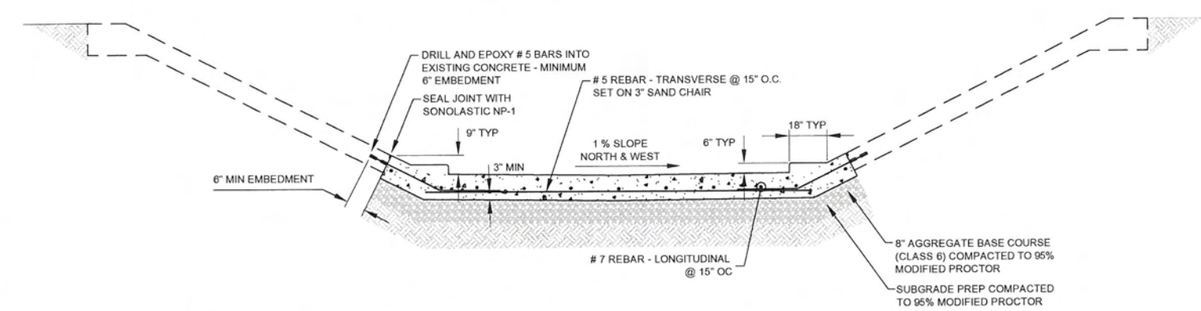
D7 / 9 CONCRETE PATCH SECTION

NOT TO SCALE



D7 / 9 PATCH @ CRACK

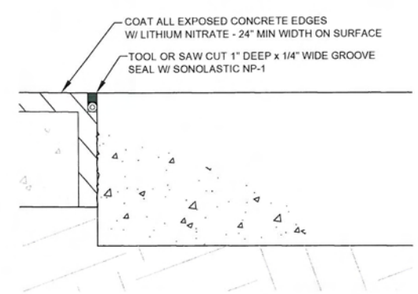
NOT TO SCALE



A2 / 9 BOTTOM REPLACEMENT CHANNEL SECTION (NO UNDERDRAIN)

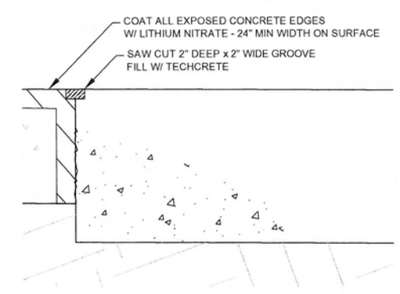
NOT TO SCALE

NOTE:
THIS DETAIL SHALL ONLY BE USED AT LOCATIONS AS WHERE NO EXISTING UNDERDRAIN IS FOUND TO BE PRESENT



A6 / 9 SEALANT DETAIL OPTION #1

NOT TO SCALE



A8 / 9 SEALANT DETAIL OPTION #2

NOT TO SCALE

NOTE:
THIS DETAIL SHALL ONLY BE USED AT LOCATIONS AS DIRECTED BY THE ENGINEER

WILSON & COMPANY

Matrix DESIGN GROUP

CLIENT: CITY OF COLORADO SPRINGS

PROJECT NAME: N & S DOUGLAS CREEK PROJECT 2013 – 3
CHANNEL IMPROVEMENT PLANS
CITY OF COLORADO SPRINGS
PUBLIC WORKS / CITY ENGINEERING
30 SOUTH NEVADA, SUITE 401

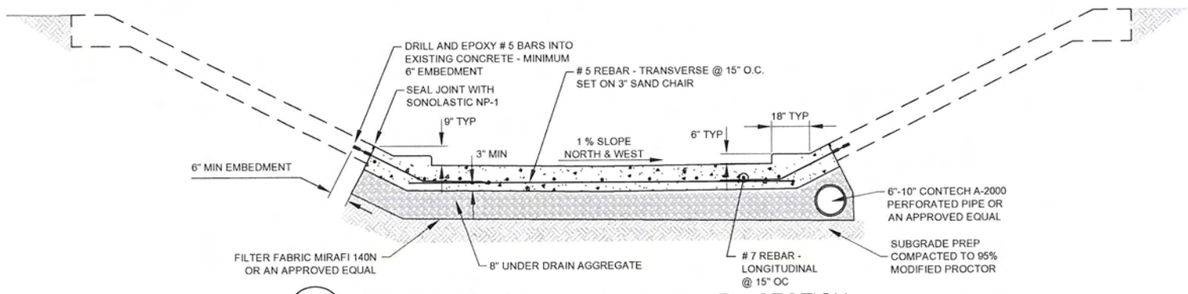
REV.	DATE	DESCRIPTION	BY

PROJECT NO:	13-600-408-00
DESIGNED BY:	GG
DRAWN BY:	MK
CHECKED BY:	RM
DATE:	SEP. 19, 2013

SHEET TITLE: CHANNEL–DETAILS

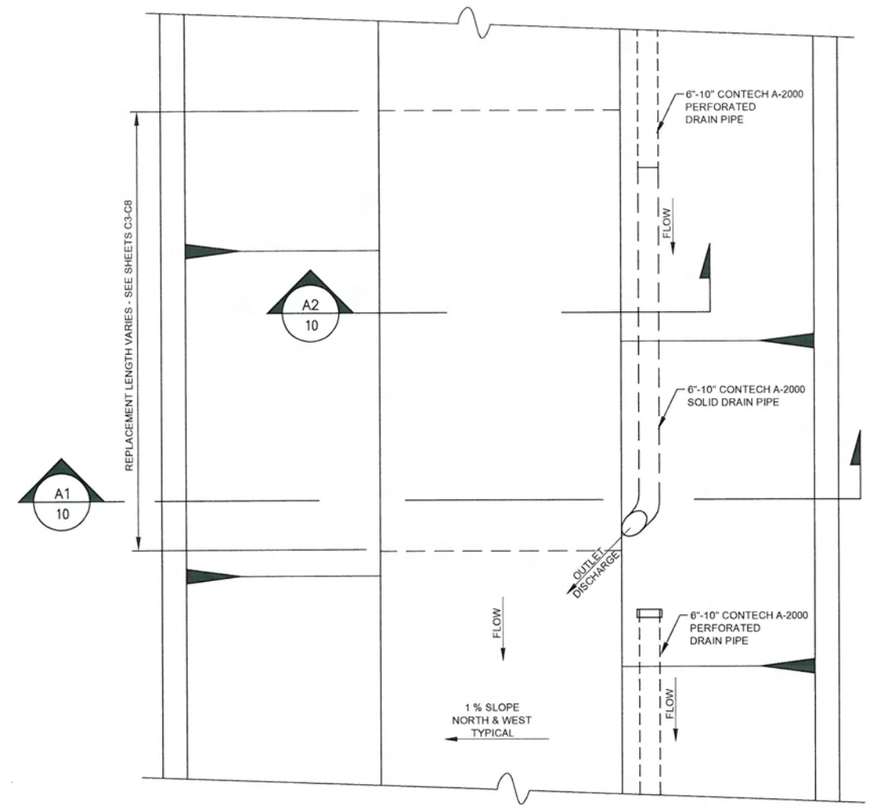
SHEET NO: C9

SHEET: 9 of 10



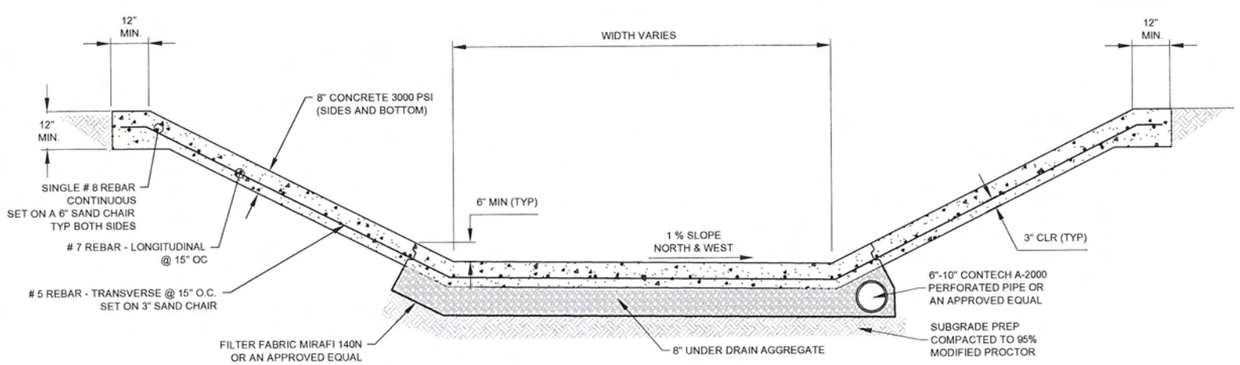
A2 / 10 BOTTOM REPLACEMENT CHANNEL SECTION

NOT TO SCALE



REPLACE CHANNEL PLAN VIEW

NOT TO SCALE



A1 / 10 NEW / FULL REPLACEMENT CHANNEL SECTION

NOT TO SCALE

COLORADO LICENSED
RICHARD C. MULLIED
44542
9/20/13
PROFESSIONAL ENGINEER

WILSON & COMPANY

Matrix DESIGN GROUP

CLIENT

CITY OF COLORADO SPRINGS

PROJECT NAME

N & S DOUGLAS CREEK
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SHEET TITLE

CHANNEL DETAILS

SHEET NO: C10

SHEET: 10 of 10