

CONSTRUCTION PLANS FOR 20th Street Roadway Extension GREELEY, COLORADO

LOCATED IN THE SOUTHWEST QUARTER OF SECTION 12, T5N, R67W OF THE 6TH P.M.
CITY OF GREELEY COUNTY OF WELD, STATE OF COLORADO

JUNE 2019

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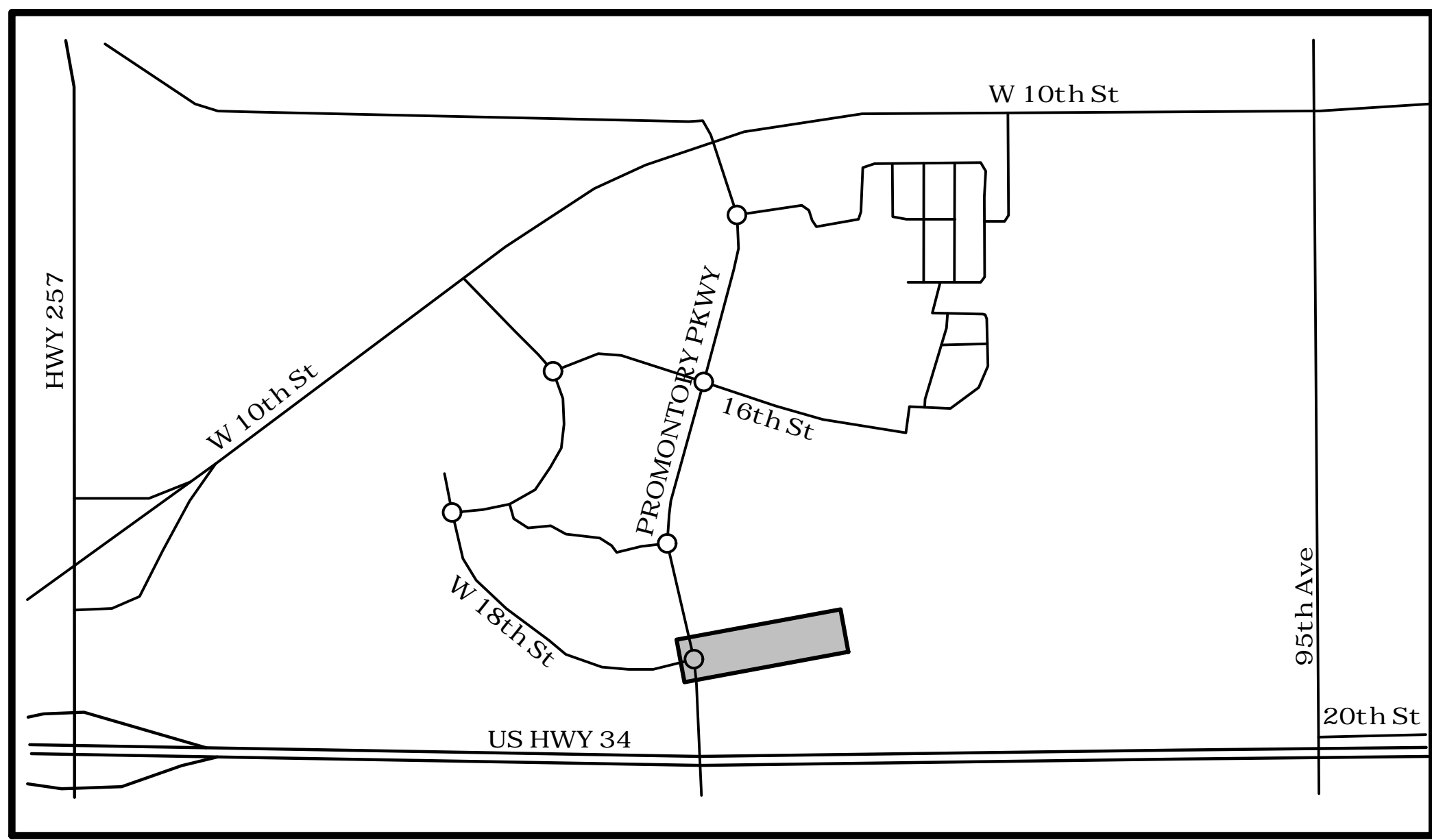
PREPARED FOR:
CITY OF GREELEY PUBLIC WORKS
ENGINEERING DIVISION
1001 9TH AVE
GREELEY CO 80631
PHONE: 970-350-9794

PROJECT NAME:
20TH STREET ROADWAY EXTENSION
COVER SHEET

DATE: 06/07/19
SCALE (H): 1"=X'
SCALE (V): 1"=X'
DESIGNED BY: SB
CHECKED BY: RA

PROJ. NO. 1392-083-00

LEGEND			
TELE	EXISTING TELEPHONE LINE	TELE	PROPOSED TELEPHONE LINE
OHT	EXISTING OVERHEAD TELEPHONE LINE	OHT	PROPOSED OVERHEAD TELEPHONE LINE
FO	EXISTING FIBER OPTIC LINE	FO	PROPOSED FIBER OPTIC LINE
CATV	EXISTING CABLE TV LINE	CATV	PROPOSED CABLE TV
ELEC	EXISTING ELECTRIC LINE	ELEC	PROPOSED ELECTRIC LINE
OHE	EXISTING OVERHEAD ELECTRIC LINE	OHE	PROPOSED OVERHEAD ELECTRIC LINE
GAS	EXISTING GAS	GAS	PROPOSED GAS
OHU	EXISTING OVERHEAD UTILITY	OHU	PROPOSED OVERHEAD UTILITY
SS	EXISTING SANITARY SEWER MAIN	SS	PROPOSED SANITARY SEWER MAIN
W	EXISTING WATER MAIN	W	PROPOSED WATER MAIN
WV	EXISTING WATER VALVE	WV	PROPOSED WATER VALVE
FH	EXISTING FIRE HYDRANT	FH	PROPOSED FIRE HYDRANT
SD	EXISTING STORM SEWER	SD	PROPOSED STORM SEWER
SDI	EXISTING STORM SEWER INLET	SDI	PROPOSED STORM INLET
FL	EXISTING FLOWLINE, CURB & GUTTER	FL	PROPOSED FLOWLINE, CURB & GUTTER
CON	EXISTING CONCRETE	CON	PROPOSED CONCRETE
SE	EXISTING SPOT ELEVATION	SE	PROPOSED SPOT ELEVATION
MC	EXISTING MINOR CONTOUR	MC	PROPOSED MINOR CONTOUR
MA	EXISTING MAJOR CONTOUR	MA	PROPOSED MAJOR CONTOUR
UP	EXISTING UTILITY POLE	UP	PROPOSED UTILITY POLE
SL	EXISTING STREET LIGHT	SL	PROPOSED STREET LIGHT
GW	EXISTING GUY WIRE	GW	PROPOSED GUY WIRE
F	EXISTING FENCE	F	PROPOSED FENCE
WS	PROPOSED WATER SERVICE W/ CURB STOP AND METER FIT	WS	PROPOSED WATER SERVICE W/ CLEANOUT
SSS	PROPOSED SANITARY SEWER SERVICE W/ CLEANOUT	SSS	PROPOSED DIRECTION OF OVERLAND FLOW
SW	PROPOSED SWALE	SW	LIMITS OF CONSTRUCTION
HR	PROPOSED HANDICAP RAMP	HR	BUILDING ACCESS



vicinity map
nts

BENCHMARK:
NGS VERMILYEA 1991
N-1391453.81
E-3176523.23
ELEVATION=5025.84 NAVD 1988 (1995 DATA SHEET)

Sheet No.	Description of Sheets
1	COVER SHEET
2	GENERAL NOTES & TYPICAL SECTION
3	EXISTING CONDITIONS & REMOVAL PLAN
4	ROADWAY PLAN & PROFILE
5	ROADWAY CROSS SECTIONS
6	GRADING PLAN
7	EROSION CONTROL PLAN
8	STORM PLAN & PROFILE
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11	WATER MAIN PLAN & PROFILE
12	DRAINAGE PLAN
13	CONSTRUCTION DETAILS
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17	CONSTRUCTION DETAILS
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ABBREVIATION LIST			
AD	ALGEBRAIC DIFFERENCE	G	GAS
AE	ACCESS EASEMENT	GB	GRADE BREAK
ARCH	ARCHITECT	GF	GARAGE FLOOR
ARV	AIR RELEASE VALVE	GF	GROUND
ASPH	ASPHALT	GND	GATE VALVE
BLDG	BUILDING	GV	
BOV	BLOW OFF VALVE	HORZ	HORIZONTAL
BOS	BOTTOM OF STEP	HDPE	HIGH DENSITY POLYETHYLENE
BOW	BACK OF WALK	HP	HIGH POINT
BW	BOTTOM OF WALL	HW	HEADWALL
C&G	CURB & GUTTER	IE	IRRIGATION EASEMENT
CATV	CABLE TELEVISION	INV	INVERT
CL	CENTERLINE	IRR	IRRIGATION
CMP	CORRUGATED METAL PIPE	IR	
CO	CLEAN OUT	LA	LANDSCAPE (PLAN / ACRH)
CoFC	CITY OF FORT COLLINS	LF	LINEAR FEET
COMM	COMMUNICATION	LP	LOW POINT
CON	CONDENSATE	LT	LEFT
CONC	CONCRETE	MAX	MAXIMUM
COORD	COORDINATION	ME	MATCH EXISTING
CW	CHILL WATER	MEP	MECHANICAL, ELECTRICAL, PLUMBING ENGINEER
CWR	CHILL WATER RETURN	MH	MANHOLE
CWS	CHILL WATER SUPPLY	MIN	MINIMUM
DE	DRAINAGE EASEMENT	N	NORTHING
DEMO	DEMOLITION	NA	NOT APPLICABLE
DIA	DIAMETER	NTS	NOT TO SCALE
DIP	DUCTILE IRON PIPE	OC	ON CENTER
E	EASTING	OEC	OVERHEAD ELECTRIC
EAE	EMERGENCY ACCESS EASEMENT	OHT	OVERHEAD TELEPHONE
EG	EXISTING GROUND ELEVATION	OHU	OVERHEAD UTILITY
ELEC	ELECTRIC	P&E	PEDESTRIAN & UTILITY EASEMENT
EOA	EDGE OF ASPHALT	PE	PEDESTRIAN EASEMENT
EOC	EDGE OF CONCRETE	PERF	PERFORATED
EX	EXISTING	PC	POINT OF CURVATURE
ESMT	EASEMENT	PCR	POINT OF CURB RETURN
EST	ESTIMATE(D)	PH	POTHOLE
F	FIRE LINE	PI	POINT OF INTERSECTION
FDC	FIRE DEPARTMENT CONNECTION	PL	PROPERTY LINE
FES	FLARED END SECTION	PT	POINT OF TANGENCY
FF	FINISHED FLOOR	PVC	POLYVINYL CHLORIDE
FFE	FINISHED FLOOR ELEVATION	R&R	REMOVAL & REPLACEMENT
FG	FINISHED GRADE	RCP	REINFORCED CONCRETE PIPE
FH	FIRE HYDRANT	RD	ROOF DRAIN
FL	FLOWLINE	RE	REFERENCE
FO	FIBER OPTIC		
RJ	RESTRAINT JOINT	SCH	SCHEDULE
ROW	RIGHT-OF-WAY	S	SOUTH
RT	RIGHT	SD	STORM DRAIN PIPE
S	SCHEDULE	SDMH	STORM DRAIN MANHOLE
SD	SOUTH	SRVC	SERVICE
SDMH	STORM DRAIN MANHOLE	SS	SANITARY SEWER
SRVC	SERVICE	SSCO	SANITARY SEWER CLEAN-OUT
SS	SANITARY SEWER	SSMH	SANITARY SEWER MANHOLE
SSCO	SANITARY SEWER CLEAN-OUT	SSWR	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE	STA	STATION
SSWR	SANITARY SEWER	STM	STEAM
STA	STATION	SWMP	STORMWATER MANAGEMENT PLAN
STM	STEAM	T	TELEPHONE
SWMP	STORMWATER MANAGEMENT PLAN	TB	THRUST BLOCK
T	TELEPHONE	TBC	TOP BACK OF CURB
TB	THRUST BLOCK	TBV	TO BE VACATED
TBC	TOP BACK OF CURB	TBR	TO BE REMOVED
TBV	TO BE VACATED	TELE	TELEPHONE
TBR	TO BE REMOVED	TEMP	TEMPORARY
TELE	TELEPHONE	TF	TOP OF FOUNDATION
TEMP	TEMPORARY	TF	TOP OF FOUNDATION
TF	TOP OF FOUNDATION	TOS	TOP OF STEP
TOS	TOP OF STEP	TW	TOP OF WALL
TW	TOP OF WALL	TYP	TYPICAL
TYP	TYPICAL	XS	CROSS SECTION
XS	CROSS SECTION	UD	UNDERDRAIN
UD	UNDERDRAIN	UE	UTILITY EASEMENT
UE	UTILITY EASEMENT	UGE	UNDERGROUND ELECTRIC UTILITY
UGE	UNDERGROUND ELECTRIC UTILITY	VCP	VITRIFIED CLAY PIPE
UTIL	UTILITY	VFP	VERIFY IN FIELD
VCP	VITRIFIED CLAY PIPE	VERT	VERTICAL
VFP	VERIFY IN FIELD	VPC	VERTICAL POINT OF CURVATURE
VERT	VERTICAL	VPI	VERTICAL POINT OF INTERSECTION
VPC	VERTICAL POINT OF CURVATURE	VPT	VERTICAL POINT OF TANGENCY
VPI	VERTICAL POINT OF INTERSECTION	W	WATERLINE OR WEST
VPT	VERTICAL POINT OF TANGENCY	WL	WATERLINE
W	WATERLINE OR WEST	WQCE	WATER QUALITY CONTROL ELEVATION
WL	WATERLINE	WSE	WATER SURFACE ELEVATION
WQCE	WATER QUALITY CONTROL ELEVATION		
WSE	WATER SURFACE ELEVATION		

CONTROL POINTS:

CP-CIRCLE N-1392736.77 E-3181545.71 ELEV=4931.92 SET #4 REBAR WITH 2" ALUMINUM CAP KSI	CP-FIRE N-1393160.98 E-3181542.15 ELEV=4948.31 SET #4 REBAR WITH 2" ALUMINUM CAP KSI
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CITY AND UTILITY CONTACTS:

CITY OF GREELEY Engineering Contact: Brian Ward Ph. 970.350.9357	ELECTRIC PVREA Contact: Dispatch Ph. 970.226.1234
Water and Sewer Contact: Dan Moore Ph. 970.350.9814	TELECOM Century Link (Qwest) Contact: Carson Or tega Ph. 970.392.4837
Greely Fire Department Contact: Dal e Lyman Ph. 970.350.9511	Comcast Contact: Bill l Bl air Ph. 720.490.3891
NATURAL GAS Atmos Energy Contact: Jerr y Adams Ph. 970.304.2075	Greely Lovel and Irr. Canal Contact: Ron Brinkman Ph. 970.352.0495

CALL BEFORE YOU DIG
CALL UTILITY NOTIFICATION
CENTER OF COLORADO
1-800-922-1987
or 8-1-1
CALL 2 BUSINESS DAYS IN ADVANCE
BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE
MARKING OF UNDERGROUND MEMBER UTILITIES.

PRELIMINARY NOT FOR CONSTRUCTION

THESE CONSTRUCTION PLANS FOR THE SITE WERE PREPARED BY ME (OR UNDER MY DIRECT SUPERVISION) IN ACCORDANCE WITH THE REQUIREMENTS OF THE ROADWAY DESIGN AND CONSTRUCTION STANDARDS AND THE STORM DRAINAGE DESIGN AND TECHNICAL CRITERIA OF THE CITY OF GREELEY.

ROBERT ALMIRALL
REGISTERED PROFESSIONAL ENGINEER
STATE OF COLORADO NO. 34288
INTERWEST CONSULTING GROUP
(970) 460-8487

CONSTRUCTION MUST BE DONE IN ACCORDANCE WITH APPLICABLE CITY OF GREELEY CONSTRUCTION STANDARDS. THE CITY'S ACCEPTANCE ALLOWS FOR PLAN DISTRIBUTION AND PERMIT APPLICATION. THE CITY'S ACCEPTANCE SHALL NOT RELIEVE THE DESIGN ENGINEER'S RESPONSIBILITY FOR ERRORS, OMISSIONS, OR DESIGN DEFICIENCIES FOR WHICH THE CITY IS HELD HARMLESS.

ACCEPTED BY: _____ DATE _____
CITY ENGINEER

ACCEPTED BY: _____ DATE _____
DIRECTOR OF WATER & SEWER

ACCEPTED BY: _____ DATE _____
CITY OF GREELEY FIRE CHIEF

CITY OF GREELEY GENERAL NOTES:

- ALL WORK WITHIN THE PUBLIC RIGHT-OF-WAY, OR EASEMENT SHALL CONFORM TO THE CITY OF GREELEY CONSTRUCTION SPECIFICATIONS AND DESIGN STANDARDS.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF ANY WORK ON THE PROJECT. A PERMIT FROM PUBLIC WORKS IS REQUIRED FOR ALL CONSTRUCTION IN PUBLIC RIGHT-OF-WAY OR EASEMENTS. A UTILITY PERMIT WILL BE REQUIRED FROM CDOT. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD WITH CITY REPRESENTATIVES BEFORE A PERMIT WILL BE ISSUED.
- THE CONTRACTOR SHALL NOTIFY CONSTRUCTION SERVICES (970-350-9358) AT LEAST 24 HOUR PRIOR TO DESIRED INSPECTION.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY, OF ANY PROBLEMS IN CONFORMING TO THE ACCEPTED PLANS FOR ANY ELEMENT OF THE PROPOSED IMPROVEMENTS PRIOR TO ITS CONSTRUCTION.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR DURING CONSTRUCTION ACTIVITIES TO RESOLVE CONSTRUCTION PROBLEMS DUE TO CHANGED CONDITIONS, OR DESIGN ERRORS ENCOUNTERED BY THE CONTRACTOR DURING THE PROGRESS OF ANY PORTION OF THE PROJECT. IF, IN THE OPINION OF THE CITY, THE MODIFICATIONS PROPOSED BY THE CONTRACTOR, TO THE ACCEPTED PLANS, INVOLVE SIGNIFICANT CHANGES TO THE CHARACTER OF THE WORK OR TO THE FUTURE CONTIGUOUS PUBLIC OR PRIVATE IMPROVEMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR RE-SUBMITTING THE REVISED PLANS TO THE CITY OF GREELEY FOR ACCEPTANCE PRIOR TO ANY FURTHER CONSTRUCTION RELATED TO THAT PORTION OF THE PROJECT. ANY IMPROVEMENTS NOT CONSTRUCTED IN ACCORDANCE WITH THE ACCEPTED PLANS, OR THE ACCEPTED REVISED PLANS, SHALL BE REMOVED AND RECONSTRUCTED ACCORDING TO THE APPROVED PLAN.
- THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS AT AND ADJACENT TO THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE DUTY OF THE CITY TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION SITE.
- THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAG PERSONS, OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY IN ACCORDANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE GREELEY SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL SURVEY MONUMENTS. ANY MONUMENT THAT MUST BE DESTROYED FOR CONSTRUCTION SHALL BE REPLACED. THE CONTRACTOR SHALL ENGAGE THE SERVICES OF A LICENSED SURVEYOR PRIOR TO DISTURBING ANY MONUMENTS.
- PRIOR TO FINAL PLACEMENT OF SURFACE PAVEMENT, ALL UNDERGROUND UTILITY MAINS SHALL BE INSTALLED AND SERVICE CONNECTIONS STUBBED OUT BEYOND CURB LINE, WHEN ALLOWED BY THE UTILITY. SERVICE FROM PUBLIC UTILITIES AND FROM SANITARY SEWERS SHALL BE MADE AVAILABLE FOR EACH LOT IN SUCH A MANNER THAT WILL NOT BE NECESSARY TO DISTURB THE STREET PAVEMENT, CURB, GUTTER, AND SIDEWALK WHEN CONNECTIONS ARE MADE.
- A GEOTECHNICAL REPORT HAS BEEN PREPARED BY EARTH ENGINEERING CONSULTANTS, INC. FOR THE PROPOSED 65TH AVE WIDENING (US HIGHWAY 34 TO 29TH STREET), CITY OF GREELEY, COUNTY OF WELD, STATE OF COLORADO DATED MAY 11TH, 2012 PROJECT NUMBER 1122031 FOR RIGHT-OF-WAY GRADING AND PAVING. REFER TO GEOTECHNICAL REPORT FOR ANY REQUIREMENTS EXCEEDING CITY STANDARDS. A FINAL PAVEMENT DESIGN REPORT IS ALSO REQUIRED. THE SOIL INVESTIGATION FOR THIS REPORT SHALL OCCUR AFTER UTILITY CONSTRUCTION AND GRADING FOR STREETS IS COMPLETED TO WITHIN 6" OF ANTICIPATED SUBGRADE. THE FINAL PAVEMENT DESIGN REPORT SHALL BE ACCEPTED BY THE CITY OF GREELEY PRIOR TO ANY NON-STRUCTURAL CONCRETE, PAVEMENT OR SUBGRADE INSTALLATION. PAVEMENT STRUCTURAL SECTION SHALL COMPLY WITH THE ACCEPTED FINAL PAVEMENT DESIGN REPORT.
- REPRODUCIBLE COPIES OF RECORD DRAWING PLANS SHALL BE SUBMITTED TO THE CITY OF GREELEY PRIOR TO CONSTRUCTION ACCEPTANCE OF THE PUBLIC IMPROVEMENTS.
- ALL CONCRETE SHALL BE CDOT CLASS D.

CITY OF GREELEY WATER AND SANITARY SEWER GENERAL NOTES:

ALL CONSTRUCTION WORK SHALL BE IN ACCORDANCE WITH THE CITY OF GREELEY'S STANDARD SPECIFICATIONS, LATEST EDITION.

ALL OVER LOT GRADING IN THE RIGHT-OF-WAY OR EASEMENT SHALL BE COMPLETED PRIOR TO INSTALLING WATER OR SANITARY SEWER LINES.

CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION. THE FOLLOWING NOTIFICATION SHALL BE INCLUDED TO REMIND THE CONTRACTOR OF THIS RESPONSIBILITY.

CALL UTILITY NOTIFICATION CENTER OF COLORADO -811- CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

MAINTAIN A MINIMUM OF 10 FOOT HORIZONTAL CLEAR DISTANCE SEPARATION BETWEEN WATER AND SANITARY SEWER MAINS AND SERVICES. WATER MAINS AND SERVICES ARE TO BE LOCATED 18-INCHES MINIMUM ABOVE THE SANITARY SEWER MAIN OR SERVICES. IF FIELD CONDITIONS VARY FROM THOSE SHOWN ON THESE PLANS AND THE SANITARY SEWER CANNOT BE LOCATED BELOW THE WATER MAIN OR SERVICE, A CLEAR VERTICAL DISTANCE OF 18-INCHES CANNOT BE MAINTAINED, OR A MINIMUM 10 FOOT HORIZONTAL SEPARATION CANNOT BE ACHIEVED, THE CITY OF GREELEY'S INSPECTION SERVICES SHALL BE CONTACTED IMMEDIATELY TO REVIEW THE SITUATION. IF NO OTHER FEASIBLE SOLUTION CAN BE USED TO MAINTAIN THE REQUIRED CLEARANCES, THE SANITARY SEWER SHALL BE ENCASED PER CURRENT CITY OF GREELEY CONSTRUCTION STANDARDS WITH THE ACCEPTANCE OF THE CITY OF GREELEY WATER AND SEWER DEPARTMENT.

IN ALL INSTANCES WHERE A WATER LINE LOWERING IS REQUIRED DUE TO UNFORESEEN FIELD CONDITIONS, A DETAILED DRAWING SHALL BE PROVIDED TO THE CITY OF GREELEY WATER AND SEWER DEPARTMENT FOR ACCEPTANCE PRIOR TO PERFORMING THE WORK. THE DRAWING SHALL INCLUDE ELEVATIONS OF THE WATER LINE AT ALL FITTINGS AND ELEVATIONS OF THE UTILITY BEING CROSSED. PIPE MATERIAL SHALL BE RESTRAINED DUCTILE IRON PIPE, MINIMUM THICKNESS CLASS 51.

WHERE WATER AND SANITARY SEWER LINES ARE LOCATED IN COMMON UTILITY EASEMENT AREAS, THERE SHALL BE NO OTHER UTILITIES LOCATED HORIZONTALLY WITHIN 10 FEET OF EITHER LINE EXCEPT AT APPROVED CROSSINGS. CONTRACTOR SHALL NOTIFY THE CITY OF GREELEY FIELD CONSTRUCTION SERVICES (970-350-9358) ONE WEEK PRIOR TO COMMENCING WORK AFTER CITY ACCEPTED CONSTRUCTION DRAWING DISTRIBUTION AND PRE CONSTRUCTION MEETING HELD WITH THE CITY.

CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES TO BE CROSSED BY WATER AND/OR SEWER LINES AT LEAST 24 HOURS PRIOR TO CROSSING TO ENSURE 18-INCH MINIMUM CLEARANCE IF OPEN CUT METHODS ARE USED AND 24-INCH MINIMUM CLEARANCE FOR BORED CROSSINGS. IF VERTICAL CLEARANCE CANNOT BE MET AS SHOWN ON THE DRAWINGS, CONTACT THE DESIGN ENGINEER IMMEDIATELY. HORIZONTAL AND VERTICAL LOCATION OF CROSSED EXISTING UTILITIES SHALL BE RECORDED ON THE AS-BUILT RECORD DRAWINGS.

SHOULD ANY VARIATIONS BEFORE OR DURING CONSTRUCTION TO THE WATER MAIN OR SANITARY SEWER COLLECTION SYSTEM DESIGN(S) BE CONSIDERED, NOTICE MUST FIRST BE GIVEN TO THE CITY'S INSPECTOR TO DETERMINE IF IT NEEDS THE ACCEPTANCE OF THE WATER AND SEWER DEPARTMENT DIRECTOR. IF SO, THE NEW PLAN MUST BE DRAWN AND SUBMITTED FOR ACCEPTANCE TO THE DIRECTOR BY THE CONTRACTOR'S ENGINEER 72 HOURS PRIOR TO CONSTRUCTION FOR ACCEPTANCE.

THE CONTRACTOR SHALL PROVIDE THE CITY DEVELOPMENT COORDINATOR WITH CERTIFIED AS-BUILT RECORD DRAWING TRANSPARENCIES UPON COMPLETION OF ANY PHASE OF CONSTRUCTION WITH MORE THAN A 30-DAY LAPSE BETWEEN PHASES. NO BUILDING PERMITS FOR CONSTRUCTION OF ANY STRUCTURE WITHIN THE DEVELOPMENT SHALL BE ISSUED BY THE CITY OF GREELEY UNTIL THE AS-BUILT RECORD DRAWINGS HAVE BEEN RECEIVED AND ACCEPTED BY THE CITY.

WATER AND SANITARY SEWER WARRANTY PERIOD WILL NOT BEGIN UNTIL AS-BUILT RECORD DRAWINGS ARE ACCEPTED BY THE CITY OF GREELEY WATER AND SEWER DEPARTMENT.

ALL WATER MAINS, FIRE HYDRANT LINES, AND SERVICES SHALL HAVE A MINIMUM COVER OF 5.0 FEET AND A MAXIMUM COVER OF 6.0 FEET UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

ALL WATER MAINS SHALL BE LAID AS CLOSE AS POSSIBLE TO THE CENTER LINE OF STREETS UNLESS OTHERWISE SHOWN. IN NO CASE SHALL WATER MAINS BE LAID WITHIN 8 FEET OF THE LIP OF THE GUTTER OR EDGE OF UNPAVED STREET.

ALL VALVES ARE TO BE LOCATED AT PROPERTY LINES EXTENDED.

TYPICAL WATER SERVICES SHALL BE TYPE "K" COPPER AND BE CENTERED ON THE LOT FRONTAGE UNLESS OTHERWISE NOTED.

TYPICAL SANITARY SEWER SERVICE SHALL BE PVC SDR 35 PIPE.

ALL NEW WATER MAINS SHALL BE BULKHEADED AND TESTED AND APPROVED PRIOR TO CONNECTION TO THE EXISTING WATER SYSTEM. VALVES WHICH PASS TESTING FOR PRESSURE AND LEAKAGE AT THE TIME OF INSTALLATION AND THE TESTING WAS PERFORMED IN THE PRESENCE OF THE CITY MAY BE CONSIDERED AS A BULKHEAD.

ALL VALVES AT DEAD ENDS SHALL BE RESTRAINED WITH RESTRAINING GLANDS UP-STREAM OF THE VALVE. LENGTH OF RESTRAINT IS SHOWN ON THE DRAWINGS.

ANY EXISTING STUB OUTS, INCLUDING BUT NOT LIMITED TO SERVICE TAPS, ON EXISTING WATER MAINS NOT BEING UTILIZED BY THIS PROJECT ARE TO BE ABANDONED AT THE MAIN AT THE CONTRACTOR'S EXPENSE PRIOR TO ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY.

ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLYWRAPPED IN ACCORDANCE WITH AWWA STANDARD C-105.

NO POLYVINYL CHLORIDE (PVC) PIPE STORED OUTSIDE AND EXPOSED TO SUNLIGHT SHALL EXCEED THE MANUFACTURER'S RECOMMENDATION EXPOSURE TIME. THIS TIME SHALL BEGIN FROM THE DATE OF MANUFACTURE. IF THE TIME WILL BE GREATER THAN THE MANUFACTURE'S RECOMMENDED TIME, THE PIPE SHALL BE COVERED WITH AN OPAQUE MATERIAL. AIR CIRCULATION SHALL BE PROVIDED UNDER THE COVERING.

COPPER TRACING WIRE SHALL BE INSTALLED PER CITY OF GREELEY SPECIFICATIONS FOR ALL WATER PIPE.

FOR TAPPING PVC C-900 PIPE, A CITY APPROVED TAPPING SADDLE SHALL BE USED. THE TAPPING MACHINE USED TO MAKE THE CONNECTION MUST OPERATE WITH A CUTTING/TAPPING TOOL WHICH IS CLASSIFIED AS A CORE CUTTING TOOL (EITHER WITH INTERNAL TEETH OR WITH DOUBLE SLOTS) OF THE SHELL DESIGN WHICH RETAINS THE COUPON WHILE PENETRATING THE WALL OF THE WATER MAIN. THE TAPPING MACHINE SHOULD PROVIDE THE STANDARD RATCHET HANDLE ON THE BORING BAR AND SHOULD BE OF THE DESIGN WHERE CUTTING AND TAPPING IS CONTROLLED AND ACCOMPLISHED WITH A FEED-NUT OR FEED-SCREW AND YOKE.

ALL BACKFLOW PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH THE COLORADO CROSS-CONNECTION CONTROL MANUAL, LATEST EDITION, AND AS REQUIRED NECESSARY BY THE CITY OF GREELEY WATER AND SEWER DEPARTMENT. ALL BACKFLOW ASSEMBLIES MUST BE TESTED UPON INSTALLATION AND JUST PRIOR TO END OF WARRANTY PERIOD. OWNER SHALL BE RESPONSIBLE FOR TESTING EACH YEAR THEREAFTER.

FIRE HYDRANT LEADS ARE RESTRAINED DIP.

ALL UTILITIES CROSSING WATER AND/OR SANITARY SEWER LINES MUST BE ENCASED IN HDPE SDR 11 PIPE ACROSS THE ENTIRE EASEMENT OR RIGHT-OF-WAY WIDTH OR 10' ON EITHER SIDE OF THE LINE BEING CROSSED. THE ENCASEMENT SHALL BE BUTT JOINT FUSED. FLEXIBLE JOINTS ARE NOT ALLOWED.

GRADING AND EROSION CONTROL NOTES:

ALL SITE GRADING (EXCAVATION, EMBANKMENT, AND COMPACTION) SHALL CONFORM TO THE RECOMMENDATIONS OF THE LATEST SOILS INVESTIGATION FOR THIS PROJECT AND SHALL FURTHER BE IN CONFORMANCE WITH THE CITY'S STANDARDS AND SPECIFICATIONS.

NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED WHEREVER POSSIBLE. EXPOSURE OF SOIL TO EROSION BY REMOVAL OR DISTURBANCE OF VEGETATION SHALL BE LIMITED TO THE AREA REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATION AND FOR THE SHORTEST PRACTICAL PERIOD OF TIME.

TOPSOIL SHALL BE STOCKPILED TO THE EXTENT PRACTICABLE ON THE SITE FOR USE IN AREAS TO BE REVEGETATED. ANY AND ALL STOCKPILES SHALL BE LOCATED AND PROTECTED FROM EROSION ELEMENTS.

TEMPORARY VEGETATION SHALL BE INSTALLED ON ALL DISTURBED AREAS WHERE PERMANENT SURFACE IMPROVEMENTS ARE NOT SCHEDULED FOR INSTALLATION WITHIN THREE MONTHS. VEGETATION SHALL BE A VIGOROUS, DROUGHT TOLERANT NATIVE SPECIES MIX. REFER TO THE TABLE PROVIDED HEREIN FOR DRY LAND SEEDING MIX. PROJECT SCHEDULING SHOULD TAKE ADVANTAGE OF SPRING OR FALL PLANTING SEASONS FOR NATURAL GERMINATION, BUT SEEDED AREAS SHALL BE IRRIGATED, IF CONDITIONS SO MERIT.

AT ALL TIMES, THE PROPERTY SHALL BE MAINTAINED AND/OR WATERED TO PREVENT WIND-CAUSED EROSION. EARTHWORK OPERATIONS SHALL BE DISCONTINUED WHEN FUGITIVE DUST SIGNIFICANTLY IMPACTS ADJACENT PROPERTY. IF EARTHWORK IS COMPLETE OR DISCONTINUED AND DUST FROM THE SITE CONTINUES TO CREATE PROBLEMS, THE CONTRACTOR SHALL IMMEDIATELY INSTITUTE MITIGATIVE MEASURES AND SHALL CORRECT DAMAGE TO ADJACENT PROPERTY.

THE CONTRACTOR SHALL PROVIDE ADDITIONAL DUST ABATEMENT AND EROSION CONTROL MEASURES DEEMED NECESSARY BY CITY.

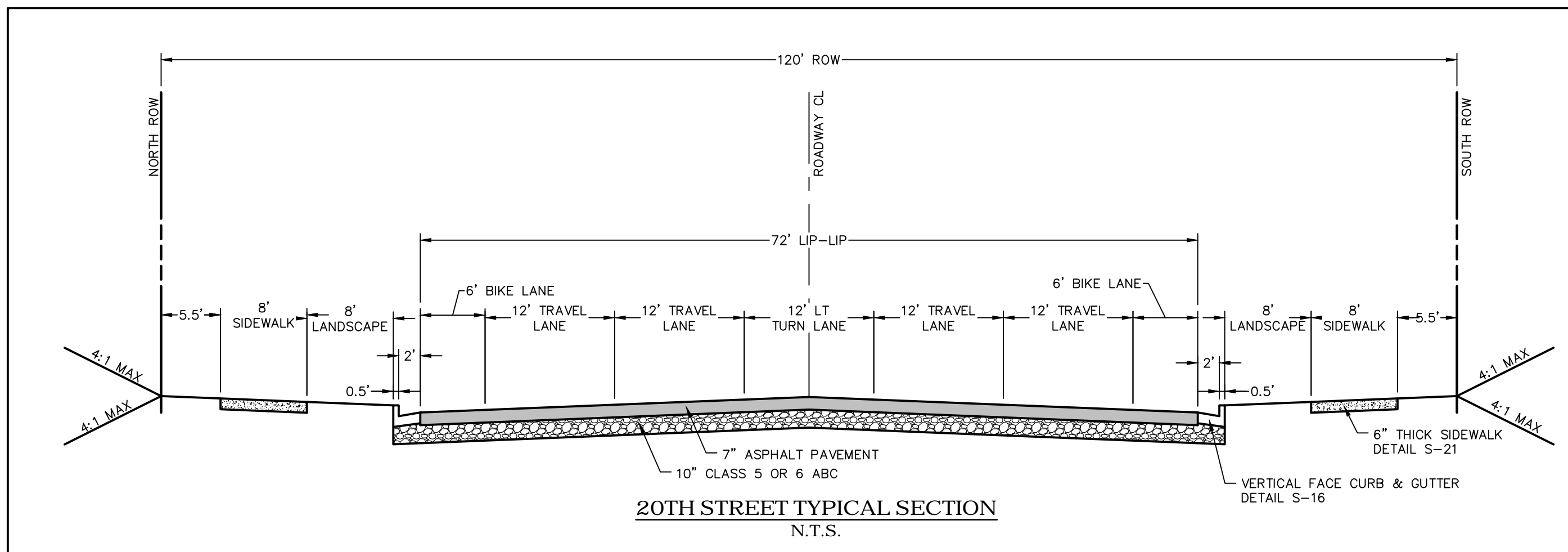
TEMPORARY FENCES SHALL BE INSTALLED ALONG ALL BOUNDARIES OF THE CONSTRUCTION LIMITS WHICH ARE ADJACENT TO EXISTING IMPROVEMENTS TO PREVENT GRADING ON PROPERTY NOT OWNED BY THE CONTRACTOR. IN ADDITION, THE CITY MAY REQUIRE ADDITIONAL TEMPORARY FENCES IF FIELD CONDITIONS SO MERIT THEM.

ALL EROSION PROTECTION SHALL BE PLACED AND APPROVED BY THE CITY PRIOR TO COMMENCEMENT OF SITE GRADING OPERATIONS.

CONTRACTOR SHALL PROVIDE TO THE ENGINEER A CERTIFIED SURVEY OF THE DETENTION GRADING, OUTLET STRUCTURE, AND OVERLOT GRADING. THE SURVEY SHALL BE PERFORMED BY A LICENSED SURVEYOR IN COLORADO. LOT GRADES SHALL BE WITHIN ± 0.15'.

VERIFICATION SURVEY

TOP OF NUT ELEVATIONS FOR ALL WATER LINE VALVES, PROPOSED GROUND ELEVATIONS AT THOSE VALVE LOCATIONS, SANITARY SEWER MANHOLES INVERT AND RIM ELEVATIONS, AND SEWER MAIN SLOPES SHALL BE PROVIDED TO THE CITY OF GREELEY ENGINEERING DEVELOPMENT REVIEW DIVISION FOR ACCEPTANCE PRIOR TO PLACEMENT OF CURB/GUTTER/SIDEWALK AND/OR PAVING CONSTRUCTION.



PAVEMENT DESIGN

PAVEMENT DESIGN AND SUBGRADE PREPARATION SHALL BE IN ACCORDANCE TO "GREELEY FIRE STATION #6: ADDENDUM #1, 18th STREET RIGID PAVEMENT THICKNESS" PREPARED BY GROUND ENGINEERING CONSULTANTS DATED APRIL 12th, 2019.

ALTERNATE CONCRETE PAVEMENT OPTION SHALL BE 8.5 INCHES OF CONCRETE OVER 6 INCHES OF AGGREGATE BASE TO THE LIMITS SHOWN ON THE PLAN

CONSTRUCTION MUST BE DONE IN ACCORDANCE WITH APPLICABLE CITY OF GREELEY CONSTRUCTION STANDARDS. THE CITY'S ACCEPTANCE ALLOWS FOR PLAN DISTRIBUTION AND PERMIT APPLICATION. THE CITY'S ACCEPTANCE SHALL NOT RELIEVE THE DESIGN ENGINEER'S RESPONSIBILITY FOR ERRORS, OMISSIONS, OR DESIGN DEFICIENCIES FOR WHICH THE CITY IS HELD HARMLESS.

ACCEPTED BY: _____ CITY ENGINEER _____ DATE _____

ACCEPTED BY: _____ DIRECTOR OF WATER & SEWER _____ DATE _____

ACCEPTED BY: _____ CITY OF GREELEY FIRE CHIEF _____ DATE _____

1616 W. Ash, Suite A
Windsor, Colorado 80501
Phone: (970) 674-3300
Fax: (970) 674-3303

INTERWEST
CONSULTING GROUP

PREPARED FOR
CITY OF GREELEY PUBLIC WORKS
ENGINEERING DIVISION
1001 9TH AVE
GREELEY CO 80631
PHONE: 970-350-9794

PROJECT NAME
20TH STREET ROADWAY EXTENSION

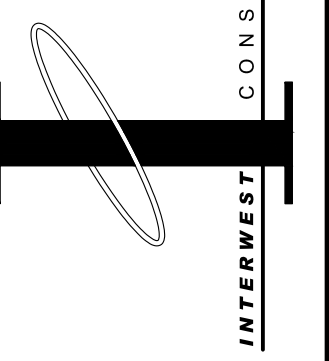
GENERAL NOTES & TYPICAL SECTION

DATE: 06/07/19
SCALE (H): N/A
SCALE (V): N/A
DESIGNED BY: SB
CHECKED BY: RA

PROJ. NO. 1392-083-00

2 of 18

X:\INTERWEST\PROJECTS\2019\2019-06-06-GREELEY-FIRE-STATION-18th-STREET-RIGID-PAVEMENT-THICKNESS\1392-083-00-2019-06-06.dwg, 6/7/2019, 2:28 PM

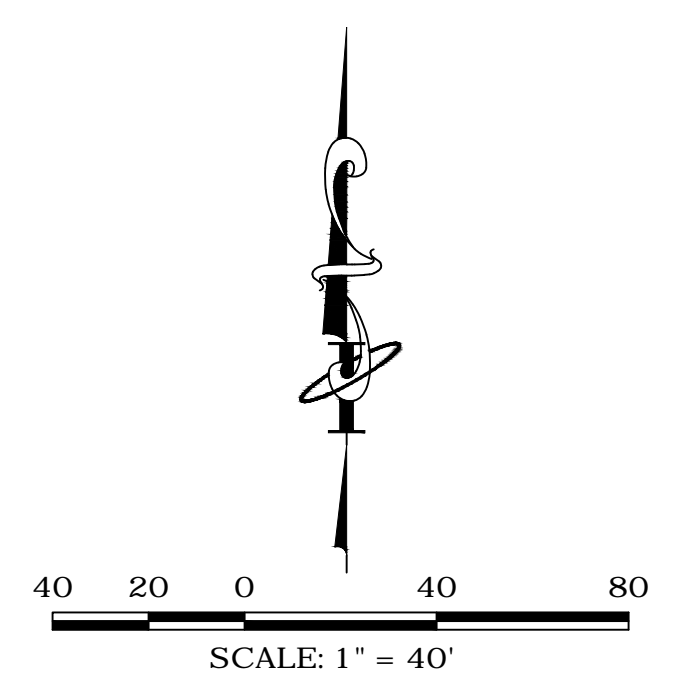


PREPARED FOR
 CITY OF GREELEY PUBLIC WORKS
 ENGINEERING DIVISION
 1001 9TH AVE
 GREELEY CO 80631
 PHONE: 970-350-9794

PROJECT NAME
20TH STREET ROADWAY EXTENSION
EXISTING CONDITIONS & REMOVAL PLAN

DATE: 06/07/19
 SCALE (H): 1"=40'
 SCALE (V): N/A
 DESIGNED BY: SB
 CHECKED BY: RA

PROJ. NO. 1392-083-00

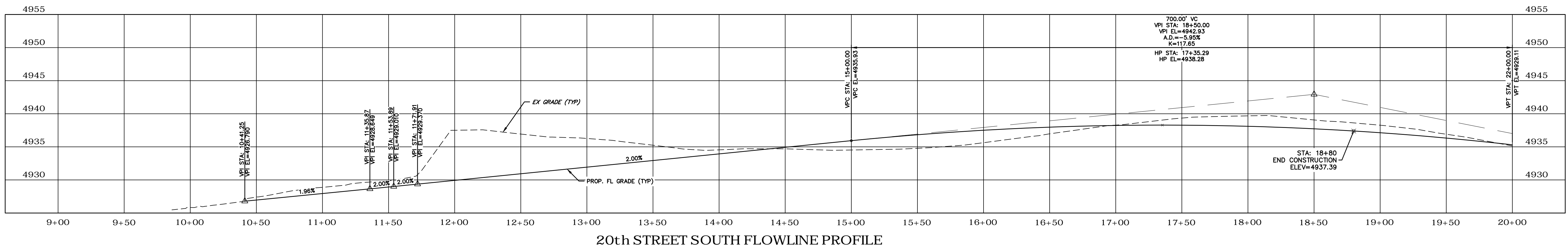
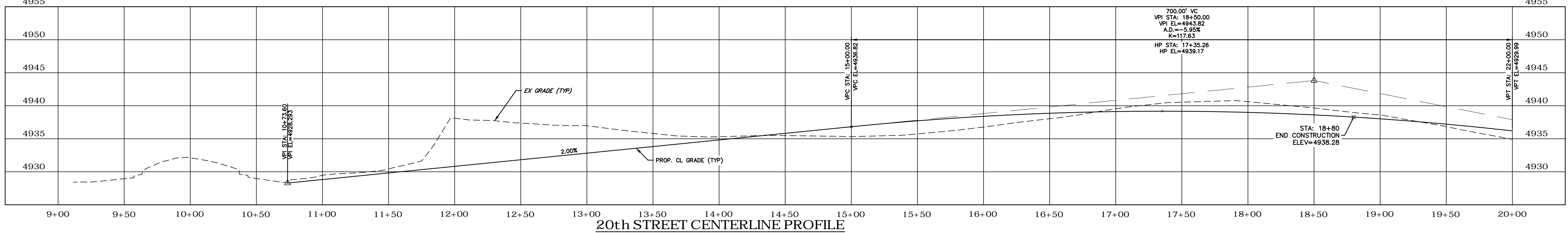
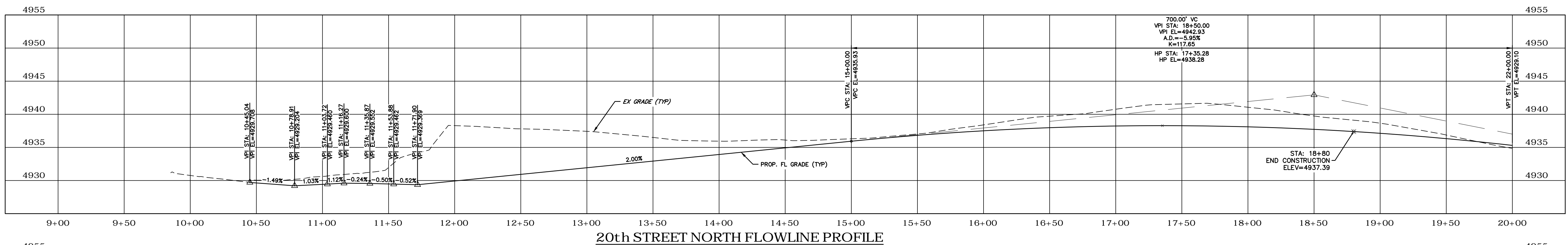
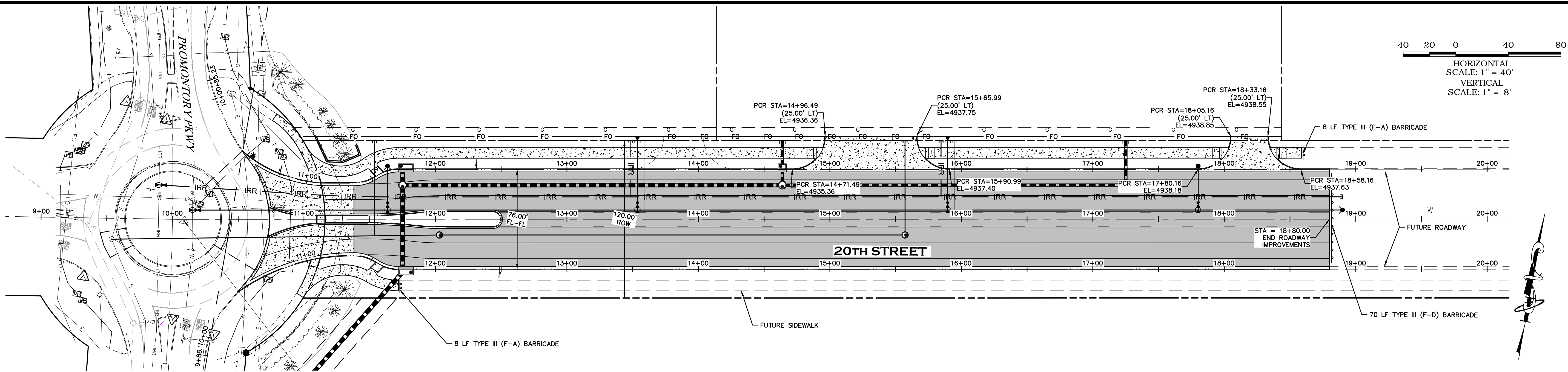


NOTES:
 1. LIMITS OF SAWCUT SHOWN ARE APPROXIMATE. FINAL LIMITS SHALL BE DETERMINED IN THE FIELD WITH THE CITY INSPECTOR AND SHALL BE TO THE NEAREST CONCRETE PAVEMENT JOINT.



CALL BEFORE YOU DIG
 CALL UTILITY NOTIFICATION
 CENTER OF COLORADO
 1-800-922-1987
 or 8-1-1
 CALL 2-BUSINESS DAYS IN ADVANCE
 BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE
 MARKING OF UNDERGROUND MEMBER UTILITIES.

X:\INTEREST\PROJECTS\2019\1906-00-00 (Greeley) 20th Street Roadway Extension\Drawings\1906-00-00-000000.dwg, 6/7/2019 2:08 PM



1916 W. Ash, Suite A
Windsor, Colorado 80550
Phone: (970) 674-3300
Fax: (970) 674-3303

INTEREST CONSULTING GROUP

PREPARED FOR
CITY OF GREELEY PUBLIC WORKS
ENGINEERING DIVISION
1001 9TH AVE
GREELEY CO 80631
PHONE: 970-350-9794

PROJECT NAME
20TH STREET ROADWAY EXTENSION
20TH STREET PLAN & PROFILE

DATE: 06/07/19

SCALE (H): 1" = 40'

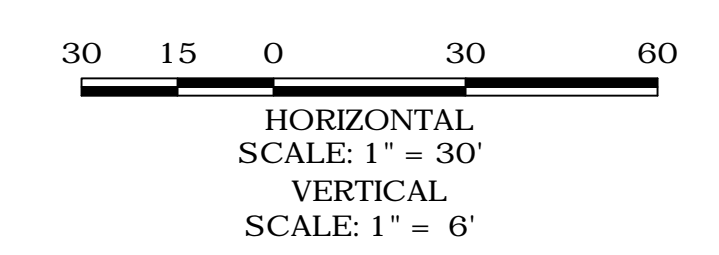
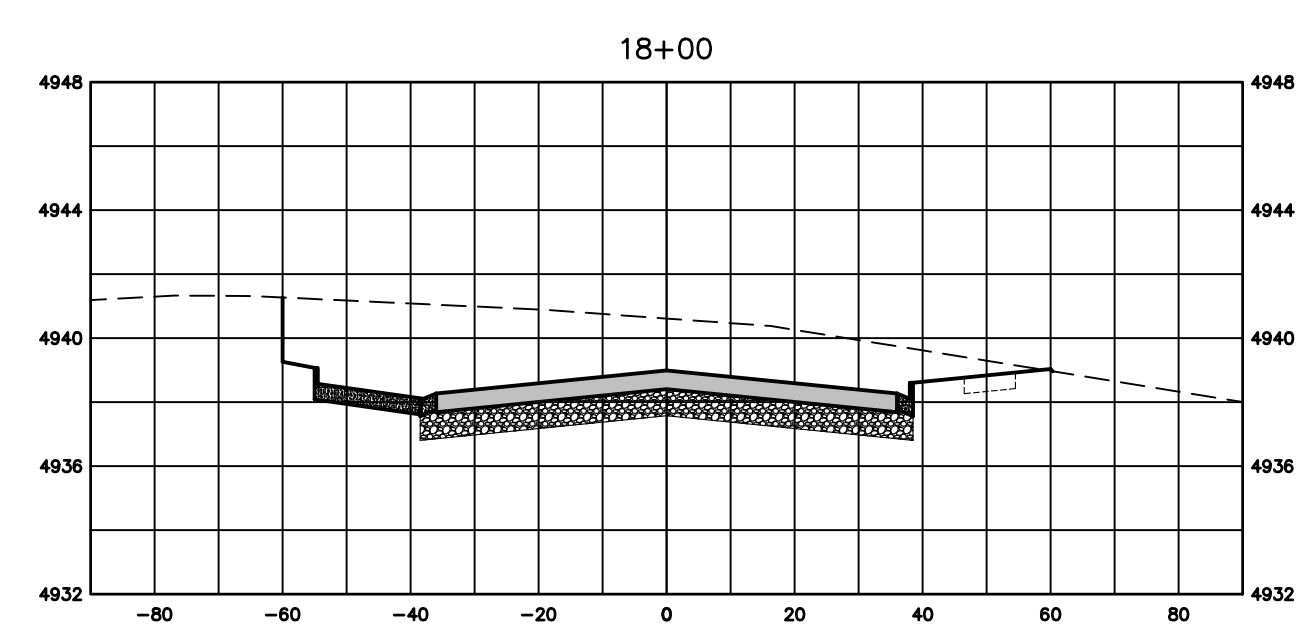
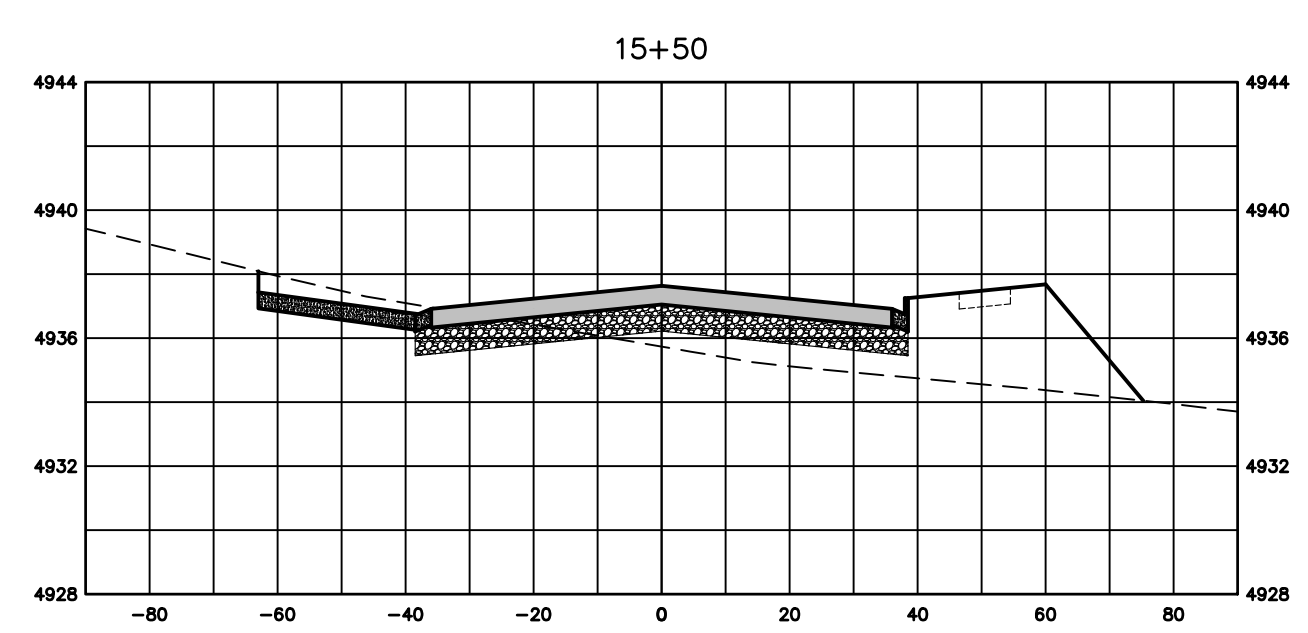
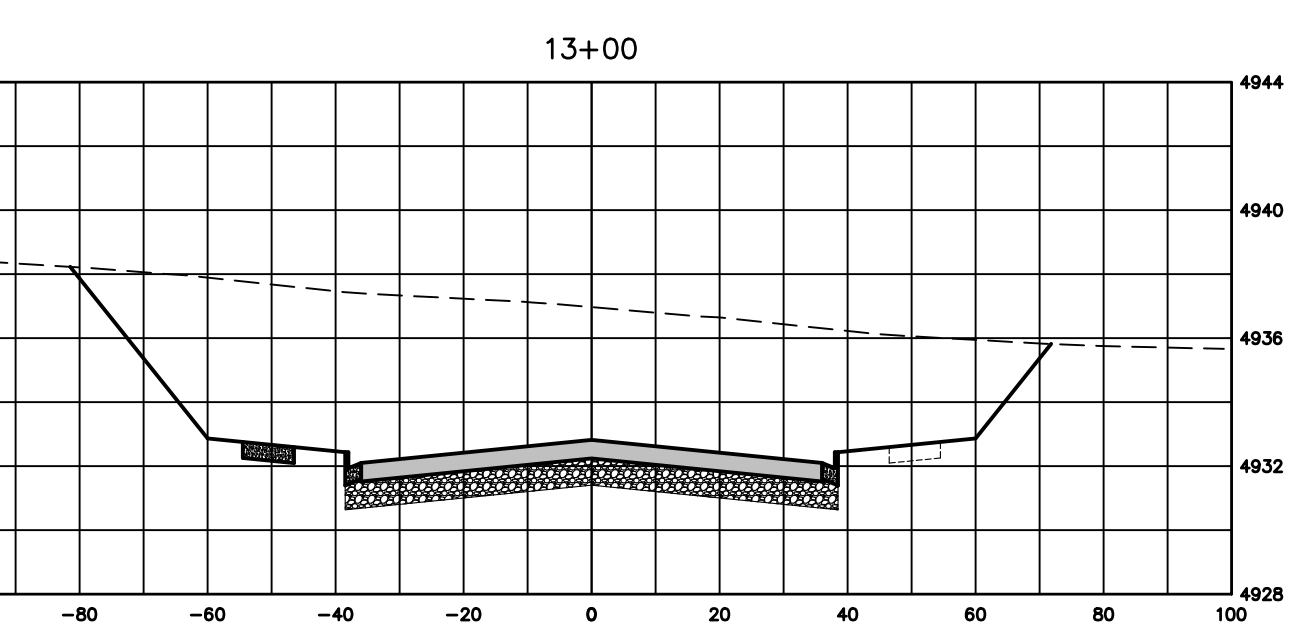
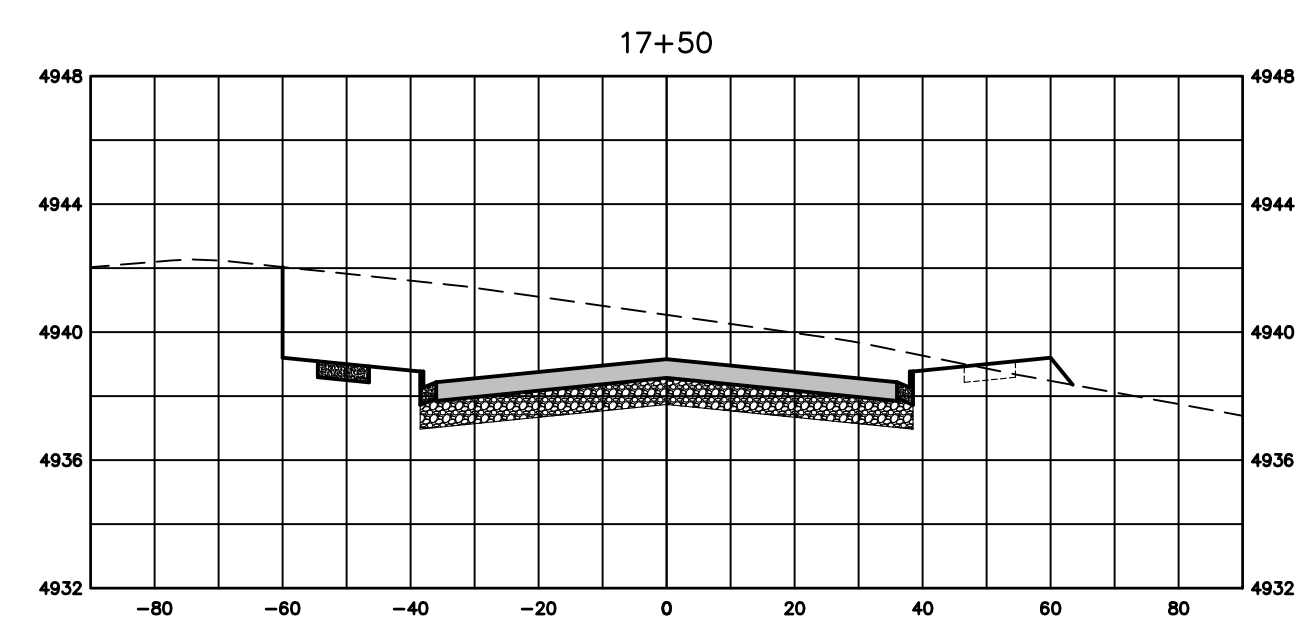
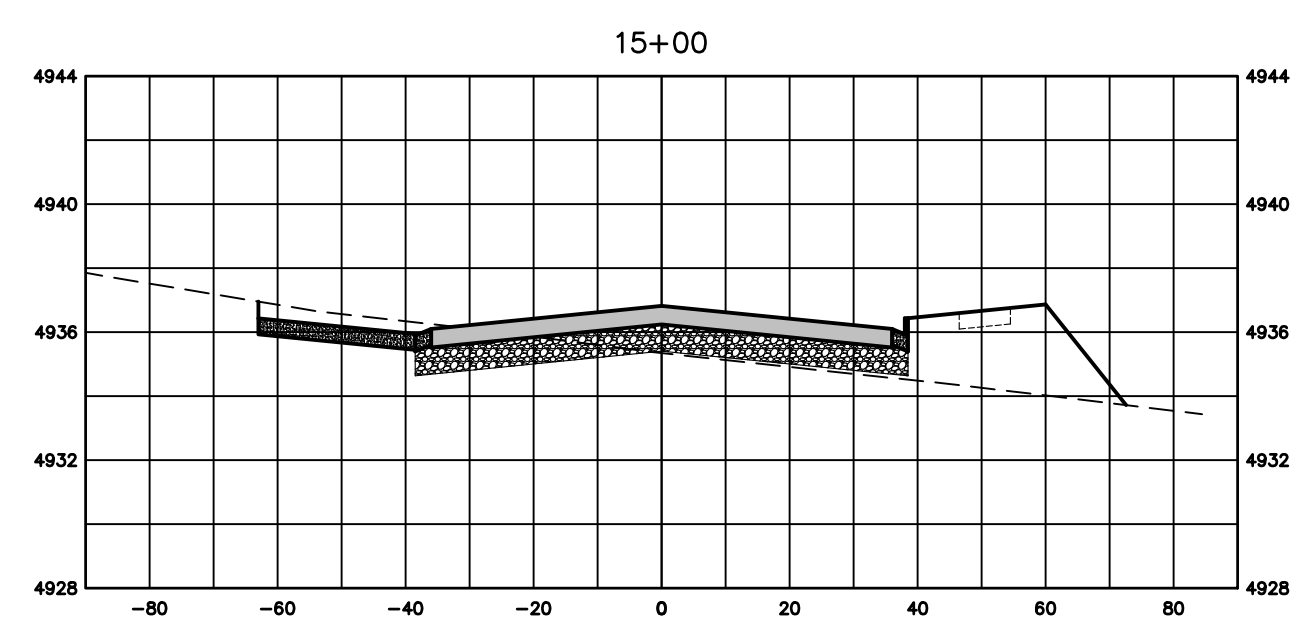
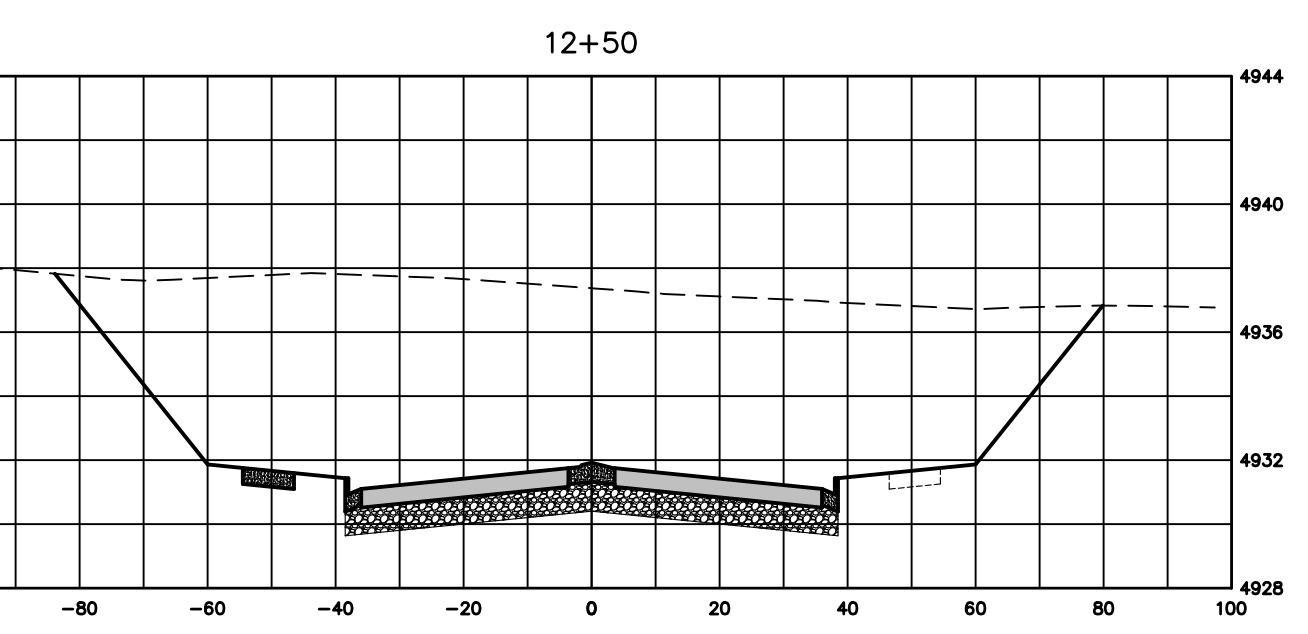
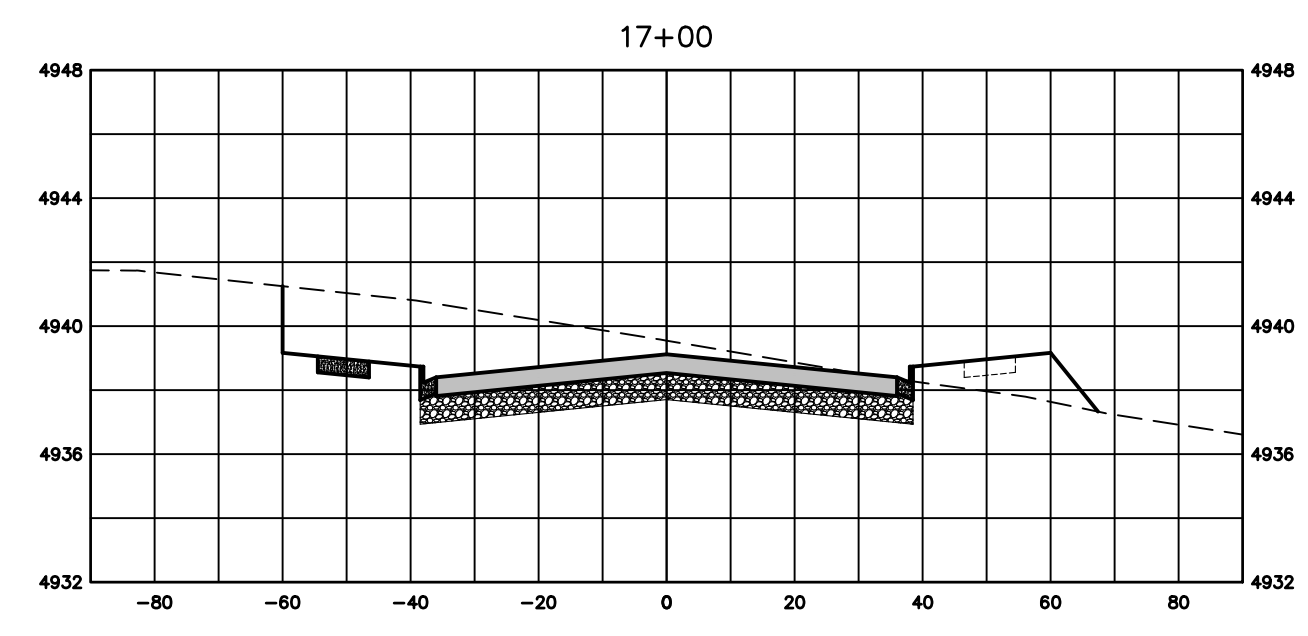
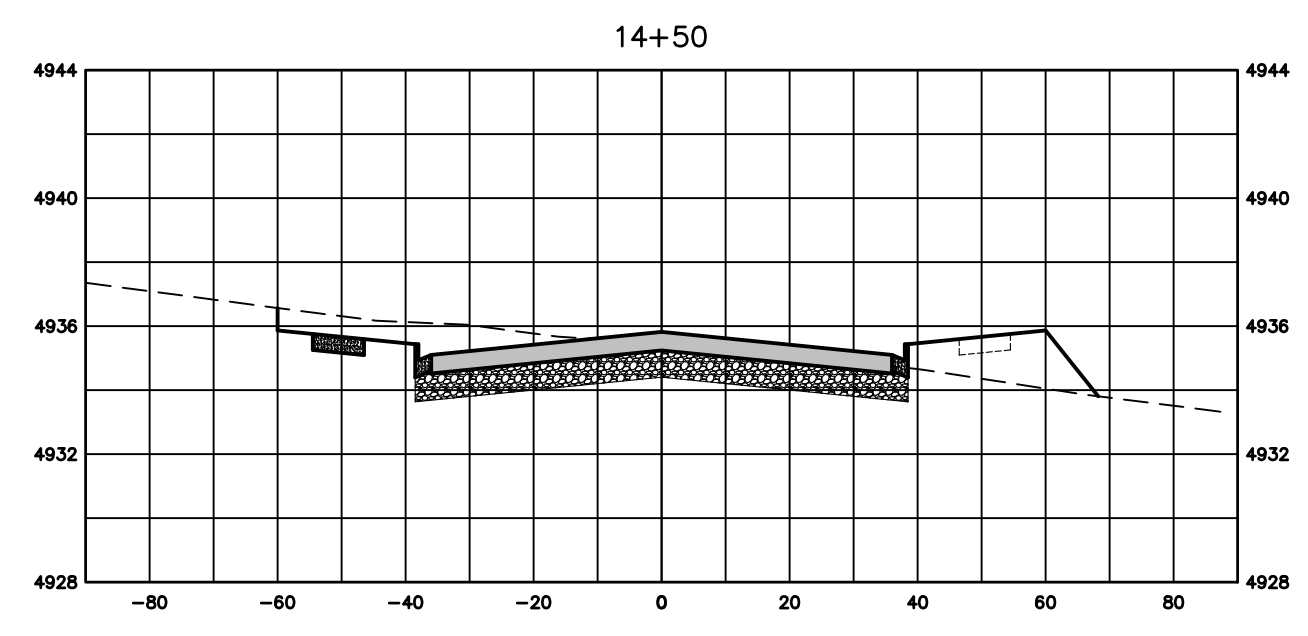
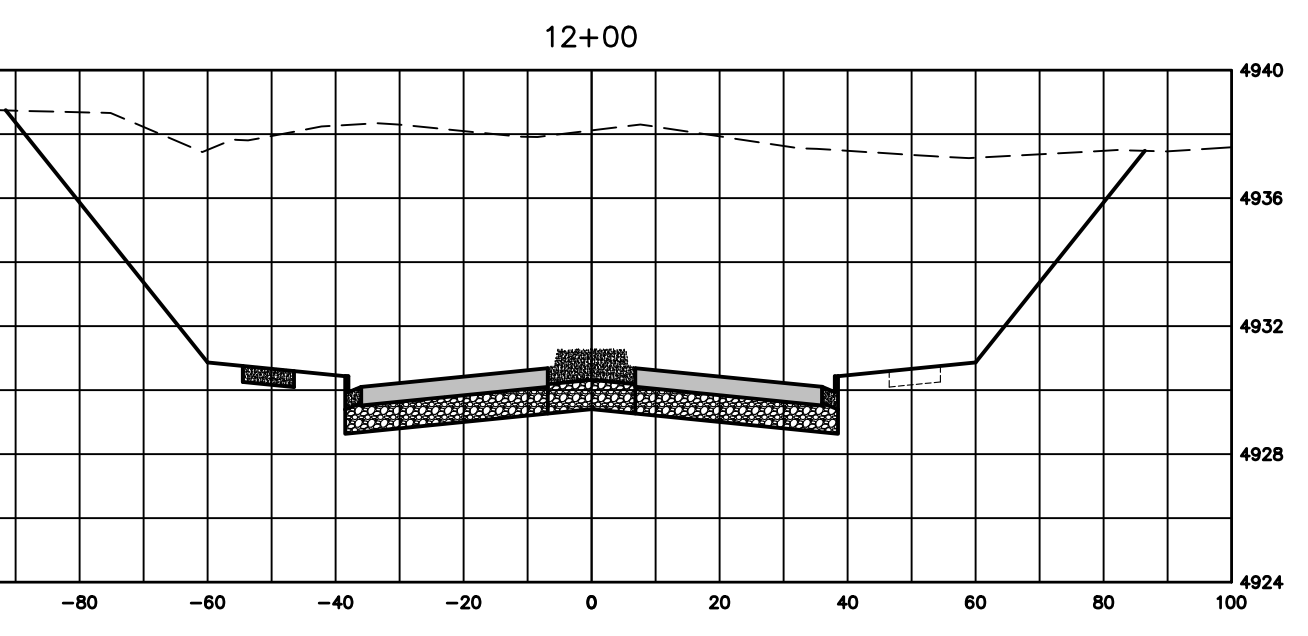
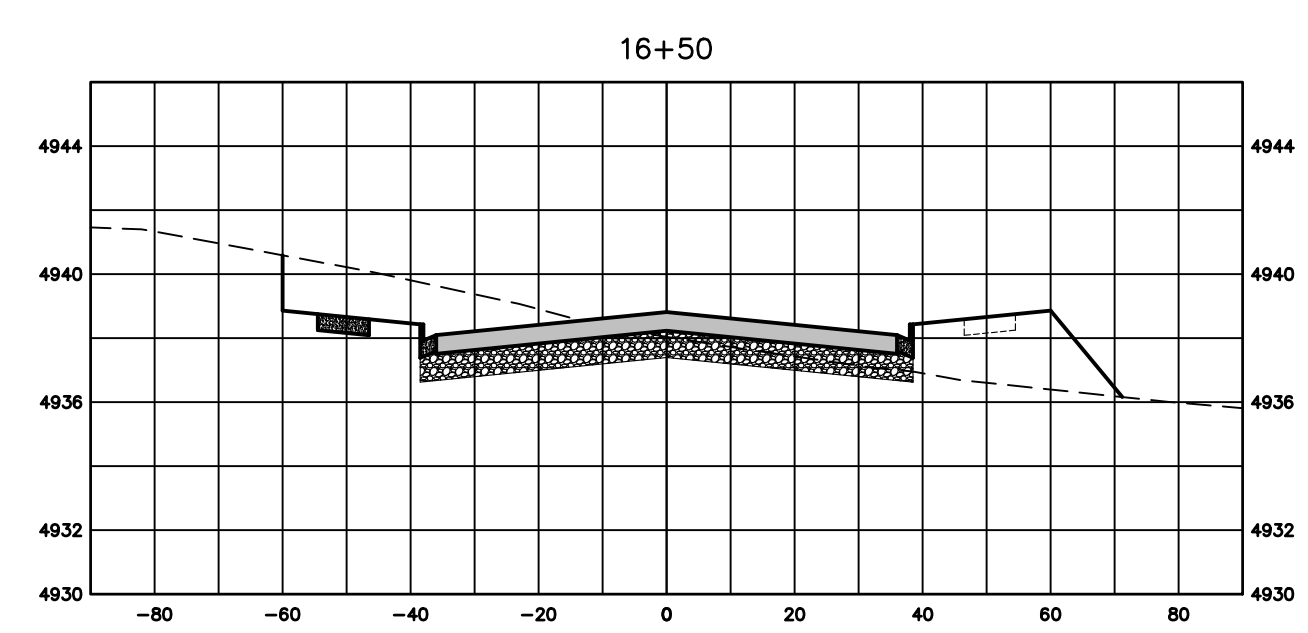
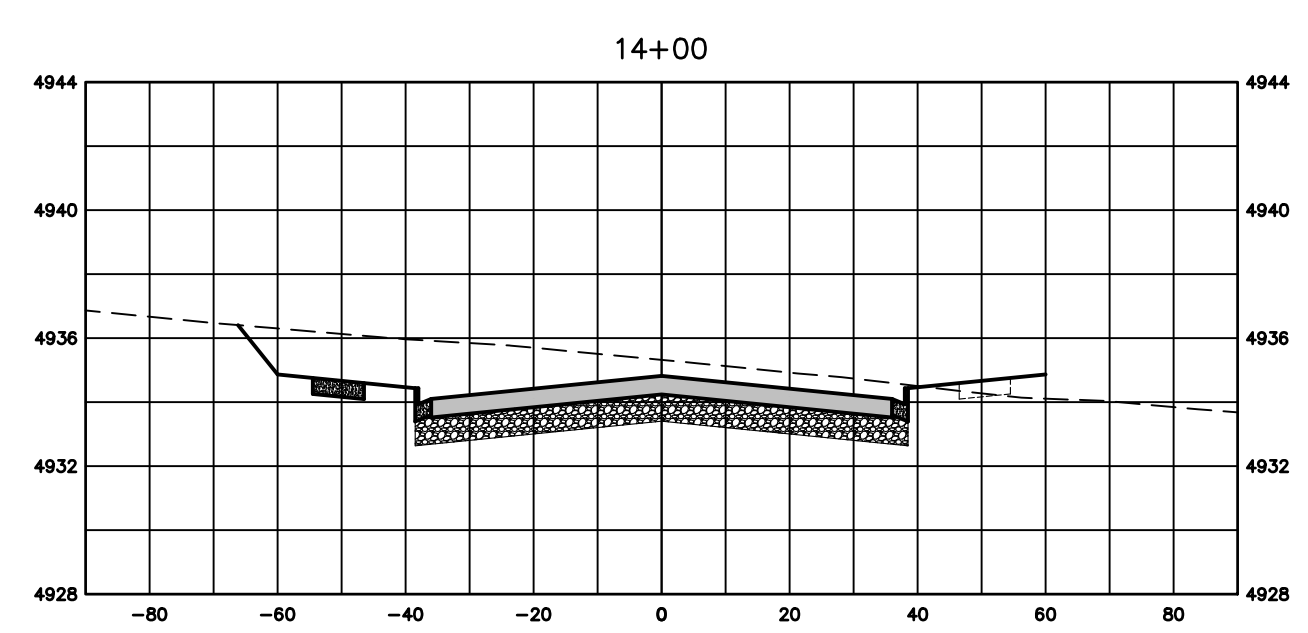
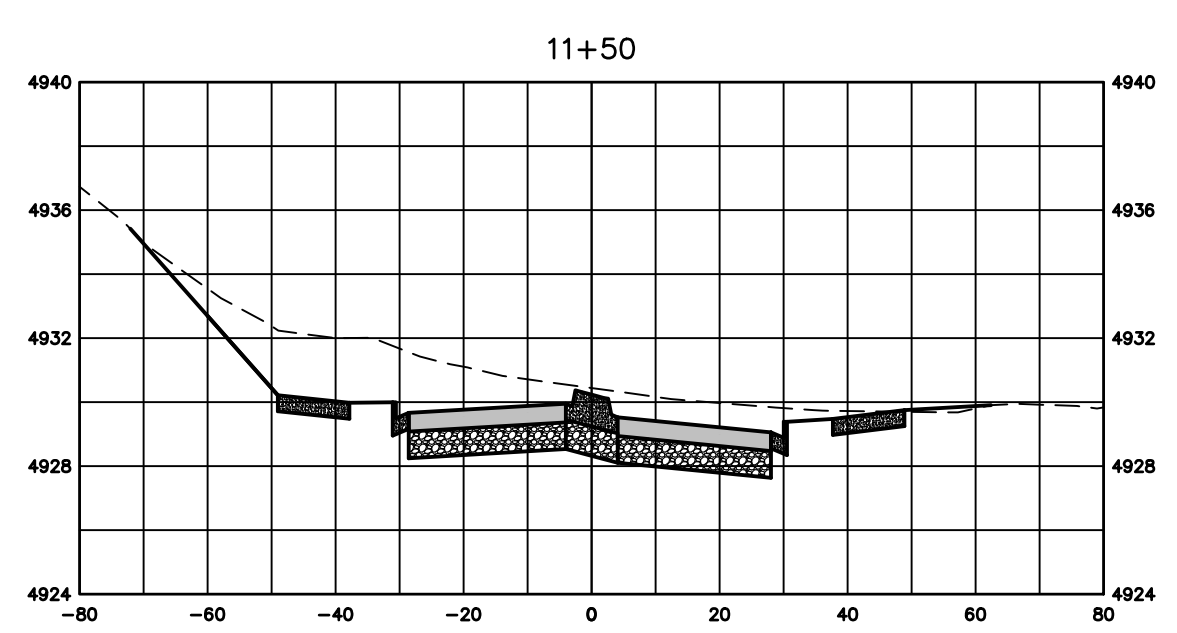
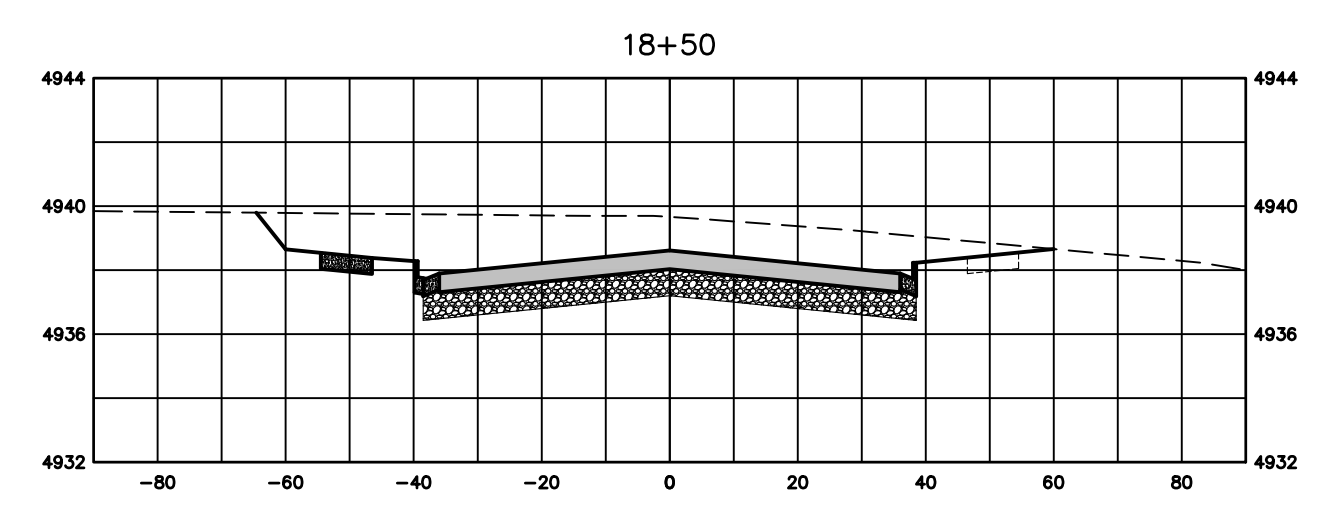
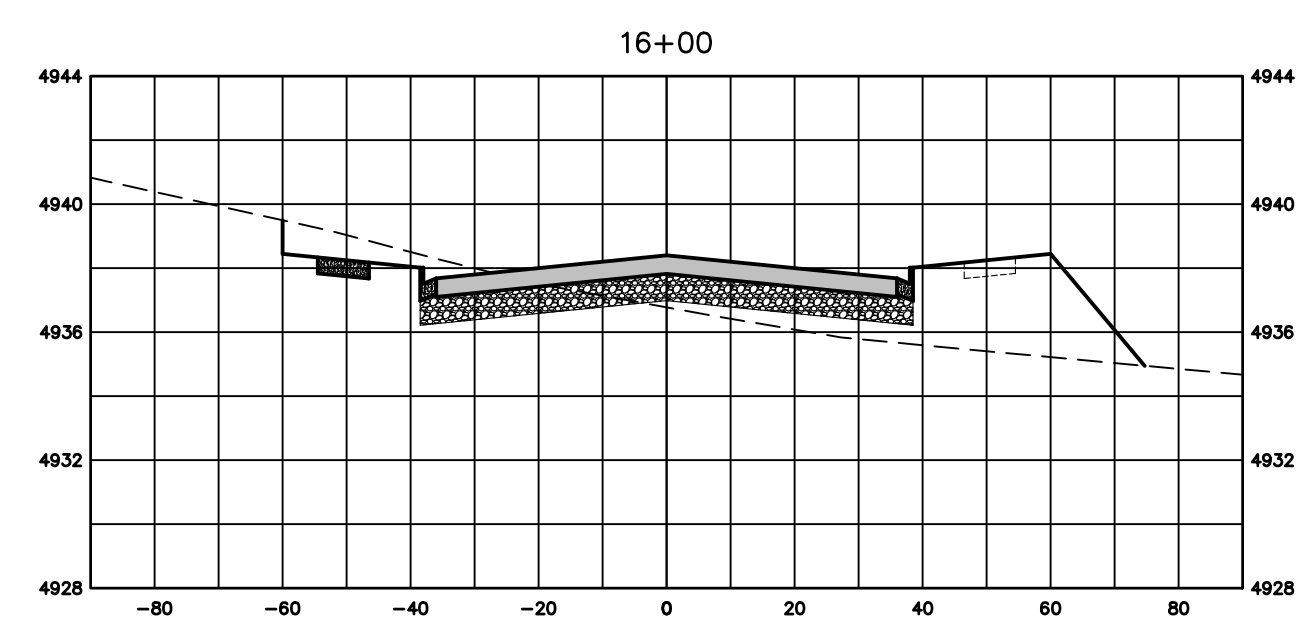
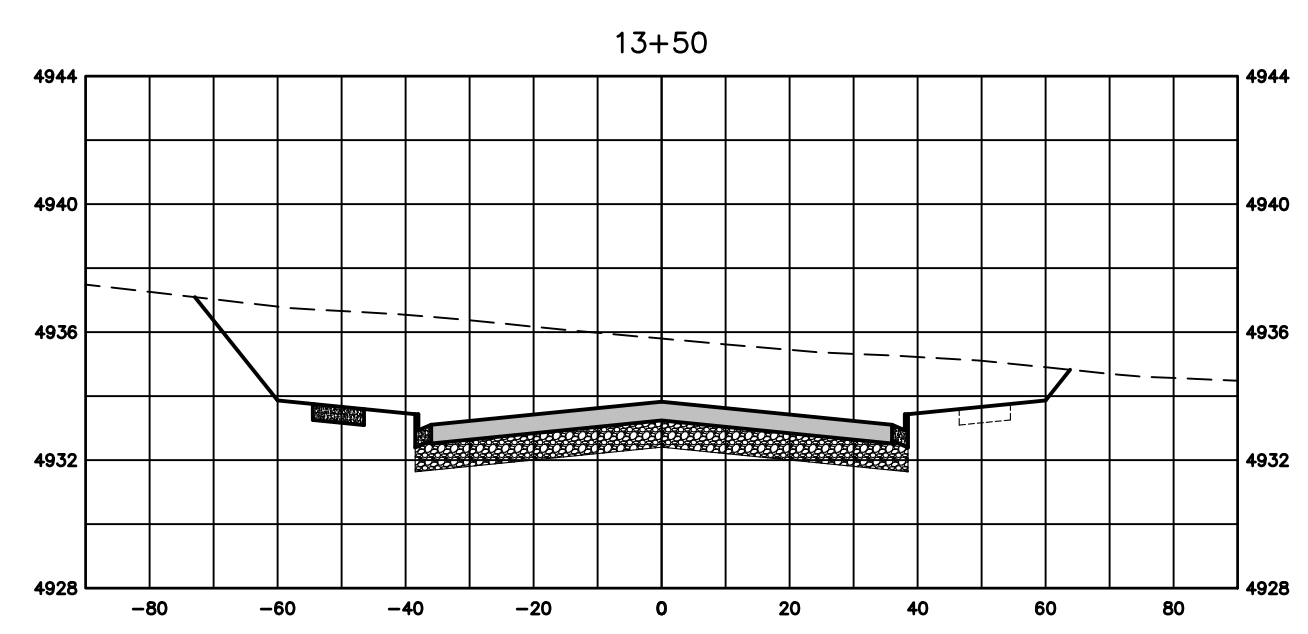
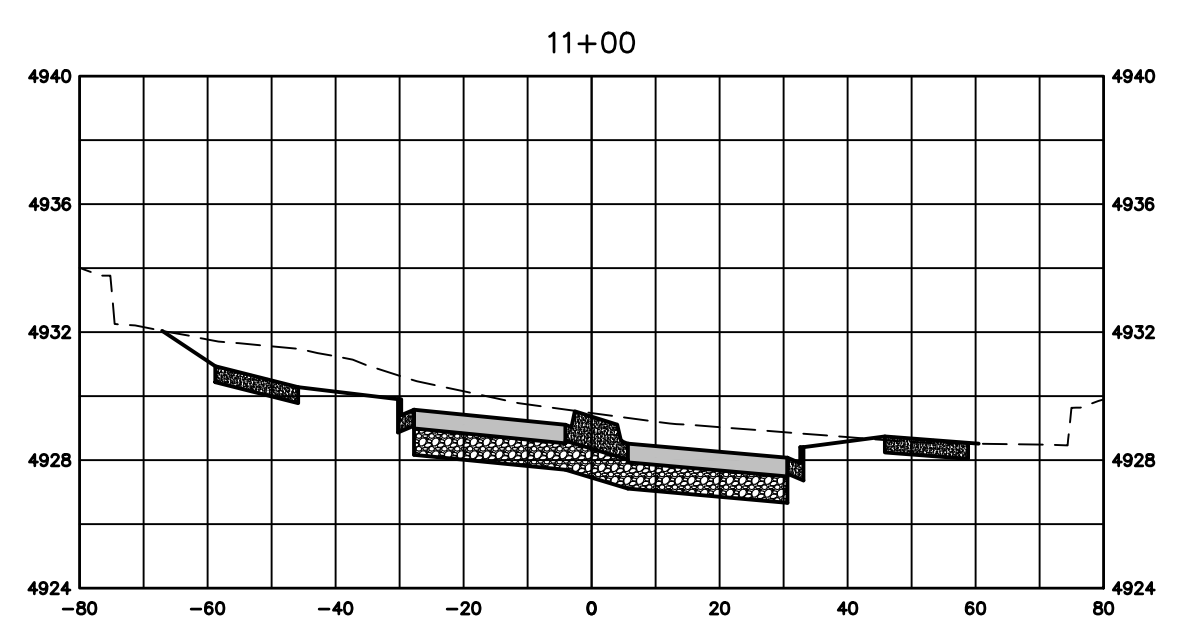
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DESIGNED BY: SB

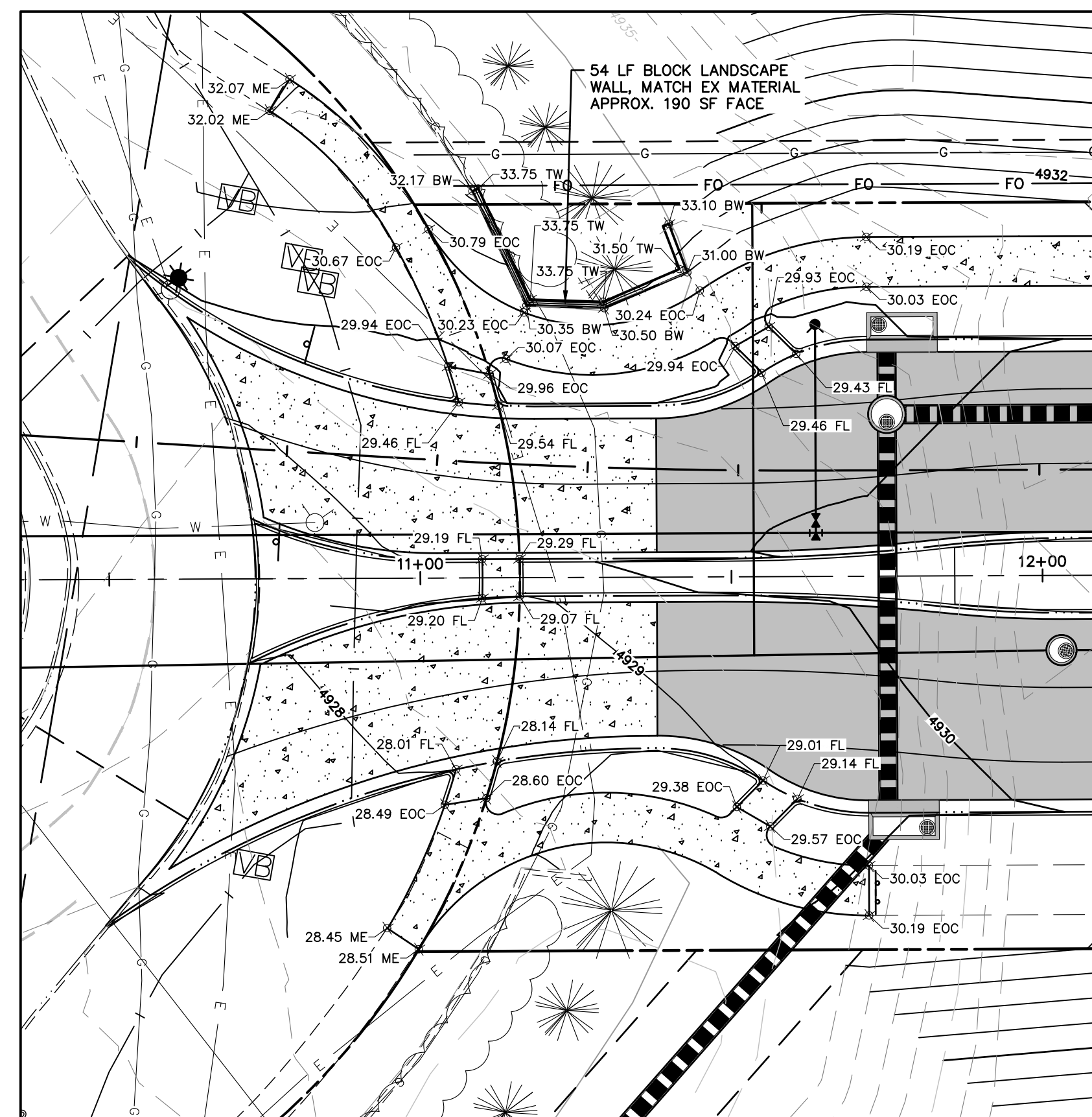
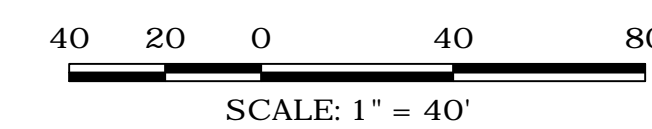
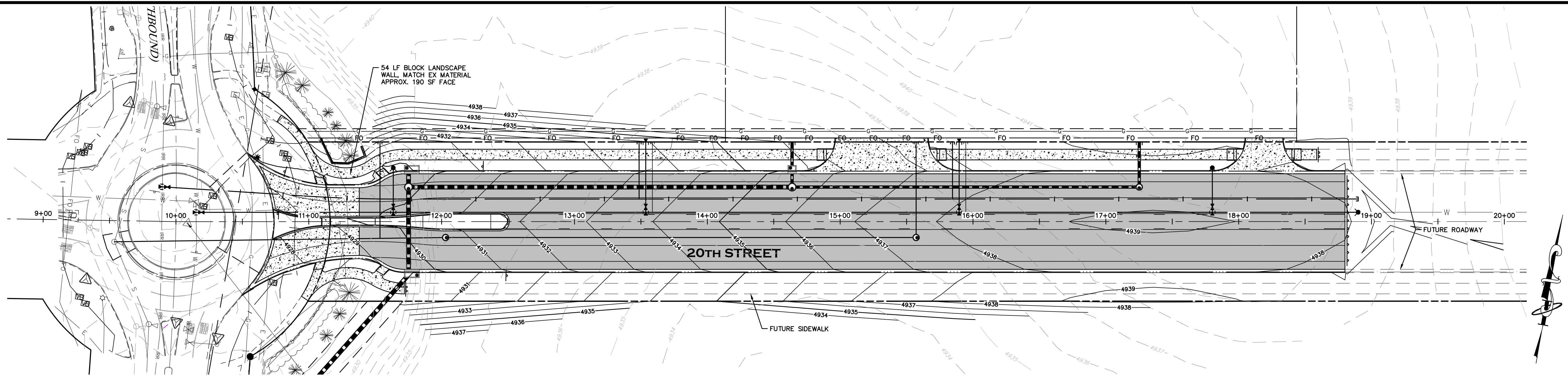
CHECKED BY: RA

PROJ. NO. 1392-083-00

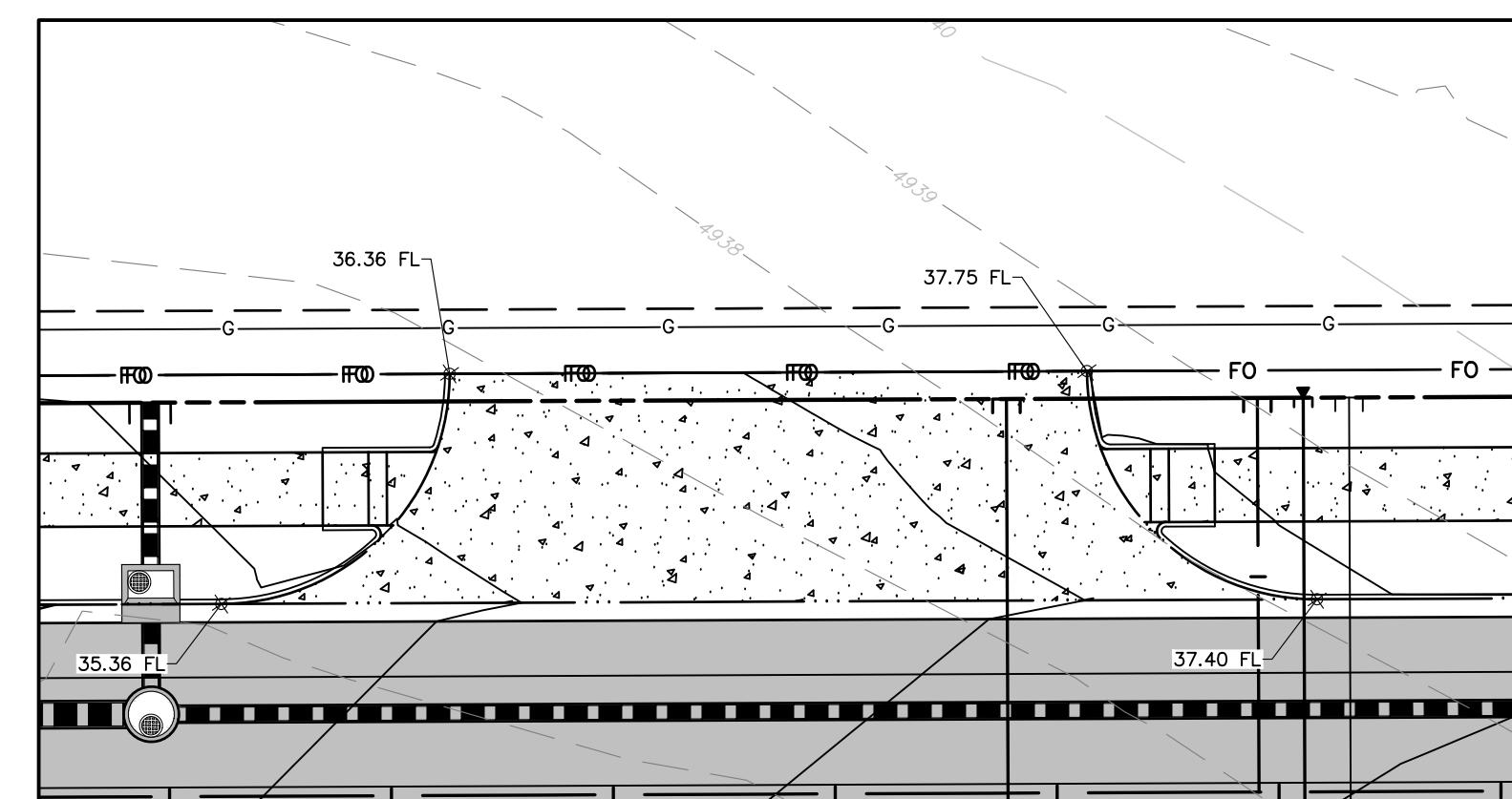
4 of 18



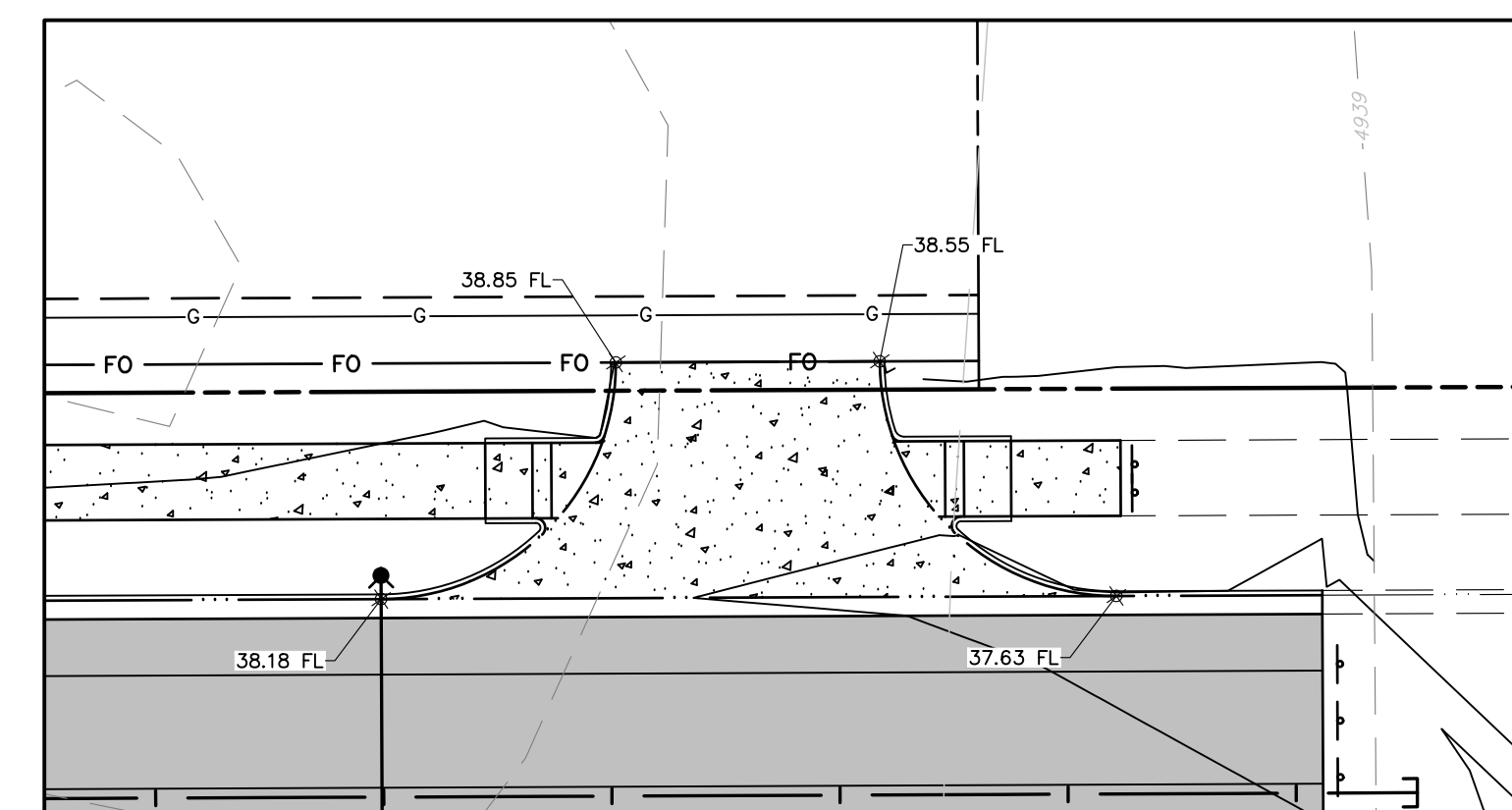
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ROUNDBOUT BLOW UP GRADING PLAN

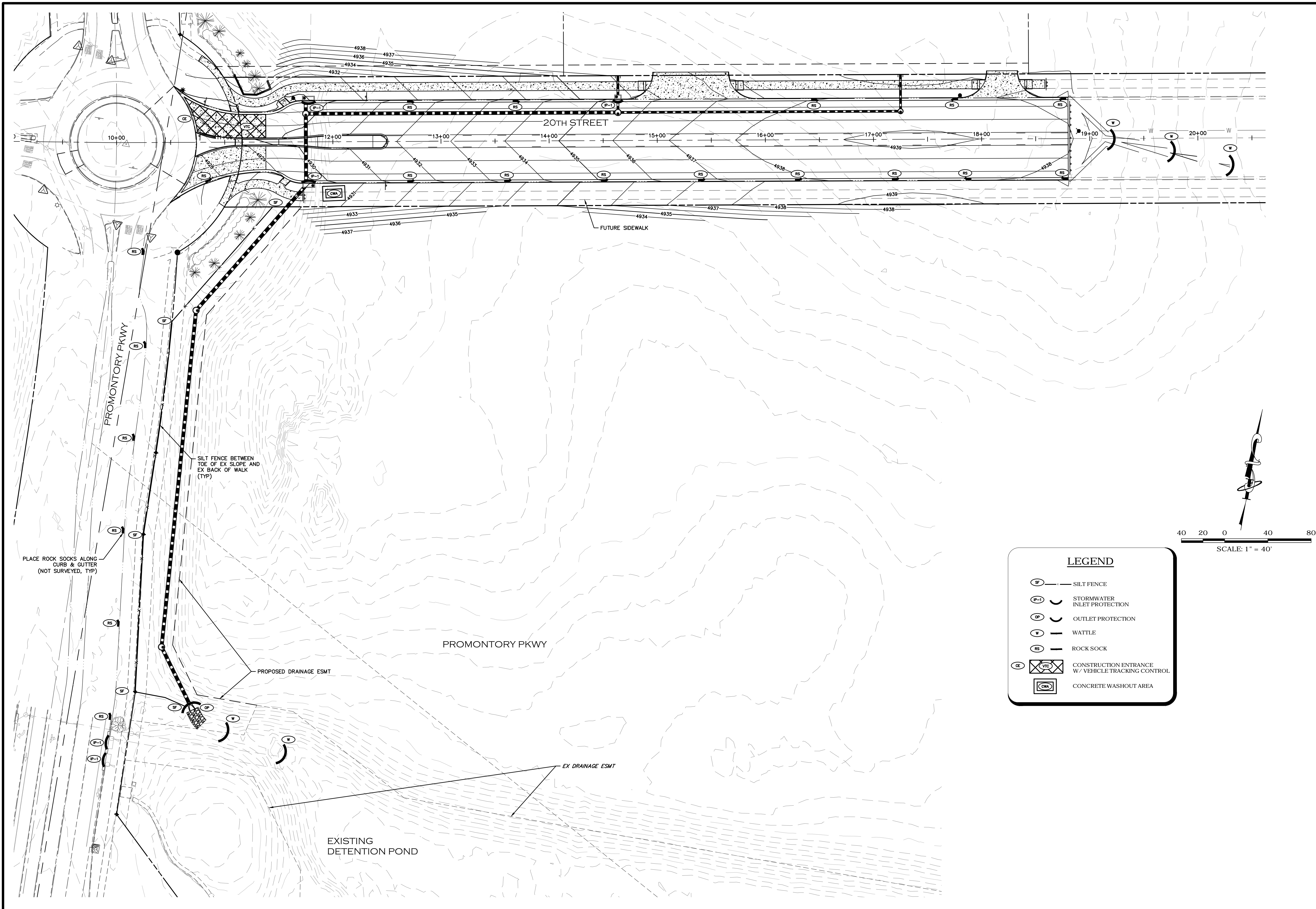


FS6 WEST DRIVEWAY ENTRANCE GRADING PLAN



FS6 EAST DRIVEWAY ENTRANCE GRADING PLAN

<p>1919 W. Ash, Suite A Windsor, Colorado 80550 Phone: (970) 674-3300 Fax: (970) 674-3303</p> <p style="text-align: center;">INTEREST CONSULTING GROUP</p>
<p>PREPARED FOR CITY OF GREELEY PUBLIC WORKS ENGINEERING DIVISION 1001 9TH AVE GREELEY CO 80631 PHONE: 970-350-9794</p>
<p>PROJECT NAME 20TH STREET ROADWAY EXTENSION GRADING PLAN</p>
<p>DATE: 06/07/19 SCALE (H): 1" = 40' SCALE (V): N/A DESIGNED BY: SB CHECKED BY: RA</p>
<p>PROJ. NO. 1392-083-00</p>



PLACE ROCK SOCKS ALONG CURB & GUTTER (NOT SURVEYED, TYP)

SILT FENCE BETWEEN TOE OF EX SLOPE AND EX BACK OF WALK (TYP)

PROPOSED DRAINAGE ESMT

EX DRAINAGE ESMT

EXISTING DETENTION POND

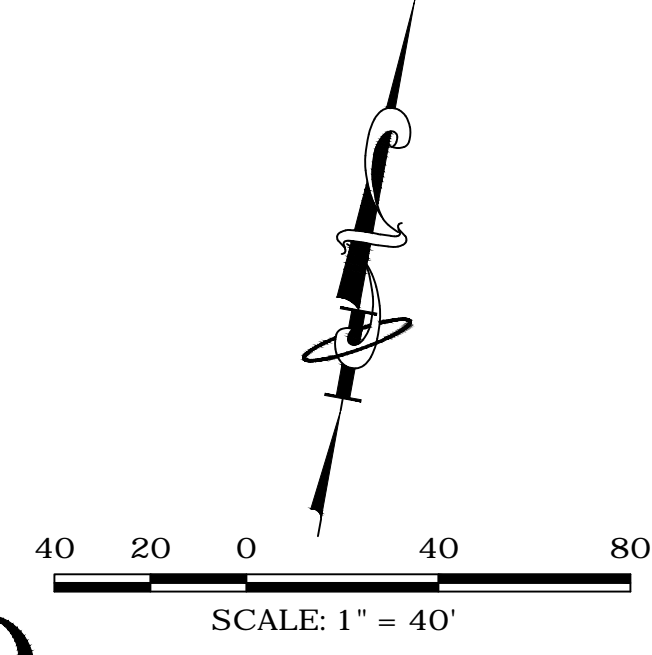
PROMONTORY PKWY

FUTURE SIDEWALK

20TH STREET

LEGEND

- SILT FENCE
- STORMWATER INLET PROTECTION
- OUTLET PROTECTION
- WATTLE
- ROCK SOCK
- CONSTRUCTION ENTRANCE W/ VEHICLE TRACKING CONTROL
- CONCRETE WASHOUT AREA



1015 W. Ash, Suite A
Windsor, Colorado 80550
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ENGINEERING DIVISION
1001 9TH AVE
GREELEY CO 80631
PHONE: 970-350-9794

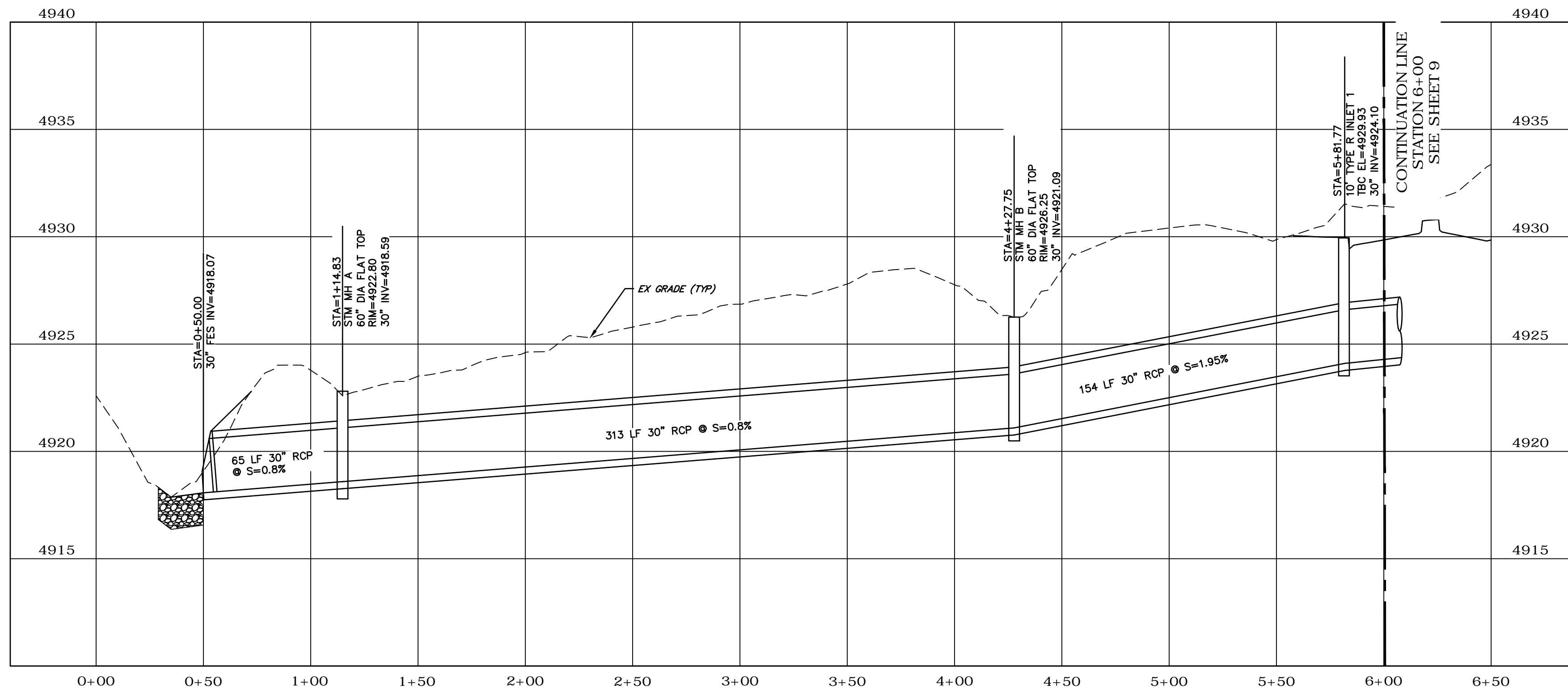
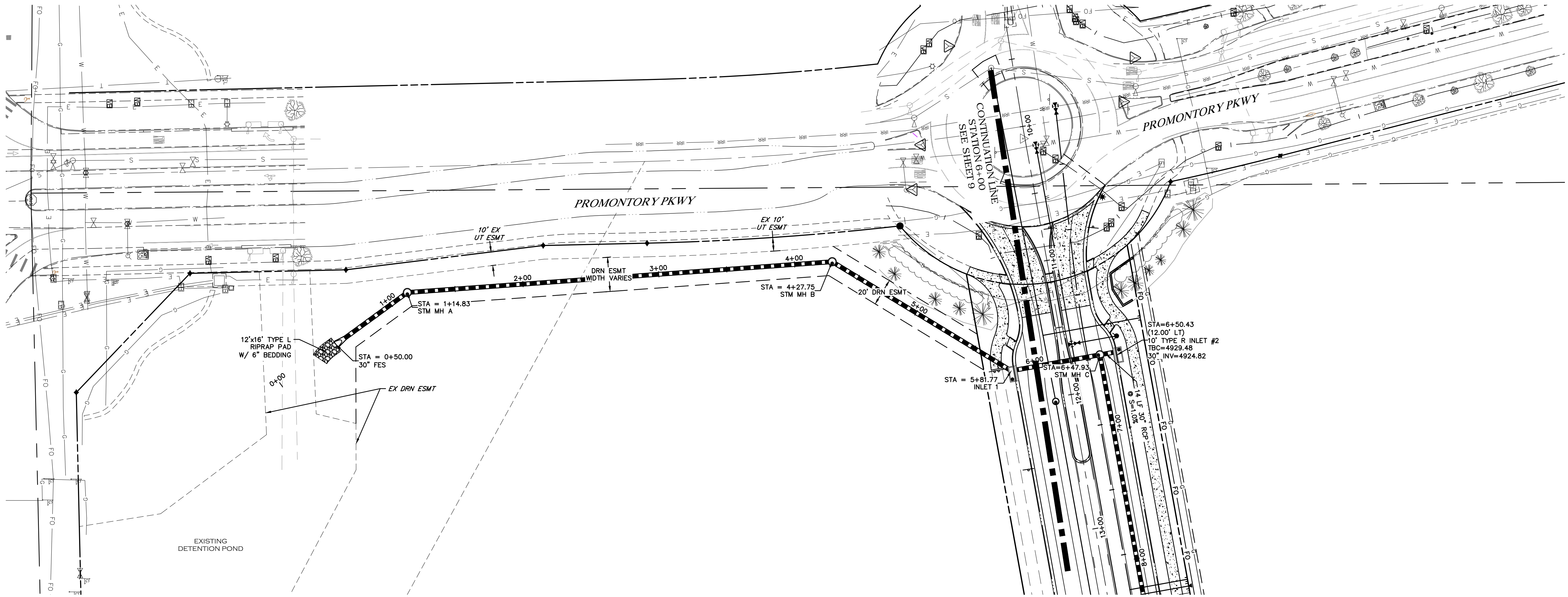
PROJECT NAME
20TH STREET ROADWAY EXTENSION

EROSION CONTROL PLAN

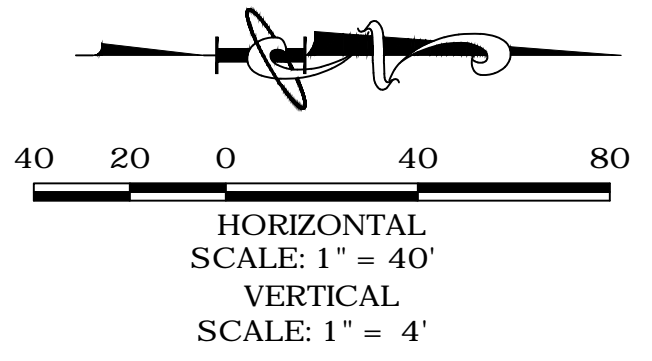
DATE: 06/07/19	SCALE (H): 1" = 40'	SCALE (V): N/A	DESIGNED BY: SB
			CHECKED BY: RA

PROJ. NO. 1392-083-00

7 of 18



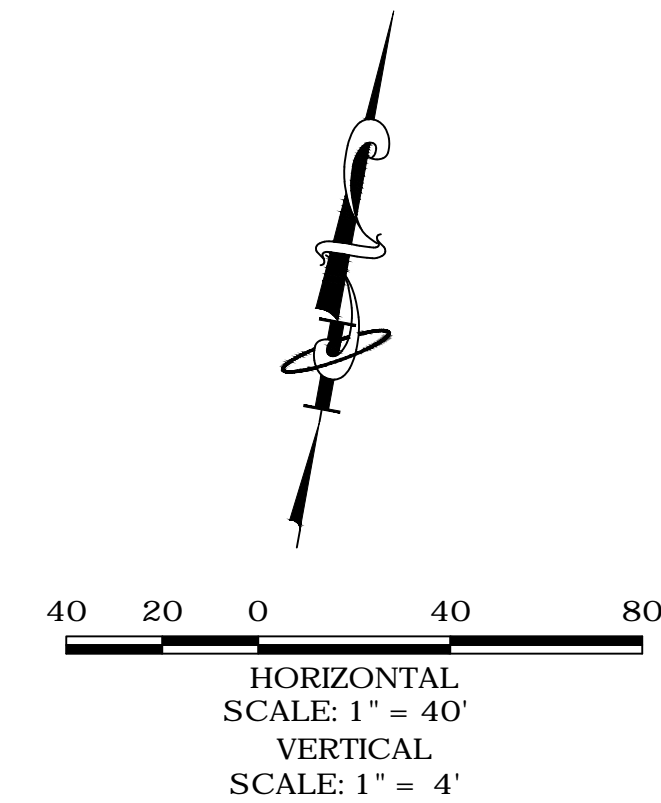
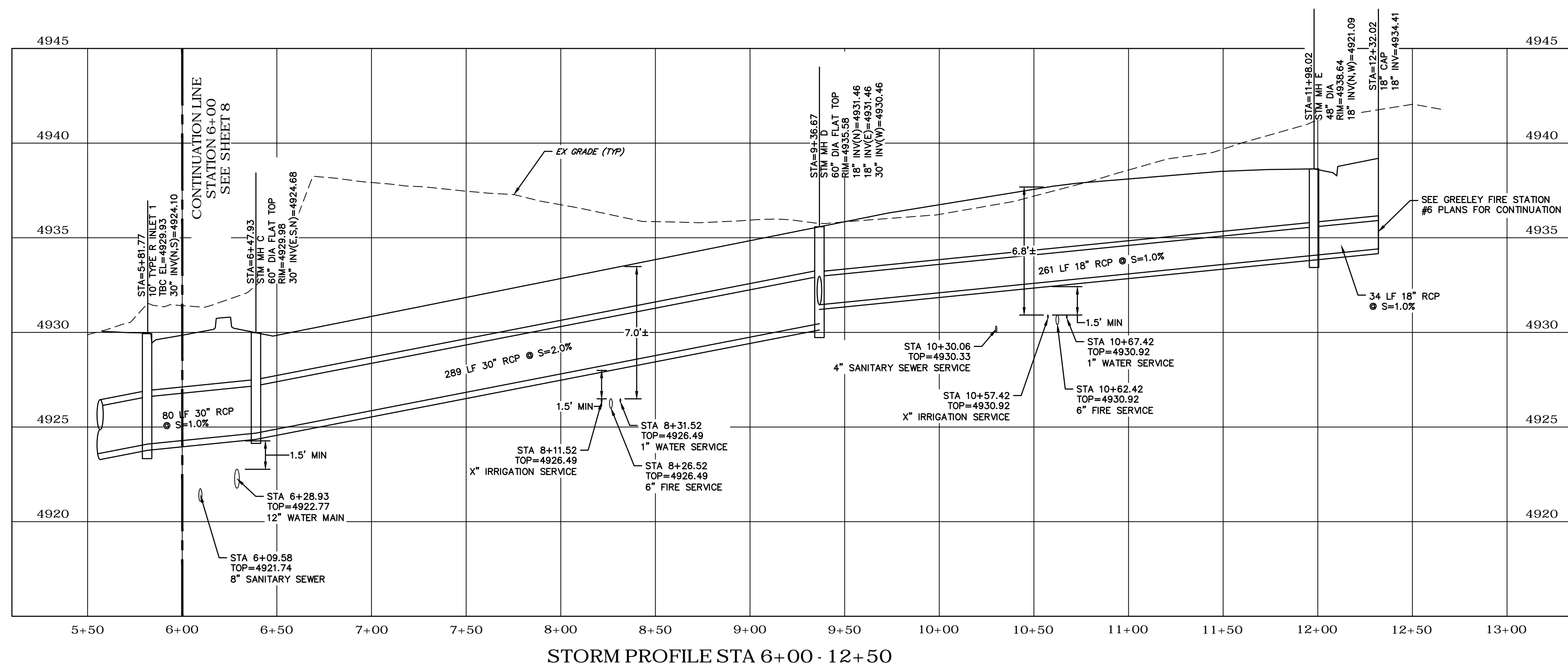
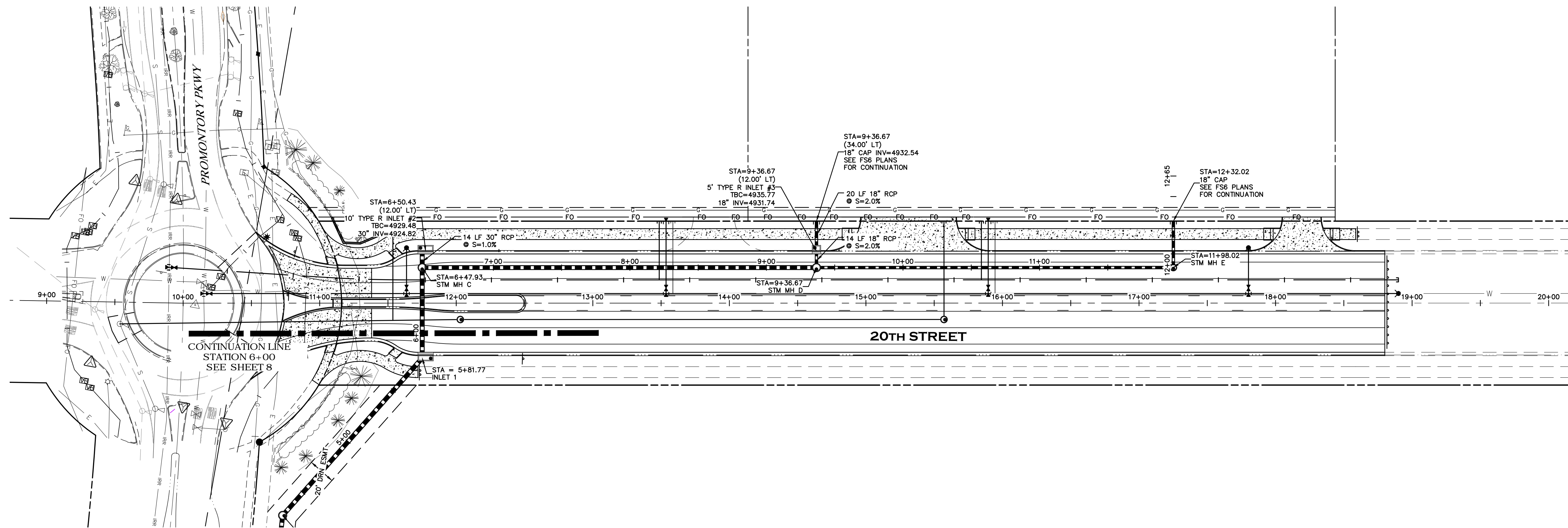
STORM LINE PROFILE STA 0+00 TO 6+00



- NOTES:**
1. ALL STORM CONSTRUCTION SHALL BE PER CITY OF GREELEY STANDARDS AND SPECIFICATIONS.
 2. ALL STORM PIPE TO BE CLASS III RCP WITH WATER TIGHT JOINTS.
 3. LENGTH OF PIPE IS MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE UNLESS OTHERWISE NOTED.
 4. LENGTH OF PIPE INCLUDES FLARED END SECTION (FES).

CALL BEFORE YOU DIG
 CALL UTILITY NOTIFICATION
 CENTER OF COLORADO
 1-800-922-1987
 or 8-1-1
CALL 2 BUSINESS DAYS IN ADVANCE
 BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE
 MARKING OF UNDERGROUND MEMBER UTILITIES.

X:\PROJECTS\2019\1392-083\1392-083-00\1392-083-00-00-00.dwg, 6/7/2019 2:27 PM



NOTES:

1. ALL STORM CONSTRUCTION SHALL BE PER CITY OF GREELEY STANDARDS AND SPECIFICATIONS.
2. ALL STORM PIPE TO BE CLASS III RCP WITH WATER TIGHT JOINTS.
3. LENGTH OF PIPE IS MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE UNLESS OTHERWISE NOTED.
4. LENGTH OF PIPE INCLUDES FLARED END SECTION (FES).

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 CENTER OF COLORADO
 1-800-922-1987
 or 8-1-1
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 Windsor, Colorado 80550
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INTERWEST
 CONSULTING GROUP

PREPARED FOR
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 ENGINEERING DIVISION
 1001 9TH AVE
 GREELEY CO 80631
 PHONE: 970-350-9794

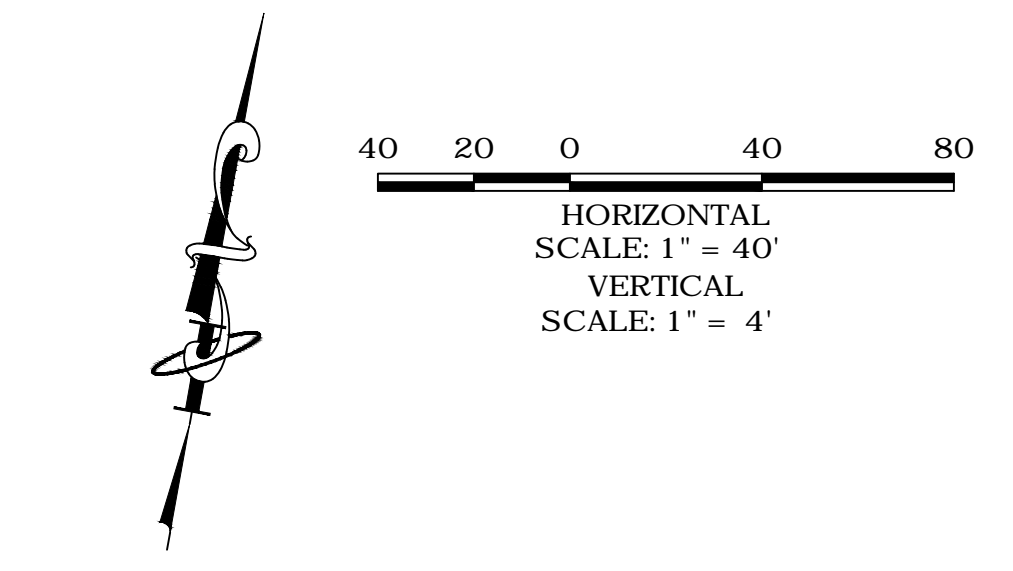
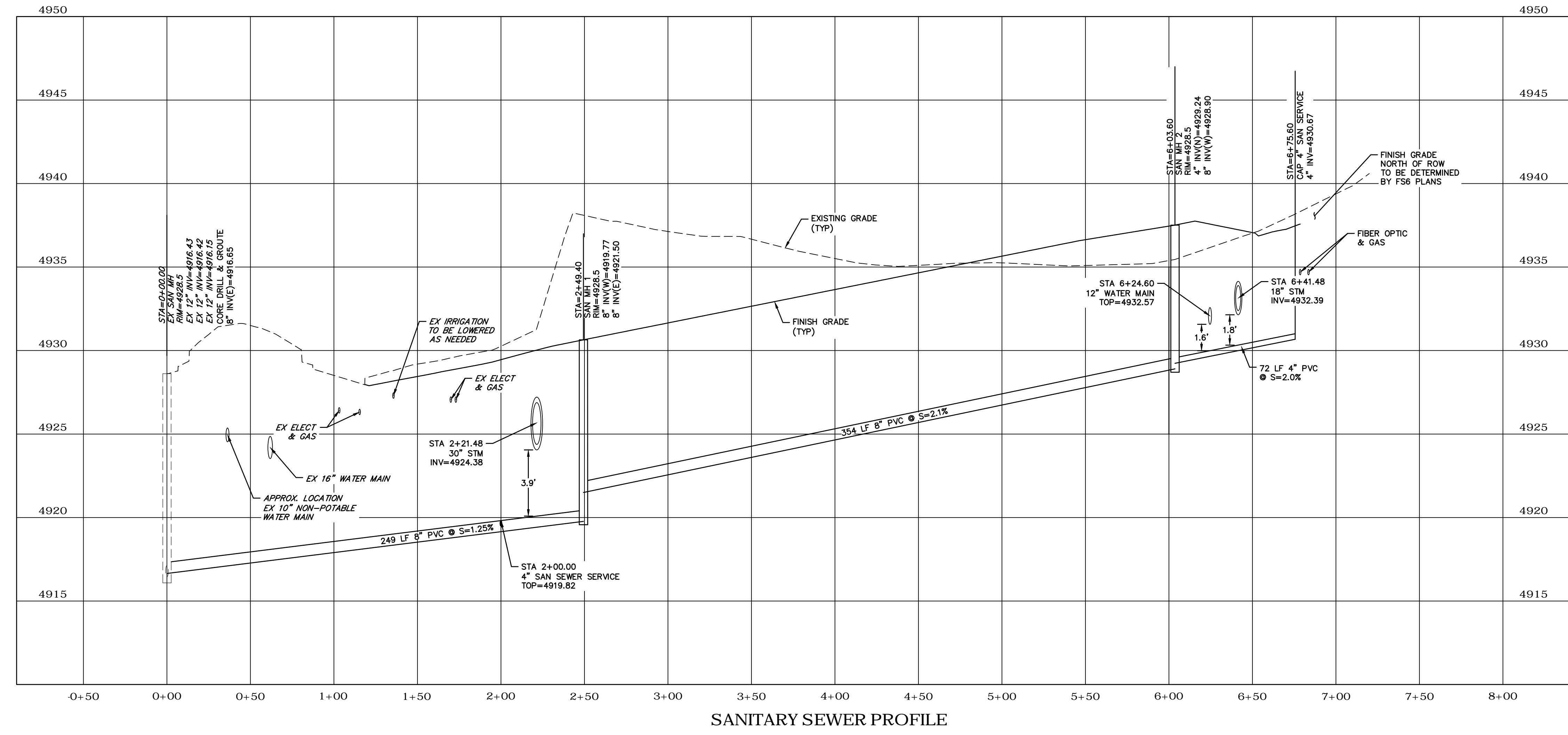
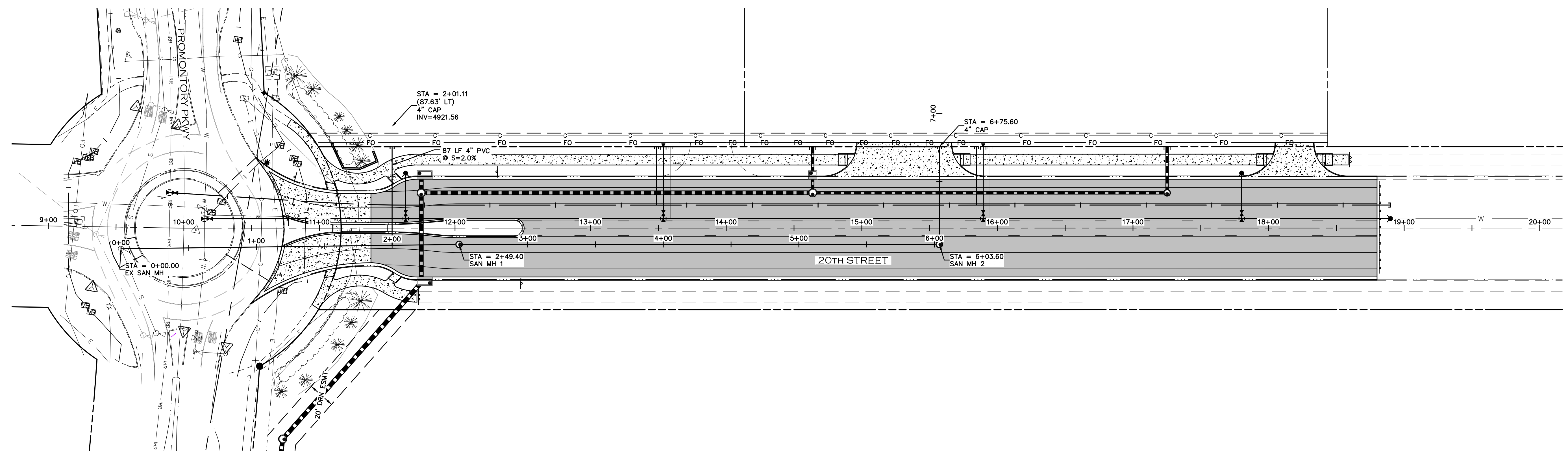
PROJECT NAME
20TH STREET ROADWAY EXTENSION

STORM PLAN & PROFILE

DATE: 06/07/19
 SCALE (H): 1" = 40'
 SCALE (V): 1" = 4'
 DESIGNED BY: SB
 CHECKED BY: RA

PROJ. NO. 1392-083-00

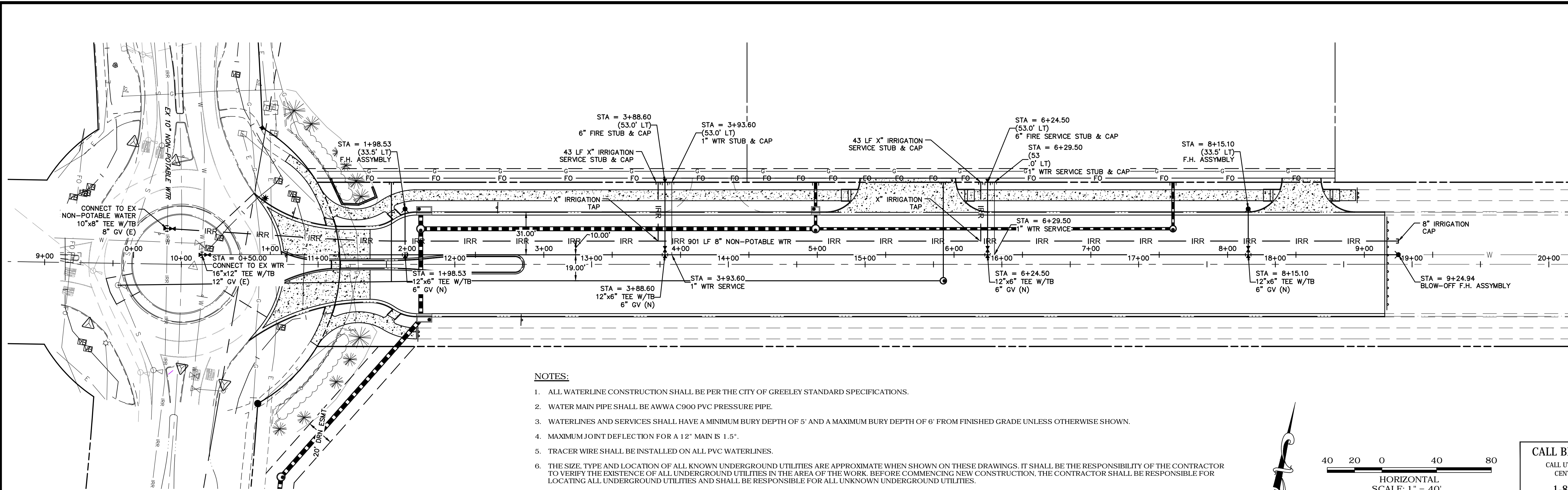
9 of 18



- NOTES:**
1. ALL SANITARY SEWER CONSTRUCTION SHALL BE PER THE CITY OF GREELEY STANDARD SPECIFICATIONS.
 2. SANITARY SEWER PIPE SHALL BE SDR 35 PVC.
 3. LENGTH OF PIPE IS MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
 4. CONTRACTOR TO VERIFY LOCATION AND ELEVATIONS OF EXISTING UTILITIES.

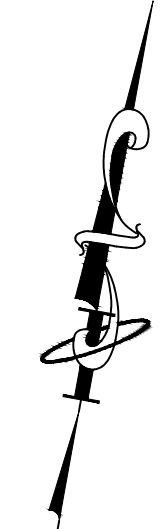
CALL BEFORE YOU DIG
 CALL UTILITY NOTIFICATION
 CENTER OF COLORADO
 1-800-922-1987
 or 8-1-1
CALL 2-BUSINESS DAYS IN ADVANCE
 BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE
 MARKING OF UNDERGROUND MEMBER UTILITIES.

X:\INTEREST\PROJECTS\1392-083-00 (GREELEY THE STANDBY PROJECT)\DWG\1392-083-00-SSA.PWG, 6/7/2019 2:28 PM



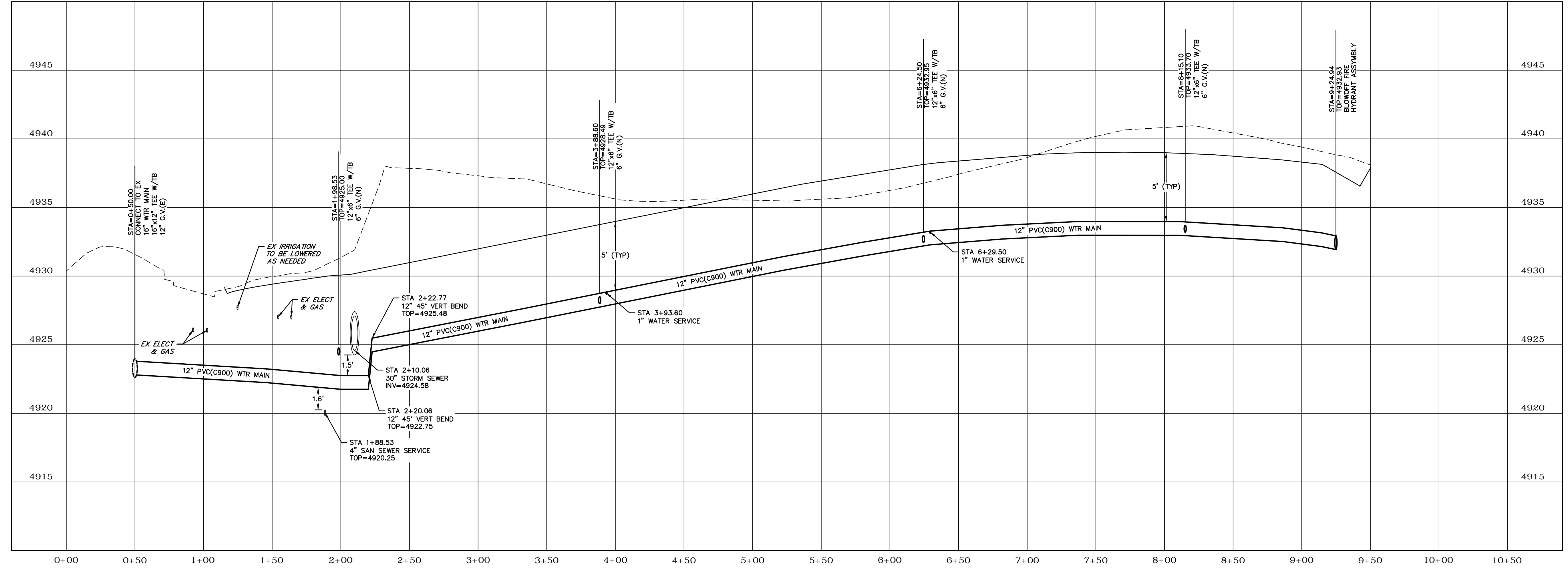
NOTES:

1. ALL WATERLINE CONSTRUCTION SHALL BE PER THE CITY OF GREELEY STANDARD SPECIFICATIONS.
2. WATER MAIN PIPE SHALL BE AWWA C900 PVC PRESSURE PIPE.
3. WATERLINES AND SERVICES SHALL HAVE A MINIMUM BURY DEPTH OF 5' AND A MAXIMUM BURY DEPTH OF 6' FROM FINISHED GRADE UNLESS OTHERWISE SHOWN.
4. MAXIMUM JOINT DEFLECTION FOR A 12" MAIN IS 1.5".
5. TRACER WIRE SHALL BE INSTALLED ON ALL PVC WATERLINES.
6. THE SIZE, TYPE AND LOCATION OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE WHEN SHOWN ON THESE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE OF ALL UNDERGROUND UTILITIES IN THE AREA OF THE WORK. BEFORE COMMENCING NEW CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL BE RESPONSIBLE FOR ALL UNKNOWN UNDERGROUND UTILITIES.
7. ALL WATER SERVICE AND FIRE SERVICE STUBS FOR FUTURE LOTS SHALL HAVE A MARKER POST AT EXISTING GRADE ABOVE THE CAP.
8. WATER SERVICE LINES SHALL BE TYPE 'K' COPPER.
9. WATER SERVICE CURB STOPS SHALL BE LOCATED ONE FOOT FROM THE PROPERTY LINE OR EASEMENT BOUNDARY.
10. 6" FIRE STUBS SHALL BE RESTRAINED D.I.P.



HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 4'

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CENTER OF COLORADO
1-800-922-1987
OR 8-1-1
CALL 2-BUSINESS DAYS IN ADVANCE
BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE
MARKING OF UNDERGROUND MEMBER UTILITIES.



WATER PROFILE

1015 W. Ash, Suite A
Windsor, Colorado 80550
Phone: (970) 674-3300
Fax: (970) 674-3303
INTEREST CONSULTING GROUP

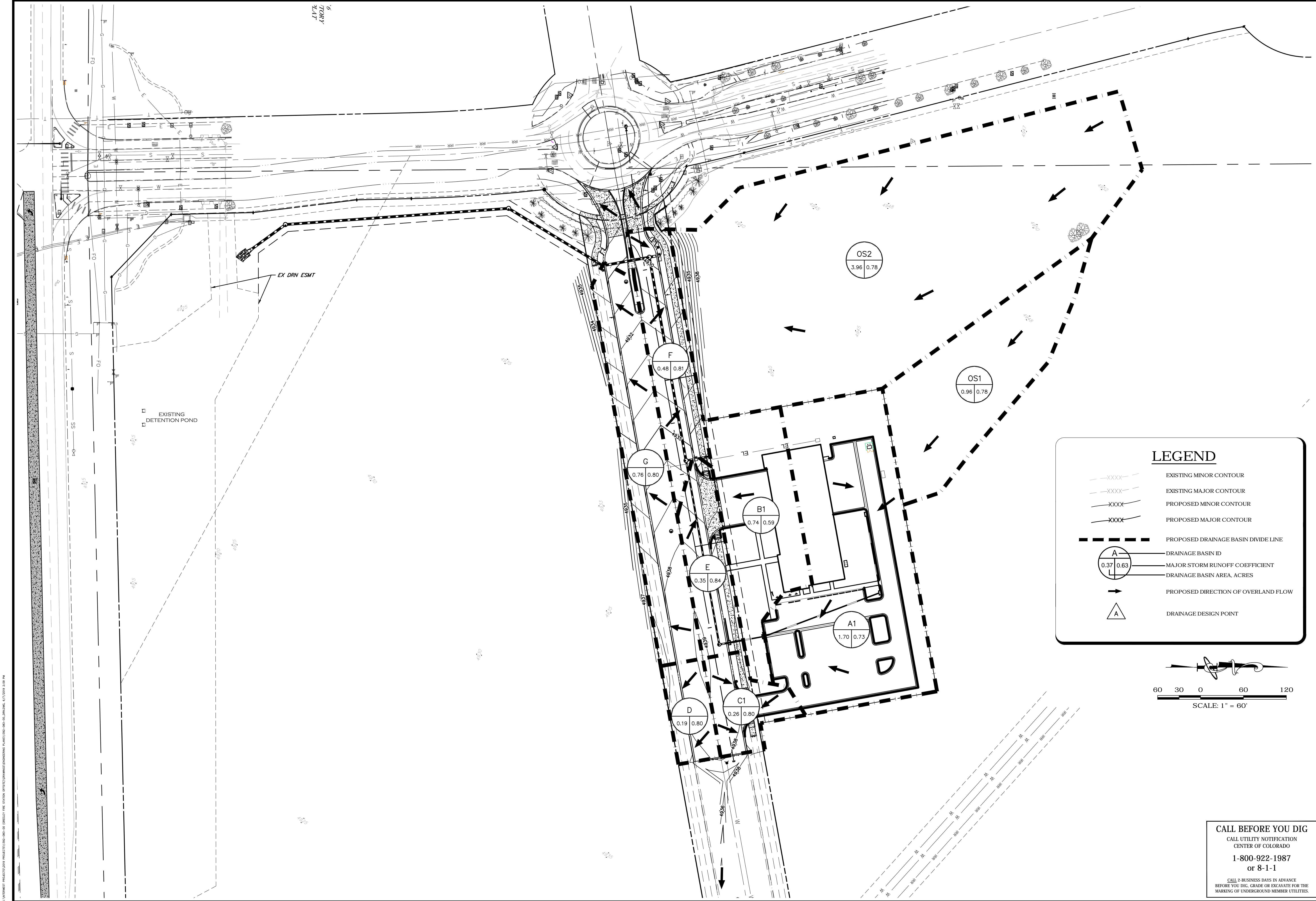
PREPARED FOR
CITY OF GREELEY PUBLIC WORKS
ENGINEERING DIVISION
1001 9TH AVE
GREELEY CO 80631
PHONE: 970-350-9794

PROJECT NAME
20TH STREET ROADWAY EXTENSION

DATE: 06/07/19
SCALE (H): 1" = 40'
SCALE (V): 1" = 4'
DESIGNED BY: SB
CHECKED BY: RA

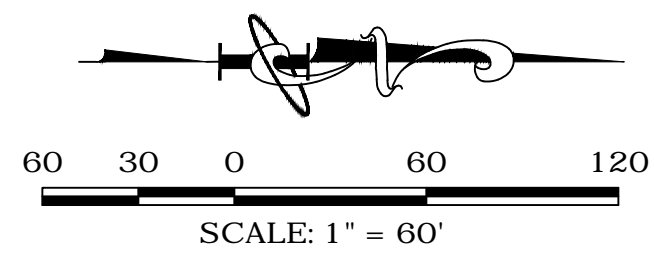
PROJ. NO. 1392-083-00

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LEGEND

- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED DRAINAGE BASIN DIVIDE LINE
- DRAINAGE BASIN ID
- MAJOR STORM RUNOFF COEFFICIENT
- DRAINAGE BASIN AREA, ACRES
- PROPOSED DIRECTION OF OVERLAND FLOW
- DRAINAGE DESIGN POINT



CALL BEFORE YOU DIG
 CALL UTILITY NOTIFICATION
 CENTER OF COLORADO
 1-800-922-1987
 or 8-1-1

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 BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE
 MARKING OF UNDERGROUND MEMBER UTILITIES.

1016 W. Ash, Suite A
 Windsor, Colorado 80550
 Phone: (970) 674-3300
 Fax: (970) 674-3303

INTEREST CONSULTING GROUP

PREPARED FOR

CITY OF GREELEY PUBLIC WORKS

ENGINEERING DIVISION
 1001 9TH AVE
 GREELEY CO 80631
 PHONE: 970-350-9794

PROJECT NAME

20TH STREET ROADWAY EXTENSION

DRAINAGE PLAN

DATE: 06/07/19

SCALE (H): 1" = X'

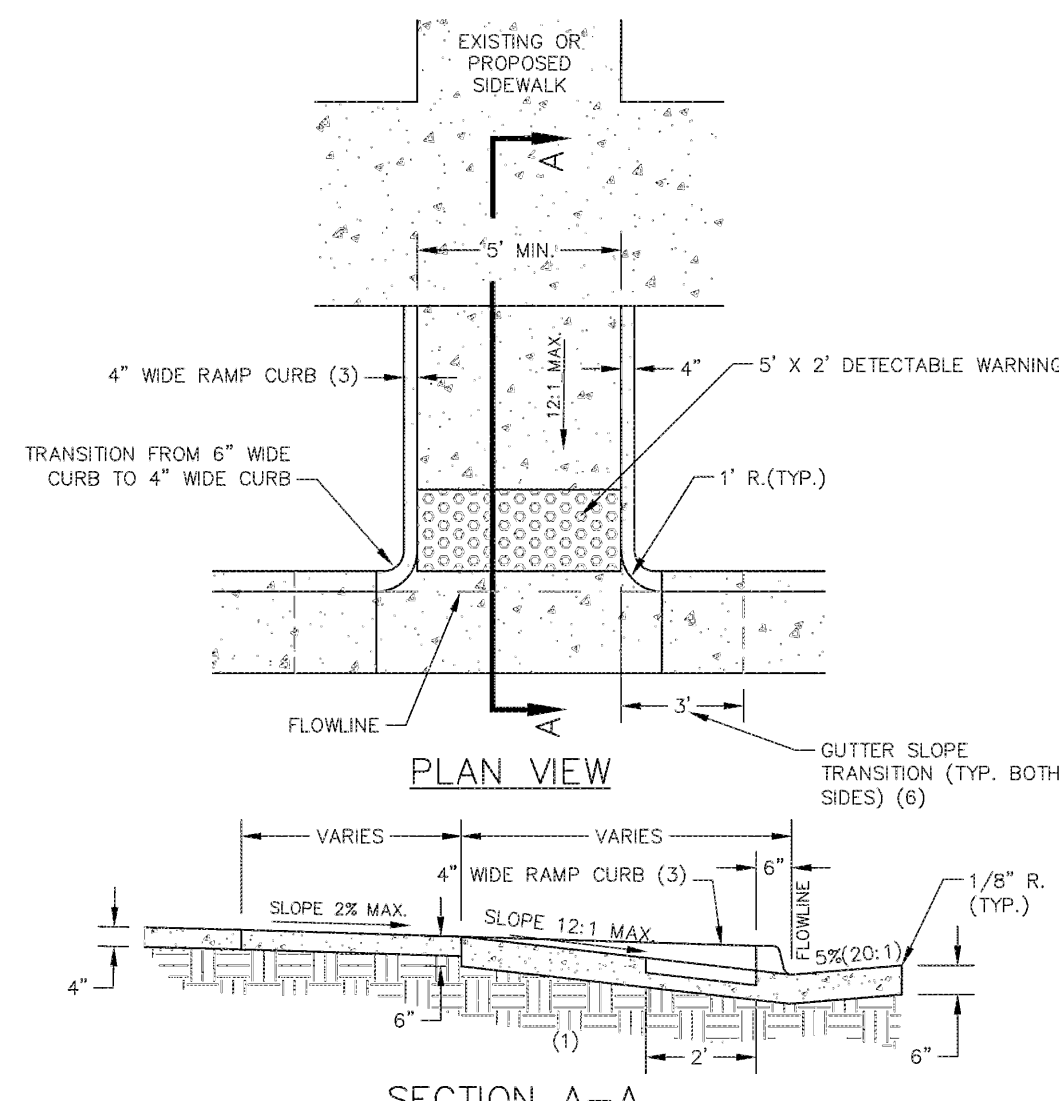
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DESIGNED BY: SB

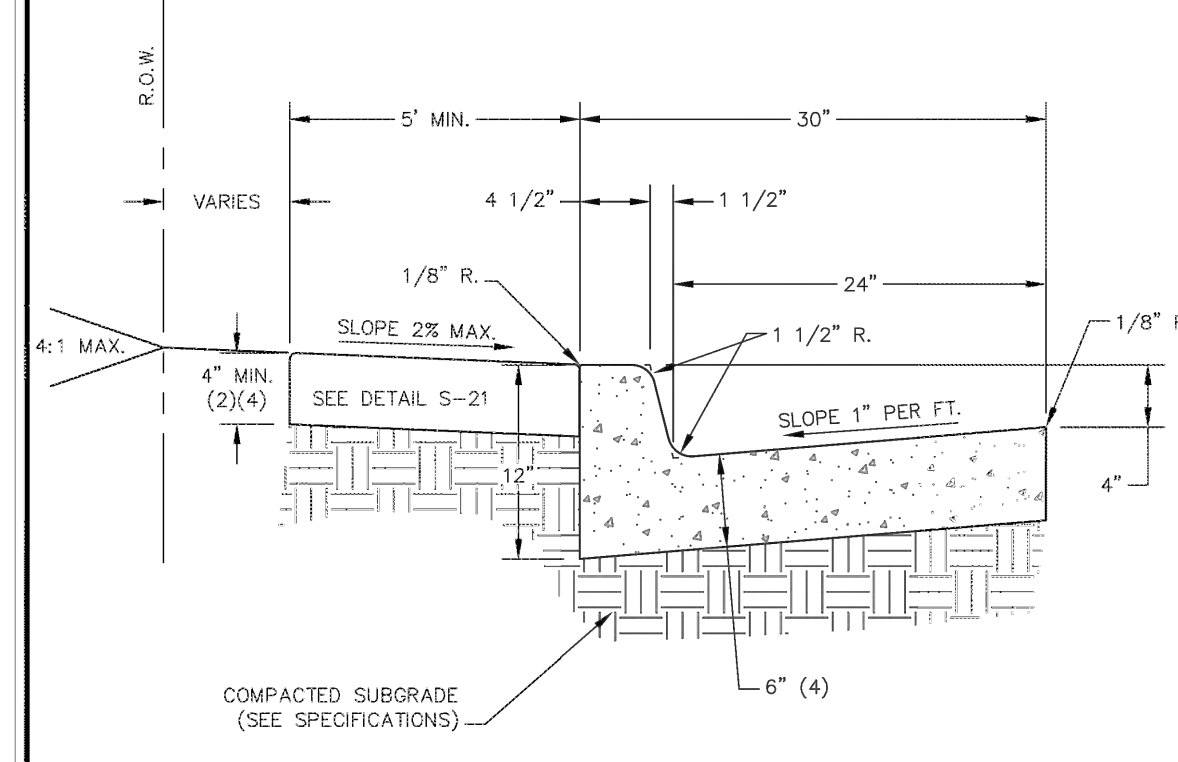
CHECKED BY: RA

PROJ. NO. 1392-083-00

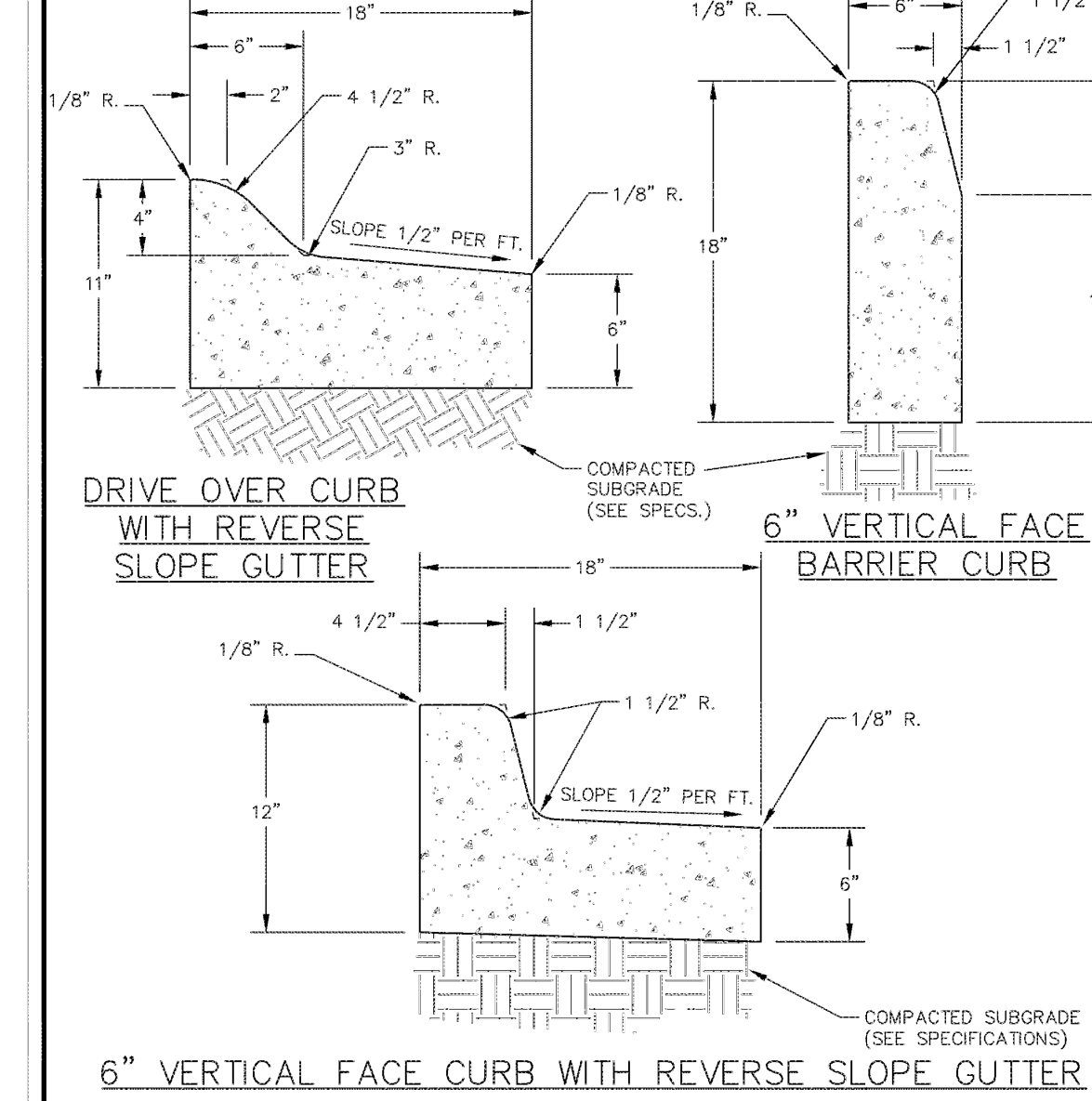
12 of 18



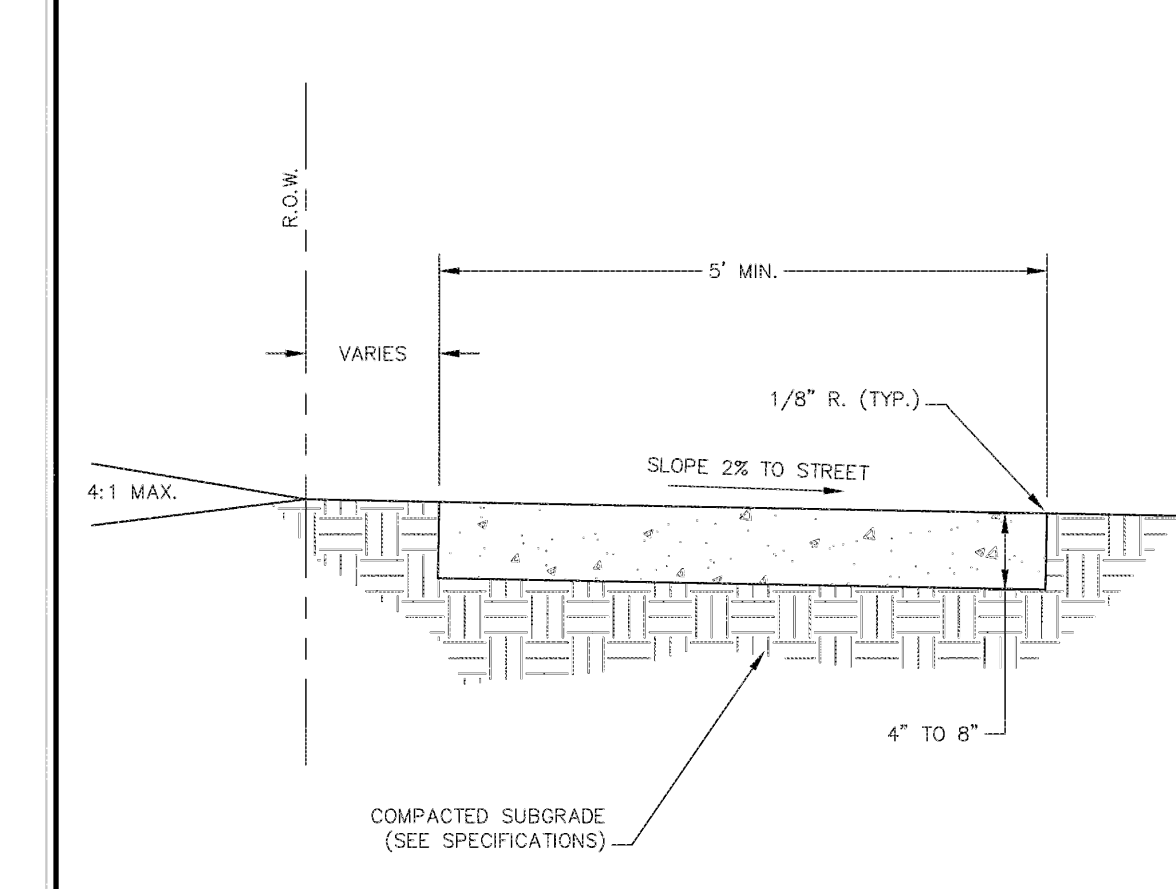
CURB RAMP DETAIL FOR DETACHED SIDEWALK
 DETAIL NO. S-14
 DATE: JULY, 2015 SCALE: N.T.S.



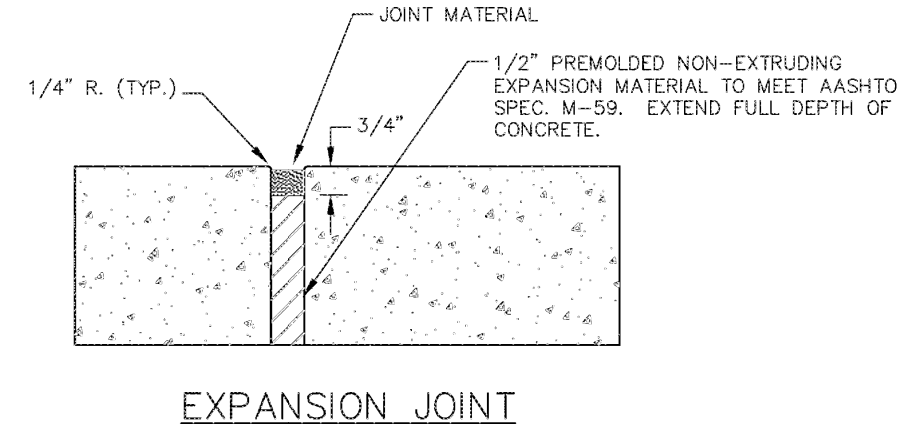
VERTICAL FACE CURB AND GUTTER
 DETAIL NO. S-16
 DATE: JULY, 2015 SCALE: N.T.S.



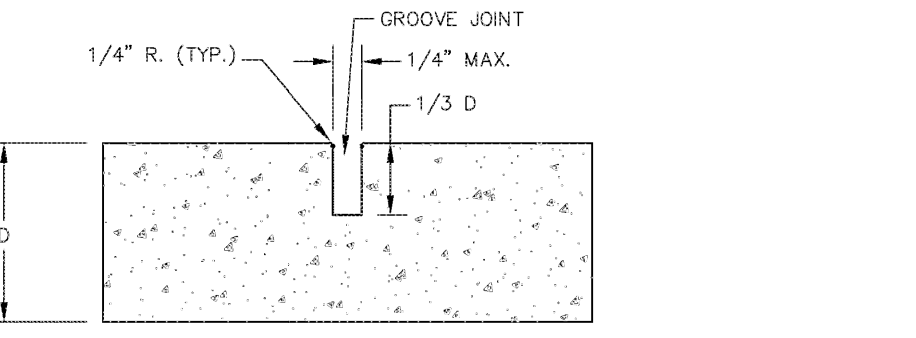
MEDIAN CURBS
 DETAIL NO. S-18
 DATE: JULY, 2015 SCALE: N.T.S.



DETACHED SIDEWALK DETAIL
 DETAIL NO. S-21
 DATE: JULY, 2015 SCALE: N.T.S.

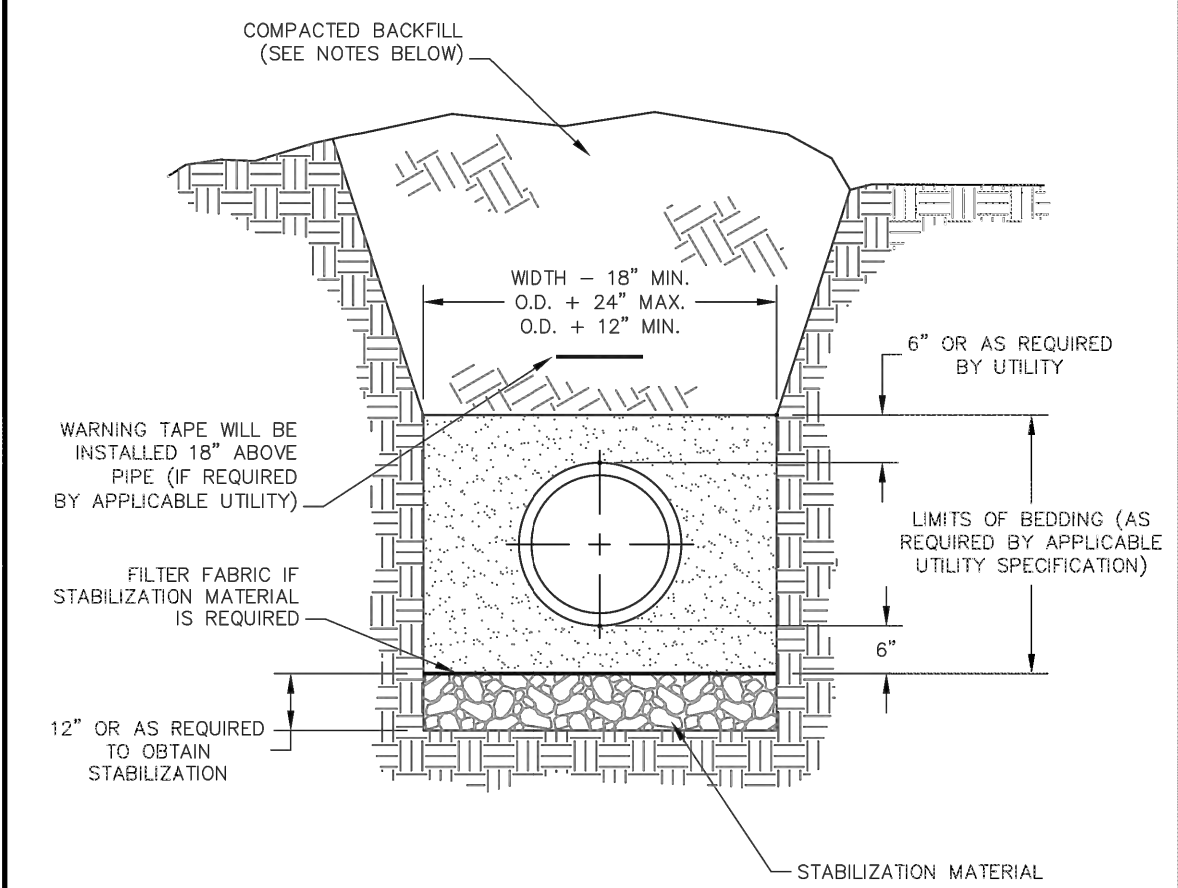


EXPANSION JOINT
 NOTE FOR EXPANSION JOINTS:
 EXPANSION JOINTS REQUIRED AT 400 FOOT MAXIMUM SPACING. ADDITIONAL JOINTS MAY BE REQUIRED AT THE DISCRETION OF THE ENGINEER.

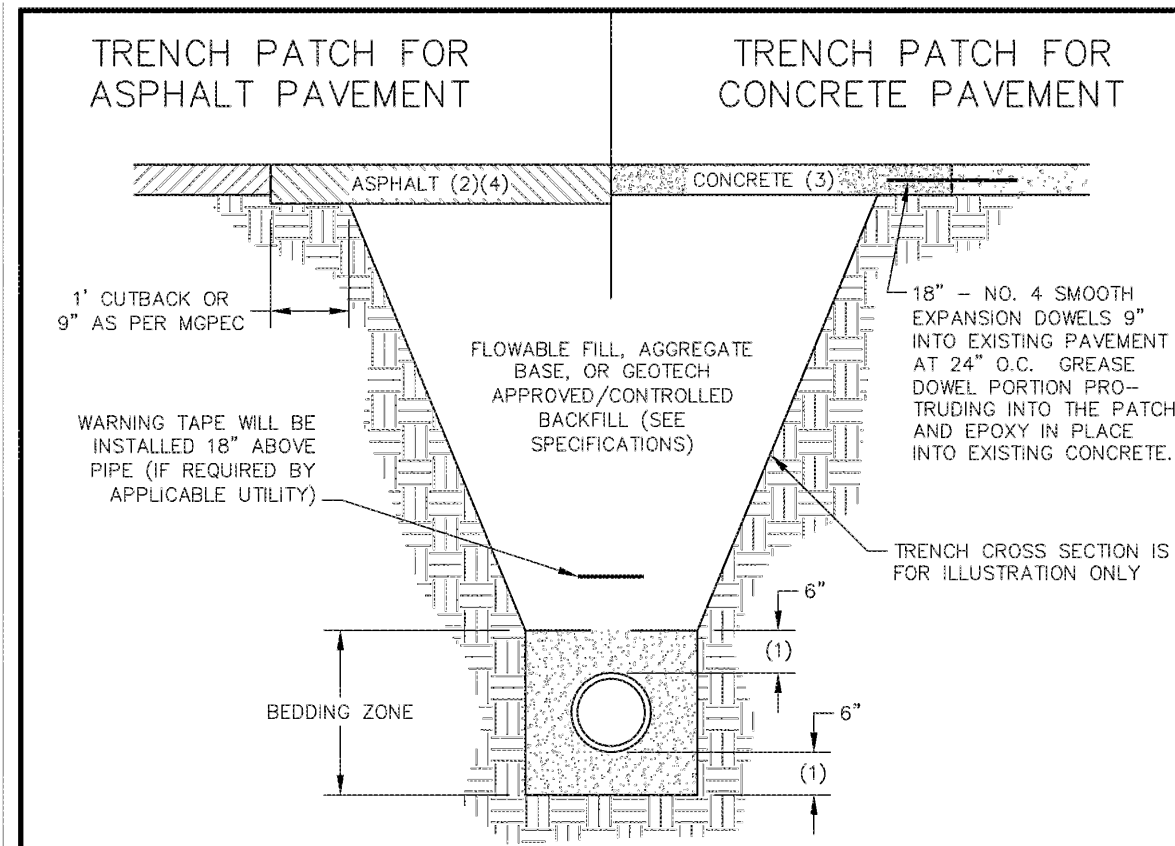


CONTRACTION JOINT
 NOTES FOR CONTRACTION JOINTS:
 1. FORM WITH TOOL TEMPLATE OR SAWCUT JOINTS.
 2. SAWCUT JOINTS, IF USED, SHALL BEGIN AS SOON AS CONCRETE IS HARDENED SUFFICIENTLY TO PERMIT SAWING WITHOUT EXCESSIVE RAVELING AND BEFORE UNCONTROLLED CRACKING OCCURS.
 3. MAXIMUM DISTANCE BETWEEN JOINTS IS TEN (10) FEET AND MINIMUM DISTANCE IS FIVE (5) FEET.

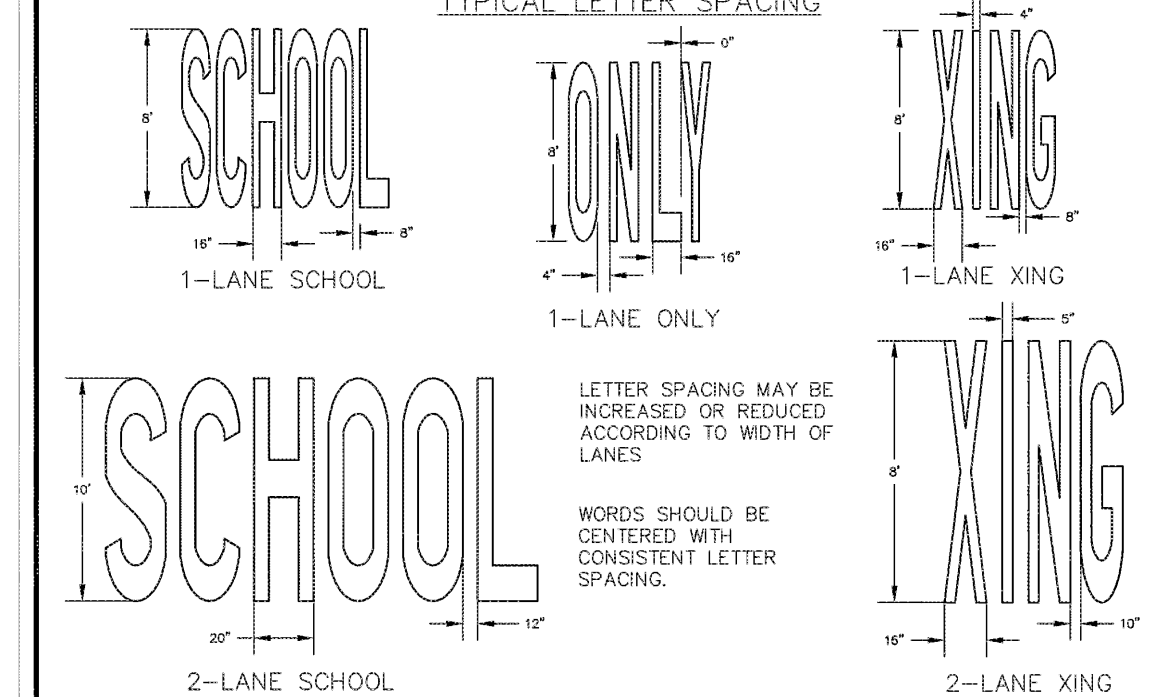
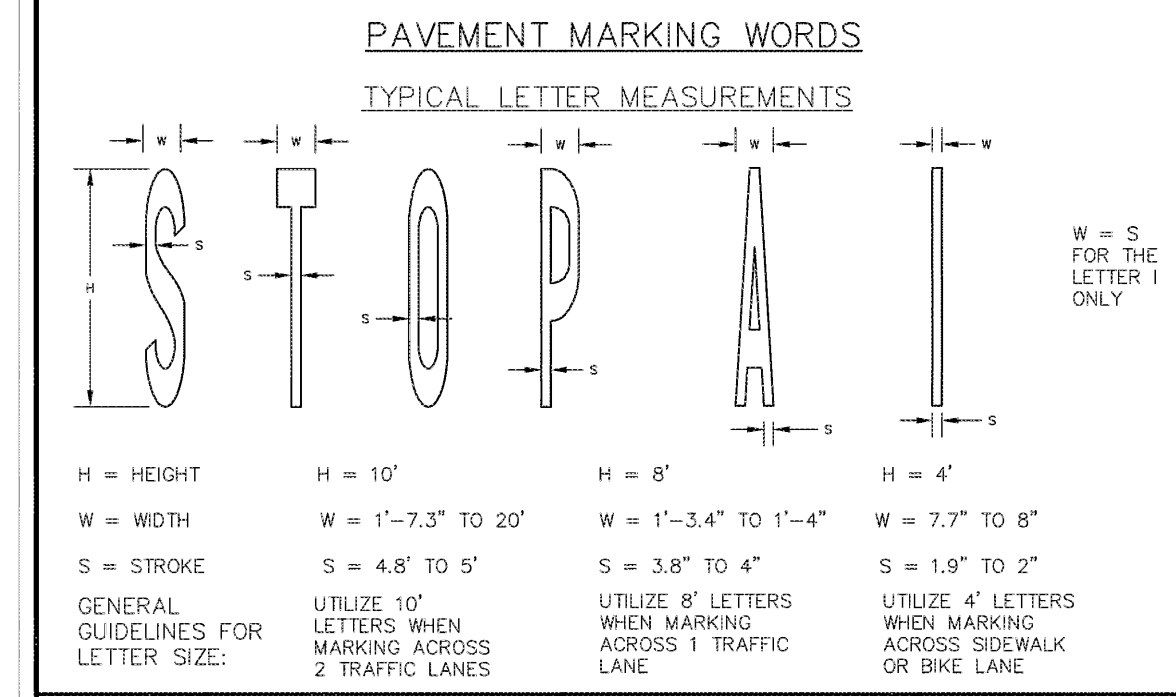
CONCRETE JOINT DETAILS FOR SIDEWALKS, CURBS, GUTTERS AND CROSS PANS
 DETAIL NO. S-22
 DATE: JULY, 2015 SCALE: N.T.S.



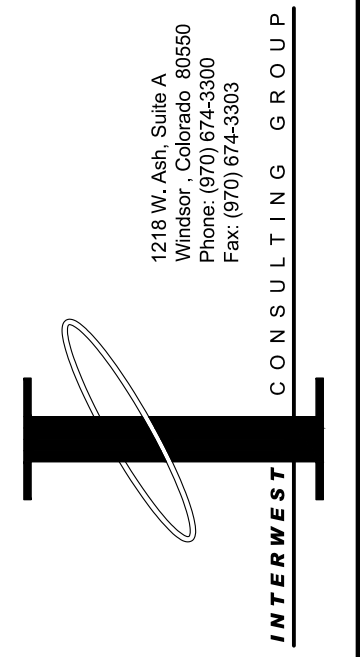
NEW DEVELOPMENT TRENCH EXCAVATION & BACKFILL DETAIL
 DETAIL NO. S-30
 DATE: JULY, 2015 SCALE: N.T.S.



EXISTING STREET PAVEMENT PATCH DETAIL FOR ASPHALT & CONCRETE
 DETAIL NO. S-31
 DATE: JULY, 2015 SCALE: N.T.S.



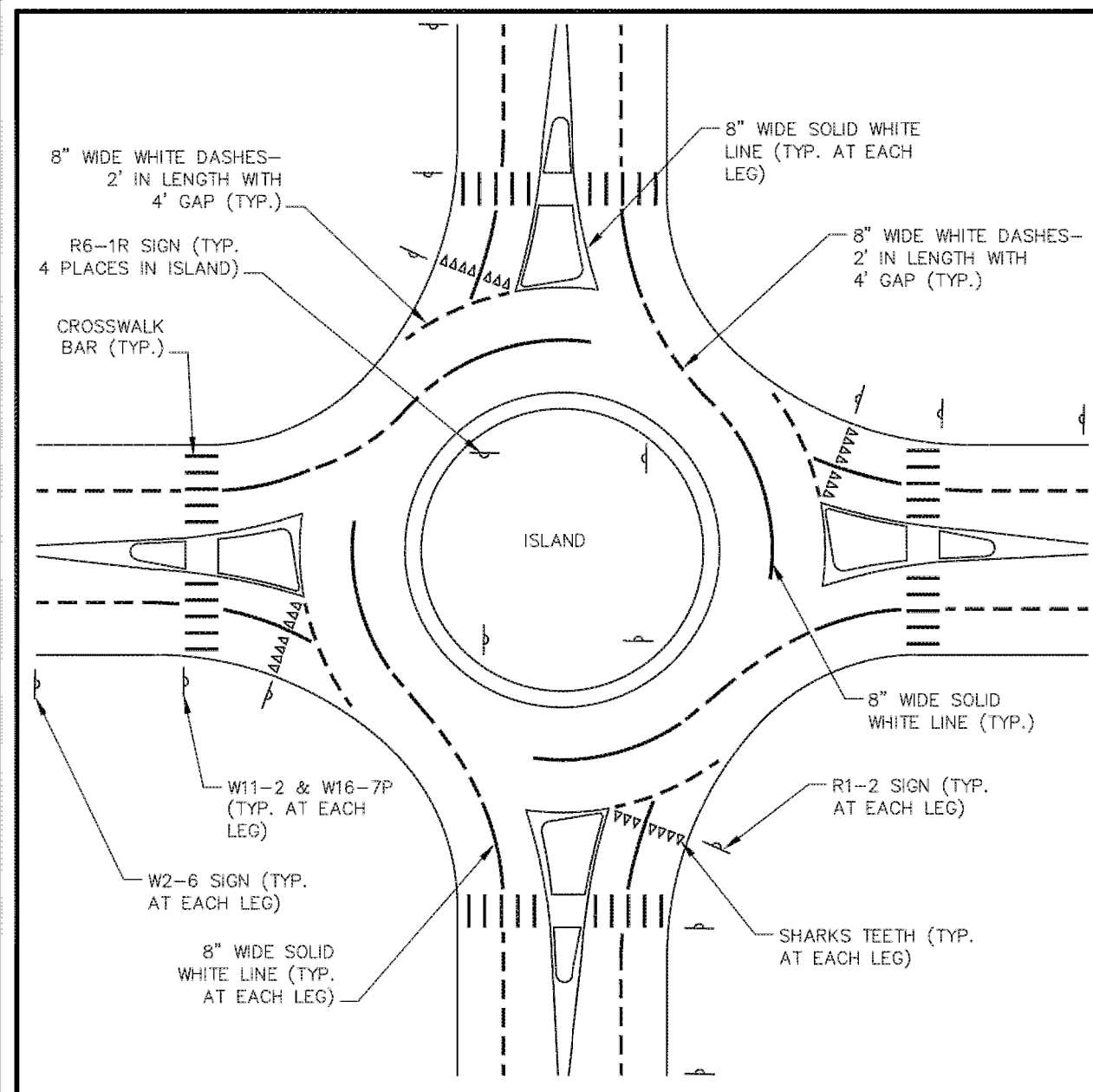
TYPICAL PAVEMENT MARKINGS
 SHEET 1 OF 3
 DETAIL NO. S-38
 DATE: JULY, 2015 SCALE: N.T.S.



PREPARED FOR
 CITY OF GREELEY PUBLIC WORKS
 ENGINEERING DIVISION
 1001 9TH AVE
 GREELEY CO 80631
 PHONE: 970-350-9794

PROJECT NAME
 20TH STREET ROADWAY EXTENSION
 CONSTRUCTION DETAILS

DATE: 06/07/19
 SCALE(H): N/A
 SCALE(V): N/A
 DESIGNED BY: SB
 CHECKED BY: RA



URBAN DOUBLE-LANE ROUNDABOUT

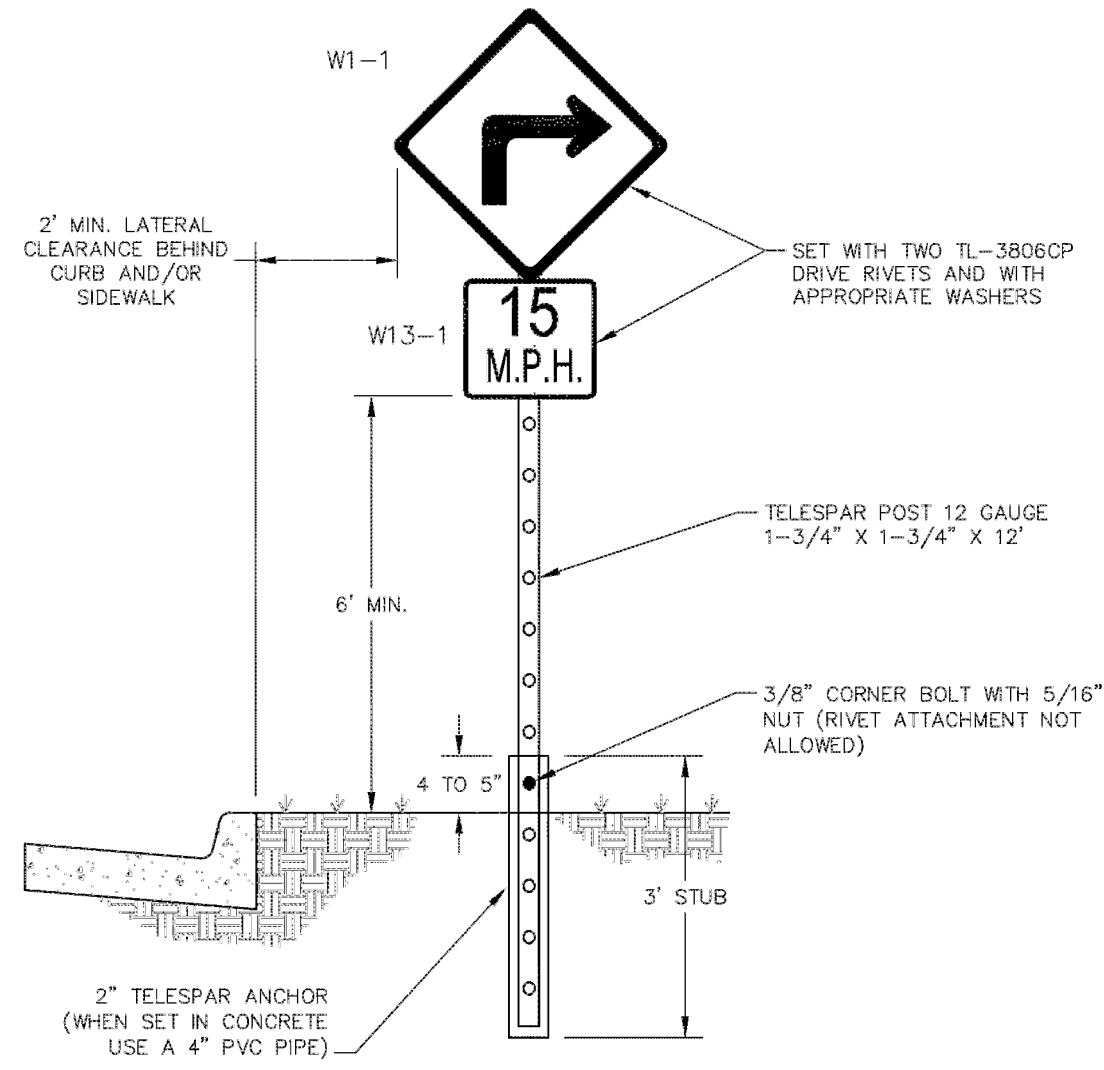


ROUNDABOUT SIGNAGE & PAVEMENT MARKINGS
SHEET 2 OF 2

DETAIL NO. S-40

DATE: JULY, 2015

SCALE: N.T.S.



NOTES:

1. SIGN SHOULD BE SET AT AN ANGLE OF 90° AND VISIBLE TO APPROACHING TRAFFIC.
2. ALL SIGNS SHALL MEET THE MOST CURRENT MUTCD STANDARDS.

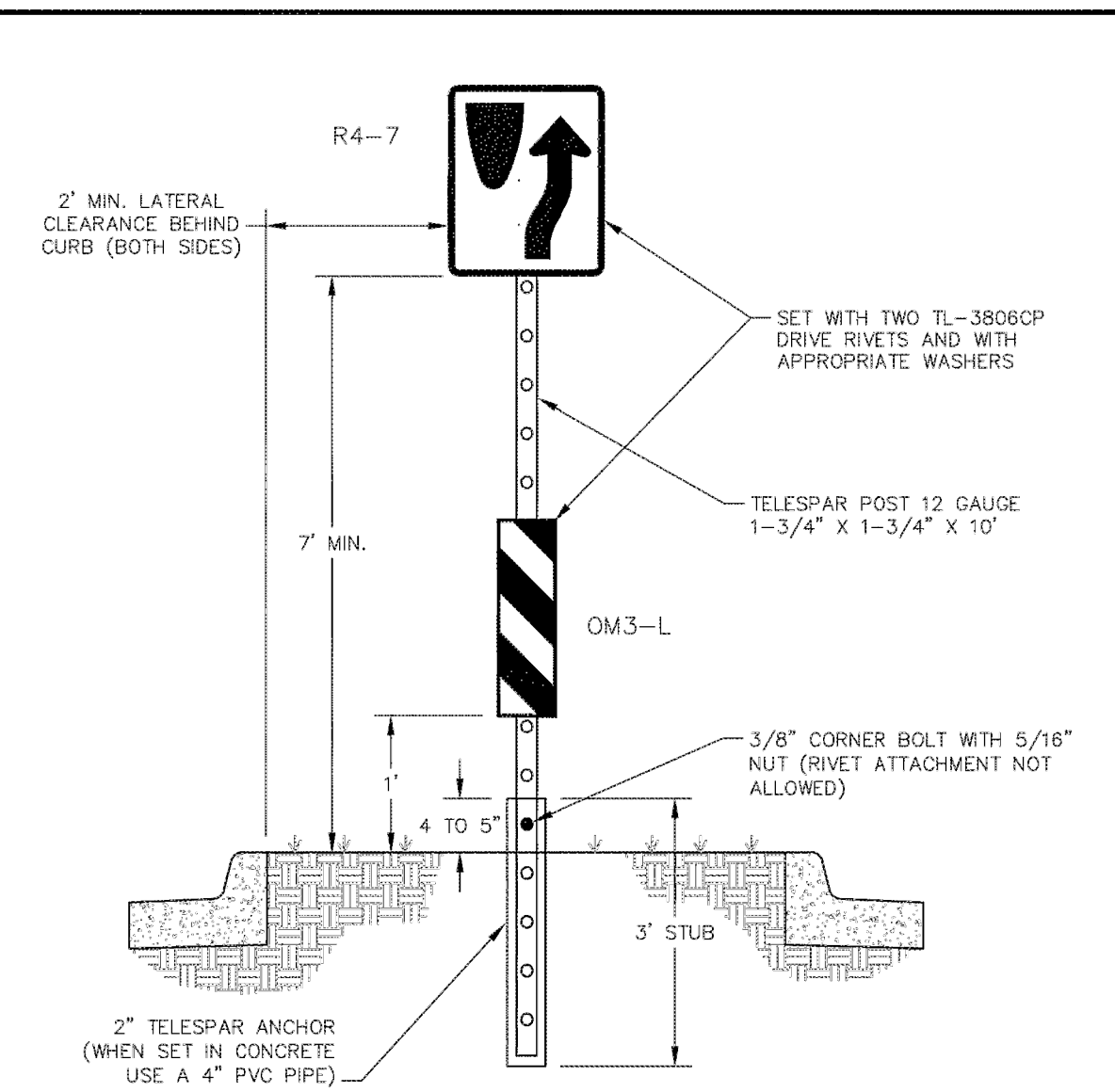


TYPICAL DIAMOND SIGN INSTALLATION

DETAIL NO. S-43

DATE: JULY, 2015

SCALE: N.T.S.



NOTES:

1. SIGN SHOULD BE SET AT AN ANGLE OF 90° INSIDE NOSE OF ISLAND AND VISIBLE TO APPROACHING TRAFFIC.
2. ALL SIGNS SHALL MEET THE MOST CURRENT MUTCD STANDARDS.



TYPICAL ISLAND SIGN INSTALLATION

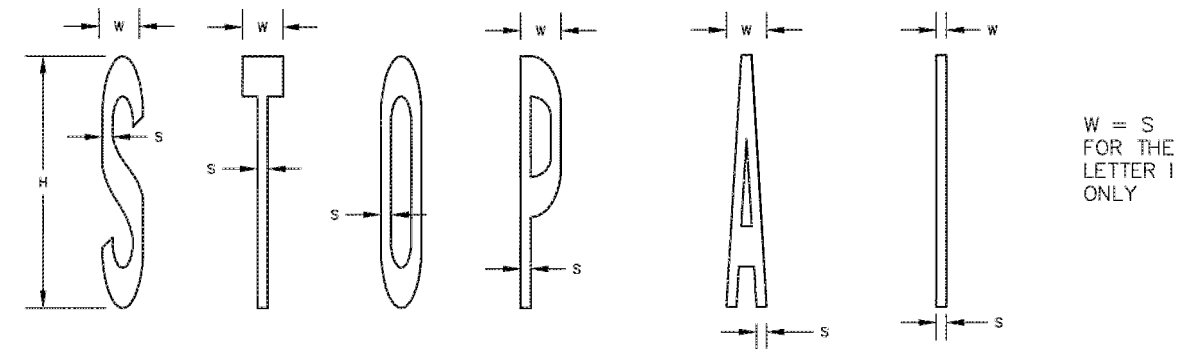
DETAIL NO. S-44

DATE: JULY, 2015

SCALE: N.T.S.

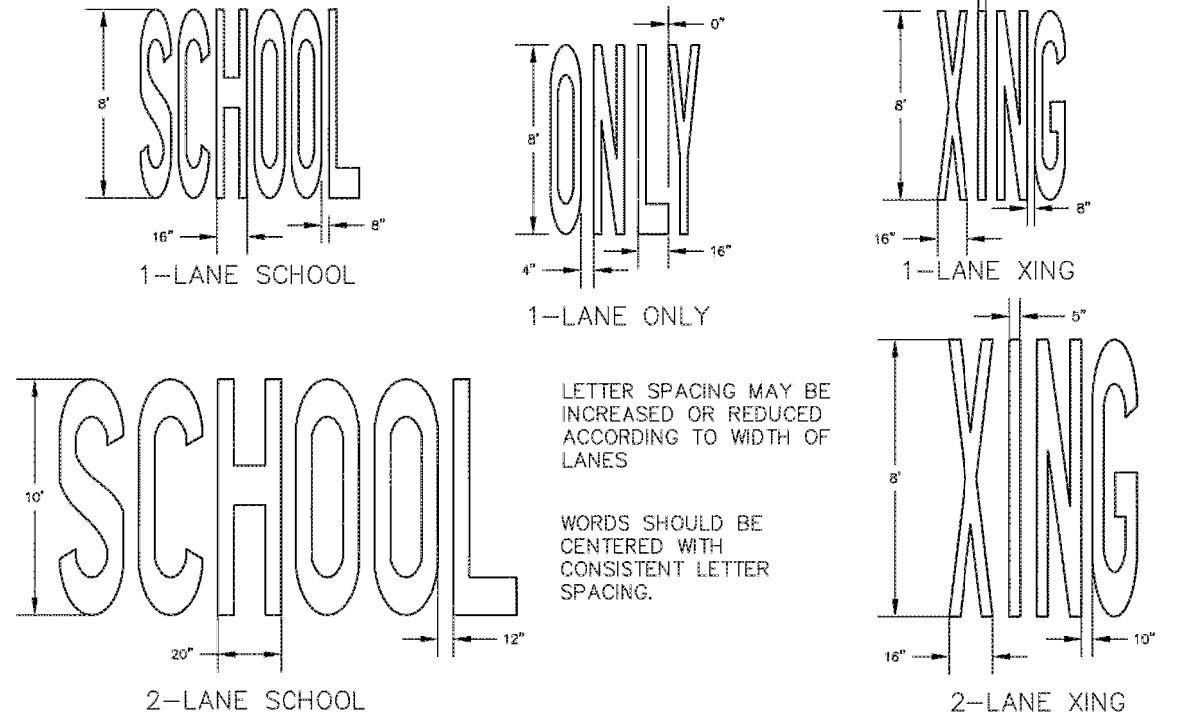
PAVEMENT MARKING WORDS

TYPICAL LETTER MEASUREMENTS



H = HEIGHT H = 10" H = 8" H = 4"
W = WIDTH W = 1"-7.3" TO 20" W = 1"-3.4" TO 1'-4" W = 7.7" TO 8"
S = STROKE S = 4.8" TO 5" S = 3.8" TO 4" S = 1.9" TO 2"
GENERAL GUIDELINES FOR LETTER SIZE:
UTILIZE 10" LETTERS WHEN MARKING ACROSS 2 TRAFFIC LANES
UTILIZE 8" LETTERS WHEN MARKING ACROSS 1 TRAFFIC LANE
UTILIZE 4" LETTERS WHEN MARKING ACROSS SIDEWALK OR BIKE LANE

TYPICAL LETTER SPACING



TYPICAL PAVEMENT MARKINGS

SHEET 1 OF 3

DETAIL NO. S-38



DATE: JULY, 2015

SCALE: N.T.S.

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ENGINEERING DIVISION
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GREELEY CO 80631
PHONE: 970-350-9794

PROJECT NAME
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CONSTRUCTION DETAILS

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SCALE (V): N/A
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CHECKED BY: RA

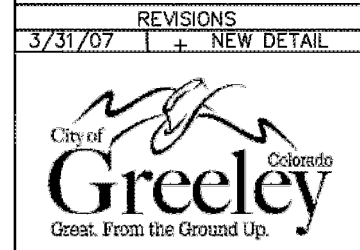
PROJ. NO. 1392-083-00

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STORMWATER GENERAL NOTES

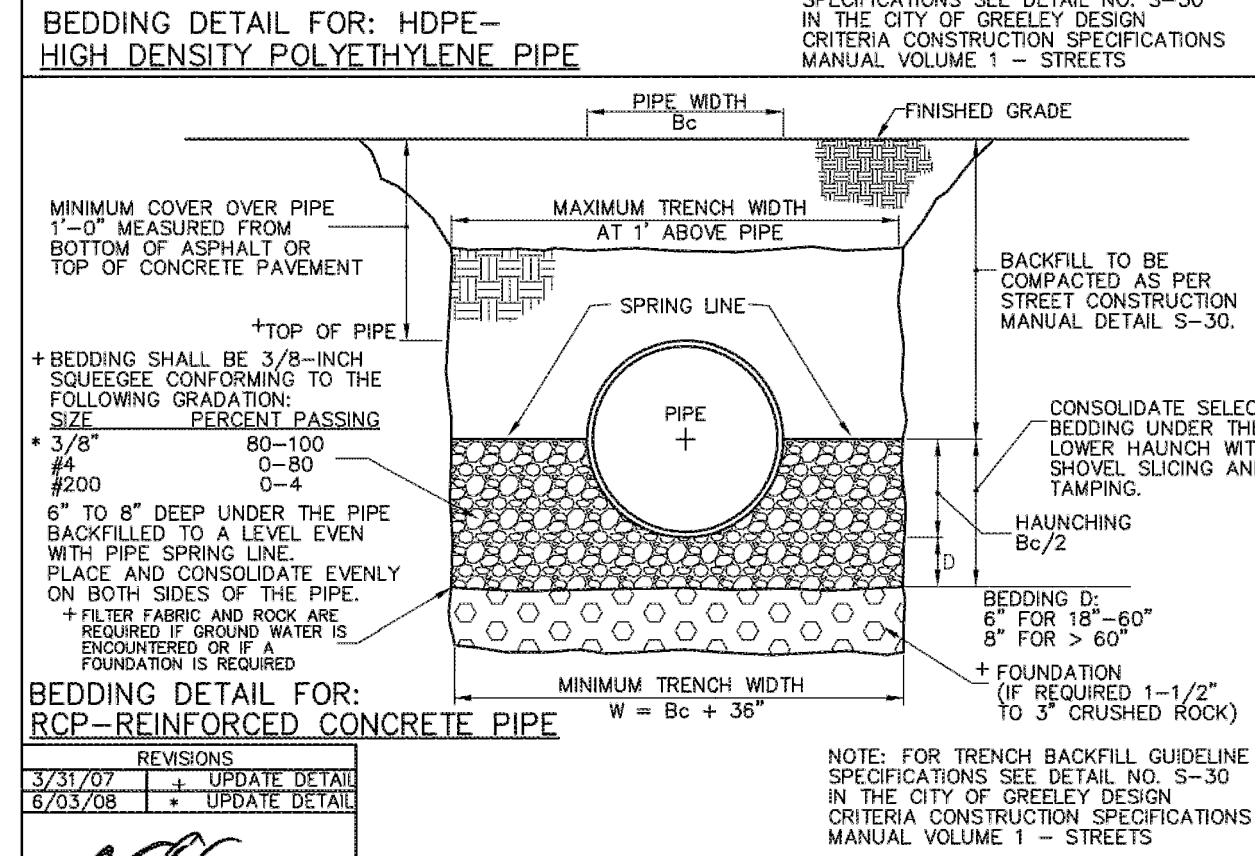
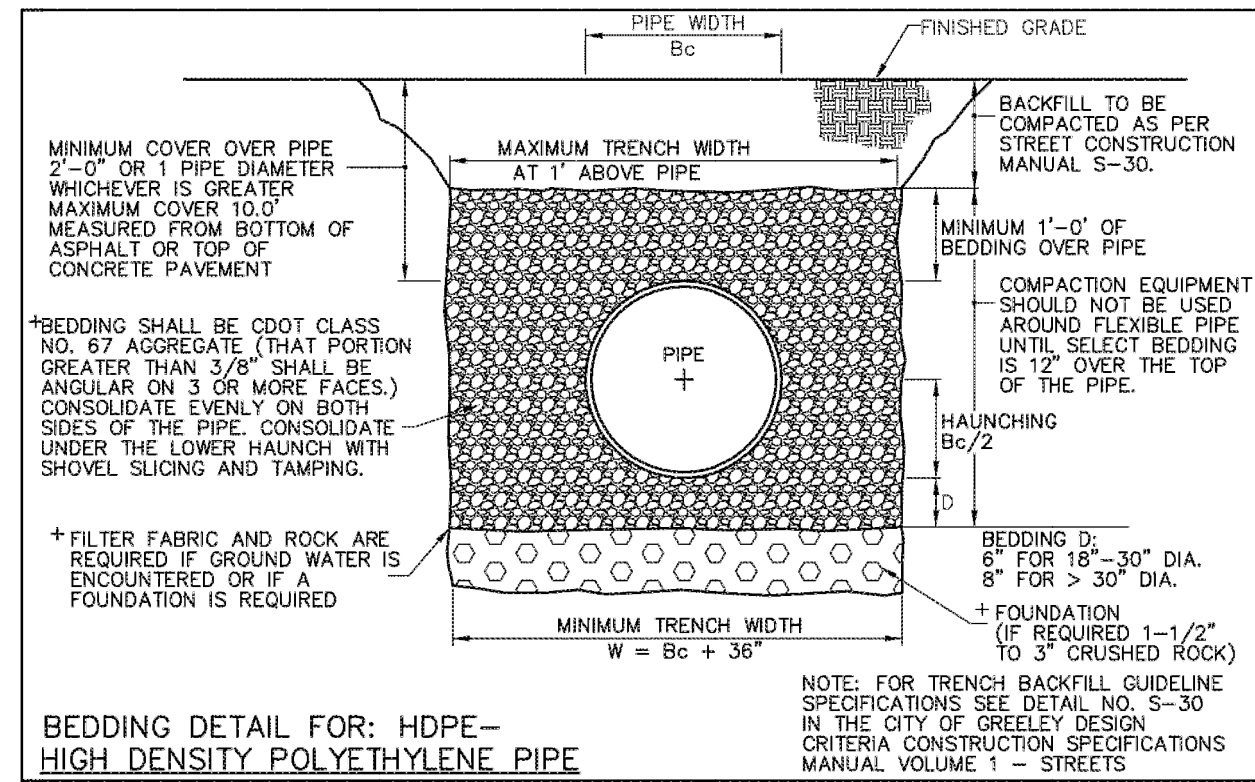
1. BEDDING FOR ALL STORM DRAIN SHALL BE PER THE STANDARD STORM DRAIN BEDDING DETAILS - DETAILS 6-6 AND 6-7 FOR REINFORCED CONCRETE PIPE AND POLYWRAPPED DUCTILE IRON PIPE.
2. ALL STORM DRAINAGE CONSTRUCTION SHALL CONFORM TO THE CITY OF GREELEY'S MOST RECENT STORM DRAINAGE SPECIFICATIONS. A COPY OF THE SPECIFICATIONS MAY BE OBTAINED FROM THE CITY OR FOUND ON THE CITY'S WEB PAGE - GREELEYGOV.COM.
3. RCP SHALL HAVE FLEXIBLE GASKET MATERIAL (WATER TIGHT RUBBER GASKETS) MEETING ASTM C443 AND TYPE 4-G BELL AND SPIGOT JOINTS. DUCTILE IRON PIPE SHALL BE POLYWRAPPED IN ACCORDANCE WITH AWWA STANDARD C-105.
4. BACKFILL MATERIAL MAY BE LOCAL SITE MATERIAL THAT IS WELL-GRADED, NON-COHESIVE GRANULAR MATERIAL FREE OF ROCKS, FROZEN LUMPS, FOREIGN MATERIAL OR STONES GREATER THAN 3" IN ANY DIMENSION, AGGREGATE BASE COURSE, OR FLOWFILL. REMOVE ALL DEBRIS INCLUDING SODA CANS, RAGS, PIPE BANDING MATERIAL, ETC. FROM THE PIPE TRENCH BEFORE BACKFILLING.
5. ALL AREAS IMPACTED BY THE CONSTRUCTION SHALL BE CLEARED OF PROJECT GENERATED DEBRIS BY THE CONTRACTOR AT THE EARLIEST OPPORTUNITY, BUT IN NO CASE SHALL ANY ROADS OR WALKWAYS BE LEFT UNCLEARED AFTER THE COMPLETION OF THE DAY'S WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE NECESSARY EQUIPMENT AND MATERIAL TO SATISFACTORILY CLEAN THE ROADWAYS.

CALL UTILITY NOTIFICATION
CENTER OF COLORADO
1-800-922-1987
CALL 2-BUSINESS DAYS IN ADVANCE
BEFORE YOU DIG, GRADE, OR EXCAVATE
FOR THE MAJORITY OF UNDERGROUND
MEMBER UTILITIES

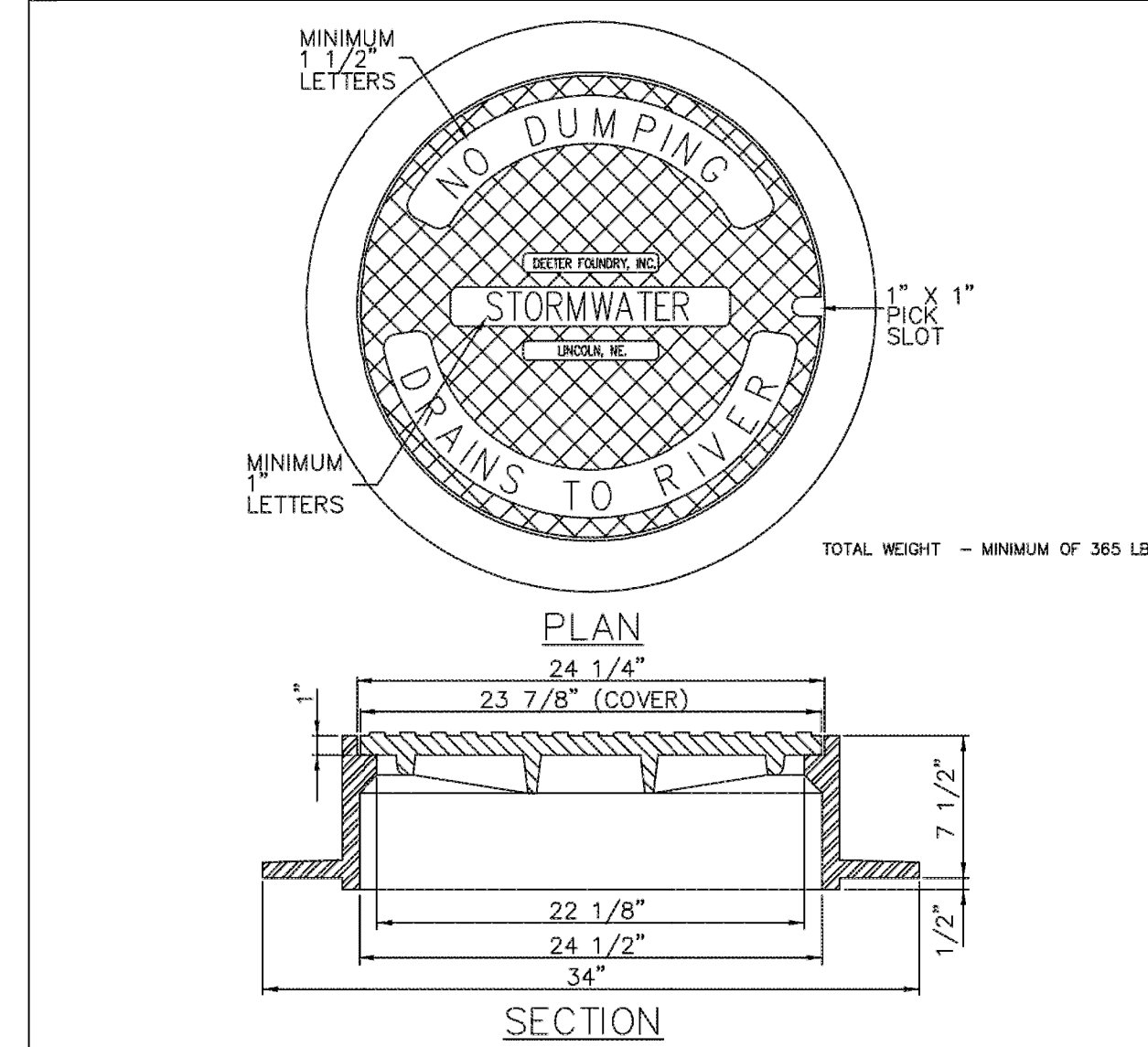


STORMWATER GENERAL NOTES DETAIL 1-1

DATE: MARCH 2007 SCALE: N.T.S.

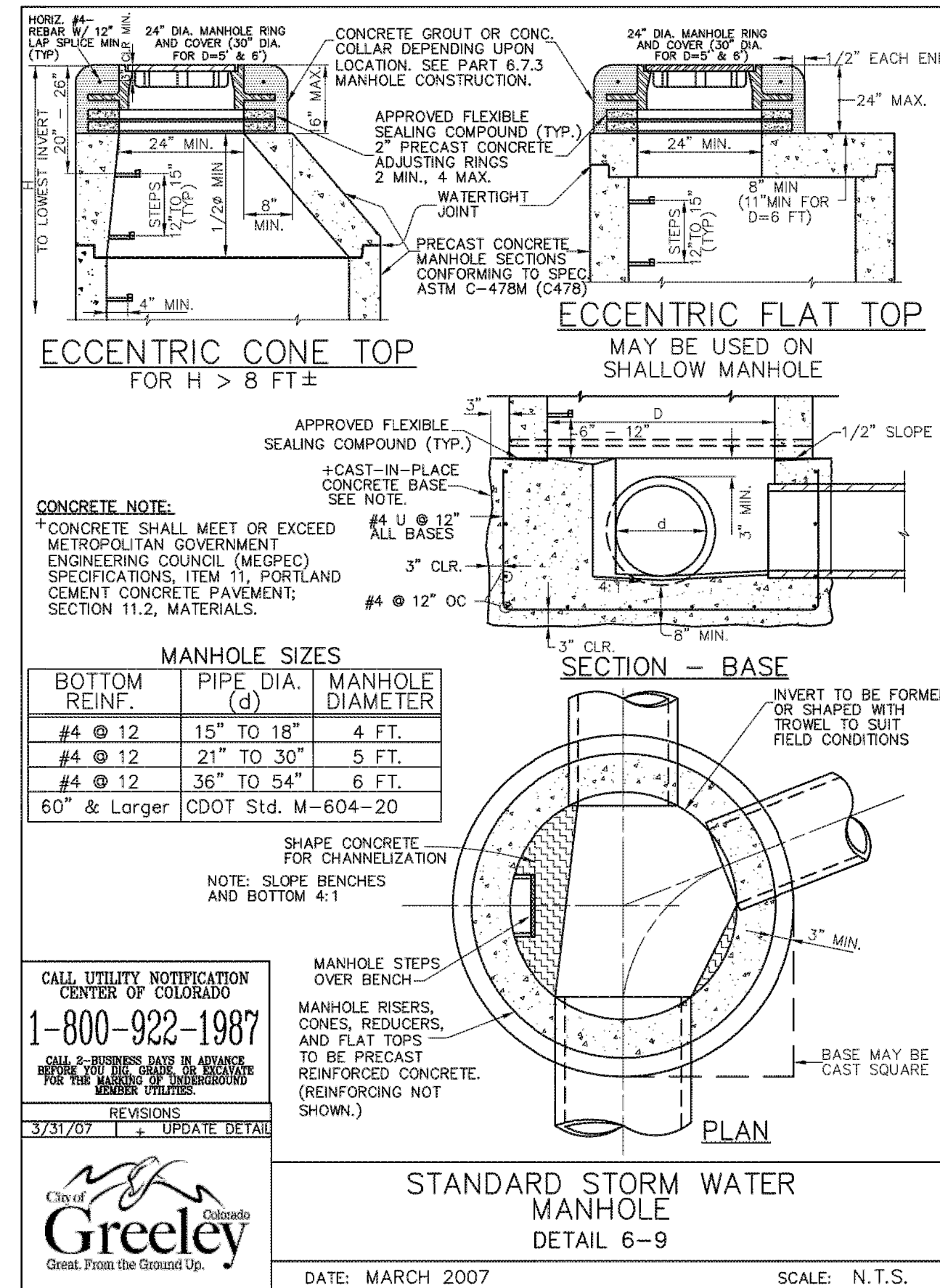


DATE: JUNE 2008 SCALE: N.T.S.

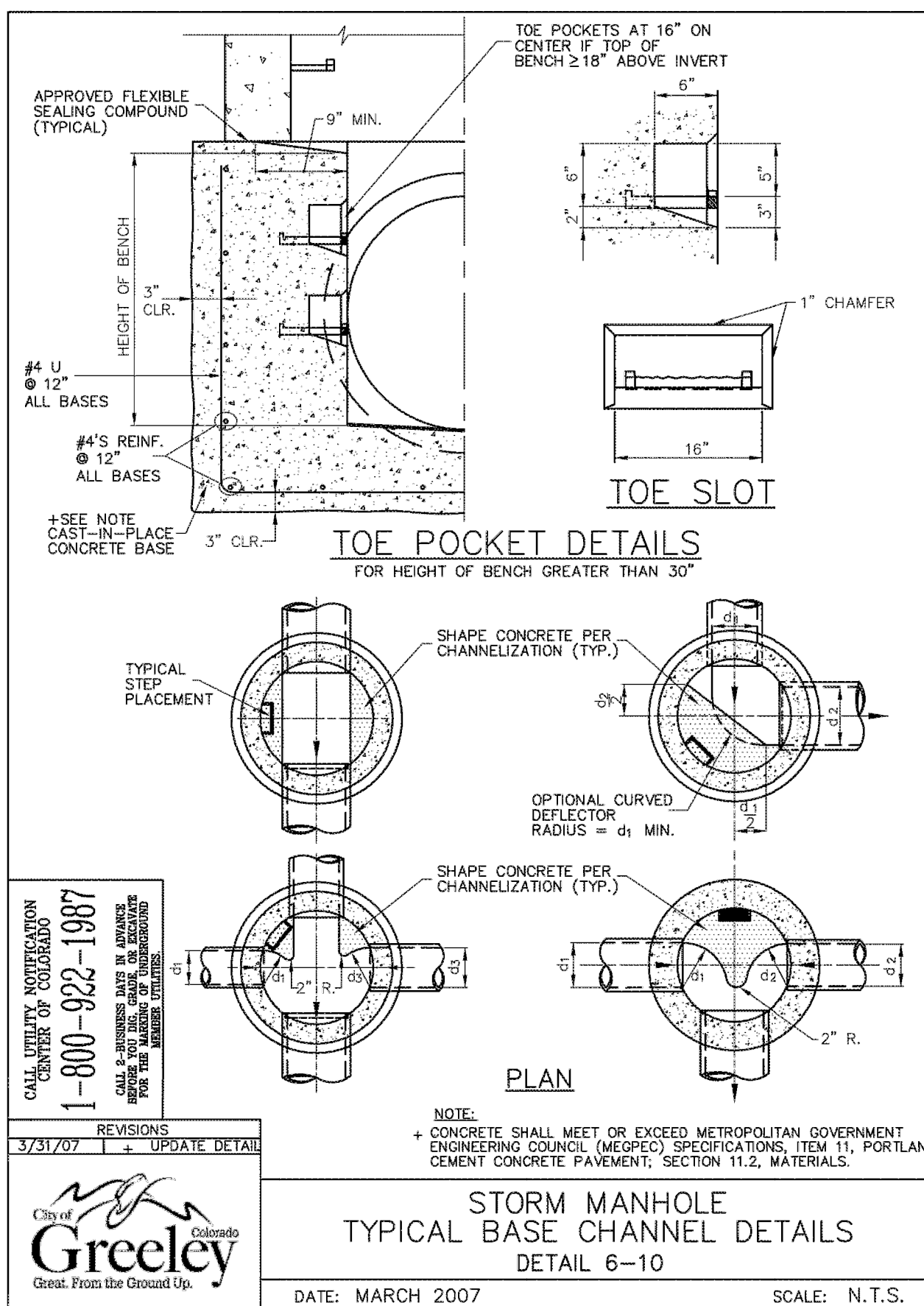


GENERAL NOTES
1. RING AND COVER SHALL BE GRAY IRON, MANUFACTURED PER ASTM A-48, AASHTO M 105, CLASS 35B.
2. COVER SHALL BE NONPERFORATED, WITH LETTERING AS SHOWN, CAST ON THE TOP OF THE LID FOR STORMWATER MANHOLES.
3. COVER SHALL BE BOLTED IF SPECIFIED BY THE PUBLIC WORKS DEPARTMENT. BOLTS SHALL BE BRASS.
4. NEENAH NO. R-1708 MANHOLE RING AND SOLID COVER, OR DEETER NO. 1258, OR APPROVED EQUAL. TOTAL WEIGHT SHALL BE A MINIMUM OF 365 LBS AND SHALL WITHSTAND HS-20 LOADING.
5. LID SHALL READ "STORMWATER" "STORM SEWER" IS UNACCEPTABLE.
6. FISH SYMBOL ON LID IS PREFERRED, BUT NOT REQUIRED.
7. COVER AND RING OPENING SHALL BE SQUARE, NOT TAPERED.

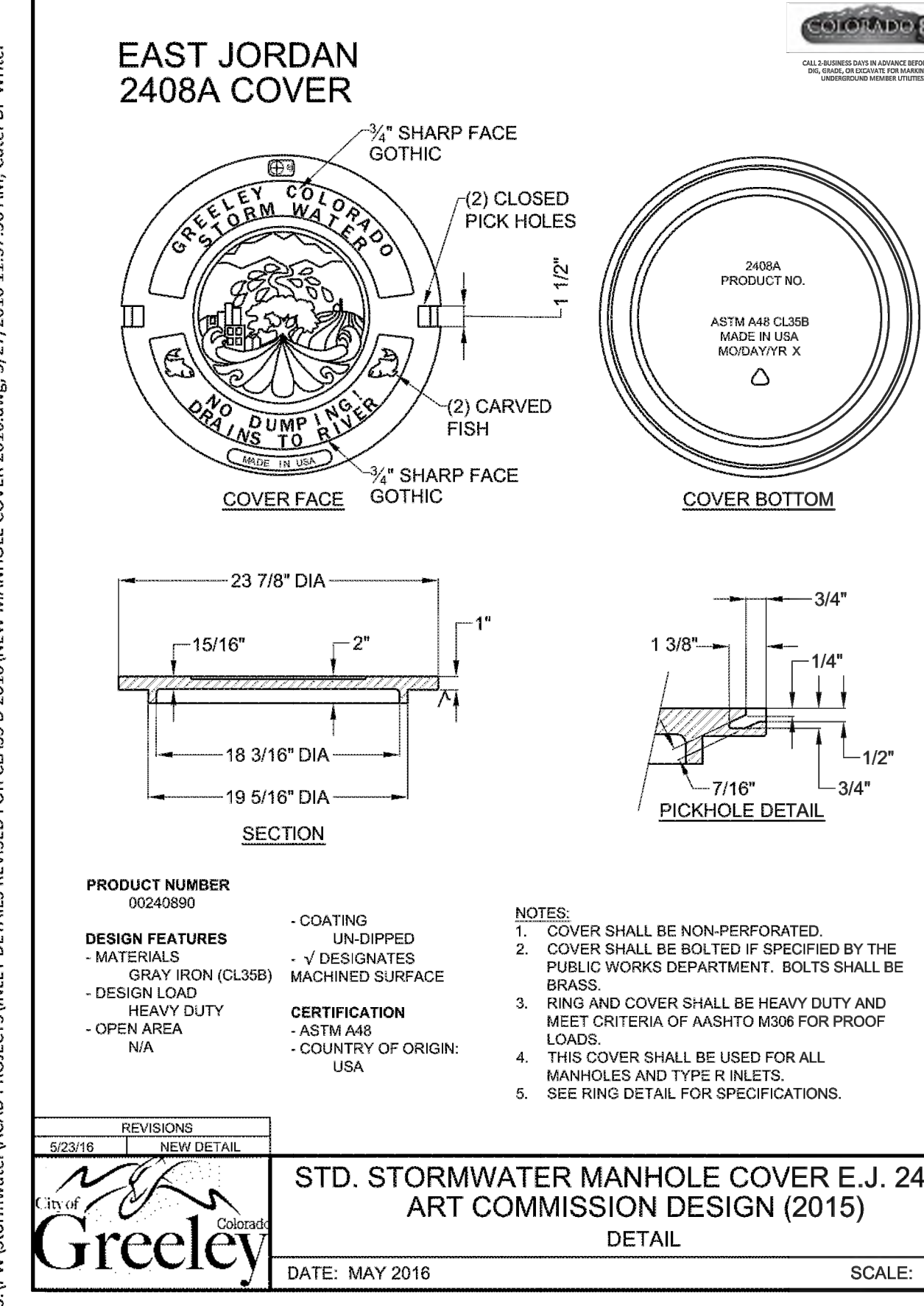
DATE: MARCH 2007 SCALE: N.T.S.



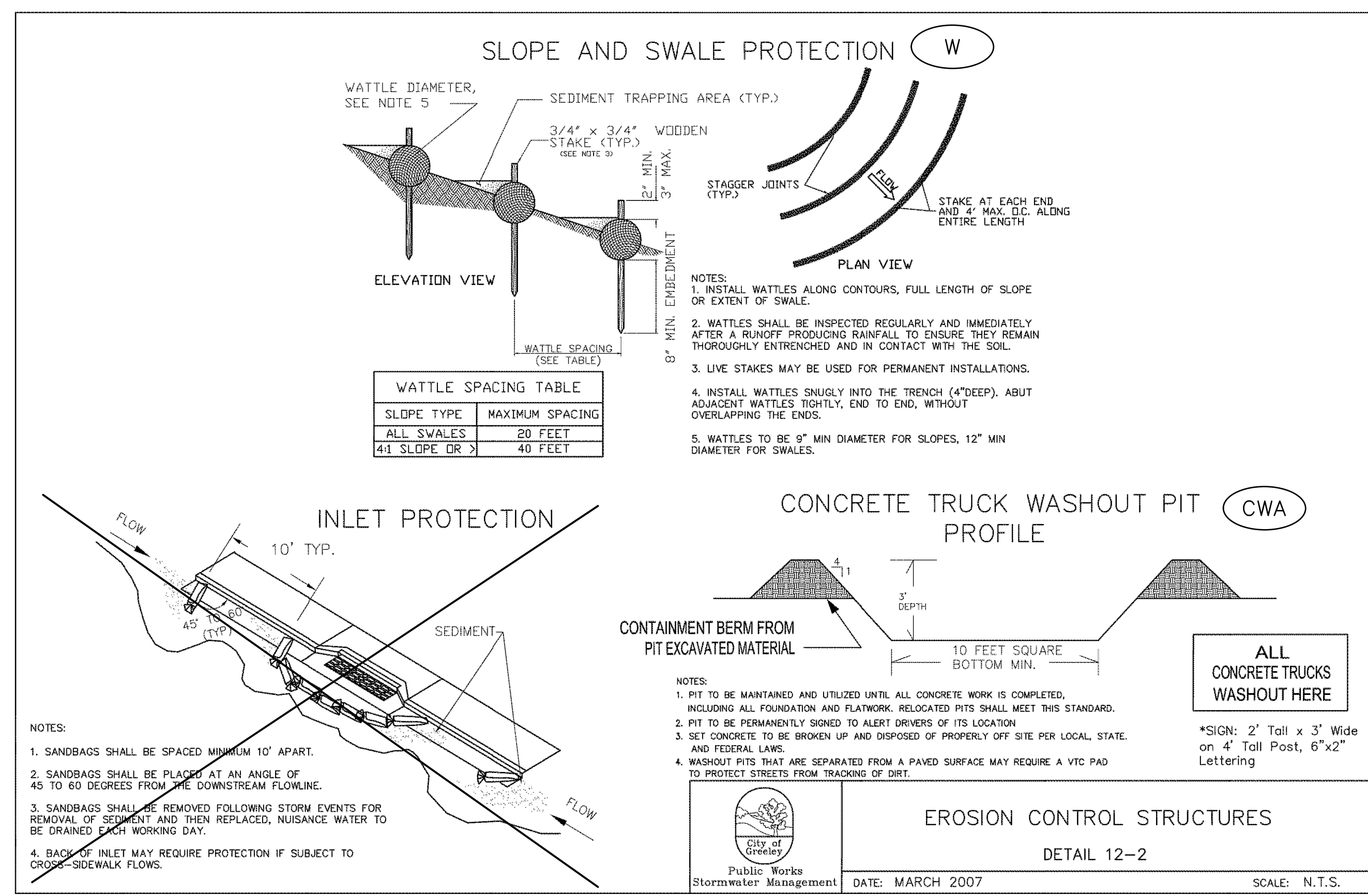
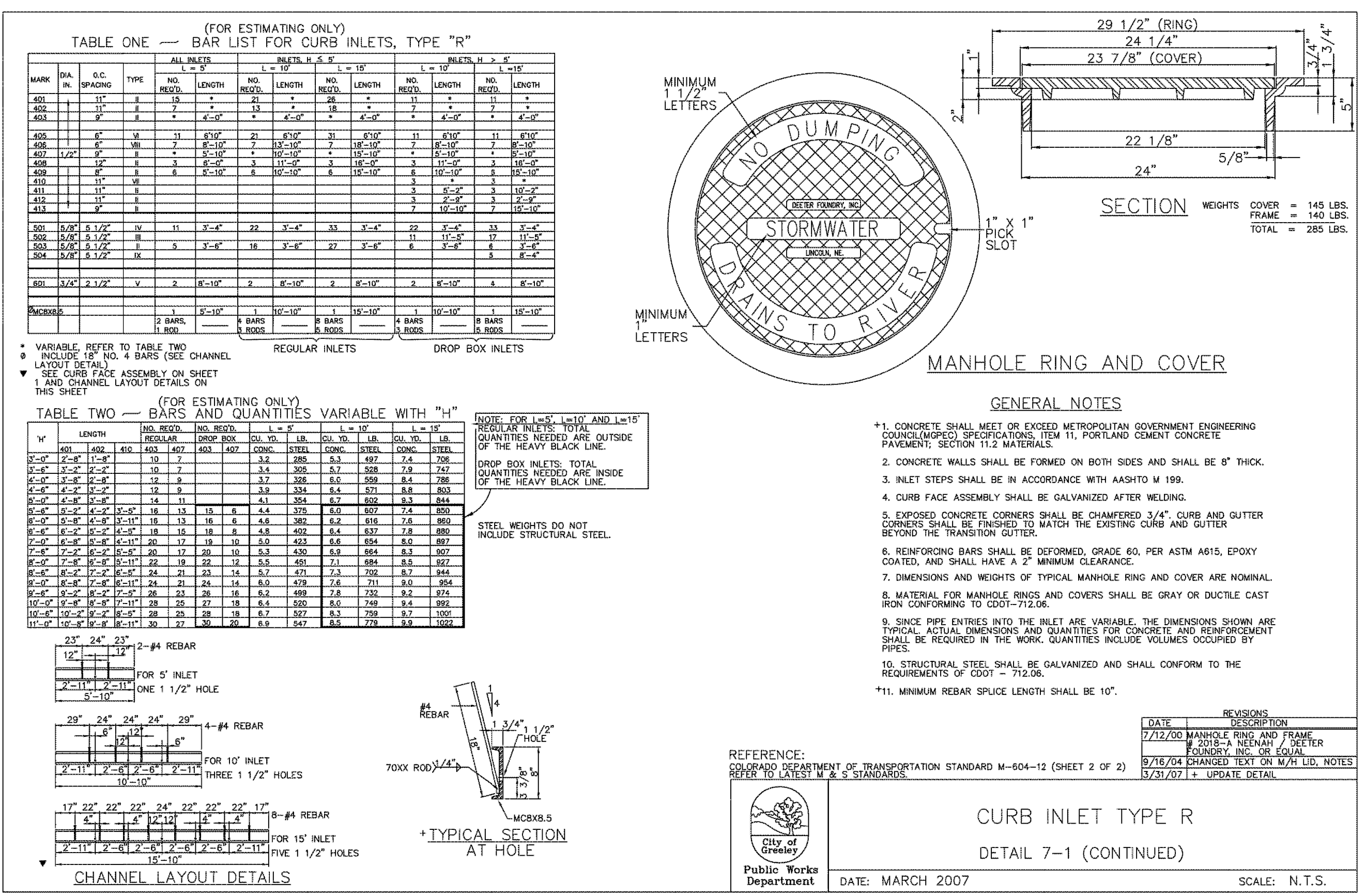
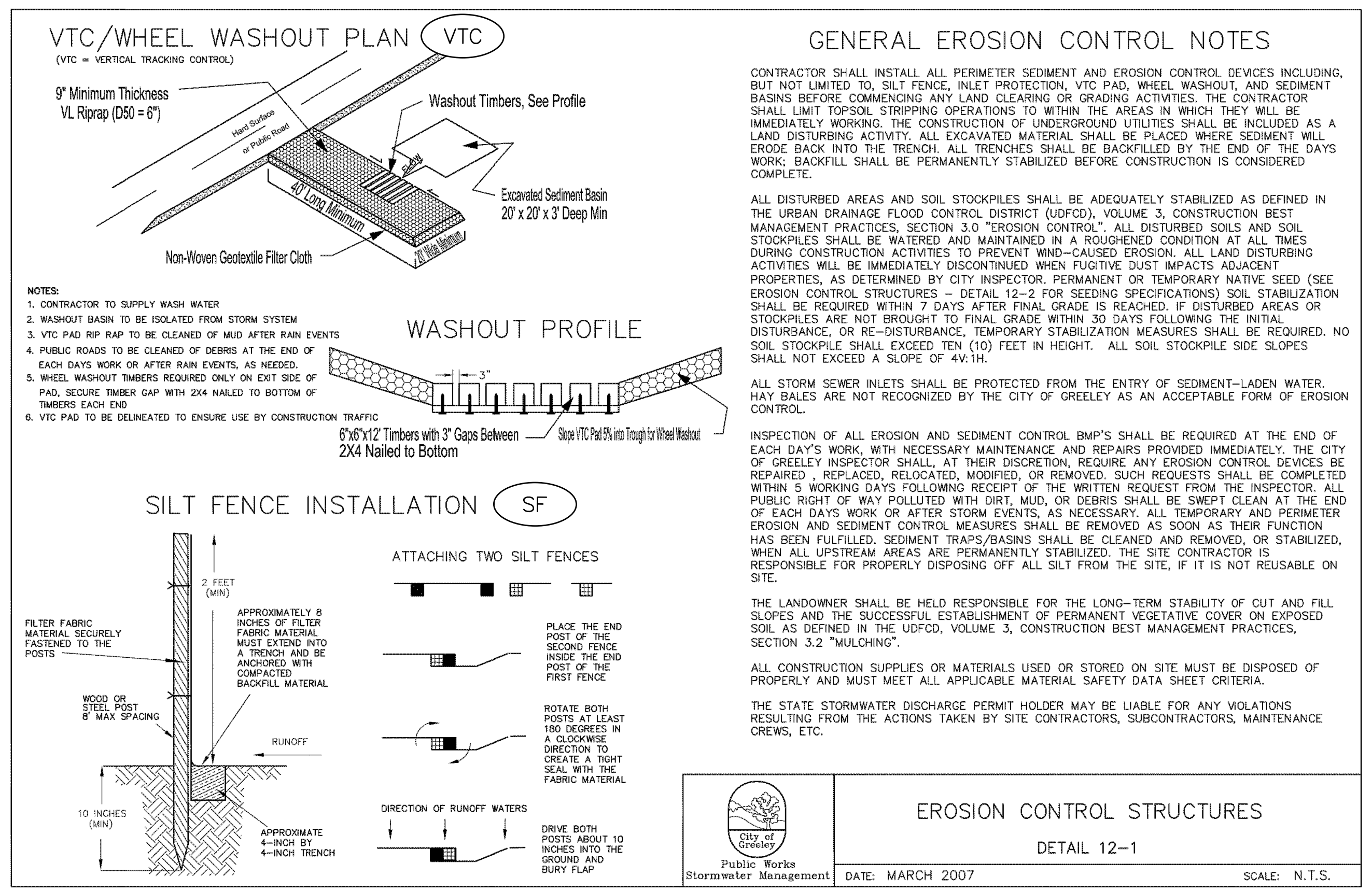
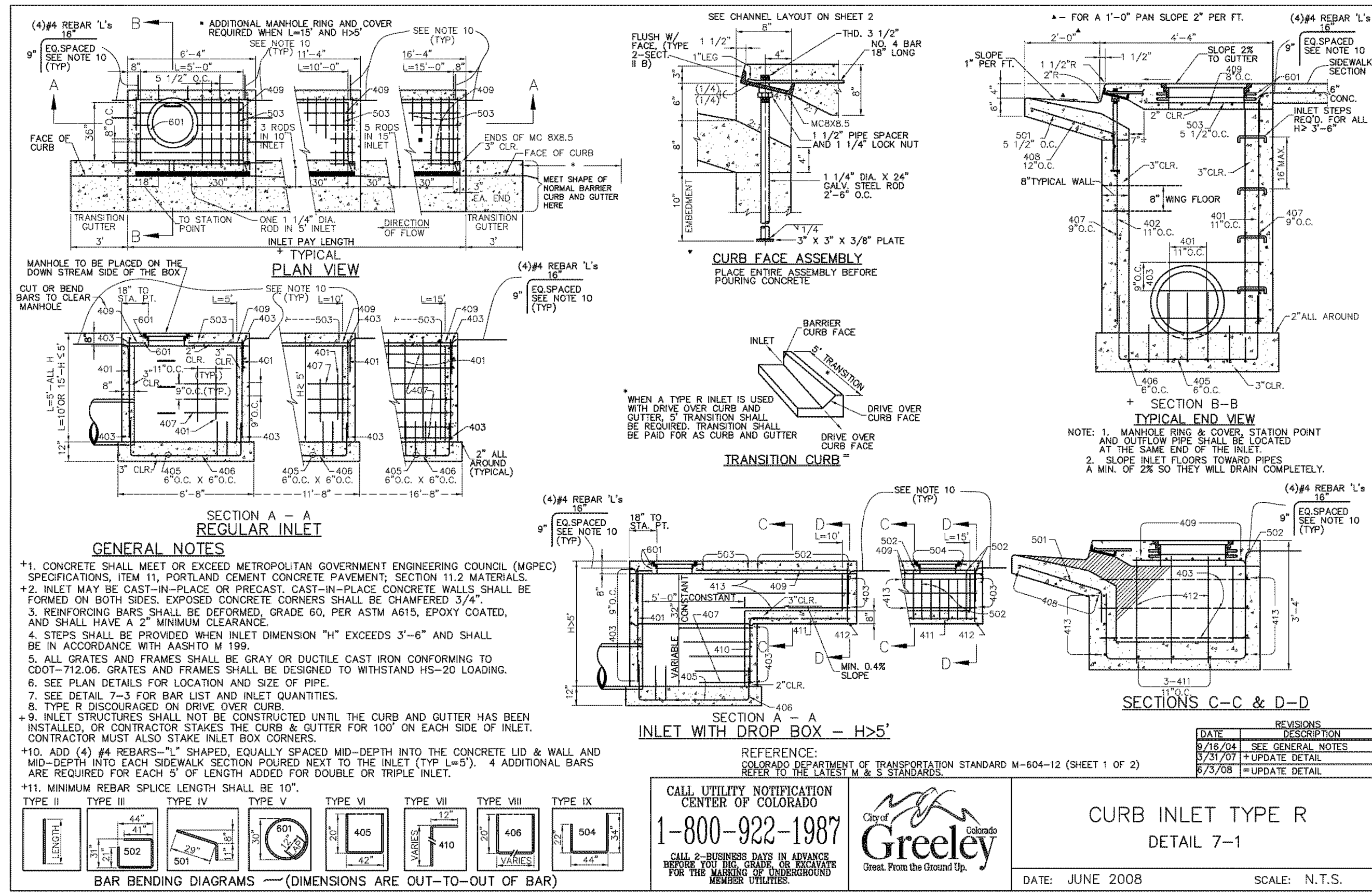
DATE: MARCH 2007 SCALE: N.T.S.



DATE: MARCH 2007 SCALE: N.T.S.



DATE: MAY 2016 SCALE: NTS



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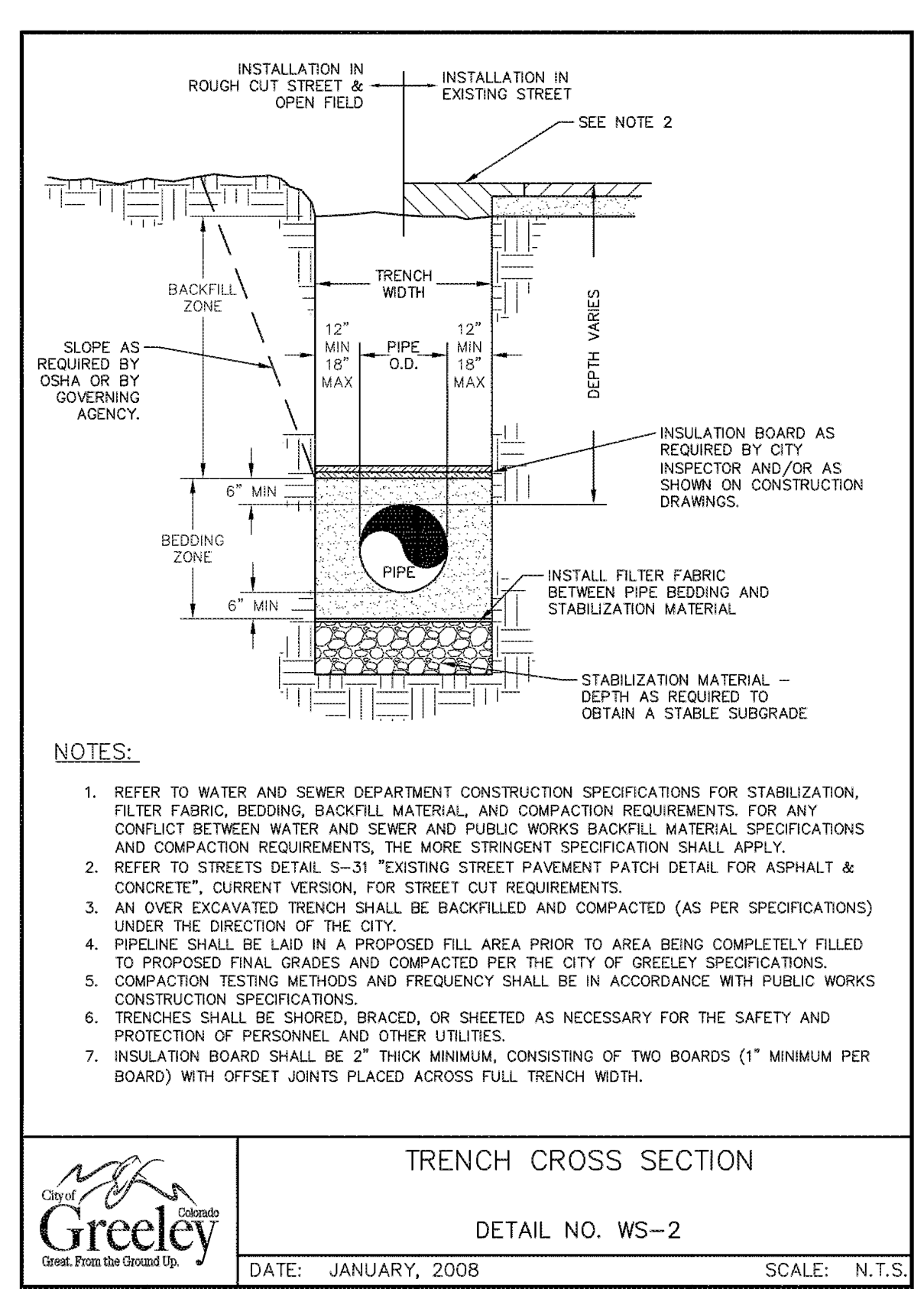
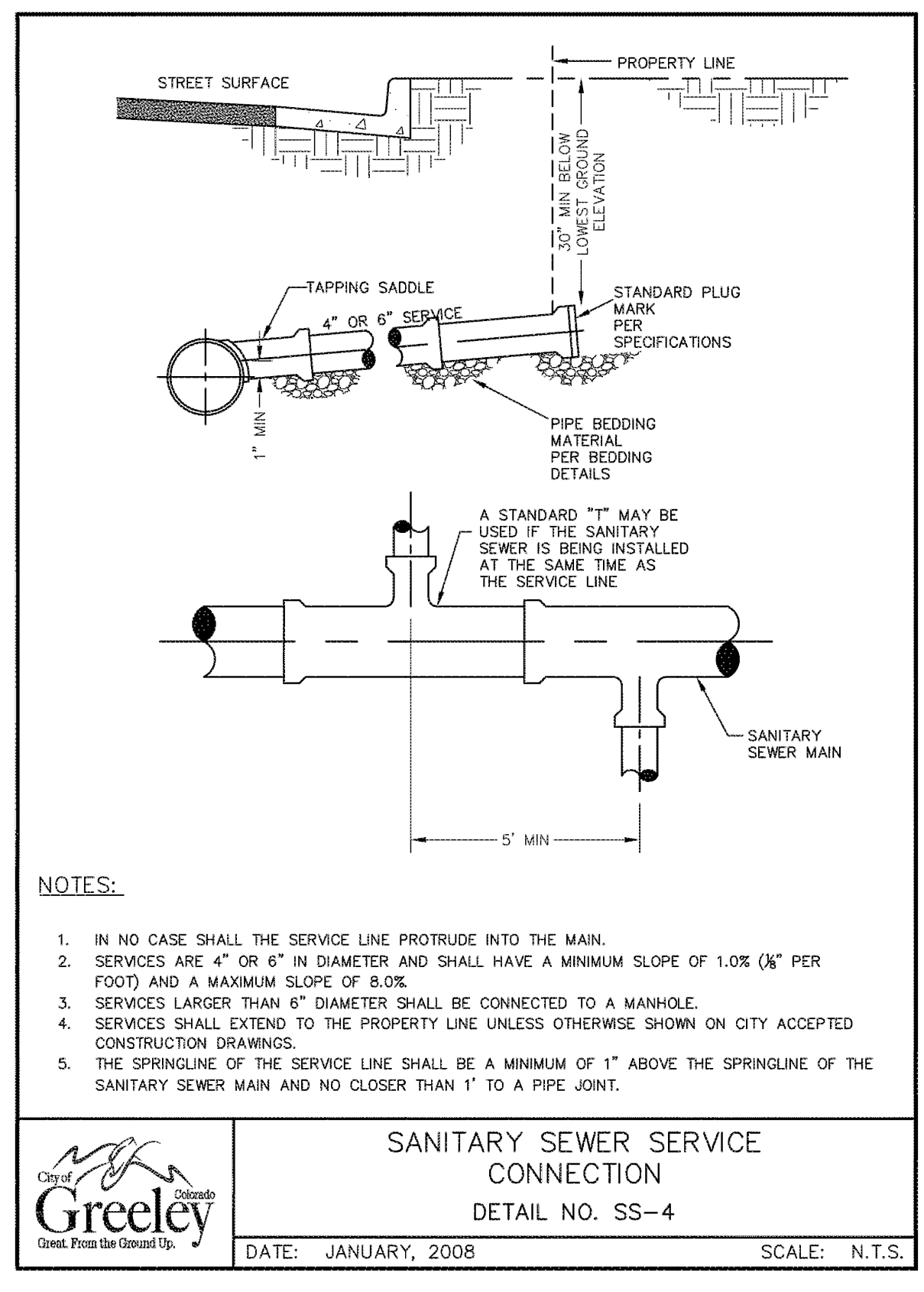
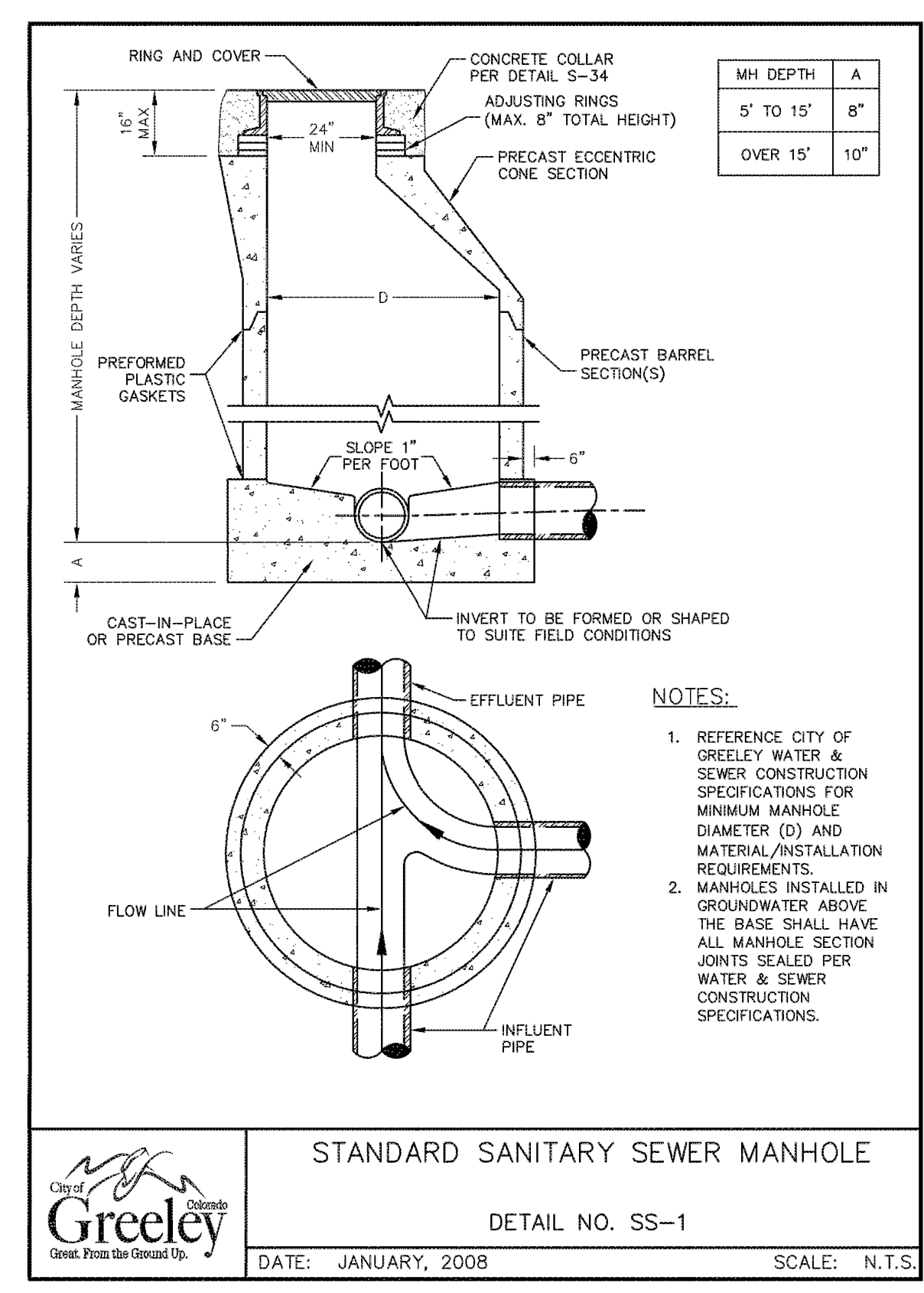
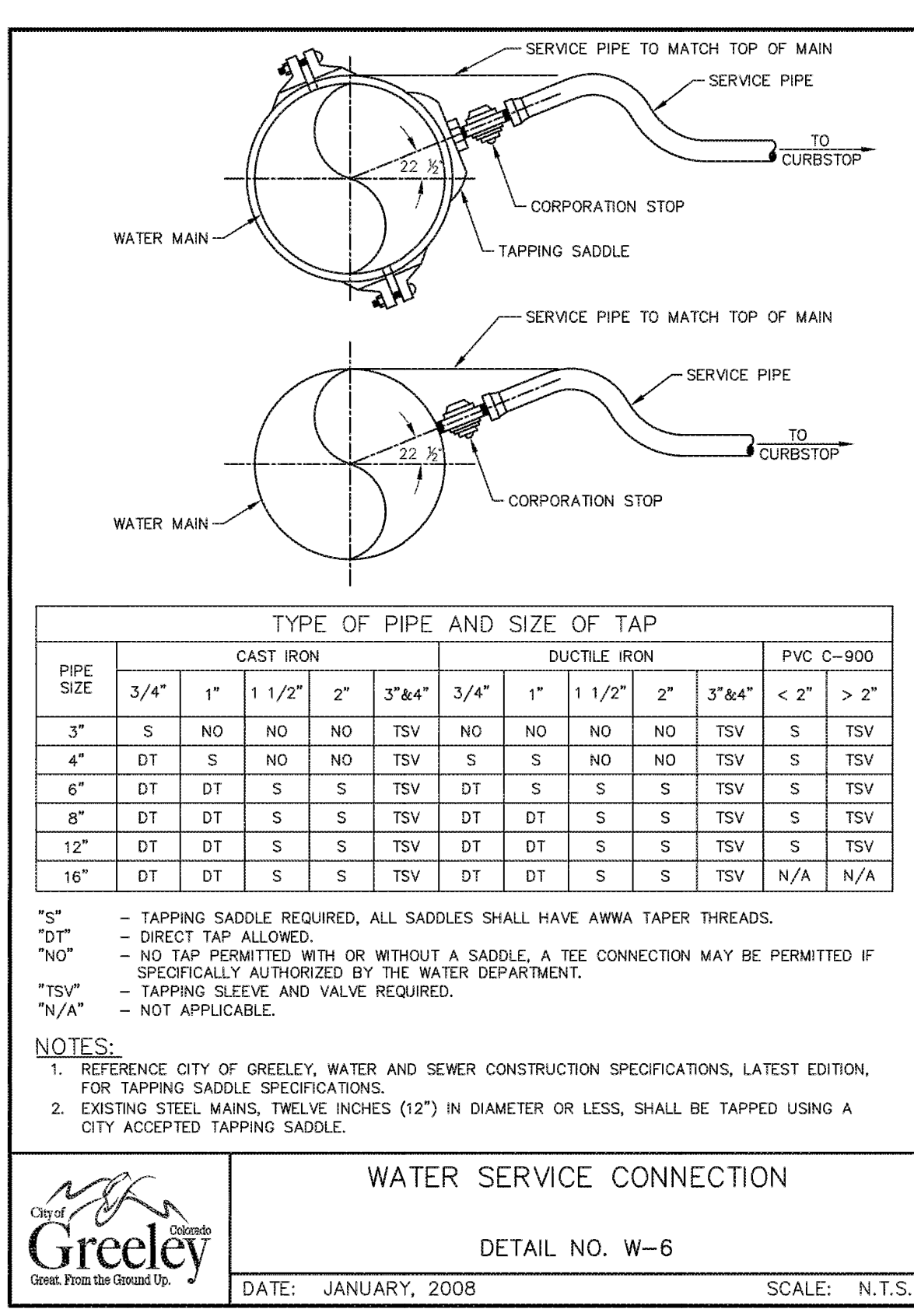
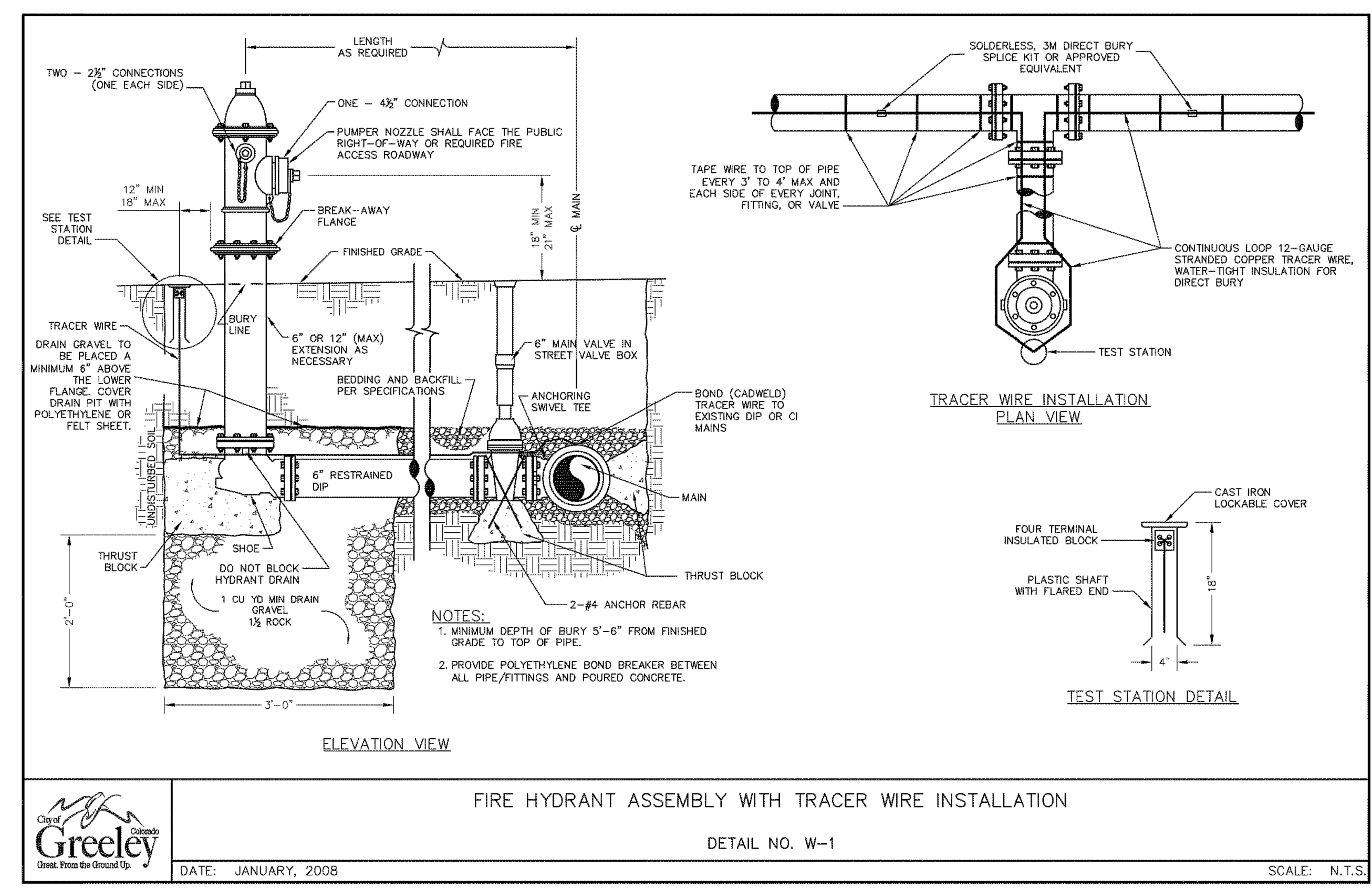
PREPARED FOR:
CITY OF GREELEY PUBLIC WORKS
ENGINEERING DIVISION
1001 9TH AVE
GREELEY CO 80631
PHONE: 970-350-9794

PROJECT NAME:
20TH STREET ROADWAY EXTENSION

DATE: 06/07/19
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SCALE (V): N/A
DESIGNED BY: SB
CHECKED BY: RA

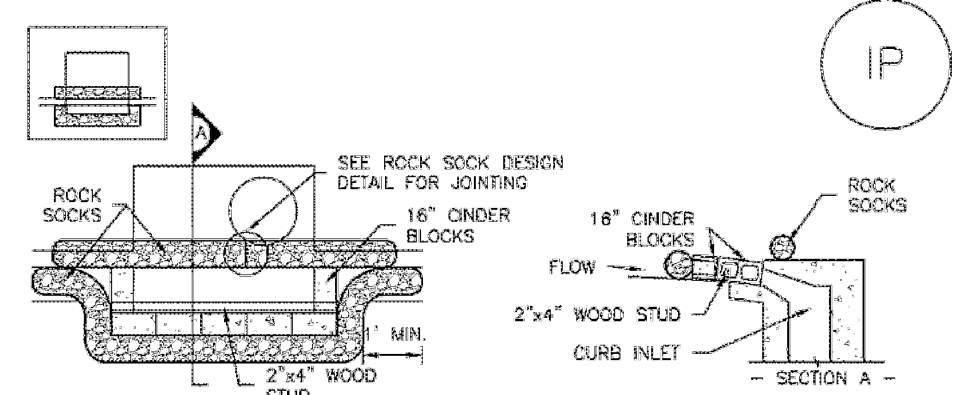
PROJ. NO. 1392-083-00

16 of 18



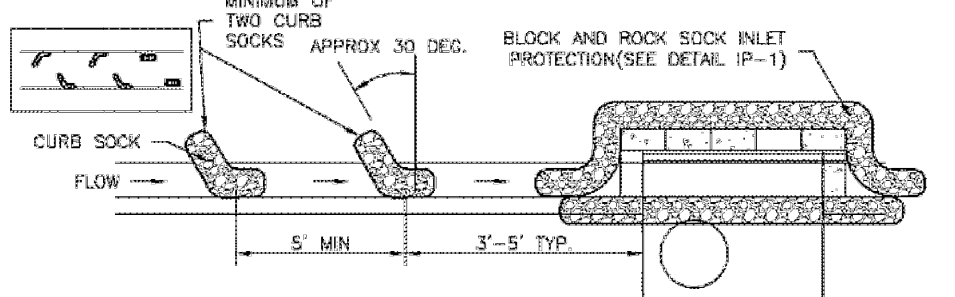
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SC-6 Inlet Protection (IP)



IP-1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

- BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES**
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
 2. CONCRETE "CHINER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
 3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.

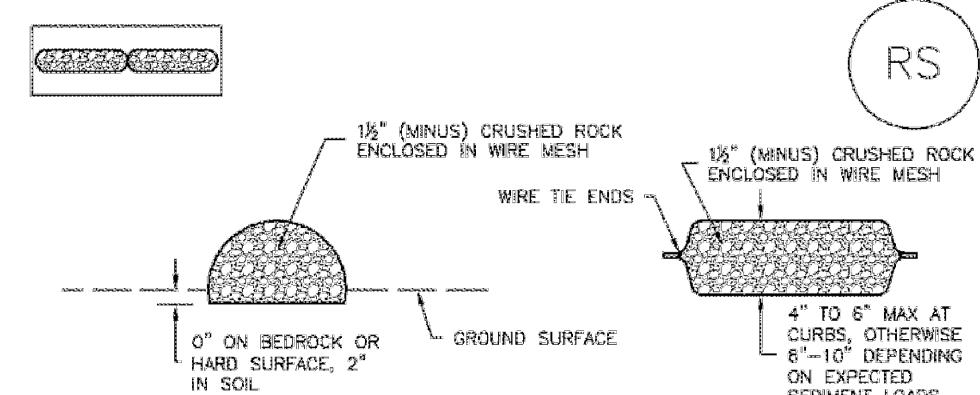


IP-2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

- CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES**
1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
 2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
 3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.
 4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.

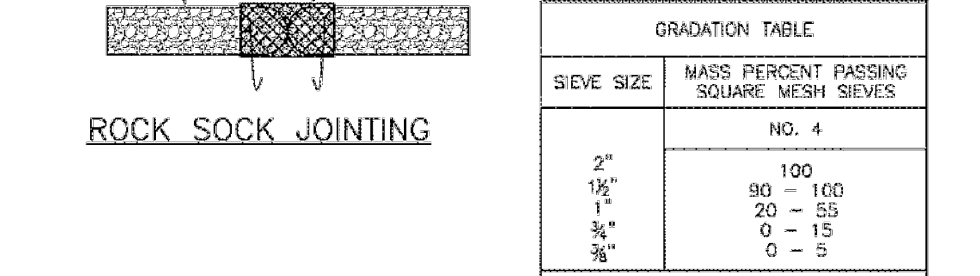
IP-4 Urban Drainage and Flood Control District August 2013
Urban Storm Drainage Criteria Manual Volume 3

SC-5 Rock Sock (RS)



ROCK SOCK SECTION **ROCK SOCK PLAN**

ANY GAP AT JOINT SHALL BE FILLED WITH AN ADEQUATE AMOUNT OF 1/2" (MINUS) CRUSHED ROCK AND WRAPPED WITH ADDITIONAL WIRE MESH SECURED TO ENDS OF ROCK REINFORCED SOCK. AS AN ALTERNATIVE TO FILLING JOINTS BETWEEN ADJOINING ROCK SOCKS WITH CRUSHED ROCK AND ADDITIONAL WIRE WRAPPING, ROCK SOCKS CAN BE OVERLAPPED (TYPICALLY 12-INCH OVERLAP) TO AVOID GAPS.



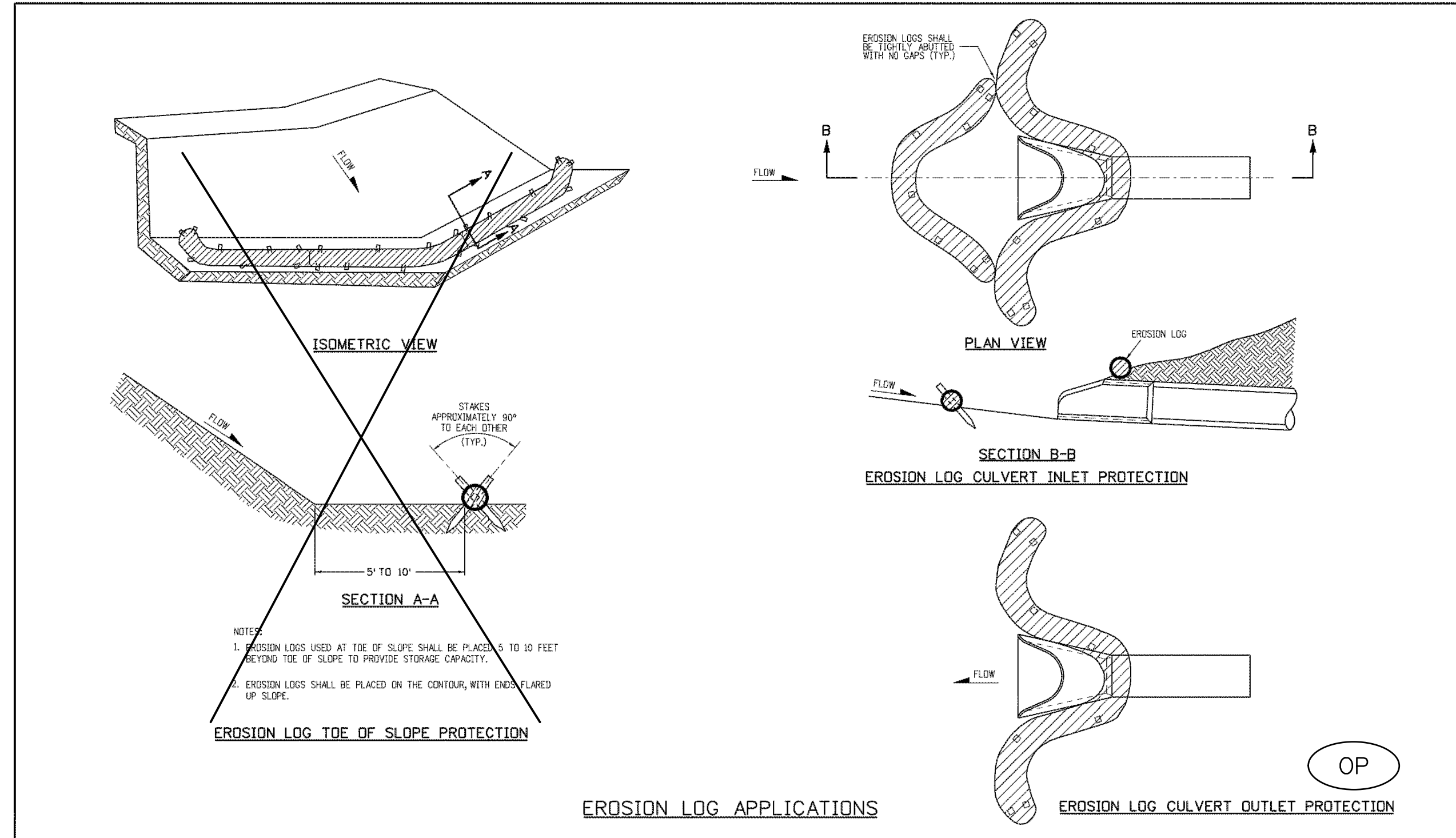
- ROCK SOCK INSTALLATION NOTES**
1. SEE PLAN VIEW FOR: -LOCATION(S) OF ROCK SOCKS.
 2. CRUSHED ROCK SHALL BE 1/2" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (1/2" MINUS).
 3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF 1/2", RECOMMENDED MINIMUM ROLL WIDTH OF 48"
 4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.
 5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
NO. 4	
2"	100
1/2"	90 - 100
1"	20 - 55
3/4"	0 - 15
3/8"	0 - 5

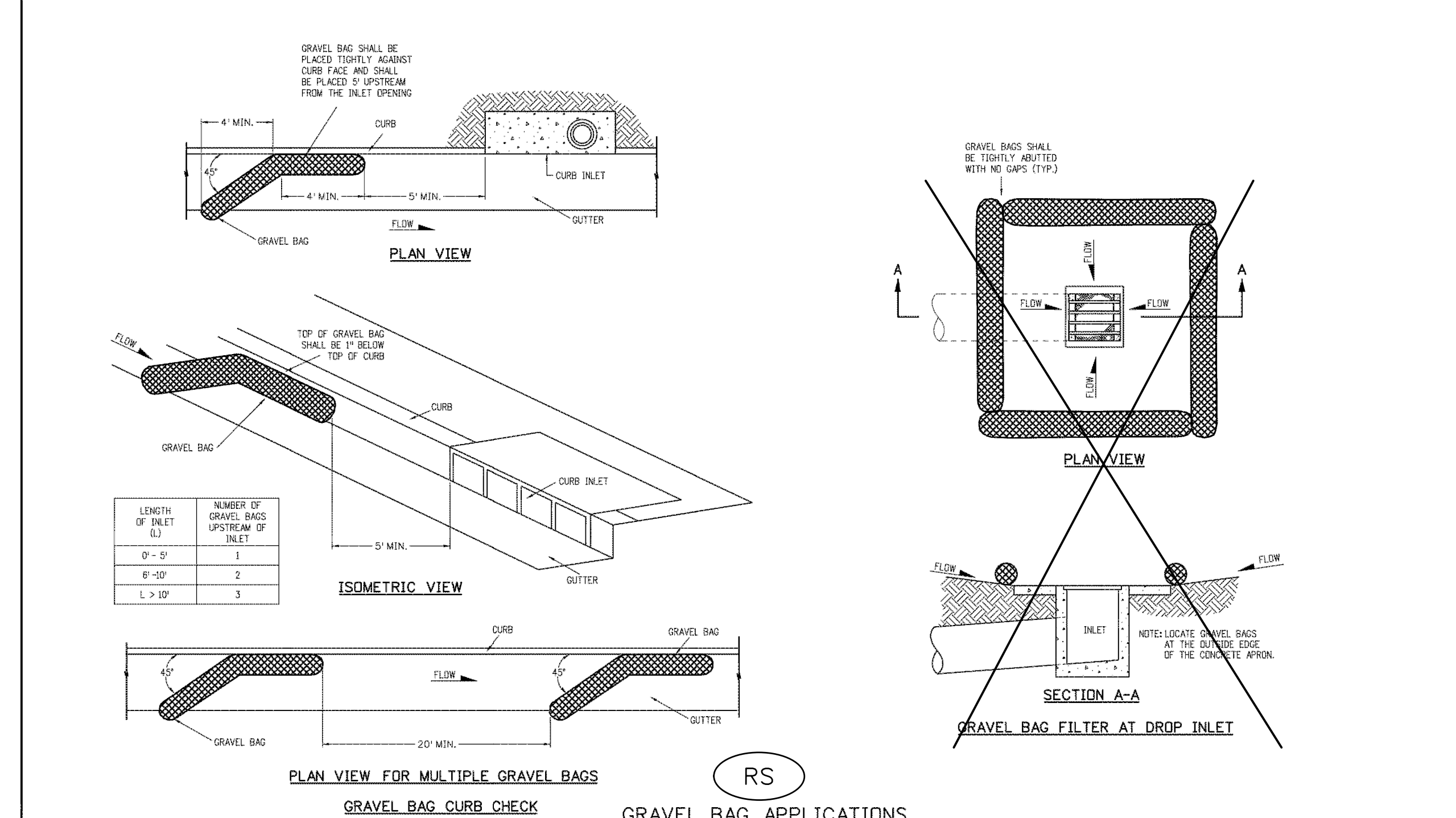
MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M33. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.

RS-1. ROCK SOCK PERIMETER CONTROL

RS-2 Urban Drainage and Flood Control District November 2010
Urban Storm Drainage Criteria Manual Volume 3



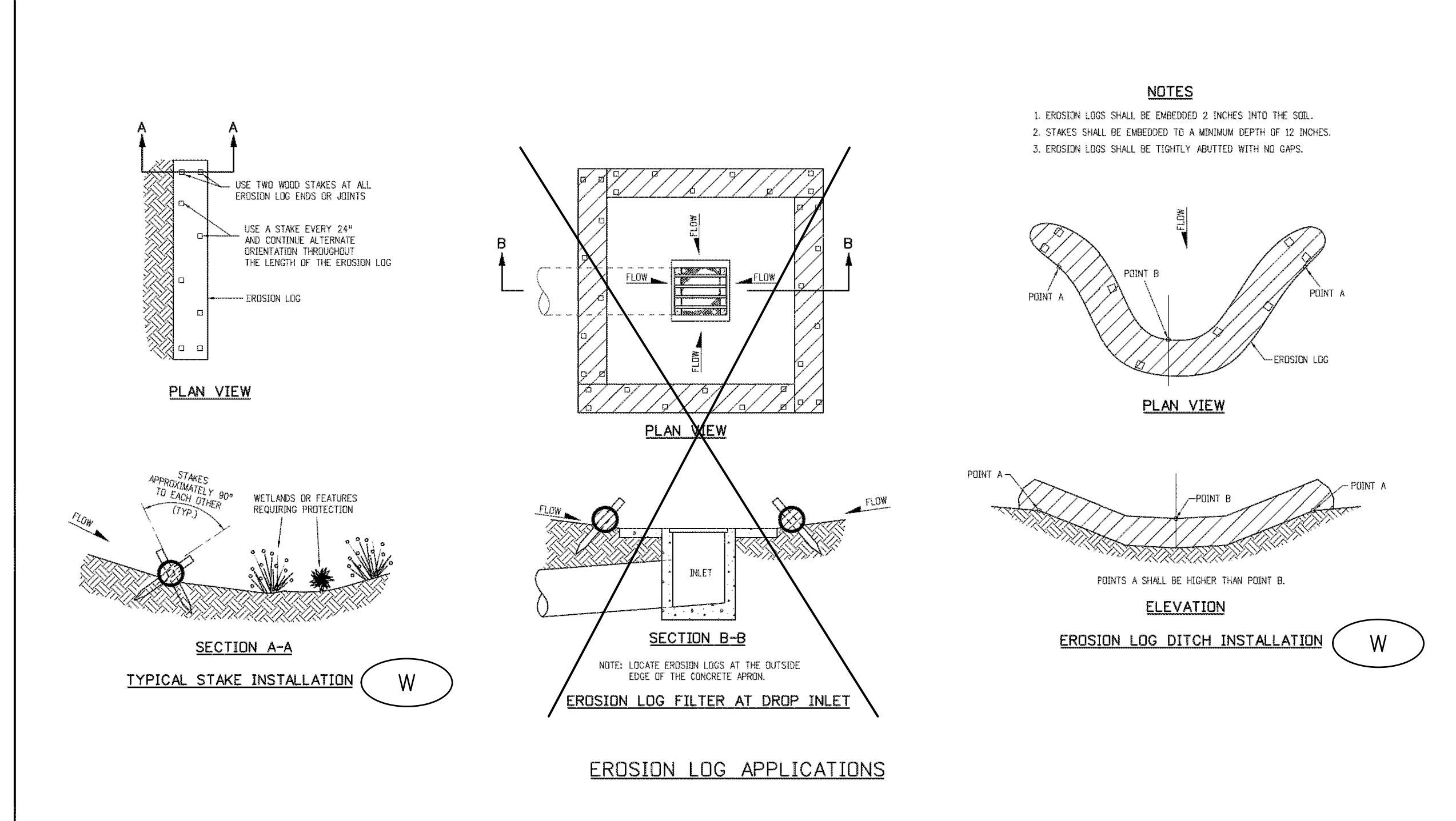
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Creation Date: 07/04/12	Initials: DLM	Date:	Comments	4201 East Arkansas Avenue		M-208-1		M-208-1	
Last Modification Date: 07/04/12	Initials: LTA			CDOT HQ, 4th Floor		Issued By: Project Development Branch on July 4, 2012		Sheet No. 3 of 10	
Full Path: www.colorado.gov/business/designsupport				Denver, CO 80222					
Drawing File Name: 2080103010.dgn				Phone: 303-757-9021 FAX: 303-757-9868					
CAD Ver: MicroStation V8	Scale: Not to Scale	Units: English		Division of Project Support		DLM/LTA			



LENGTH OF INLET (L)	NUMBER OF GRAVEL BAGS UPSTREAM OF INLET
0'-5'	1
6'-10'	2
L > 10'	3

RS

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CAD Ver: MicroStation V8	Scale: Not to Scale	Units: English		Division of Project Support		DLM/LTA			



- NOTES**
1. EROSION LOGS SHALL BE EMBEDDED 2 INCHES INTO THE SOIL.
 2. STAKES SHALL BE EMBEDDED TO A MINIMUM DEPTH OF 12 INCHES.
 3. EROSION LOGS SHALL BE TIGHTLY ABUTTED WITH NO GAPS.

W

Computer File Information		Sheet Revisions		Colorado Department of Transportation		TEMPORARY EROSION CONTROL		STANDARD PLAN NO.	
Creation Date: 07/04/12	Initials: DLM	Date:	Comments	4201 East Arkansas Avenue		M-208-1		M-208-1	
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