LEGEND	EXISTING	PROPOSED
PROPERTY BOUNDARY		
SECTION LINE		
LOT BOUNDARY		
EASEMENT		
SETBACK		
EDGE OF ASPHALT		
CURB		
CURB FLOWLINE		
1/2 FT CONTOUR	——————————————————————————————————————	5282
5/10 FT CONTOUR	— — —5280— — — —	5280
EDGE OF GRAVEL		
CENTER LINE OF DITCH	$\rightarrow - \cdots \rightarrow - \cdots \rightarrow - \cdots -$	$\rightarrow -\cdots \rightarrow -\cdots \rightarrow -\cdots -$
WATER MAIN	xwxwxwxw	
CURB STOP, GV, FH		
SIGN		
LIGHT POLE	\	☆
SEWER MAIN	xsxsxsxs	—s—s—s—
MANHOLE AND CLEANOUTS	S	(S) •
ELECTRICAL - UNDERGROUND	XEXEXE	— UGE —— UGE —— UGE
ELECTRICAL - OVERHEAD	XEXEXEXE	— OHE — OHE — OHE — OHE
ELECTRICAL - OVERHEAD - HIGH VOLTAGE		
ELECTRICAL-PRIMARY	XEXEXEXE	——E——E——E——E——
FIBER OPTIC		— го — го — го — го —
TELEPHONE	XTXTXTXT	
UNDERGROUND		— ugt —— ugt —— ugt —— ugt
UTILITY PEDESTALS	J) T E TV	T E TV
POWER POLE/ LIGHT POLE		
GAS	XGXGXG	GAS
FENCE	— x —— x —— x —	— x —— x —— x —
WOODEN FENCE		
PROPOSED EDGE OF CONCRETE DECK		
PROPOSED BUILDING		
OVERHANG		
SIDEWALK/ BOARDWALK		
BASE FLOOD CROSS SECTION		
FEMA SFHA BOUNDARY WALL		
VEGETATION OUTLINE PROPERTY CORNERS		
STORM INLET		
CULVERT		
ASPHALT		
CONCRETE	4	
GRAVEL/SOFT SURFACE		
ROCK/RIP RAP		
WETLANDS/WETLANDS REMOVAL		

C2 SHEET# ABOVE FINISHED FLOOR INVERT LINEAL FEET ANGLE POINT LOW POINT **APPROXIMATE** ASPHALT MAXMAXIMUM MINIMUM BASE FLOOD ELEVATION MOD MODULE BASEMENT FINISH FLOOR BOW **BOTTOM OF WALL** NATURAL GROUND **BEGIN VERTICAL CURVE** NUMBER BACK OF WALK NOT TO SCALE CURB **CENTERLINE** OVERHEAD DOOR POINT OF CURVATURE CLNG CEILING CMP CORRUGATED METAL PIPE PEDESTAL C/O POINT OF INTERSECTION **CLEAN OUT** CONC CONCRETE PROPERTY LINE CNR PROPOSED CORNER **CURB RETURN** POINT OF VERTICAL CURVE **CURB STOP** POLYVINYL CHLORIDE PIPE POINT OF VERTICAL INTERSECTION DRAIN INLET **DUCTILE IRON PIPE** DMH DRAINAGE MANHOLE **RADIUS** DRN ROUGH OPENING DRAIN DITCH **ROW** RIGHT-OF-WAY DRIVEWAY RETAINING WALL SPECIAL FLOOD HAZARD AREA EACH SFHA SQFT EXISTING GRADE SQUARE FEET **ELEV ELEVATION** SMH SEWER MANHOLE **ENGINEER** SANITARY SEWER **ENGR** EDGE OF ASPHAL **EOW STRUCT** STRUCTURAL EDGE OF WALK **EXISTING** SIDEWALK FES FLARED END SECTION THRUST BLOCK FINISH FLOOR ELEVATION TBD TO BE DETERMINED FINISH GRADE TBR TO BE REMOVED FIRE HYDRAN1 TOP BACK OF WALK TEL FLOW LINE FOOT OR FEET TOP OF PIPE GARAGE FFE **TYPICAL GRADE BREAK** GYPSUM VOL VOLUME GATE VALVE VALLEY PAN HANDICAP RAMP WIDTH HIGH POINT WATERLINE WITH

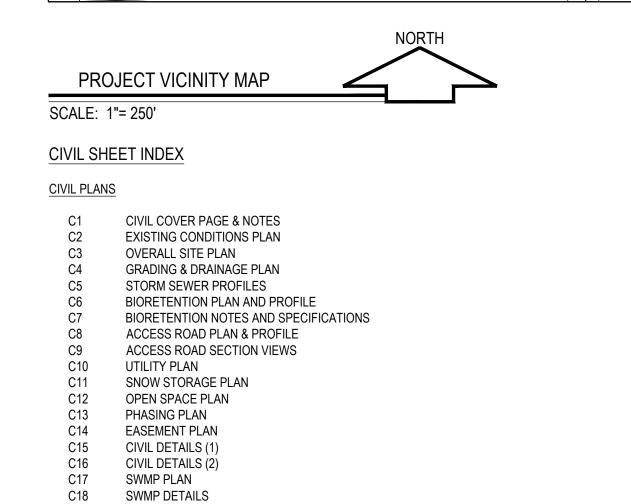
WQ

WATER QUALITY

CIVIL CONSTRUCTION PLANS for Holiday Inn Express and Hotel B INDIAN MEADOWS FIL. NO. 4, LOTS 1 & 2

3500 S. LINCOLN AVENUE





LANDSCAPE PLANS

LANDSCAPE MASTER PLAN LANDSCAPE AREA DELINEATION PLAN

PROJECT CONTACT LIST

PROJECT OWNER

GRAY STONE, LLC - BOB AMIN bobamin@live.com CELL 83 E. 112th Ave (303)-895-4594 Thornton, CO 80233

PROJECT ARCHITECT

DESIGN 2 FUNCTION - NICK PIRKL nick@design2functionllc. OFFICE: (505)-823-6481 P.O. Box 93368 Albuquerque, NM 87199

CIVIL ENGINEER

ENGINEERING

DATE: 06/30/2025

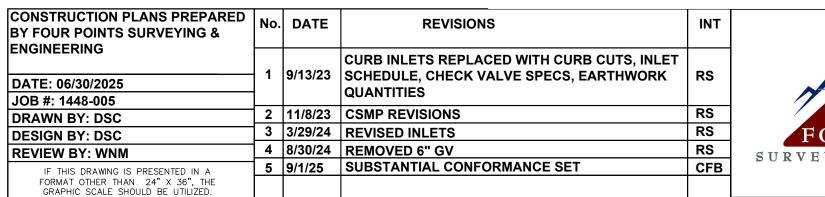
JOB #: 1448-005

DRAWN BY: DSC

DESIGN BY: DSC

FOUR POINTS SURVEYING AND ENGINEERING (970) 871-6772 ATTN: WALTER MAGILL, P.E. CELL: (970) 819 1161 walterm@fourpointsse.cc 440 S. Lincoln Ave, Suite 4B EMAIL: P.O. Box 775966 Steamboat Springs, CO 80487

Digitally Signed by: Walter N. Magill, P.E. Four Points Surveying and Engineering





HOLIDAY INN EXPRESS PARKING STALL CALCULATIONS

* ALL STANDARD PARKING STALLS SHALL BE 9'X18'

HOTEL B PARKING STALL CALCULATIONS:

NO. OF HOTEL GUEST ROOMS

HOTEL ROOM STALLS REQ'D

TOTAL STALLS REQ'D,

TOTAL STALLS PROVIDED

CREDIT FOR TRANSIT PROX., 10%

* ALL PARKING STALLS SHALL BE 9'X18'

* ALL ADA ACCESSIBLE PARKING STALLS SHALL BE 8'X18'

* ALL ADA ACCESSIBLE PARKING STALLS SHALL BE 8'X18'

(73)

(73)

NO. OF HOTEL GUEST ROOMS

STAFF DORMITORY ROOMS

HOTEL ROOM STALLS REQ'D

TOTAL STALLS REQ'D,

TOTAL STALLS PROVIDED

CREDIT FOR TRANSIT PROX., 109

Four Points Surveying & Engineering 410 S. Lincoln Ave, Suite 15 P.O. Box 775966 Steamboat Springs, CO 80487 (970)-871-6772 walterm@fourpointsse.com

GENERAL NOTES:

1. BENCHMARK = FOUND RED PLASTIC CAP ON #5 REBAR IN THE NORTHWEST PROPERTY CORNER, ELEVATION = 6765.29 (SEE EXISTING CONDITIONS PLAN)

9. PRIOR TO ANY WORK IN THE RIGHT-OF-WAY INCLUDING STREET CUTS, CONTACT ROUTT COUNTY ROAD AND BRIDGE FOR PERMIT REQUIREMENTS.

- 2. EXISTING CONDITIONS SURVEYED BY FOUR POINTS SURVEYING & ENGINEERING. TOPOGRAPHY GENERATED FROM A COMBINATION OF FIELD SURVEY DATA AND 2018 ROUTT COUNTY GIS LIDAR DATA.
- RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF THE DRAWINGS. DESIGN, DIMENSIONS, AND ELEVATIONS SHALL BE CONFIRMED AND CORRELATED AT THE JOB SITE
- 5. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES. CALL THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT 1-800-922-1987 AND ANY NECESSARY PRIVATE UTILITY TO PERFORM LOCATES
- 6. ALL INFRASTRUCTURE CONSTRUCTION AND RELATED WORK SHALL CONFORM TO THE CITY OF STEAMBOAT SPRINGS STANDARD SPECIFICATIONS, LATEST REVISION.
- 7. ALL WATER AND SANITARY SEWER CONSTRUCTION AND RELATED WORK SHALL CONFORM TO MOUNT WERNER WATER STANDARD SPECIFICATIONS, LATEST EDITION.
- 8. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS REQUIRED TO PERFORM THE WORK SUCH AS RIGHT-OF-WAY PERMIT, GRADING AND EXCAVATION PERMIT, CONSTRUCTION DEWATERING PERMIT, STORM WATER QUALITY PERMIT, ARMY CORP OF ENGINEER PERMIT, ETC. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN A COPY OF ALL APPLICABLE CODES, LICENSES, SPECIFICATIONS, AND STANDARDS NECESSARY TO PERFORM THE WORK, AND BE FAMILIAR WITH THEIR CONTENTS PRIOR TO COMMENCING ANY WORK.
- 10.PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL COORDINATE WITH PROJECT ENGINEER TO IDENTIFY PROJECT INSPECTION AND TESTING REQUIREMENTS. CONTRACTOR SHALL PROVIDE FOR INSPECTIONS AND TESTING AT AN ADEQUATE FREQUENCY FOR THE PROJECT ENGINEER TO DOCUMENT THAT PROJECT IS CONSTRUCTED IN CONFORMANCE WITH THE APPROVED PLANS AND
- SPECIFICATIONS. PRIOR TO MAKING ANY CHANGES TO THE
- 11.CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY TRAFFIC CONTROL. TRAFFIC CONTROL SHALL BE IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST
- 12.CONTRACTOR SHALL PROVIDE ALL NECESSARY TRAFFIC CONTROL (SIGNS, BARRICADES, FLAGMEN, LIGHTS, ETC) IN ACCORDANCE WITH THE MUTCD, CURRENT EDITION 13.CONTRACTOR MUST SUBMIT A CONSTRUCTION SITE MANAGEMENT PLAN (CSMP) AND EROSION CONTROL PLAN (ECP) FOR REVIEW AND APPROVAL BY ROUTT COUNTY PLANNING PRIOR TO START OF
- CONSTRUCTION. THE CSMP AND ECP MUST BE MAINTAINED ON-SITE AND UPDATED AS NEEDED TO REFLECT CURRENT CONDITIONS. 14.THE FOLLOWING PRIVATE IMPROVEMENTS REQUIRE CONSTRUCTION OBSERVATION PER THE CITY OF STEAMBOAT SPRINGS ENGINEERING SERVICES SPECIFICATION OR AS REQUIRED BY THE CITY: WATER
- 15.RECORD DRAWINGS ARE REQUIRED FOR: PUBLIC AND PRIVATE WATER AND SEWER.
- 16.ALL STORMWATER PIPE OUTFALLS REQUIRE FLARED END SECTIONS AND RIPRAP.
- 17.EXISTING ASPHALT PAVEMENT SHALL BE STRAIGHT SAW CUT WHEN ADJOINING WITH NEW ASPHALT PAVEMENT OR WHEN ACCESS TO UNDERGROUND UTILITIES IS REQUIRED. TACK COAT SHALL BE APPLIED
- TO ALL EXPOSED SURFACES INCLUDING SAW CUTS, POTHOLES, TRENCHES, AND ASPHALT OVERLAY. ASPHALT PATCHES IN THE RIGHT-OF-WAY SHALL BE PER ROUTT COUNTY ROAD AND BRIDGE **SPECIFICATIONS**

WATER, SEWER AND UTILITY NOTES:

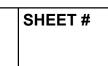
- 1. EXISTING UTILITY LOCATIONS WERE OBTAINED FROM FIELD LOCATES AND FIELD SURVEYING AND HAVE NOT BEEN VERIFIED WITH ANY ADDITIONAL UNDERGROUND POTHOLING. POTHOLING AND VERIFICATION OF LINE LOCATIONS SHALL BE REQUIRED AT ALL EXISTING UTILITY CROSSINGS.
- 2. MINIMUM SEPARATION BETWEEN PARALLEL WATER AND SEWER MAINS AND SERVICES IS TEN (10') FEET. MINIMUM SEPARATION BETWEEN PARALLEL WATER AND SEWER SERVICE LINES IS TEN (10') FEET.
- 3. ALL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF MOUNT WERNER WATER STANDARDS AND SPECIFICATIONS, LATEST EDITION.
- 4. MINIMUM COVER FROM FINISHED GRADE TO TOP OF WATER MAIN LINE IS SEVEN (7') FEET UNLESS OTHERWISE NOTED. ALL WATER SERVICE LINES SHALL BE TYPE "K" COPPER AND SEAMLESS BETWEEN
- 5. MINIMUM SEPARATION BETWEEN UTILITY PEDESTALS AND FIRE HYDRANTS IS FIFTEEN (15') FEET. MINIMUM SEPARATION BETWEEN FIRE HYDRANTS, WATER OR SEWER MAINS, AND ENDS OF CULVERTS IS

FIVE (5') FEET. MINIMUM SEPARATION BETWEEN WATER AND SEWER SERVICE LINES IS TEN (10') FEET. NO RIP-RAP IS PERMITTED WITHIN TEN (10') FEET OF A SEWER MAIN.

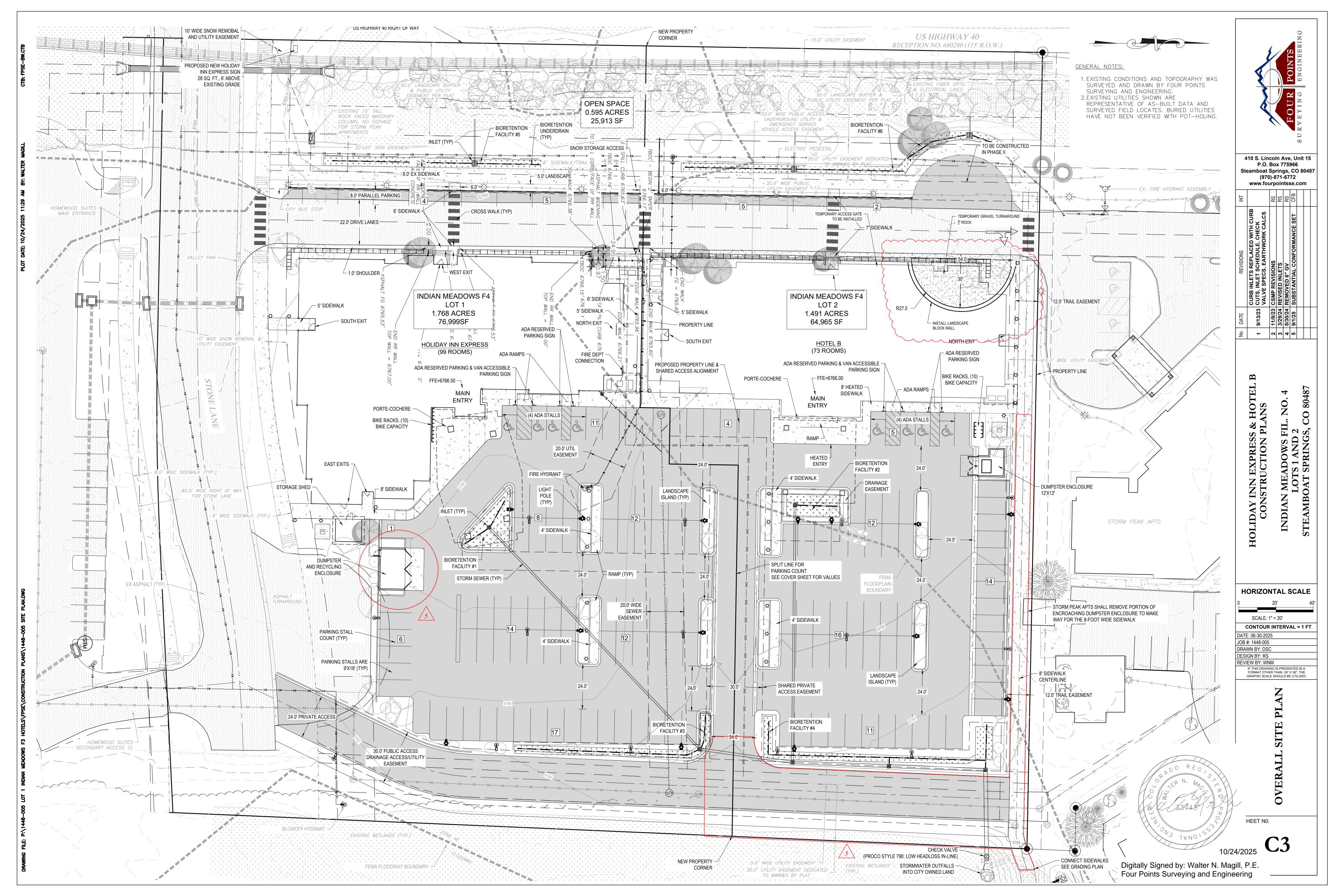
- SEWER SERVICES ARE ANTICIPATED TO BE FOUR (4") INCH DIAMETER, SDR 35 PVC, MINIMUM SLOPE OF 2%, UNLESS NOTED OTHERWISE. 7. WATER SERVICES ARE ANTICIPATED TO BE ONE (1") INCH DIAMETER, COPPER TYPE K, UNLESS NOTED OTHERWISE.
- 8. DISINFECTION, BACTERIOLOGICAL, AND HYDROSTATIC TESTING IS REQUIRED FOR THE 8" DIP WATER/FIRE SERVICE PIPE. 9. ALL MECHANICAL JOINTS, RESTRAINT, THRUST BLOCKS AND CROSSING MUST BE OBSERVED BY THE ENGINEER PRIOR TO THE PLACEMENT OF BACKFILL
- 10.MECHANICAL RESTRAINTS AND THRUST BLOCKS ARE REQUIRED AT ALL BENDS, TEES, REDUCERS AND DEAD ENDS.
- 11.ALL FITTINGS ASSOCIATED WITH UTILITY INSTALLATION WILL BE ON-SITE PRIOR TO WATER LINE SHUT DOWN

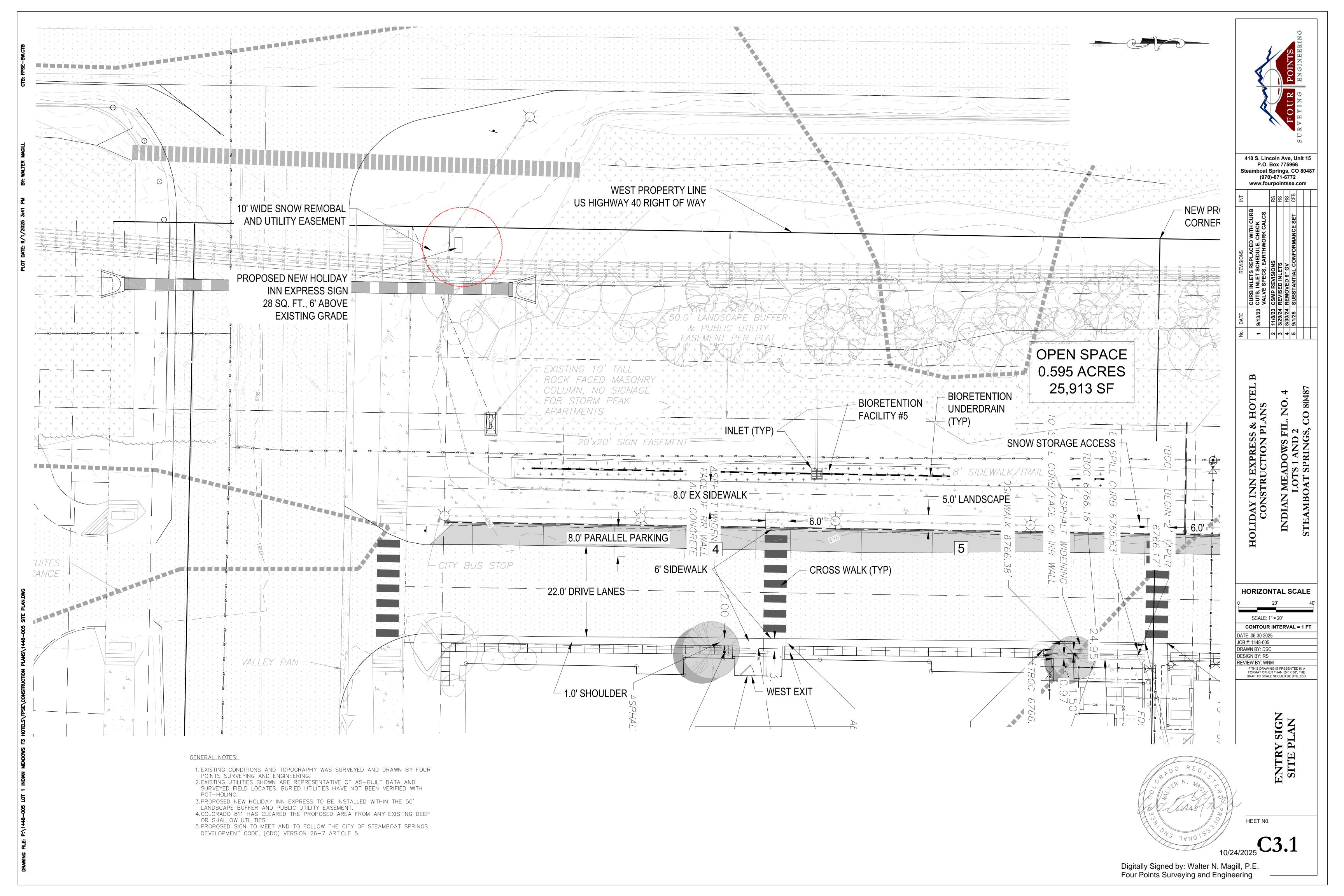
Zoning	CS		
Frontage (US HWY 40)	200 LF		
Gross Site Area	2.067 Acres (90,038 SF)		
Use Breakdown	Description	Square Footage (Net Floor Area)	# of Rooms
Principal Use	Commercial Lodging		95
Standards	Zone District Requirements	Proposed	Variance? (Y/N)
Lot Area	No Min, No Max	2.067 Acres (90,038 SF)	N
Lot Coverage	No Max		N
Floor Area Ratio	No Max		N
Building Height	63' Max		N
Frontage Building Height	26' min		N
Front Setback	5' Min, 20' Max (with conds.)	114.0'	N (note 2 CS Zoning
Side Setback	7.5' Min	12.0'	N
Rear Setback	7.5' Min	> 100.0'	N
Second Story Intensity	50% Min	100%	N
Parking (9'X18')	86 Stalls	90	N
Snow Storage	16,640 SF	16,790 SF	N
Lot Width	25' Min	242'	N
Open Space Square Footage	15% Min	30%	N
Fronatge Parking Lot Placement	30' Min	75.0'	N

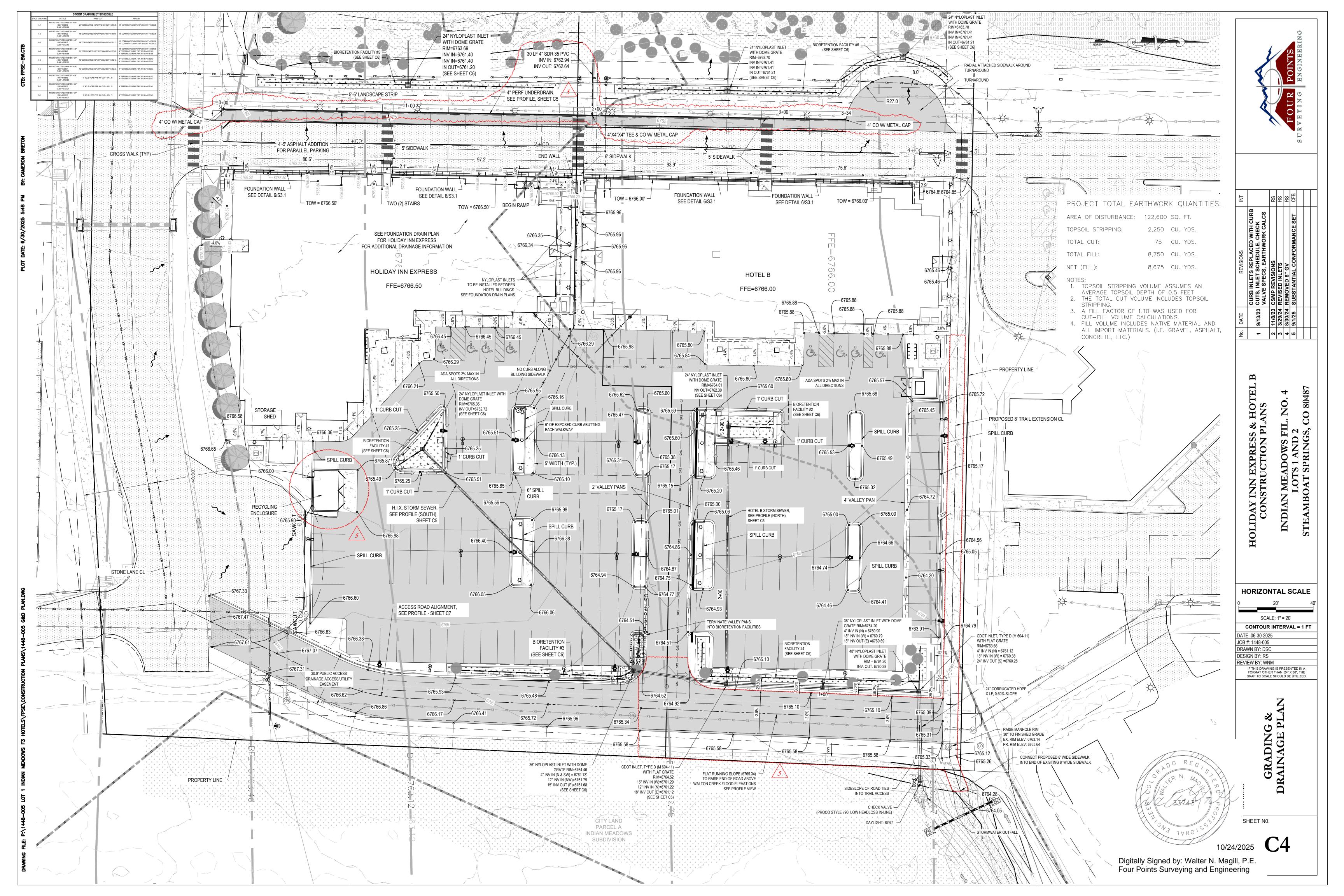
Zoning	cs		
Frontage (US HWY 40)	213 LF		
Gross Site Area	1.808 Acres (78,770 SF)		
Use Breakdown	Description	Square Footage (Net Floor Area)	# of Rooms
Principal Use	Commercial Lodging		73
Standards	Zone District Requirements	Proposed	Variance? (Y/N)
Lot Area	No Min, No Max	1.808 Acres (78,770 SF)	N
Lot Coverage	No Max		N
Floor Area Ratio	No Max		N
Building Height	63' Max		N
Frontage Building Height	26' min		N
Front Setback	5' Min, 20' Max (with conds.)	114.0'	N (note 2 CS Zoning)
Side Setback	7.5' Min	12.0'	N
Rear Setback	7.5' Min	>100.0'	N
Second Story Intensity	50% Min	100%	N
Parking (9'X18')	66 Stalls	69	N
Snow Storage	14,490 SF	15,330 SF	N
Lot Width	25' Min	160'	N
Open Space Square Footage	15% Min	34%	N
Fronatge Parking Lot Placement	30' Min	75.0'	N

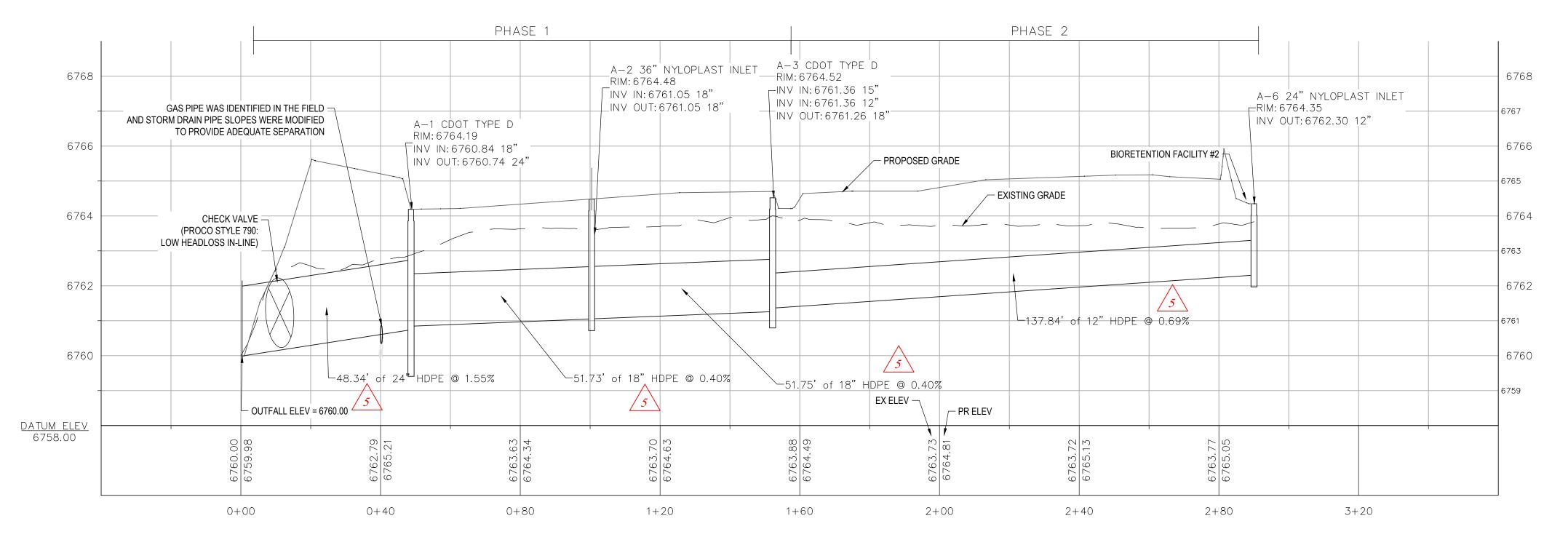




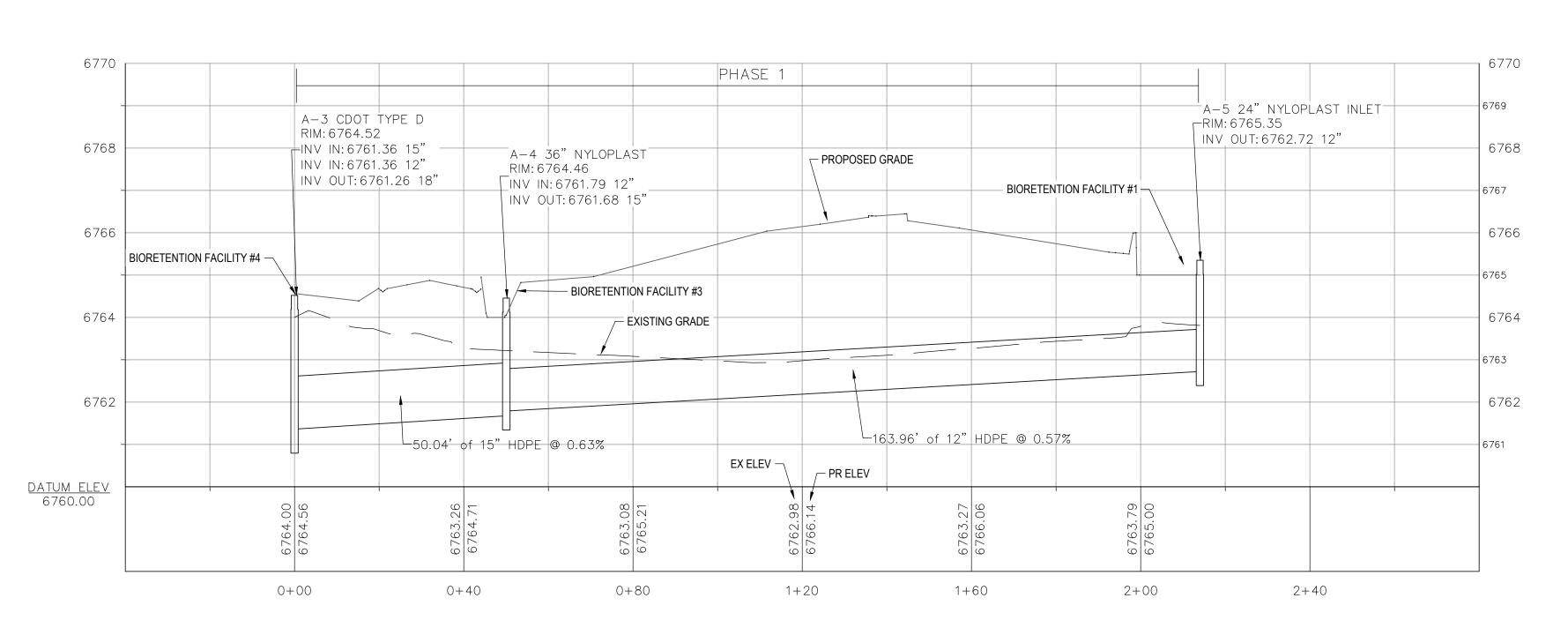




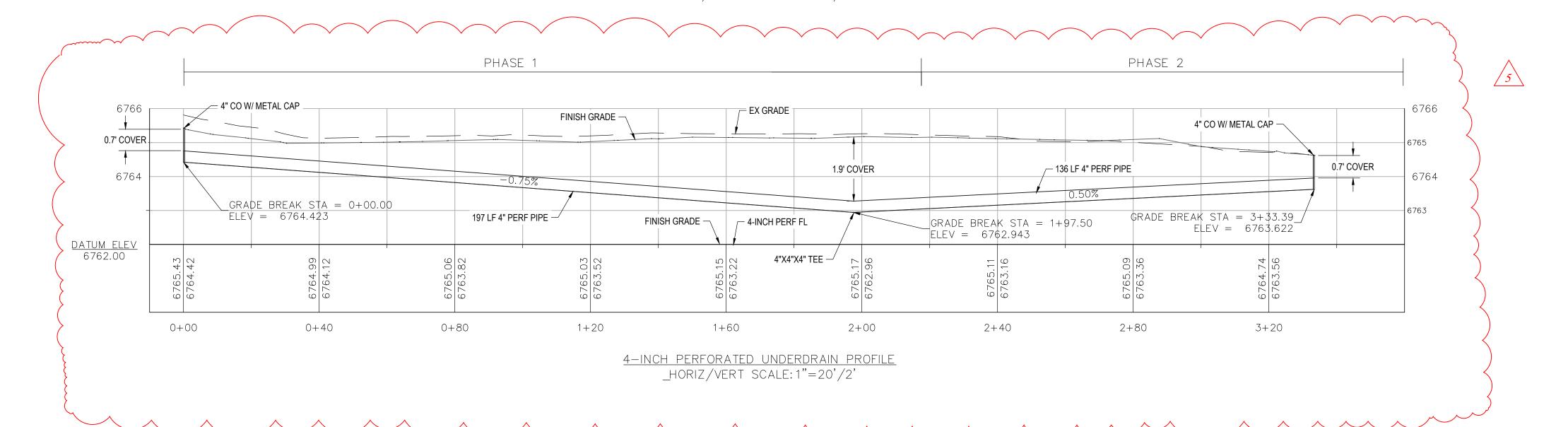




HOTEL B (NORTH) STORM SEWER PROFILE - INLET A-6 TO OUTFALL HORIZ/VERT SCALE: 1"=20'/2'



H.I.X (SOUTH) STORM SEWER PROFILE - INLET A-3 TO INLET A-5
HORIZ/VERT SCALE: 1"=20'/2'





> HOLIDAY INN EXPRESS & HOTEL CONSTRUCTION PLANS INDIAN MEADOWS FIL. NO. 4 LOTS 1 AND 2 STEAMBOAT SPRINGS, CO 80487

HORIZONTAL SCALE

DATE: 06-30-2025

JOB #: 1448-005

DRAWN BY: DSC

DESIGN BY: RS

REVIEW BY: WNM

IF THIS DRAWING IS PRESENTED IN A FORMAT OTHER THAN 24" X 36", THE GRAPHIC SCALE SHOULD BE UTILIZED.

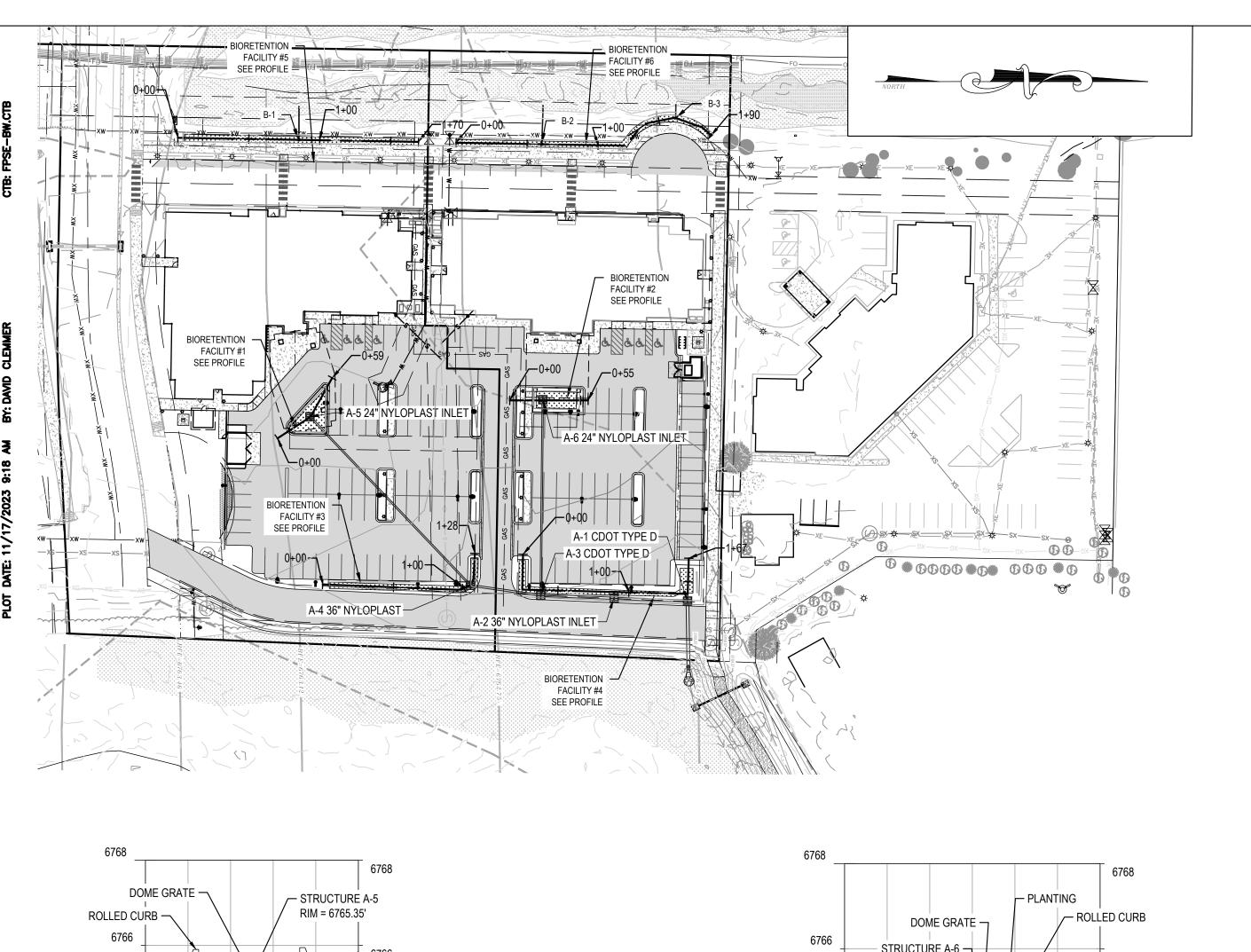
STORM SEWER PROFILES

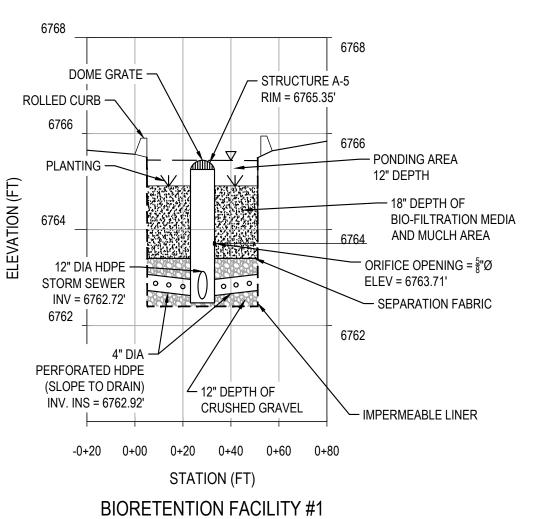
10/24/200

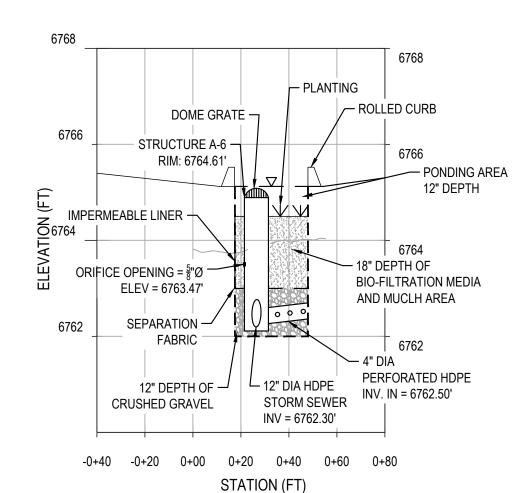
HEET NO.

10/24/2025 C5

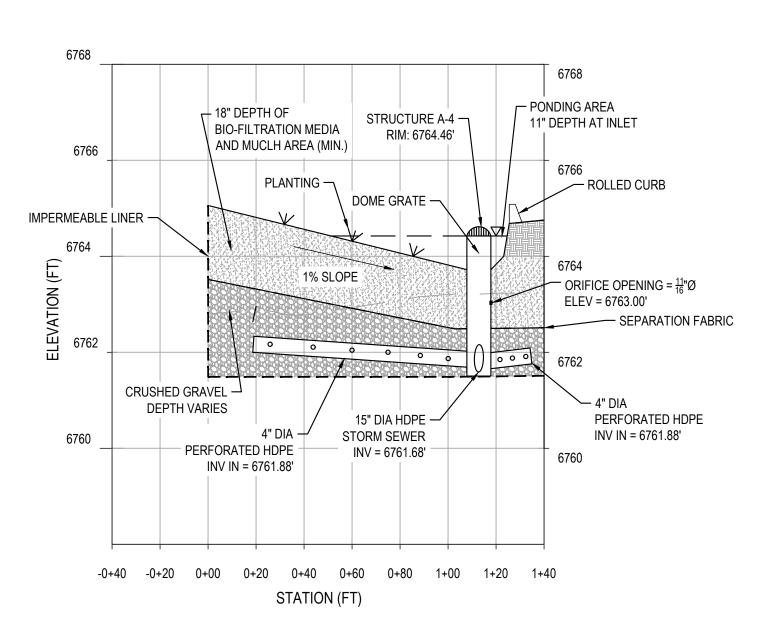
Digitally Signed by: Walter N. Magill, P.E. Four Points Surveying and Engineering





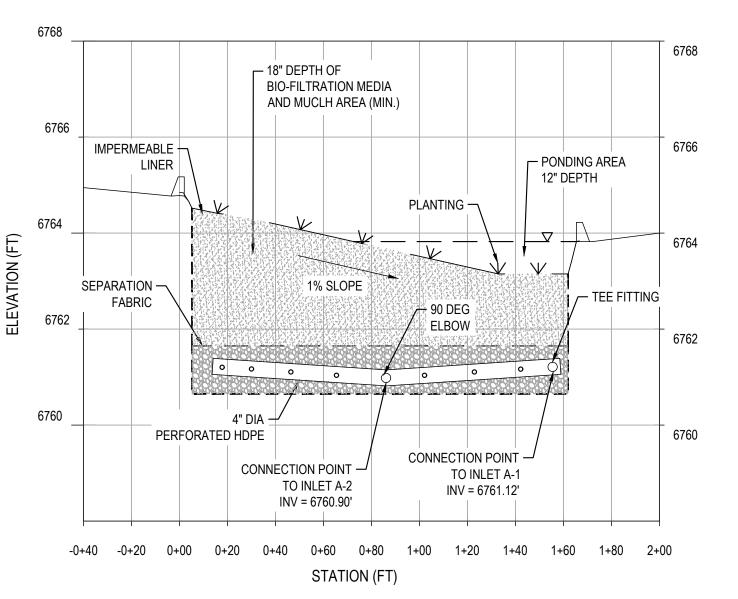




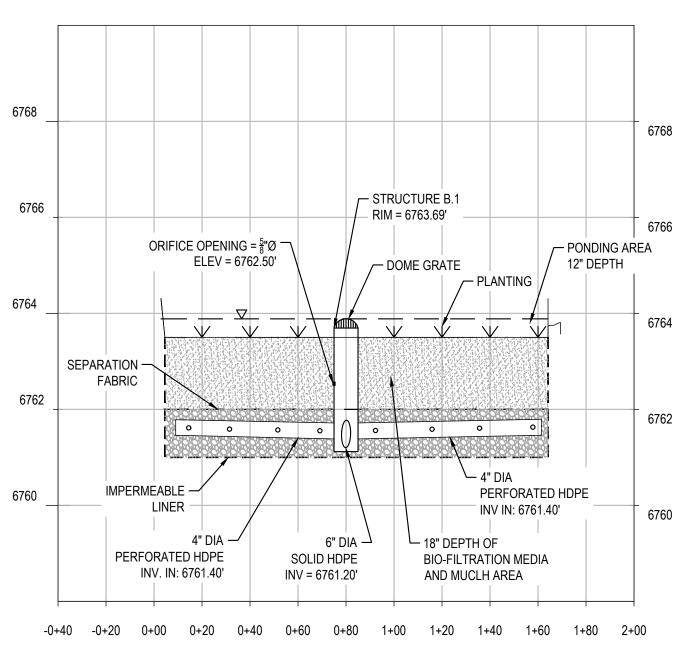


BIORETENTION FACILITY #3

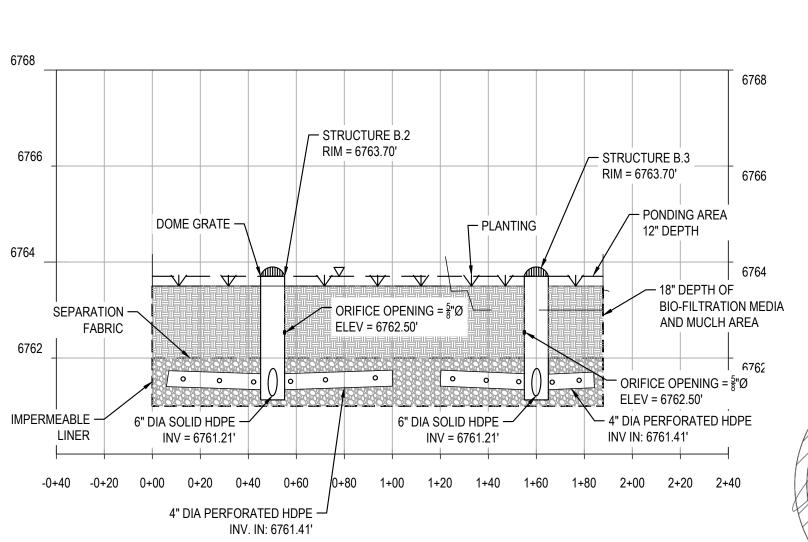
PROFILE SCALES:
HORIZONTAL: 1" = 40'
VERTICAL: 1" = 2'



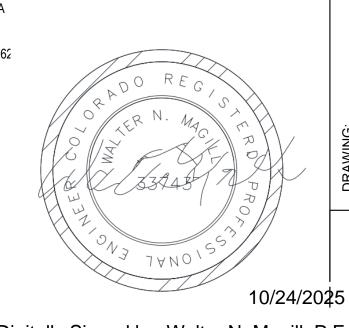
BIORETENTION FACILITY #4



BIORETENTION FACILITY #5



BIORETENTION FACILITY #6



410 S. Lincoln Ave, Unit 15

P.O. Box 775966 Steamboat Springs, CO 80487 (970)-871-6772 www.fourpointsse.com

HOLIDAY INN EXPRESS & HOTEL CONSTRUCTION PLANS

HORIZONTAL SCALE

SCALE: 1" = 60'

CONTOUR INTERVAL = 1 FT

IF THIS DRAWING IS PRESENTED IN A FORMAT OTHER THAN 24" X 36", THE GRAPHIC SCALE SHOULD BE UTILIZED.

> BIORETENTION PLAN & PROFILE

DATE: 06-30-2025

JOB #: 1448-005

DRAWN BY: DSC DESIGN BY: RS

REVIEW BY: WNM

SHEET NO.

Digitally Signed by: Walter N. Magill, P.E. Four Points Surveying and Engineering

THE TERM BIORETENTION REFERS TO THE TREATMENT PROCESS ALTHOUGH IT IS ALSO FREQUENTLY USED TO DESCRIBE A BMP THAT PROVIDES BIOLOGICAL UPTAKE AND FILTRATION OF THE POLLUTANTS FOUND IN

DESCRIPTION:

STORMWATER RUNOFF.

BIORETENTION IS A BEST MANAGEMENT PRACTICE (BMP) THAT UTILIZES BIORETENTION AS AN ENGINEERED, DEPRESSED LANDSCAPE AREA DESIGNED TO CAPTURE AND FILTER OR INFILTRATE THE WATER QUALITY CAPTURE VOLUME (WQCV). BMPs THAT UTILIZE BIORETENTION ARE FREQUENTLY REFERRED TO AS RAIN GARDENS OR POROUS LANDSCAPE DETENTION AREAS (PLDs).

THE DESIGN OF A BIORETENTION OR RAIN GARDEN SYSTEM MAY PROVIDE DETENTION FOR EVENTS EXCEEDING THAT OF THE WQCV. THERE ARE GENERALLY TWO WAYS TO ACHIEVE THIS. THE DESIGN CAN PROVIDE THE FLOOD CONTROL VOLUME ABOVE THE WQCV OR THE DESIGN CAN PROVIDE AND SLOWLY RELEASE THE FLOOD CONTROL VOLUME IN AN AREA DOWNSTREAM OF ONE OR MORE BIORETENTION SYSTEMS. SEE THE STORAGE CHAPTER IN VOLUME 2 OF THE URBAN STORM DRAINAGE CRITERIA MANUAL (USDCM) FOR ADDITIONAL INFORMATION.

SITE SELECTION:

THIS BMP ALLOWS WQCV TREATMENT WITHIN ONE OR MORE AREAS DESIGNATED FOR LANDSCAPE. IT IS AN EXCELLENT ALTERNATIVE TO EXTENDED DETENTION BASINS FOR SMALL SITES WITH LIMITED AVAILABLE AREA. A TYPICAL BIORETENTION SYSTEM SERVES A TRIBUTARY OR SUBBASIN AREA OF ONE IMPERVIOUS ACRE OR LESS, ALTHOUGH THEY CAN BE DESIGNED FOR LARGER TRIBUTARY AREAS. MULTIPLE INSTALLATIONS CAN BE USED WITHIN LARGER SITES. BIOFILTRATION SHOULD NOT BE USED WHEN A BASEFLOW IS ANTICIPATED OR WHEN GROUNDWATER HAS BEEN OBSERVED IN CLOSE PROXIMITY TO EXISTING GRADE ELEVATIONS. THE SYSTEMS ARE TYPICALLY SMALL AND MAY BE INSTALLED IN LOCATIONS SUCH AS:

- PARKING LOT ISLANDS
- STREET MEDIANS
- LANDSCAPE AREAS BETWEEN THE ROAD AND A DETACHED SIDEWALK PLANTER BOXES THAT COLLECT ROOF DRAINS

BIORETENTION REQUIRES A STABLE WATERSHED. DURING PHASED CONSTRUCTION, PROPER EROSION PREVENTION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED TO ENSURE LADEN SEDIMENT DOES NOT DIRECTLY DISCHARGE INTO ADJACENT WATERBODIES.

THE SURFACE OF A RAIN GARDEN SHOULD BE PRIMARILY FLAT. HOWEVER, TERRACED APPLICATION OF THESE FACILITIES HAVE BEEN SUCCESSFUL IN THE PAST. WHEN BIORETENTION SYSTEMS ARE LOCATED ADJACENT TO BUILDINGS OR PAVEMENT AREAS, PROTECTIVE MEASURES SHOULD BE IMPLEMENTED TO AVOID ADVERSE IMPACTS TO THESE STRUCTURES.

MAINTENANCE

SEE THE OPERATIONS AND MAINTENANCE PLAN INCLUDED AS PART OF THE DRAINAGE REPORT

ON-SITE SOIL CONDITIONS:

NORTHWEST COLORADO CONSULTANTS (NWCC) PRODUCED A GEOTECHNICAL STUDY FOR THE PROJECT ON MARCH 31, 2022, THE GEOTECHNICAL STUDY INCLUDED THE LOGGING OF FOUR TEST HOLES AND SIX TEST PITS. SOILS WERE OBSERVED ON-SITE AND LATER SAMPLED AND LAB TESTED FOR ADDITIONAL EVALUATION.

BASED ON THE ANTICIPATED GEOLOGIC SITE CONDITIONS, NWCC RECOMMENDED THAT A **SITE CLASS C** DESIGNATION SHOULD BE USED IN STRUCTURAL DESIGN CALCULATIONS IN ACCORDANCE WITH TABLE 20.3-1 IN CHAPTER 20 OF ASCE 7.

THEREFORE, FOUR POINTS SURVEYING AND ENGINEERING OPTED TO ELIMINATE THE POTENTIAL FOR INFILTRATING BMPs AS A RESULT OF THE GEOTECHNICAL STUDY FINDINGS. ALL OF THE SEVEN PROPOSED BIORETENTION SYSTEMS WILL BE NON-INFILTRATING AND WILL RELY ON UNDER-DRAIN SYSTEMS TO CAPTURE AND CONVEY STORMWATER TO THE INTENDED DESIGN OUTFALLS AND OFF-SITE DISCHARGE LOCATIONS.

NON-INFILTRATING BIORETENTION SYSTEMS:

NON-INFILTRATING BIORETENTION SYSTEMS INCLUDE AN UNDER-DRAIN AND AN IMPERVIOUS LINER THAT PREVENTS INFILTRATION OF STORMWATER INTO THE SUBGRADE SOILS. NON-INFILTRATING BIORETENTION SYSTEMS ARE APPROPRIATE FOR THIS PROJECT AS THE FACILITY IS LOCATED OVER POTENTIALLY EXPANSIVE SOILS OR BEDROCK THAT COULD SWELL DUE TO INFILTRATION AND POTENTIALLY DAMAGE ADJACENT STRUCTURES (I.E. BUILDING FOUNDATIONS OR PAVEMENTS).

BASIN STORAGE VOLUME:

STORAGE VOLUMES ARE BASED ON A 12-HOUR DRAIN TIME. SEE THE ATTACHED BMP SIZING WORKSHEETS ATTACHED TO THIS DRAINAGE REPORT. DESIGN VOLUMES ARE CALCULATED FOLLOWING EQUATION B-1 OF THE USDCM MANUAL, VOLUME 3.

(EQ. B-1)

(EQ. B-2)

$V = \left(\frac{WQCV}{12}\right) * A$

V = DESIGN VOLUME (FT³) A = AREA OF WATERSHED TRIBUTARY TO THE BIORETENTION SYSTEM (FT2)

BASIN GEOMETRY:

THE MAXIMUM PONDING DEPTH FOR THE PROJECT IS 12 INCHES. NYLOPLAST DOME GRATES WILL BE INSTALLED TO MANAGE OVERFLOW WITHIN THE PONDED AREA OF EACH BIORETENTION FACILITY. THIS WILL REDUCE THE POTENTIAL FOR EXCESS STORMWATER FROM OVERTOPPING THE CURBS AND BACKFLOWING INTO THE PROPOSED PARKING AREA. VERTICAL WALL GEOMETRIES WILL BE UTILIZED. SEE FIGURE B-3 GEOMEMBRANE LINER/CONCRETE CONNECTION DETAIL FOR ADDITIONAL INFORMATION. CURB CUTS ARE PROPOSED TO ALLOW THE PARKING LOT TO SUCCESSFULLY DRAIN INTO EACH OF THE INTENDED BMP SYSTEMS. MINIMUM FILTER AREAS WERE CALCULATED USING THE FOLLOWING EQUATION:

AF = MINIMUM (FLAT) FILTER AREA (FT²)

A = AREA TRIBUTARY TO THE BIORETENTION SYSTEM (FT²) I = IMPERVIOUSNESS OF TRIBUTARY AREA TO THE BIORETENTION SYSTEM (PERCENT EXPRESSED AS A DECIMAL).

GROWING MEDIUM

PROVIDE A MINIMUM OF 18 INCHES OF GROWING MEDIUM TO ENABLE ESTABLISHMENT OF THE ROOTS OF THE VEGETATION. SEE THE SPECIFICATION TABLE BELOW FOR SPECIFICATIONS OF THE GROWING

UNDER-DRAIN SYSTEM

DRAINAGE REPORT.

WHEN USING AN UNDER-DRAIN SYSTEM, PROVIDE A CONTROL ORIFICE TO DRAIN THE DESIGN VOLUME IN 12 HOURS OR MORE. USE A MINIMUM ORIFICE SIZE OF \$\frac{3}{8}\$ INCHES TO AVOID CLOGGING. THIS WILL PROVIDE DETENTION AND SLOW RELEASE OF THE WQCV. PROVIDING WATER QUALITY BENEFITS AND REDUCING IMPACTS TO DOWNSTREAM CHANNELS. SPACE UNDER-DRAIN PIPES A MAXIMUM OF 20 FEET ON CENTER. PROVIDE CLEANOUTS TO ENABLE MAINTENANCE OF THE UNDER-DRAIN SYSTEM. EACH NYLOPLAST INLET STRUCTURE WILL INCLUDE AN ORIFICE HOLE TO RELEASE EACH OF THE BIORETENTION SYSTEMS WITHIN THE 12 HOUR PERIOD. CALCULATIONS FOR THE ORIFICE SIZE HAVE BEEN PROVIDED IN THE ATTACHMENTS OF THE

THE UNDER-DRAIN SYSTEM SHOULD BE PLACED WITHIN A 6-INCH THICK SECTION OF COOT CLASS B OR CLASS C FILTER MATERIAL MEETING THE GRADATION IN THE TABLE BELOW. USE SLOTTED (PERFORATED) PIPE THAT MEETS THE SLOT DIMENSIONS LISTED IN THE TABLE ON THE SPECIFICATIONS

IMPERMEABLE GEOMEMBRANE LINER AND GEOTEXTILE SEPARATOR FABRIC:

FOR NON-INFILTRATING SYSTEMS, INSTALL A 30 MIL (MIN) PVC GEOMEMBRANE LINER, PER THE TABLE ON THE SPECIFICATIONS SHEET, ON THE BOTTOM AND SIDES OF THE BASIN, EXTENDING UP AT LEAST TO THE TOP OF THE UNDER-DRAIN LAYER. PROVIDE AT LEAST 9 INCHES (12 INCHES IF POSSIBLE) OF COVER OVER THE MEMBRANE WHERE IT IS TO BE ATTACHED TO THE WALL TO PROTECT THE MEMBRANE FROM UV DETERIORATION. THE GEOMEMBRANE SHOULD BE FIELD SEAMED USING A DUAL TRACK WELDER, WHICH ALLOWS FOR NON-DESTRUCTIVE TESTING OF ALMOST ALL FIELD SEAMS. A SMALL AMOUNT OF SINGLE TRACK IS ALLOWED IN LIMITED AREAS TO SEAM AROUND PIPE PERFORATIONS, TO PATCH SEAMS REMOVED FOR DESTRUCTIVE SEAM TESTING, AND FOR LIMITED REPAIRS. THE LINER SHOULD BE INSTALLED WITH SLACK TO PREVENT TEARING DUE TO BACKFILL COMPACTION AND SETTLING.

PLACE CDOT CLASS B GEOTEXTILE SEPARATOR FABRIC ABOVE THE GEOMEMBRANE TO PROTECT IT FROM BEING PUNCTURED DURING THE PLACEMENT OF THE FILTER MATERIAL ABOVE THE LINER. IF THE SUBGRADE CONTAINS ANGULAR ROCKS OR OTHER MATERIAL THAT COULD PUNCTURE THE GEOMEMBRANE, SMOOTH-ROLL THE SURFACE TO CREATE A SUITABLE SURFACE. IF SMOOTH-ROLLING THE SURFACE DOES NOT PROVIDE A SUITABLE SURFACE, ALSO PLACE THE SEPARATOR FABRIC BETWEEN THE GEOMEMBRANE AND THE UNDERLYING SUBGRADE. THIS SHOULD ONLY BE DONE WHEN NECESSARY BECAUSE FABRIC PLACED UNDER THE GEOMEMBRANE CAN INCREASE SEEPAGE LOSSES THROUGH PINHOLES OR OTHER GEOMEMBRANE DEFECTS. CONNECT THE GEOMEMBRANE TO PERIMETER CONCRETE WALLS AROUND THE BASIN PERIMETER, CREATING A WATERTIGHT SEAL BETWEEN THE GEOMEMBRANE AND THE WALLS USING A CONTINUOUS BATTEN BAR AND ANCHOR CONNECTION (SEE FIGURE B-3 OF USDCM). WHERE THE NEED FOR THE IMPERMEABLE MEMBRANE IS NOT AS CRITICAL, THE MEMBRANE CAN BE ATTACHED WITH A NITRILE-BASED VINYL ADHESIVE. USE WATERTIGHT PVC BOOTS FOR UNDERDRAIN PIPE PENETRATIONS THROUGH THE LINER (SEE FIGURE B-2) OR THE TECHNIQUE SHOWN IN PHOTO B-3 OF THE USDCM.

INLET AND OUTLET CONTROL

INLET CONTROL WILL BE MAINTAINED BY CURB CUT OPENINGS THAT ARE ORIENTATED IN THE DIRECTION OF THE PARKING LOT FLOW.

OULET CONTROL WILL BE MAINTAINED BY THE INSTALLATION OF THE NYLOPLAST GRATES. THE NYLOPLAST GRATES WILL HELP CAPTURE EXCESS VOLUMES WITHIN THE BIORTENTION SYSTEMS (DURING LARGER STORM EVENTS) AND REDUCE THE POTENTIAL FOR BACKFLOW INTO THE PARKING LOT AREA.

VEGETATION:

THE UDFCD RECOMMENDS THAT THE FILTER AREA SHALL BE VEGETATED WITH DROUGHT TOLERANT SPECIES THAT THRIVE IN SANDY SOILS. SEE THE SPECIFICATION SHEET FOR ADDITIONAL INFORMATION.

MIX SEED WELL AND BROADCAST, FOLLOWED BY HAND RAKING TO COVER SEED AND THEN MULCH. HYDRO-MULCHING CAN BE EFFECTIVE FOR THE LARGER BIORETENTION SYSTEMS. DO NOT PLACE SEED WHEN STANDING WATER OR SNOW IS PRESENT OR IF THE GROUND IS FROZEN. WEED CONTROL IS CRITICAL IN THE FIRST TWO TO THREE YEARS, ESPECIALLY WHEN STARTING WITH SEED.

WHEN USING SOD, SPECIFY SAND-GROWN SOD. DO NOT USE CONVENTIONAL SOD. CONVENTIONAL SOD IS GROWN IN CLAY SOIL THAT WILL SEAL THE FILTER AREA, GREATLY REDUCING THE OVERALL FUNCTION OF THE BMP.

WHEN USING AN IMPERMEABLE LINER. SELECT PLANTS WITH DIFFUSE (OR FIBROUS) ROOT SYSTEMS, NOT TAPROOTS. TAPROOTS CAN DAMAGE THE LINER AND/OR UNDER-DRAIN PIPE. AVOID TREES AND LARGE SHRUBS THAT MAY INTERFERE WITH RESTORATIVE MAINTENANCE. PLANT THESE OUTSIDE OF THE AREA OF GROWING MEDIUM. USE A CUTOFF WALL TO ENSURE THAT ROOTS DO NOT GROW INTO THE UNDER-DRAIN OR PLACES TRESS AND SHRUBS A CONSERVATIVE DISTANCE FROM THE UNDER-DRAIN.

ON-SITE IRRIGATION IN THE FORM OF SPRINKLER SYSTEMS ARE NOT PROPOSED FOR THIS PROJECT. PLANTINGS SHALL BE WATERED AT AN APPROPRIATED RATE TO MAINTAIN VEGETATIVE GROWTH WITHIN THE BMP SYSTEMS. ADJUST WATERING SCHEDULES DURING THE GROWING SEASON (SPRING AND SUMMER MONTHS) TO PROVIDE THE MINIMUM WATER NECESSARY TO MAINTAIN PLANT HEALTH AND TO MAINTAIN THE AVAILABLE PORE SPACE FOR INFILTRATION.

AESTHETIC DESIGN:

IN ADDITION TO EFFECTIVE STORMWATER QUALITY TREATMENT. BIOFILTRATION CAN BE ATTRACTIVELY INCORPORATED INTO A SITE WITHIN ONE OR SEVERAL LANDSCAPE AREAS. AESTHETICALLY DESIGNED BIOFILTRATION WILL TYPICALLY EITHER REFLECT THE CHARACTER OF THEIR SURROUNDING OR BECOME DISTINCT FEATURES WITHIN THEIR SURROUNDINGS. SEE THE USDCM FOR ADDITIONAL CRITERIA RELATING TO

CONSTRUCTION CONSIDERATIONS:

PROPER CONSTRUCTION OF BIOFILTRATION SYSTEMS INVOLVES CAREFUL ATTENTION TO MATERIAL SPECIFICATION, FINISHED GRADES, AND CONSTRUCTION DETAILS. IMPORTANT FACTORS TO IMPLEMENT INCLUDE:

- PROTECT AREAS FROM EXCESSIVE SEDIMENT LOADING DURING CONSTRUCTION. THIS IS THE MOST COMMON CAUSE OF CLOGGING OF BIOFILTRATION. THE PORTION OF THE SITE DRAINING TO THE RAIN GARDEN MUST BE STABILIZED BEFORE ALLOWING FLOW INTO THE RAIN GARDEN. THIS INCLUDES COMPLETION OF PAVING OPERATIONS.
- AVOID OVER COMPACTION OF AREA TO PRESERVE INFILTRATION RATES (NOT APPLICABLE TO NON-INFILTRATING SYSTEMS).
- PROVIDE CONSTRUCTION OBSERVATION TO ENSURE COMPLIANCE WITH DESIGN SPECIFICATIONS. IMPROPER INSTALLATION, PARTICULARLY RELATED TO FACILITY DIMENSIONS AND ELEVATIONS AND UNDER-DRAIN ELEVATIONS, IS A COMMON PROBLEM WITH
- WHEN USING AN IMPERMEABLE LINER, ENSURE ENOUGH SLACK IN THE LINER TO ALLOW FOR BACKFILL, COMPACTION, AND SETTLING WITHOUT TEARING THE LINER.
- PROVIDE NECESSARY QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) WHEN CONSTRUCTION AN IMPERMEABLE GEOMEMBRANE LINER SYSTEM, INCLUDING BUT NOT LIMITED TO FABRICATION TESTING, DESTRUCTIVE AND NON-DESTRUCTIVE TESTING OF FIELD SEAMS, OBSERVATION OF GEOMEMBRANE MATERIALS FOR TEARS OR OTHER DEFECTS, AND AIR LACE TESTING FOR LEAKS IN ALL FIELD SEAMS AND PENETRATIONS. QA/QC SHOULD BE OVERSEEN BY THE OWNERS REPRESENTATIVE AND REPORTED TO A PROFESSIONAL ENGINEER. FIELD REPORTING AND INSPECTION LOGS ARE REQUIRED DURING THE LINER INSTALLATION PROCESS. ALL DOCUMENTS SHALL BE TRANSMITTED TO THE PROFESSIONAL ENGINEER.
- PROVIDE ADEQUATE CONSTRUCTION STAKING TO ENSURE THAT THE SITE PROPERLY DRAINS INTO THE BMP SYSTEM, PARTICULARLY WITH RESPECT TO SURFACE DRAINAGE AWAY FROM ADJACENT BUILDINGS.

MISCELLANEOUS

ALL NOTES AND SPECIFICATIONS ARE REFERENCED TO THE URBAN DRAINAGE AND FLOOD CONTROL DISTRICT, URBAN STORM DRAINAGE CRITERIA MANUAL, VOLUME 3, LATEST ADDITION.

TABLE 1: MATERIAL SPECIFICATION FOR BIORETENTION SYSTEMS NOTES MATERIAL **SPECIFICATION** SUBMITTALS TESTING PARTICLE SIZE DISTRIBUTION 80-90% SAND (0.05 - 2.0 mm DIAMETER) 3-17% SILT (0.002 - 0.5 mm DIAMETER) 3-17% CLAY (<0.002 DIAMETER) PARTICLE SIZE DISTRIBUTION AND CHEMICAL ATTRIBUTE AND NUTRIENT ANALYSIS **BIORETENTION SOIL** PERCENTAGES ARE IN WEIGHT. NUTRIENT ANALYSIS REQUIRED pH = 6.8 - 7.5ORGANIC MATTER <15% NITROGEN < 15 PPM BIORETENTION GROWING MEDIA PHOSPHOROUS < 15 PPM SALINITY < 6 MMHOS/CM BIORETENTION BIORETENTION SOIL REQUIRED. 3 TO 5% SHREDDED MULCH (BY WEIGHT OF GROWING MEDIA) AGED SIX MONTHS (MIN.). ORGANICS AGED SIX MONTHS (MIN.). NO WEED LANDSCAPE MULCH SHREDDED HARDWOOD FABRIC ALLOWED MASS PERCENT PASSING SQUARE MESH SIEVE CLASS C SIEVE SIZE CLASS B 37.5 mm (1.5") 19.0 mm (0.75") 100 CDOT FILTER MATERIAL UNDERDRAIN AGGREGATE 4.75 mm (No. 4) 60-100 (CLASS B OR C) PARTICLE SIZE DISTRIBUTION REQUIRED. 1.18 um (No. 16) 10-30 300 um (No. 50) 150 um (No. 100) 0-10 75 um (No. 200) MAXIMUM SLOT WIDTH MINIMUM OPEN AREA (PER PIPE DIAMETER AND TYPE (INCHES) FOOT) PIPE MUST CONFORM TO REQUIREMENTS OF ASTM DESIGNATION F949. THERE SHALL BE NO EVIDENCE OF SPLITTING, CONTECH A-2000 SLOTTED PIPE (OR UNDERDRAIN PIPE 4-INCH SLOTTED PVC/HDPE 1.90 IN² **REQUIRED** CRACKING, OR BREAKING WHEN THE APPROVED EQUAL) PIPE IS TESTED PER ASTM TEST METHOD D2412 IN ACCORDANCE WITH F949 SECTION 7.5 AND ASTM F794 SECTION 8.5 6-INCH SLOTTED PVC/HDPE 0.0320 1.98 IN² THICKNESS 0.76 mm (30 mil) TEST METHOD THICKNESS, % TOLERANCE **ASTM D 1593** TENSILE STRENGTH, kN/m (lb/in) | 12.25 (70) ASTM D8 82, METHOD B MODULUS AT 100% 5.25 (30) ASTM D8 82 METHOD B ELONGATION, kN/m (lb/in) ULTIMATE ELONGATION, % ASTM D8 82, METHOD B THERMAL WELDING REQUIRED FOR FULLY LINED FACILITIES (NOT A TEAR RESISTANCE, N (lbs) 38 (8.5) ASTM D 1004 **REQUIRED** IMPERMEABLE LINER CURTAIN). LEAK TESTING IN THE FIELD LOW TEMPERATURE IMPACT, ° REQUIRED. ASTM D 1790 VOLATILE LOSS, % MAX. ASTM D8 82, METHOD A PINHOLES, NO. PER 8 m² (NO. BONDED SEAM STRENGTH, %

OF TENSILE

TABLE 3: PHYSICAL REQUIREMENTS FOR SEPARATOR FABRIC							
PROPERTY	PROPERTY CLASS B						
	ELONGATION <50%	ELONGATION <50% ELONGATION > 50%					
GRAB STRENGTH, N (lbs)	800 (180)	510 (115)	ASTM D 4632				
PUNCTURE RESISTANCE, N (lbs)	310 (70)	310 (70) 180 (40)					
TRAPEZOIDAL TEAR STRENGTH, N (lbs)	310 (70)	310 (70) 180 (40)					
APPARENT OPENING SIZE, mm (US SIEVE SIZE)	AOS < 0.3 mm (US SIEVE SIZE NO. 50)		ASTM D 4751				
PERMITTIVITY, SEC ⁻¹	0.02 DEFAULT VALUE, MUST ALSO BE GREATE	0.02 DEFAULT VALUE, MUST ALSO BE GREATER THAN THAT OF SOIL					
PERMEABILITY, CM/SEC	K FABRIC > K SOIL FOR ALL CLASSES	ASTM D 4491					
ULTRAVIOLET DEGRADATION AT 500 HOURS	50% STRENGTH RETAINED FOR ALL CLASSES	50% STRENGTH RETAINED FOR ALL CLASSES					

TABLE	2: NATIVE SEED MIX	FOR BIO-RE	TENTION SYSTE	MS	HOLIDA
COMMON NAME	SCIENTIFIC NAME	VARIETY	PLS ² (LBS/ACRE)	OUNCES PER ACRE	[OH
SAND BLUESTEM	ANDROPOGON HALLII	GARDEN	3.5		
SIDEOATS GRAMA	BOUTELOUA CURIPENDULA	BUTTE	3		HOR
PRAIRIE SANDREED	CALAMOVILFA LONGIFOLIA	GOSHEN	3		
INDIAN RICEGRASS	ORYZOPSIS HYMENOIDES	PALOMA	3		DATE: 06-
SWITCHGRASS	PANICUM VIRGATUM	BLACKWELL	4		JOB #: 144 DRAWN B DESIGN B
WESTERN WHEATGRASS	PASCOPYRUM SMITHII	ARIBA	3		REVIEW E FORM GRAPH
LITTLE BLUESTEM	SCHIZACHYRIUM SCOPARIUM	PATURA	3		
ALKALI SACATON	SPOROBOLUS AIROIDES		3		
SAND DROPSEED	SPOROBOLUS CRYPTANDRUS		3		
PASTURE SAGE ¹	ARTEMISIA FRIGIDA			2	
BLUE ASTER	ASTER LAEVIS			4	REG'S
BLANKET FLOWER	GAILLARDIA ARISTATA			8	
PRAIRIE CONEFLOWER	RATIBIDA COLUMNIFERA			4	UKAWING:
PURPLE PRAIRIECLOVER	DALEA (PETALOSTEMUM) PURPUREA			4	SHEE
SUB-TOTA	ALS		27.5	22	10/24/2025
TOTAL LBS PER AC	RE		28.9	Digitally	Signed by: Walter N. Magill, P.E.

410 S. Lincoln Ave, Unit 15 P.O. Box 775966 Steamboat Springs, CO 80487 (970)-871-6772 www.fourpointsse.com 8048 N N INN OLIDAY **HORIZONTAL SCALE** DATE: 06-30-2025 JOB #: 1448-005 DRAWN BY: DSC DESIGN BY: RS

REVIEW BY: WNM

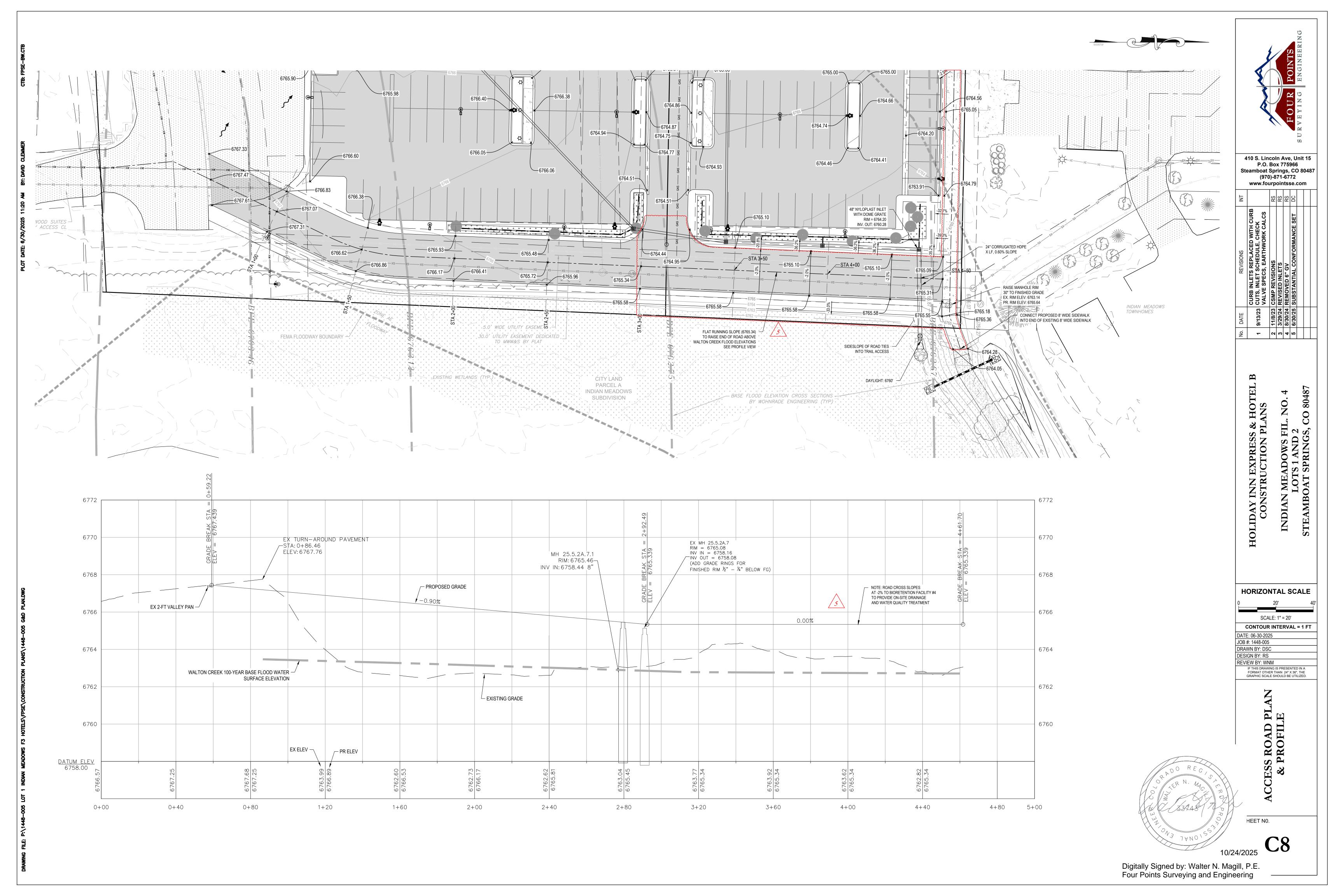
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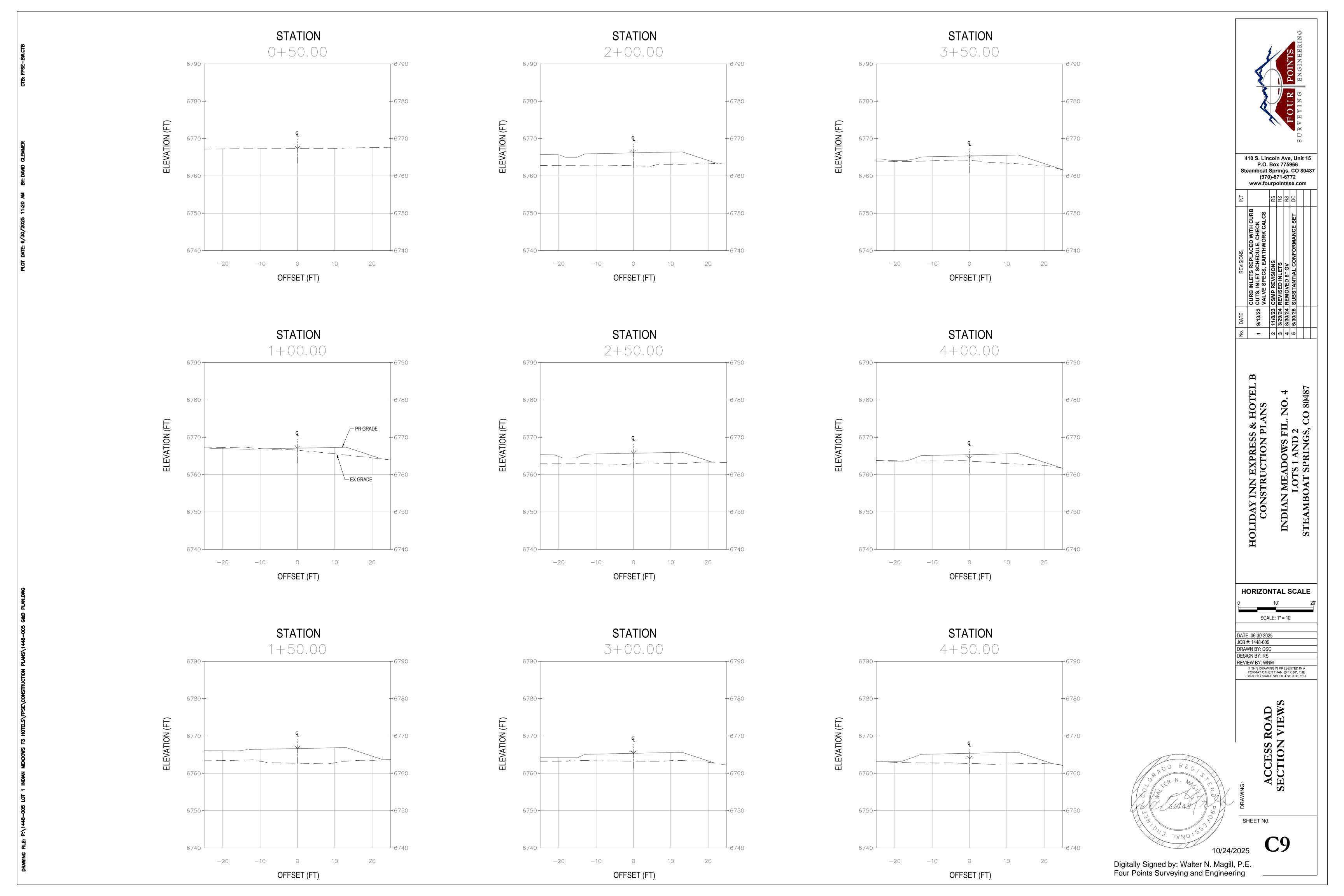
Four Points Surveying and Engineering

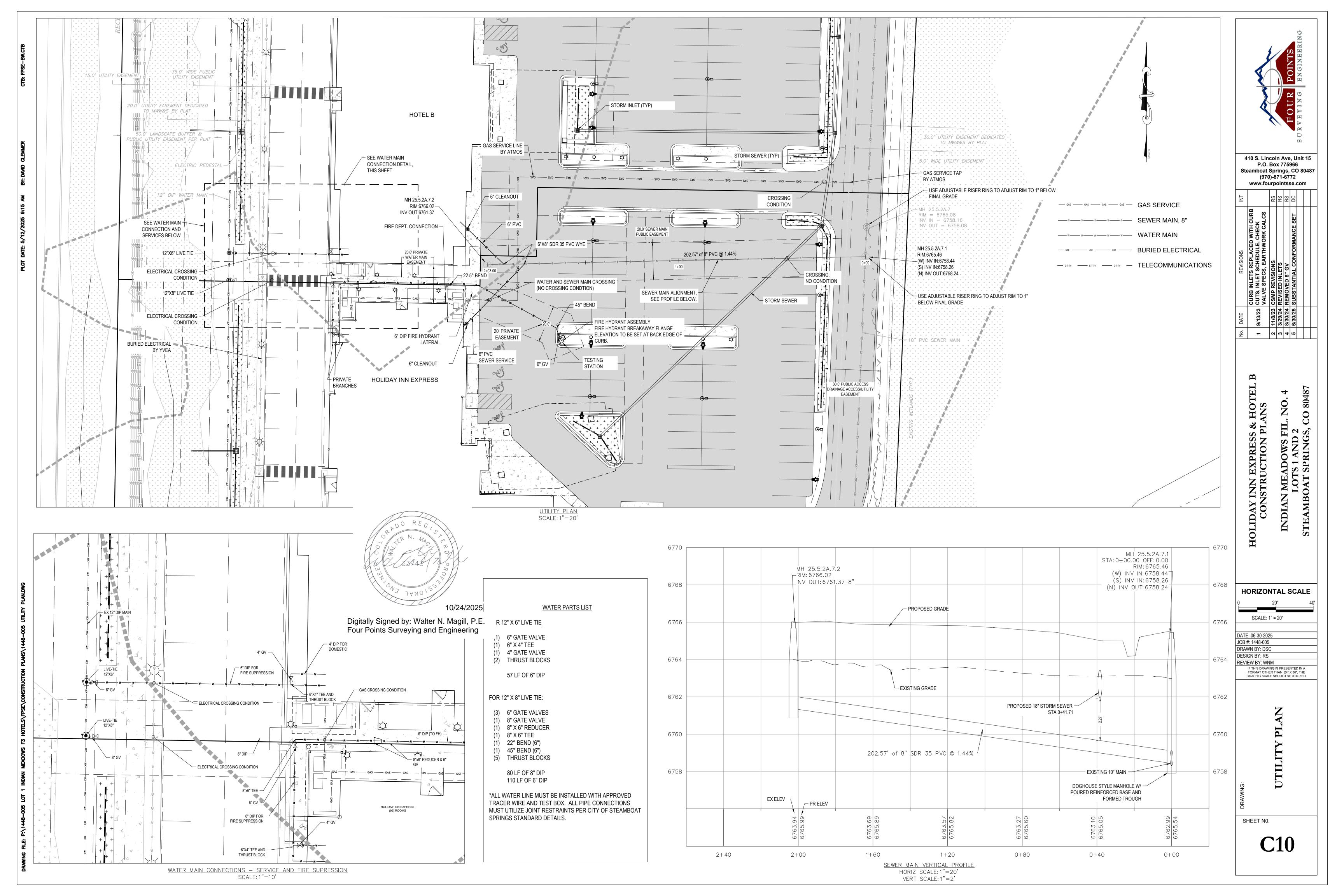
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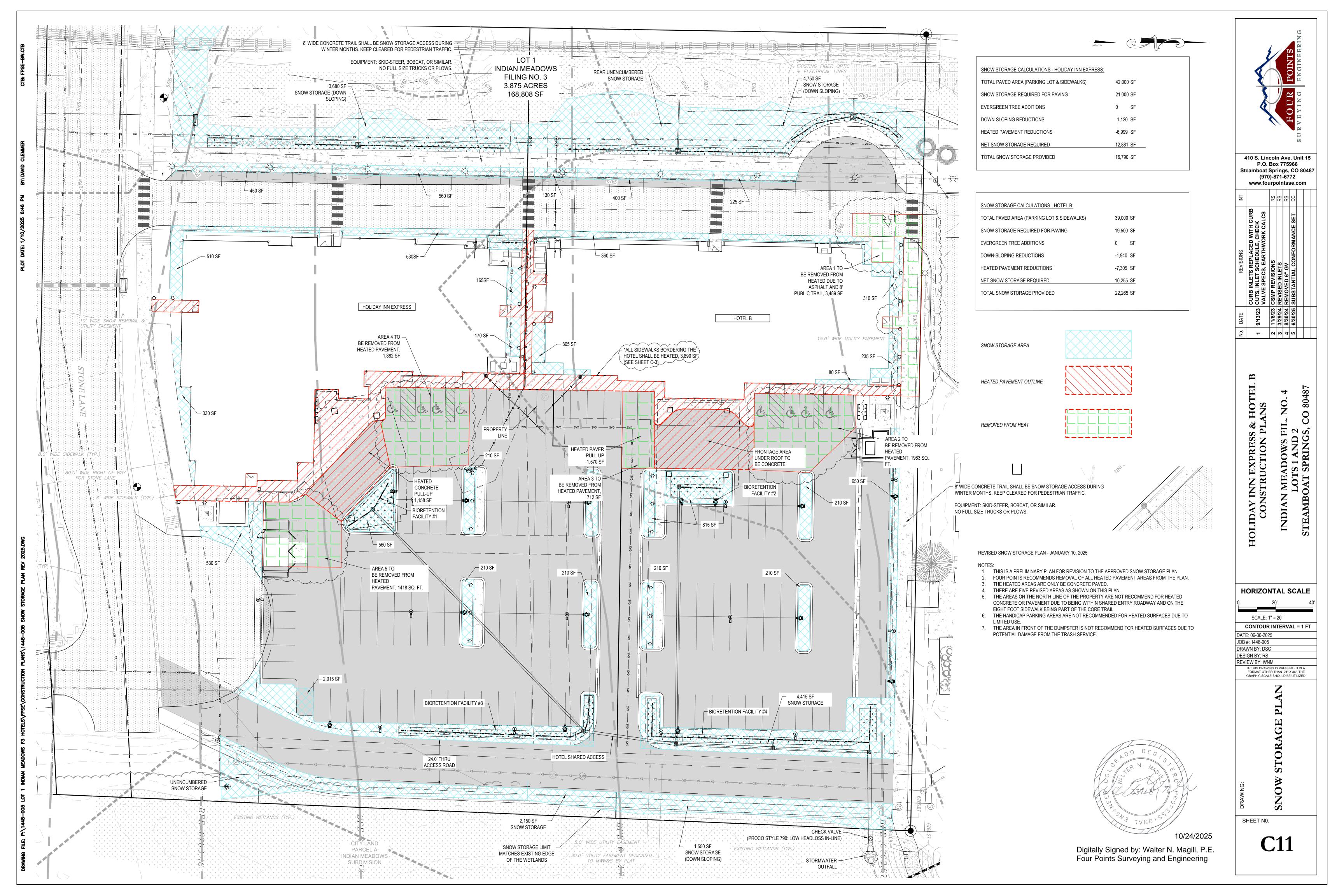
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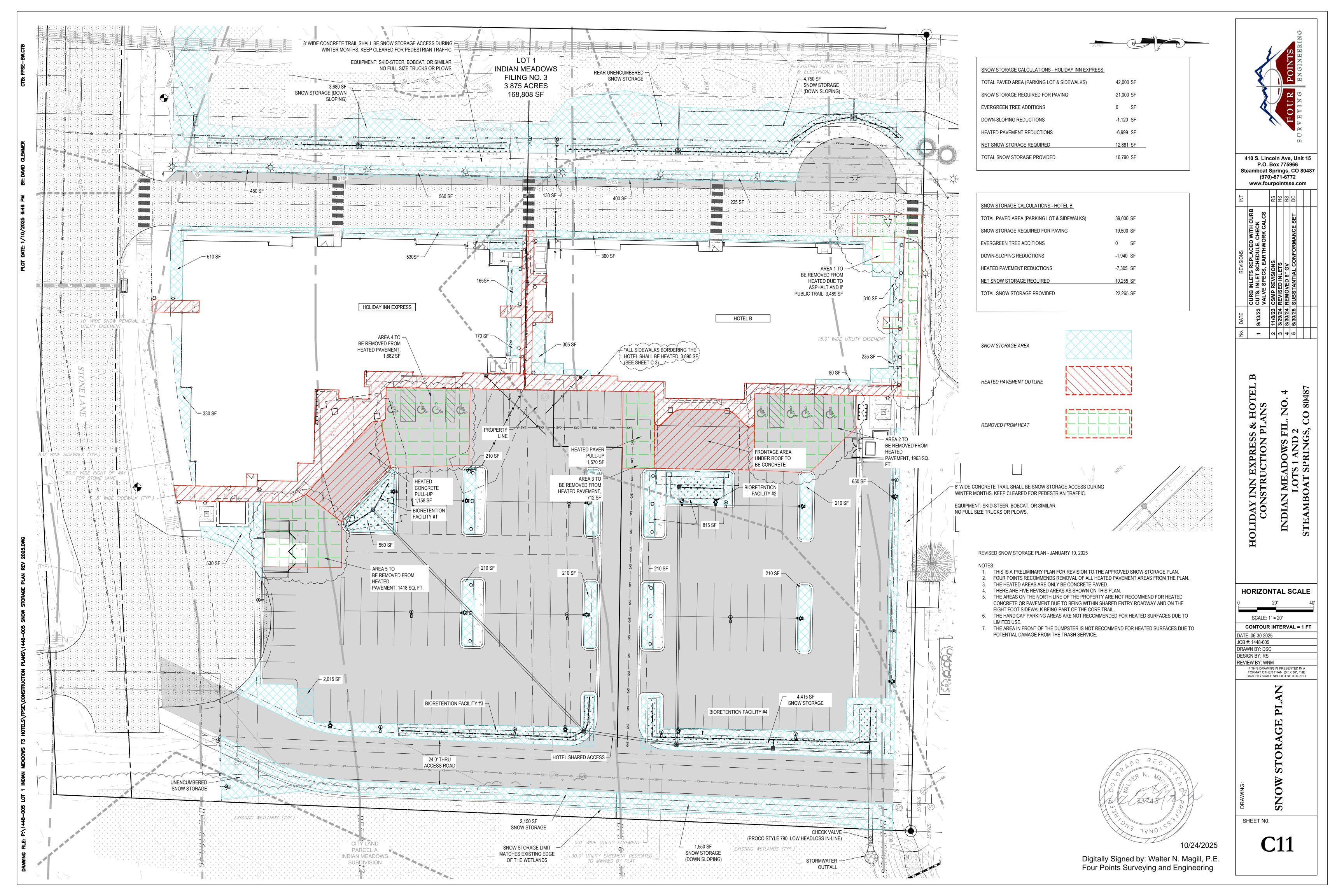
GRAPHIC SCALE SHOULD BE UTILIZED

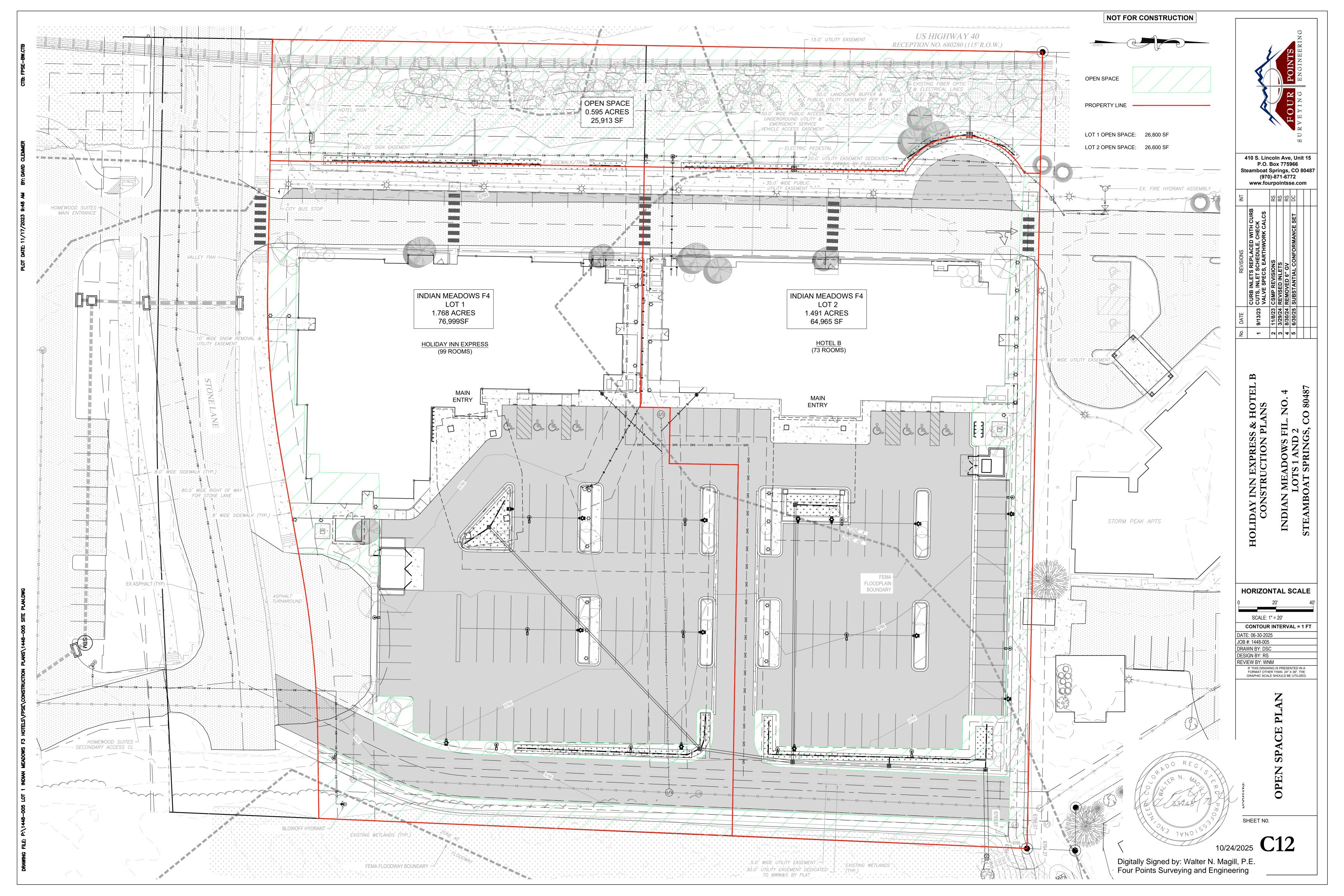


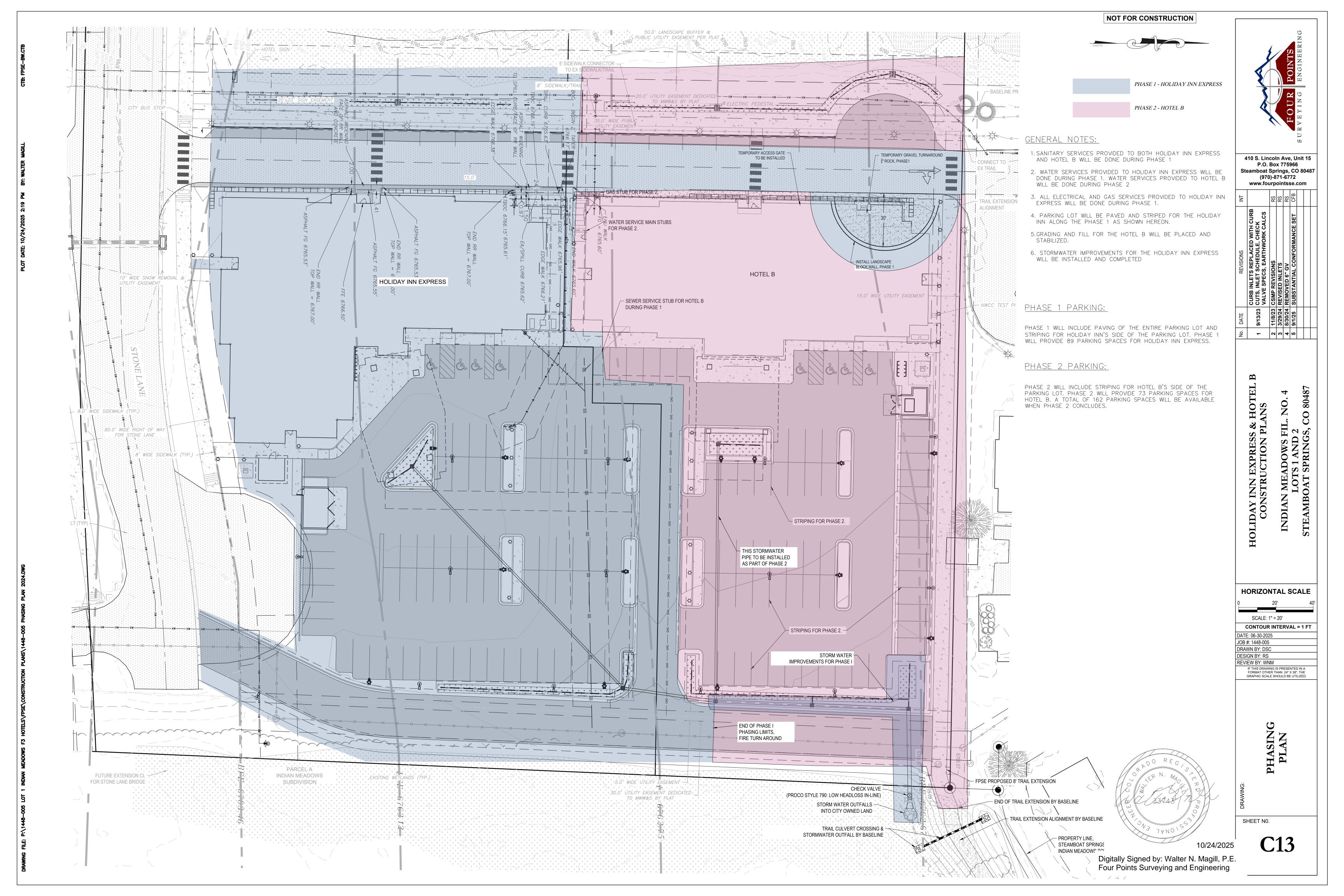


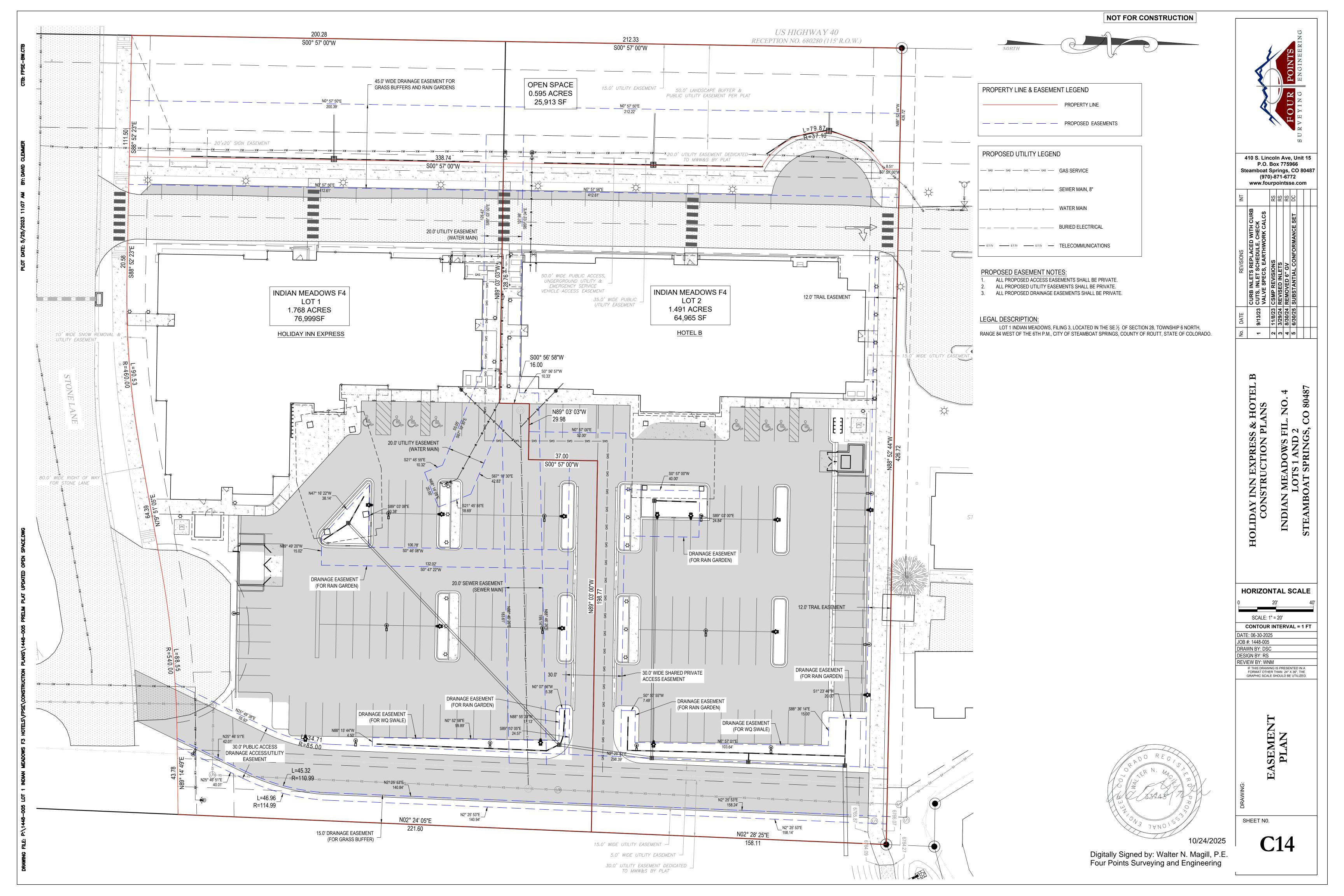




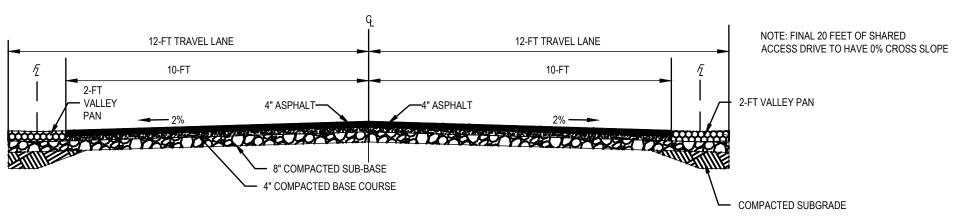




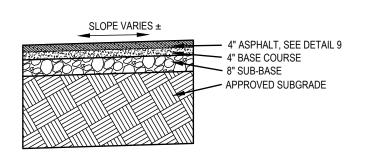




EAST ACCESS ROAD TYPICAL SECTION - 50' ROW



SHARED ACCESS DRIVE TYPICAL SECTION





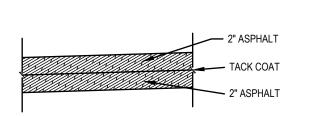
(SECTION IB)

(6" BARRIER - 1' GUTTER)

N-12 HP, & PVC SEWER.

- ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM

ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

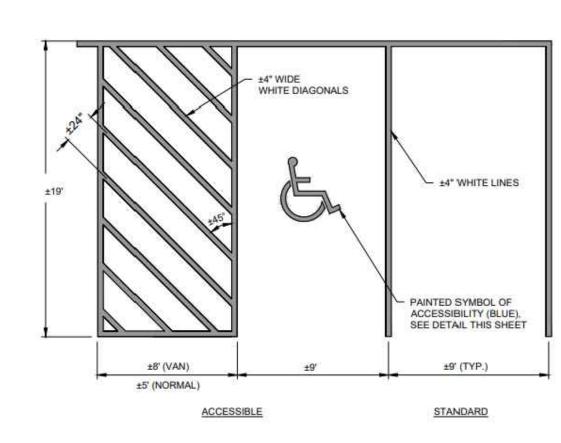


ASPHALT SECTION DETAIL

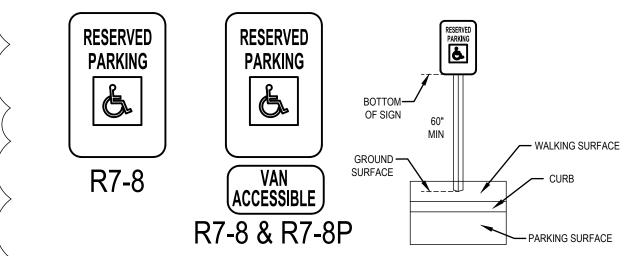
GENERAL NOTES

- ON CURVES 3 DEGREES OR SHARPER, CURBS AND/OR GUTTERS ARE TO BE PLACED ON THE ARC OF THE CURVE UNLESS OTHERWISE NOTED ON THE PLANS. A MAXIMUM CHORD LENGTH OF 10 FEET MAY BE USED WHEN THE DEGREE OF CURVE IS LESS THEN 3 DEGREES. 2. CONCRETE SHALL BE CLASS B.
- 3. PROFILE GRADE OF CURBS AND GUTTERS SHALL BE LOCATED AT THE FLOW LINE.
- ▲ EXPANSION JOINTS SHALL BE INSTALLED WHEN ABUTTING EXISTING CONCRETE OR FIXED STRUCTURE. EXPANSION JOINT MATERIAL SHALL BE $^1\!/_2$ In. THICK AND SHALL EXTEND THE FULL DEPTH OF CONTACT SURFACE.
-) GUTTER CROSS SLOPES SHALL BE $^{1}/_{2}$ IN./FT. WHEN DRAINING AWAY FROM CURB AND 1IN./FT. WHEN DRAINING TOWARD CURB.
- WHEN TIE BARS ARE REQUIRED. THE GUTTER THICKNESS SHALL BE INCREASED TO E PAVEMENT THICKNESS T. BARS SHALL BE EPOXY—COATED #4 CONFORMING
- * Concrete shall contain 1.5 pounds per cubic yard approved polypropylene fibers

AASHTO M 284M AND SPACED 2 FT.-6 IN. THEY SHALL BE INSERTED T/2 AND 1/2



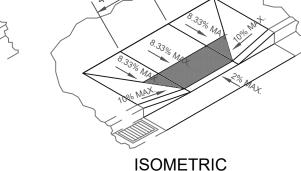
PARKING PAVEMENT MARKINGS



Parking Sign Notes:

- 1. Parking space identification signs must include the International Symbol of Accessibility: A profile view of a wheelchair with an occupant.
- 2. Signs identifying van parking spaces must contain the designation "Van Accessible" The required "Van Accessible" designation is intended to be informative, not restrictive, in identifying those spaces that are better suited for van use.
- 4. Enforcement of motor vehicle laws, including parking privileges, is a local matter. Signs must be 60" Min. above finished ground surface measured from bottom of the sign.

Property or Edge of Construction



ALTERNATE "B" CURB-RAMP SHALL BE USED ON NARROW SIDEWALK AT MID BLOCK LOCATIONS WHEN STANDARD CURB RAMP LAY-OUT IS NOT FEASIBLE. THE 6" CURB SHALL BE INSTALLED ALONG THE EDGE OF THE BACK OF SIDWALK

ISOMETRIC

ALTERNATE "C" CURB-RAMP SHALL BE USED AS A VARIATION OF A STANDARD RAMP FOR MID-BLOCK LOCATIONS WHERE THERE IS ENOUGH ROOM FOR TOP LEVEL LANDING.

SEE GENERAL NOTES, PAGE D700-A790

FOR ALL CURB RAMP ALTERNATES (A, B, C) **ALTERNATE RAMPS "B" & "C"**

740

Sidewalk Notes:

- 1. Minimum Sidewalk width shall be 4'-0" for residential, 5'-0" for commercial, and 6'-0" clear
- width whenever attached to the curb.
- 2. Sidewalk slope shall be maximum of 2% cross slope. 3. Whenever the width of the sidewalk is less than 5'-0", a 5' x 5' passing area with a maximum
- 2% slope in any direction at intervals of 200' shall be installed. 4. Whenever changing direction in a sidewalk, install a 5' x 5' passing area with maximum 2%
- slope in any direction. 5. Objects such as tree branches, signs, water fountains, etc. shall not protrude into the

sidewalk more than 4" at the heights between 27" and 80". Ramps:

- When the rise in elevation is greater than 30" a series of ramps and landings will be required. • Landing shall be 5'-0" in length and no greater than 2% in any direction.
- The maximum of a run is determined by the rise (30" maximum) and slope, as shown in the following table

Max. Rise	Slope	Max. Length	Max. Rise	Slope	Max. Length
30 in.	1:12	30 ft.	30 in.	1:16	40 ft.
30 in.	1:13	32.5 ft.	30 in.	1:17	42.5 ft.
30 in.	1:14	35 ft.	30 in.	1:18	45 ft.
30 in.	1:15	37.5 ft.	30 in.	1:19	47.5 ft.

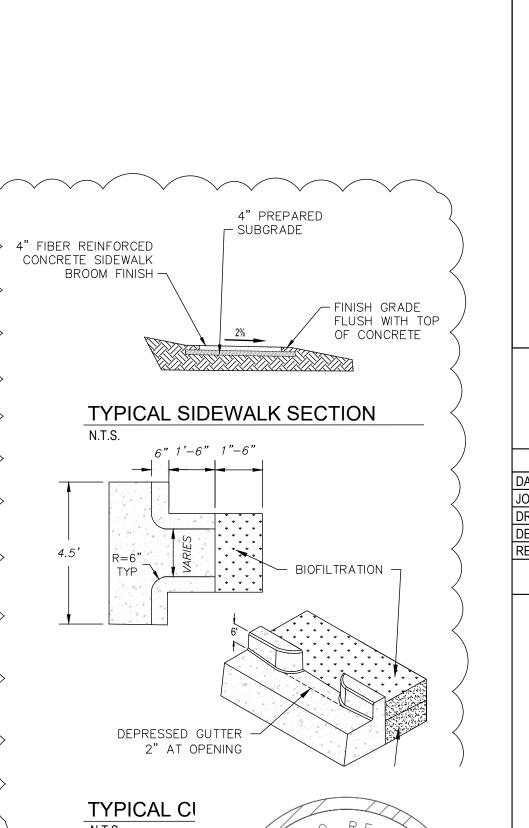
NOTES -- 790

General Notes:

- a. The standard curb-ramp lay-out shall be used whenever possible. Any deviation from the standard curb-ramp plans shall be approved by the City Engineer or designee on a case by case
- b. The standard curb-ramp drawings supersede all previous drawings and shall be part of the new curb ramp standard drawings.
- c. All alternate ramps shall be approved by the City Engineer prior to construction.

Curb Ramp Notes:

- 1. A curb ramp is defined as the entire concrete surface which includes the ramp & flared sides. The 4' - 0" wide center portion, including the detectable surface, shall have the sloped plane of 8.33% (1:12) maximum, and cross slope, not to exceed 2%. The "flared side" of the ramp and shall lie on a slope of 10% (1:10) maximum measured along the curb. The curb ramp shall have a surface tolerance of 1/4" per 10 foot straight edge maximum.
- 2. The ramp center line and path of travel must be parallel to the sidewalk. The full width of the ramp shall lie within the crosswalk area. It is desirable that the location of the ramp be as close as possible to the center of the crosswalk.
- 3. The 4'-0" min. distance between flared sides of the two adjacent curb ramps may be reduced to 3'-0" with documentation of hardship indicating legal and or physical constraints provided to the City Engineer.
- 4. Existing utility boxes and covers shall be adjusted flush with the curb ramp surface and shall not straddle any change in plane or material. Existing utility box frames and covers shall have matching surface finish on the entire frame and cover. New utility boxes shall not be placed within the detectable border.
- 5. The surface of the curb ramp and detectable surface material shall be stable, firm and slip resistant. The concrete curb ramp surface shall be broom finished transverse to the axis of the ramp and shall be slightly rougher than the finish of the adjacent sidewalk surface.
- 6. A level landing 4'-0" deep, with a 2% maximum slope in each direction shall be provided at the upper end of each curb ramp to allow safe egress from the ramp surfaces. The width of the level landing shall be at least as wide as the width of the ramp.
- 7. When vertical obstructions are present near the curb at the end of the flared side or when the curb-ramp is diagonal to the curb which will result in an extremely long flared side surface, the affected flared side may be cut and terminated perpendicular to the curb, provided that the maximum slope of 10% is achieved on each of the resulting planes.
- 8. The length of ramp may be constructed up to 30 feet long to achieve the slope requirement.
- 9. Existing vertical utility poles or street light poles may be incorporated into the flared sides, if necessary. The vertical obstruction shall be a minimum of 6 inches away from the edge of the ramp. Pedestrian crosswalk push button poles, fire department call box poles and other poles with activated devices, may not be placed in the curb-ramp at any time. No new vertical obstructions may be located in the curb ramp or the grooved border.



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8	No. DATE	REVISIONS	IN
~	9/13/23	9/13/23 CUTS, INLET SCHEDULE, CHECK VALVE SPECS, EARTHWORK CALCS	
7	11/8/23	11/8/23 CSMP REVISIONS	RS
က	3/29/24	3/29/24 REVISED INLETS	RS
4	8/30/24	8/30/24 REMOVED 6" GV	RS
2	6/30/25	6/30/25 SUBSTANTIAL CONFORMANCE SET	DC

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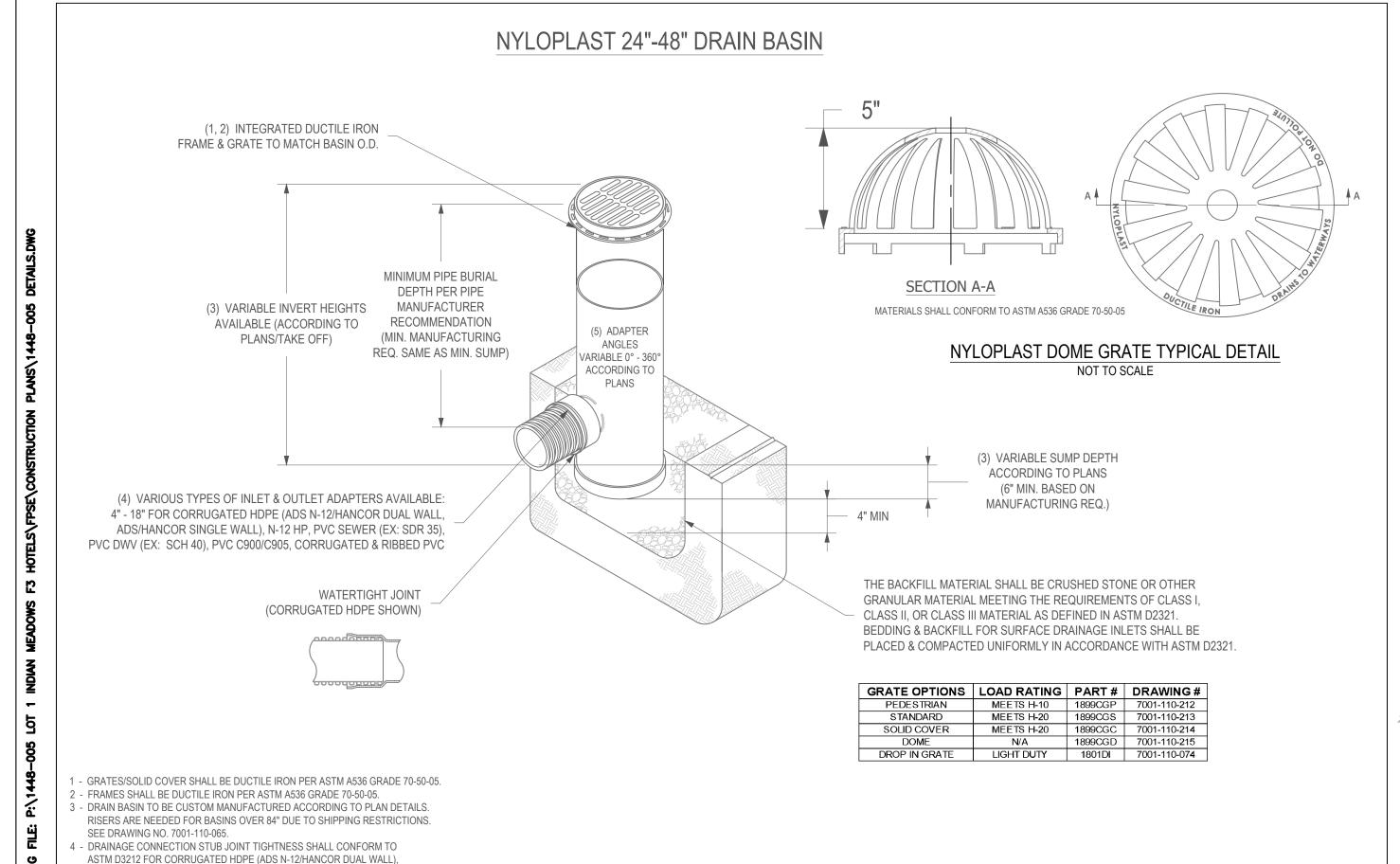
DETAILS N.T.S

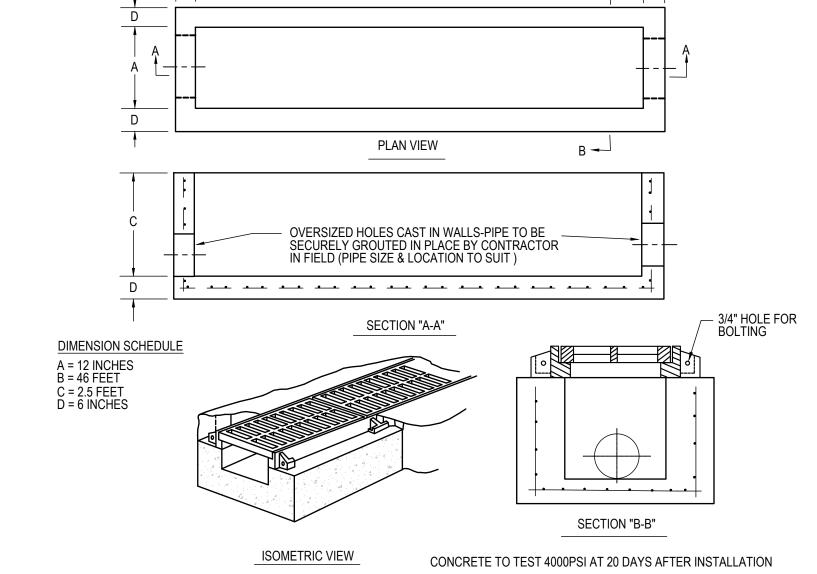
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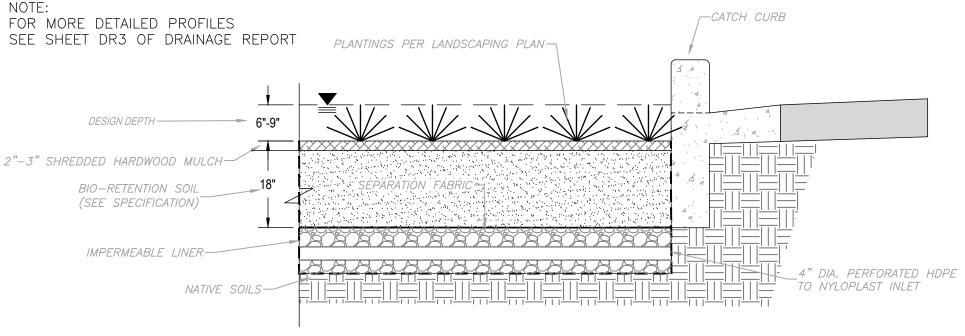
10/24/2025

Digitally Signed by: Walter N. Magill, P.E. Four Points Surveying and Engineering

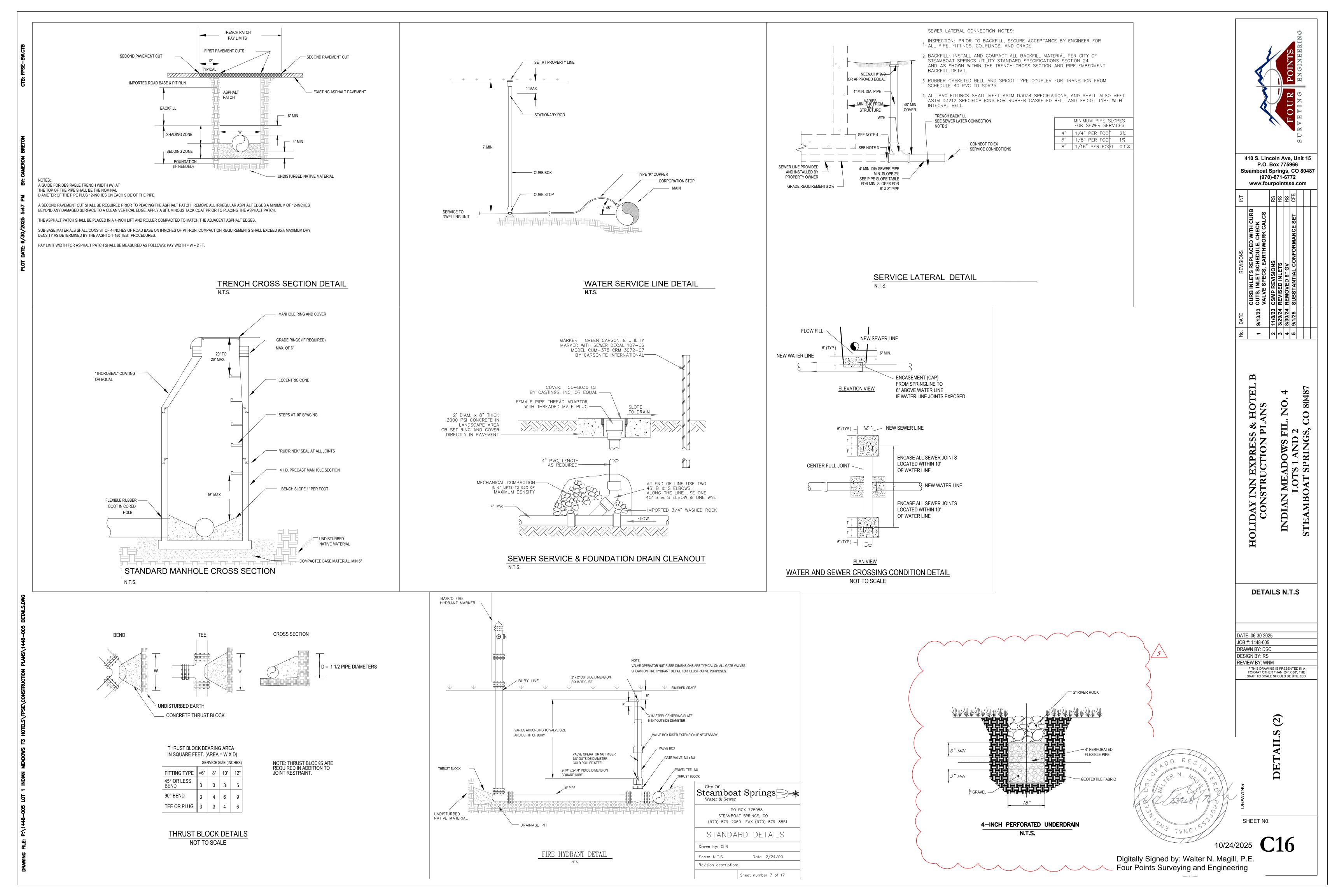


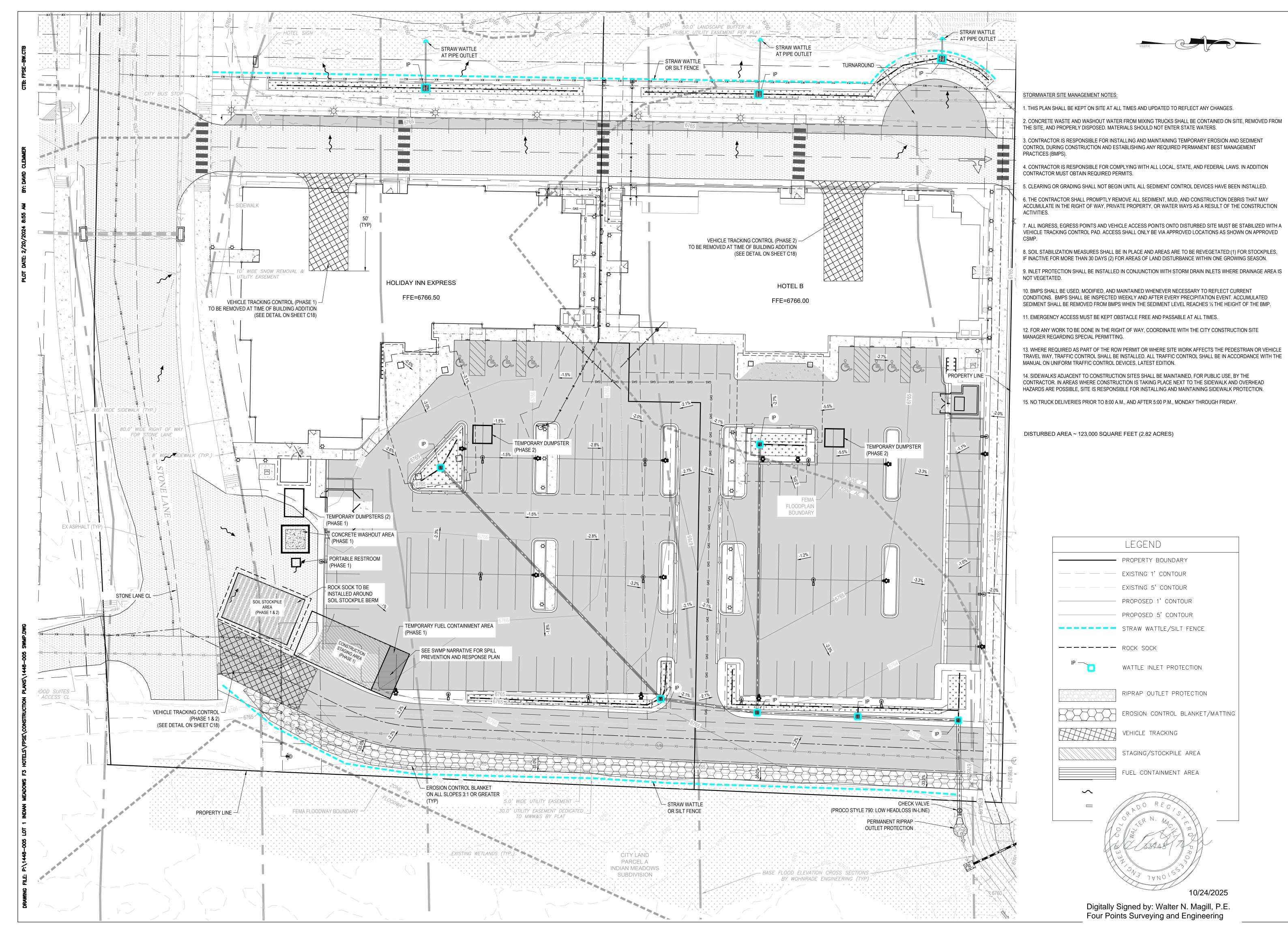


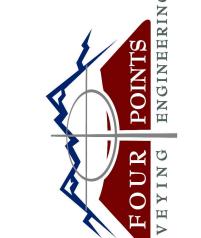
TRENCH DRAIN TYPICAL DETAILS NOT TO SCALE



BIO-RETENTION TYPICAL DETAIL N.T.S.







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ITH CURE		
PATE CURB INLETS REPLACED WITH CURB 9/13/23 CUTS, INLET SCHEDULE, CHECK VALVE SPECS, EARTHWORK CALCS 11/8/23 CSMP REVISIONS 3/29/24 REVISED INLETS 8/30/24 REMOVED 6" GV	0/30/23 SUBSTANTIAL CONFORMANCE SEL	
DATE 9/13/23 11/8/23 3/29/24 8/30/26	67/	

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HOLIDAY INN EXPRESS & HOTEL B
CONSTRUCTION PLANS
INDIAN MEADOWS FIL. NO. 4
LOTS 1 AND 2
STEAMBOAT SPRINGS, CO 80487

HORIZONTAL SCALE

SCALE: 1" = 20'

CONTOUR INTERVAL = 1 FT

DATE: 06-30-2025

JOB #: 1448-005

DRAWN BY: DSC

DESIGN BY: RS

REVIEW BY: WNM

IF THIS DRAWING IS PRESENTED IN A
FORMAT OTHER THAN 24" X 36" THE

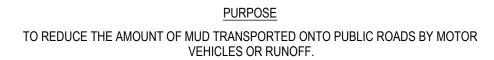
VIEW BY: WNM

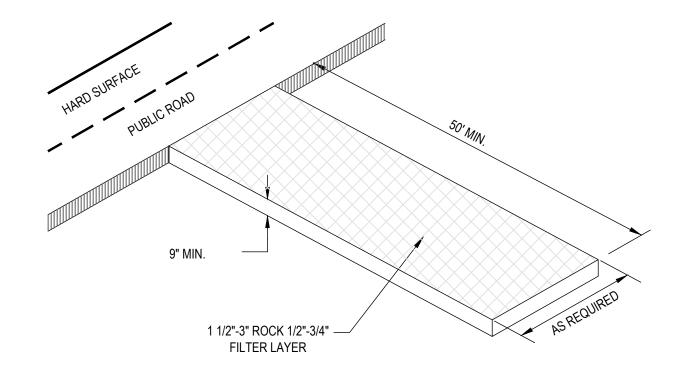
IF THIS DRAWING IS PRESENTED IN A FORMAT OTHER THAN 24" X 36", THE GRAPHIC SCALE SHOULD BE UTILIZED.

STORMWATER ANAGEMENT PLA

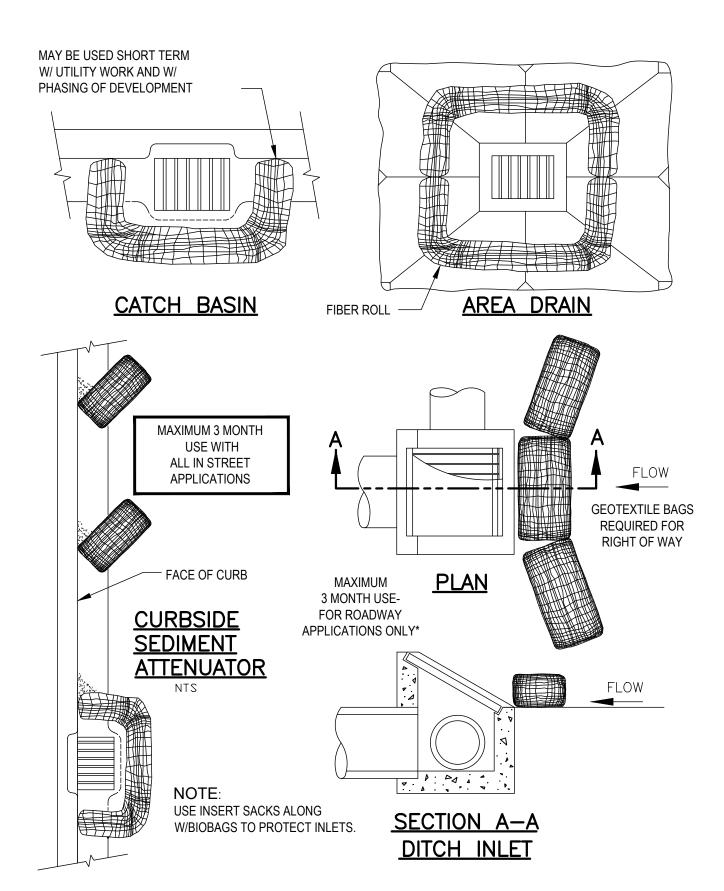
SHEET NO.

C17

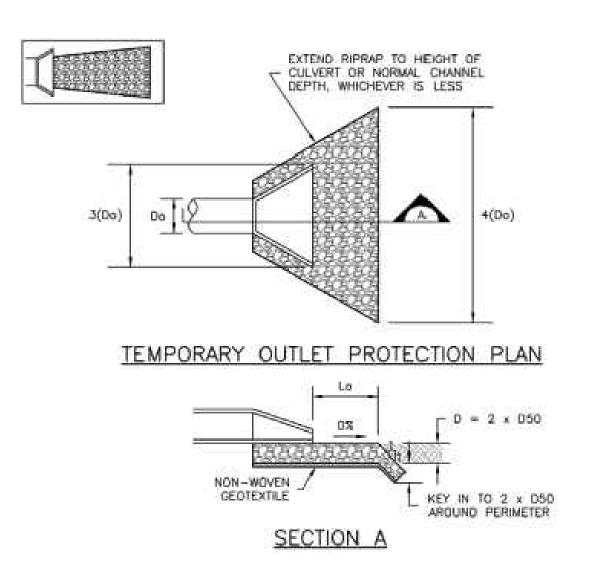




VEHICLE TRACKING CONTROL NOT TO SCALE

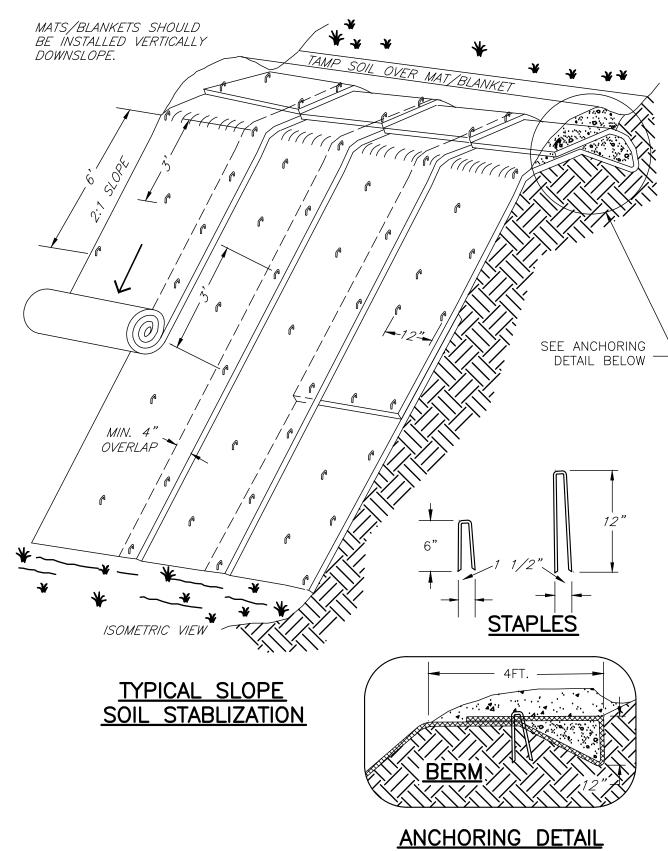


FILTRATION BAGS, SOCKS, & ROLLS FOR TEMPORARY INLET PROTECTION NOT TO SCALE



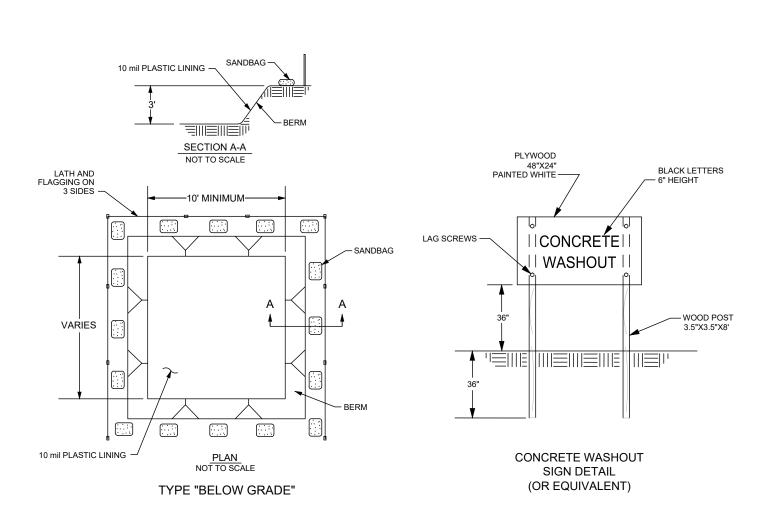
PIPE NAMETER, Do (INCHES)	DISCHARGE, Q (CFS)	APRON LENGTH, Lo (FT)	RIPRAP D50 DIAMETER MIN (INCHES)
8	2.5	5	4
	5	10	6
112	5 10	10	4 6
18	10	10	6
	20	16	9
	30	23	12
	40	26	16
24	30	16	9
	40	26	9
	50	26	12
	60	30	16

RIPRAP OUTLET PROTECTION NOT TO SCALE



ANCHORING DE EROSION CONTROL BLANKET

NOT TO SCALE

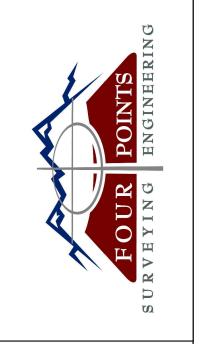


CONCRETE WASHOUT DETAILS

NOT TO SCALE



Digitally Signed by: Walter N. Magill, P.E. Four Points Surveying and Engineering



410 S. Lincoln Ave, Unit 15 P.O. Box 775966 Steamboat Springs, CO 80487 (970)-871-6772 www.fourpointsse.com

LNI		RS	RS	RS	DC		
REVISIONS	9/13/23 CUTS, INLET SCHEDULE, CHECK VALVE SPECS, EARTHWORK CALCS	2 11/8/23 CSMP REVISIONS	3/29/24 REVISED INLETS	8/30/24 REMOVED 6" GV	6/30/25 SUBSTANTIAL CONFORMANCE SET		
No. DATE	9/13/23	11/8/23	3/29/24	8/30/24	6/30/25		
9	-	2	က	4	2		

HOLIDAY INN EXPRESS & HOTEL CONSTRUCTION PLANS INDIAN MEADOWS FIL. NO. 4 LOTS 1 AND 2 STEAMBOAT SPRINGS, CO 80487

DETAILS N.T.S

DATE: 06-30-2025
JOB #: 1448-005
DRAWN BY: DSC
DESIGN BY: RS
REVIEW BY: WNM

DESIGN BY: RS
REVIEW BY: WNM

IF THIS DRAWING IS PRESENTED IN A FORMAT OTHER THAN 24" X 36", THE GRAPHIC SCALE SHOULD BE UTILIZED.

STORMWATER MANAGEMENT DETAILS

SHEET NO.

C18