

Item Numbers refer to SWMP Checklist

**STORMWATER MANAGEMENT PLAN (SWMP)
for
INTELIFAB
LOT 1, MAYBERRY, COLORADO SPRINGS – FILING NO. 2**

Prepared for:

Must include SWMP
Checklist.

Hammers Construction Inc.
1411 Woolsey Heights
Colorado Springs, CO 80915

March 30, 2020

Prepared by:

Item 1. Add Qualified Stormwater
Manager and Contractor information to
cover/title sheet. If unknown, add a
placeholder to be updated prior to the
pre-construction meeting:

QUALIFIED STORMWATER MANAGER

Name: _____

Company: _____

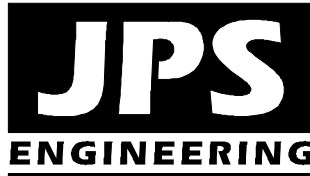
Address: _____

CONTRACTOR

Name: _____

Company: _____

Address: _____



**19 East Willamette Avenue
Colorado Springs, CO 80903
(719)-477-9429
www.jpsegr.com**

**JPS Project No. 030502
EPC Project No. PPR-20-012**

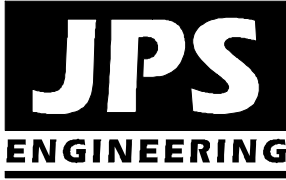
**INTELIFAB
LOT 1, MAYBERRY, COLORADO SPRINGS - FILING NO. 2
STORMWATER MANAGEMENT PLAN (SWMP)**

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Site Grading & Erosion Control Plans



INTELIFAB
LOT 1, MAYBERRY, COLORADO SPRINGS FILING NO. 2
STORMWATER MANAGEMENT PLAN (SWMP)

PCD File No. PPR-20-012

March, 2020

1. Applicant / Contact Information

Developer: Hammers Construction, Inc.
1411 Woolsey Heights
Colorado Springs, CO 80915
Attn: Robert Green (719)-570-1599
RGreen@hammersconstruction.com

Engineer: JPS Engineering, Inc.
19 E. Willamette Avenue
Colorado Springs, CO 80903
Attn: John P. Schwab, P.E. (719)-477-9429
john@jpsengr.com

Contractor: TBD

2. Site Description

- a. Mayberry, Colorado Springs (formerly known as “Ellicott Town Center”) is a proposed subdivision located west of Ellicott, Colorado in El Paso County. The development is located on the south side of State Highway 94, approximately 1-1/2 miles west of Ellicott Highway. The Intelifab project is a proposed manufacturing facility located on a 1.5-acre site described as Lot 1, Mayberry, Colorado Springs Filing No. 2. The project site is located at the northwest corner of Cattlemen Run and Springs Road.
- b. There are no stream crossings in the project area.
- c. The proposed development consists of commercial site development and building construction. Site development activities will include site grading, utilities, roadways, parking areas, and related site improvements.

- d. Proposed sequence of major activities:
 - Mobilization / implementation of BMP's
 - Clearing and grubbing
 - Rough grading
 - Roadway grading / paving
 - Final grading of building sites and parking areas
- e. Total site area = 1.5 acres; Projected disturbed area = 1.5 acres (approx.)
- f. Historic runoff coefficient, C = 0.35;
Developed runoff coefficient, C = 0.545
- g. Existing vegetation on site: existing gravel parking areas; native meadow grasses (approx. 10% coverage)
- h. Potential pollution sources: vehicle fueling on-site
- i. Non-stormwater components of discharge: none anticipated
- j. Receiving water: Surface drainage from this site will flow southeasterly to existing natural drainage swales flowing to the West Fork of Black Squirrel Creek located east of this parcel between the site and Ellicott Highway. Black Squirrel Creek ultimately outfalls into the Arkansas River.
- k. Soil erosion potential and potential impacts upon discharge: According to the Soil Survey of El Paso County prepared by the Soil Conservation Service, on-site soils are comprised primarily of "Blakeland series (type 8). The Blakeland soils are characterized as well-drained loamy sand with rapid permeability, slow surface runoff rates, and moderate hazard of erosion. These soils are classified as hydrologic soils group "A" for drainage analysis purposes (low runoff potential; high infiltration rate; slight to moderate hazard of erosion). Uncontrolled soil erosion may adversely impact downstream drainageways; on-site BMP's will be provided and maintained to mitigate adverse impacts.

Item 6. Provide construction schedule

Item 9. Include method used to determine ground cover (i.e., visual, aerial inspection)

Item 16. Describe any stream crossings or note that no streams cross the project area

3. Site Map (see GEC Plans)

4. BMP's for Stormwater Pollution Prevention (See GEC Plans):

<u>Phase</u>	<u>BMP</u>
Clearing and Grubbing necessary for perimeter controls	VTC's
Initiation of perimeter controls	Silt Fence
Remaining clearing and grubbing	
Site Grading	IP / SF
Extended detention basin (sediment pond during construction)	EDB / SB
Stabilization	SM
Removal of erosion control measures	

- a. Erosion and Sediment Controls
 - 1) Structural Practices:
 - Vehicle Tracking Control (VTC) pad at construction entry
 - Silt fence along downstream limits of disturbed areas
 - Inlet protection (IP) at storm inlets
 - 2) Non-Structural Practices:
 - Preserve existing vegetation beyond limits of work
 - Temporary seeding of areas to remain disturbed for significant periods of time
 - Permanent seeding/mulching (SM) upon completion of rough grading
- b. Materials Handling and Spill Prevention
 - General Materials Handling Practices:
 - Potential pollutants shall be stored and used in a manner consistent with the manufacturer's instructions in a secure location. To the extent practical, material storage areas should not be located near storm drain inlets and should be equipped with covers, roofs, or secondary containment as required to prevent storm water from contacting stored materials. Chemicals that are not compatible shall be stored and segregated areas so that spilled materials cannot combine and react.
 - Disposal of materials shall be in accordance with the manufacturer's instructions and applicable local, state, and federal regulations.
 - Materials no longer required for construction shall be removed from the site as soon as possible.
 - Adequate garbage, construction waste, and sanitary waste handling and disposal facilities shall be provided as necessary to keep the site clear of obstruction and BMPs clear and functional.
 - Specific Materials Handling Practices:
 - All pollutants, including waste materials and demolition debris, that occur on-site during construction shall be handled in a way that does not contaminate storm water.
 - All chemicals including liquid products, petroleum products, water treatment chemicals, and wastes stored on site shall be covered and contained and protected from vandalism.
 - Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, degreasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants, shall be conducted under cover during wet weather and on an impervious surface to prevent release of contaminants onto the ground. Materials spilled during maintenance operations shall be cleaned up immediately and properly disposed of.

- Wheel wash water shall be settled and discharged on site by infiltration. Wheel wash water shall not be discharged to the storm water system.
- Application of agricultural chemicals, including fertilizers and pesticides, shall be conducted in a manner and at application rates that will not result in loss of chemical to storm water runoff. Follow manufacturer's recommendations for application rates and procedures.
- pH-modifying sources shall be managed to prevent contamination of runoff and storm water collected on site. The most common sources of pH-modifying materials are bulk cement, cement kiln dust (CKD), fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters.
- Equipment maintenance and fueling: Contractor shall implement appropriate spill prevention and response procedures
- Spill Prevention and Response Procedures:
 - The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize their migration into storm water runoff and conveyance systems. If the release has impacted on-site storm water, it is critical to contain the released materials on site and prevent their release into receiving waters.
 - Spill Response Procedures:
 - Notify site superintendent immediately when a spill, or the threat of a spill, is observed. The superintendent shall assess the situation and determine the appropriate response.
 - If spills represent an imminent threat of escaping on-site facilities and entering the receiving waters, site personnel shall respond immediately to contain the release and notify the superintendent after the situation has stabilized.
 - The site superintendent, or his designee, shall be responsible for completing a spill reporting form and for reporting the spill to the appropriate agency.
 - Spill response equipment shall be inspected and maintained as necessary to replace any materials used in spill response activities.
 - Spill kits shall be on-hand at all fueling sites. Spill kit location(s) shall be reported to the SWMP Administrator.
 - Absorbent materials shall be on-hand at all fueling areas for use in containing inadvertent spills. Containers shall be on-hand at all fueling sites for disposal of used absorbents.
 - Recommended components of spill kits include the following:

- Oil absorbent pads (one bale)
- Oil absorbent booms (40 feet)
- 55-gallon drums (2)
- 9-mil plastic bags (10)
- Personal protective equipment including gloves and goggles
- Concrete Wash Water: Unless confined in a pre-defined, bermed containment area, the cleaning of concrete truck delivery chutes is prohibited at the job site. The discharge of water containing waste cement to the storm drainage system is prohibited.
- Concrete Batch Plant: This project will not have an on-site dedicated batch plant.
- Notification Procedures:
 - In the event of an accident or spill, the SWMP Administrator shall be notified as a minimum.
 - Depending on the nature of the spill material involved, the Colorado Department of Public Health and Environment (24-hour spill reporting line: 877-518-5608), downstream water users, or other agencies may also need to be notified.
 - Any spill of oil which 1) violates water quality standards, 2) produces a “sheen” on a surface water, or 3) causes a sludge or emulsion, or any hazardous substance release, or hazardous waste release which exceeds the reportable quantity, must be reported immediately by telephone to the National Response Center Hotline at (800)-424-8802.

5. Final Stabilization and Long-term Stormwater Management

Item 22. Add a bullet about the grass swales, and the temporary/permanent ponds that will be managing the stormwater long-term

- Permanent seeding will be provided to achieve long-term stabilization of the site.
- Seed Mix: “Foothills Mix” or approved equal
- Seeding Application Rate: Drill seed 0.25” to 0.5” into the soil. In small areas not accessible to a drill, hand broadcast at double the rate and rake 0.25” to 0.5” into the soil. Apply seed at the following rates:
 - Dryland: 20-25 lbs/acre
 - Irrigated: 40 lbs/acre
- Soil Stabilization Practices:
 - Mulching Application: Apply 1-1/2 tons of certified weed free hay per acre mechanically crimped into the soil in combination with an organic mulch tackifier. On slopes and ditches requiring a blanket, the blanket shall be placed in lieu of much and mulch tackifier.

- Soil Conditioning and Fertilizer Requirements:
 - Soil conditioner, organic amendment shall be applied to all seeded areas at 3 CY / 1000 SF.
 - Fertilizer shall consist of 90% fungal biomass (mycelium) and 10% potassium-magnesia with a grade of 6-1-3 or approved equal. Fertilizer shall be applied as recommended by seed supplier.
- Final stabilization is reached when all soil-disturbing activities at the site have been completed, and uniform vegetative cover has been established with an individual plant density of at least 70 percent of pre-disturbance levels, or equivalent permanent, physical erosion reduction methods have been employed.

6. Other Controls

- Contractor shall dispose of all waste materials at a permitted off-site disposal site.
- Vehicle tracking pads will be installed at all access points to limit off-site soil tracking.

7. Inspection and Maintenance

a. Inspection Schedules:

- Contractor shall inspect BMPs bi-weekly as a minimum, and immediately (within 24 hours) after any precipitation or snowmelt event that causes surface erosion (i.e. that results in stormwater running across the ground), to ensure that BMPs are maintained in effective operating condition.

Change to "Qualified Stormwater Inspector"

b. Inspection Procedures:

1) Site Inspection / Observation Items:

- Construction site perimeter and discharge points (including discharges into a storm sewer system)
- All disturbed areas
- Areas used for material / waste storage that are exposed to precipitation
- Other areas having a significant potential for stormwater pollution, such as demolition areas or concrete washout locations, or locations where vehicles enter or leave the site
- Erosion and sediment control measures identified in the SWMP
- Any other structural BMPs that may require maintenance, such as secondary containment around fuel tanks, or the condition of spill response kits.

2) Inspection Requirements:

- Determine if there is any evidence of, or potential for, pollutants entering the drainage system.

- Review BMPs to determine if they still meet design and operational criteria in the SWMP, and if they continue to adequately control pollutants at the site.
 - Upgrade and/or revise any BMPs not operating in accordance with the SWMP and update the SWMP to reflect any revisions.
- c. BMP Maintenance / Replacement and Failed BMPs:
- Contractor shall remove sediment that has been collected by perimeter controls, such as silt fence and inlet protection, on a regular basis to prevent failure of BMPs, and remove potential of sediment from being discharged from the site in the event of BMP failure.
 - Removed sediment must be moved to an appropriate location where it will not become an additional pollutant source, and should never be placed in ditches or streams.
 - Contractor shall update Erosion Control Plans as required with any new BMPs added during the construction period.
 - Contractor shall address BMPs that have failed, or have the potential to fail without maintenance or modifications, as soon as possible, immediately in most cases, to prevent discharge of pollutants.
- d. Record Keeping and Documenting Inspections:
- Contractor shall maintain records of all inspection reports, including signed inspection logs, at the project site.
 - Permittee shall document inspection results and maintain a record of the results for a period of 3 years following expiration or inactivation of permit coverage.
 - Site inspection records shall include the following:
 - Inspection date
 - Name and title of personnel making the inspection
 - Location of discharges of sediment or other pollutants from the site
 - Location(s) of BMPs that need to be maintained
 - Location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location
 - Location(s) where additional BMPs are needed that were not in place at the time of inspection
 - Deviations from the minimum inspection schedule

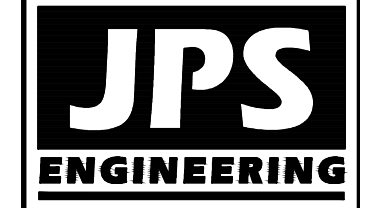
Item 25. Add signature on inspection logs and that the SWMP and inspection logs will be kept onsite.

Item 21. Add text stating that the SWMP should be viewed as a “living document” that is continuously being reviewed and modified as a part of the overall process of evaluating and managing stormwater quality issues at the site. The SWMP Administrator shall amend the SWMP when there is a change in design, construction, operation or maintenance of the site which would require the implementation of new or revised BMPs or if the SWMP proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with construction activity or when BMPs are no longer necessary and are removed.

GRADING & EROSION CONTROL (GEC) PLAN SHEET INDEX

C1.1 SITE GRADING & EROSION CONTROL PLAN
 C2.1 CIVIL NOTES & DETAILS
 C2.2 EROSION CONTROL NOTES & DETAILS

NOTE: STORMWATER DETENTION AND WATER QUALITY FOR THIS SITE (INCLUDING TEMPORARY SEDIMENT BASIN) IS PROVIDED IN OFF-SITE DETENTION POND C2.8



19 E. Willamette Ave.
 Colorado Springs, CO 80903
 PH: 719-477-9429
 FAX: 719-471-0766



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

INTELIFAB LOT 1, MAYBERRY, COLORADO SPRINGS, FIL. NO. 2

TRACT A
 FILING NO. 2

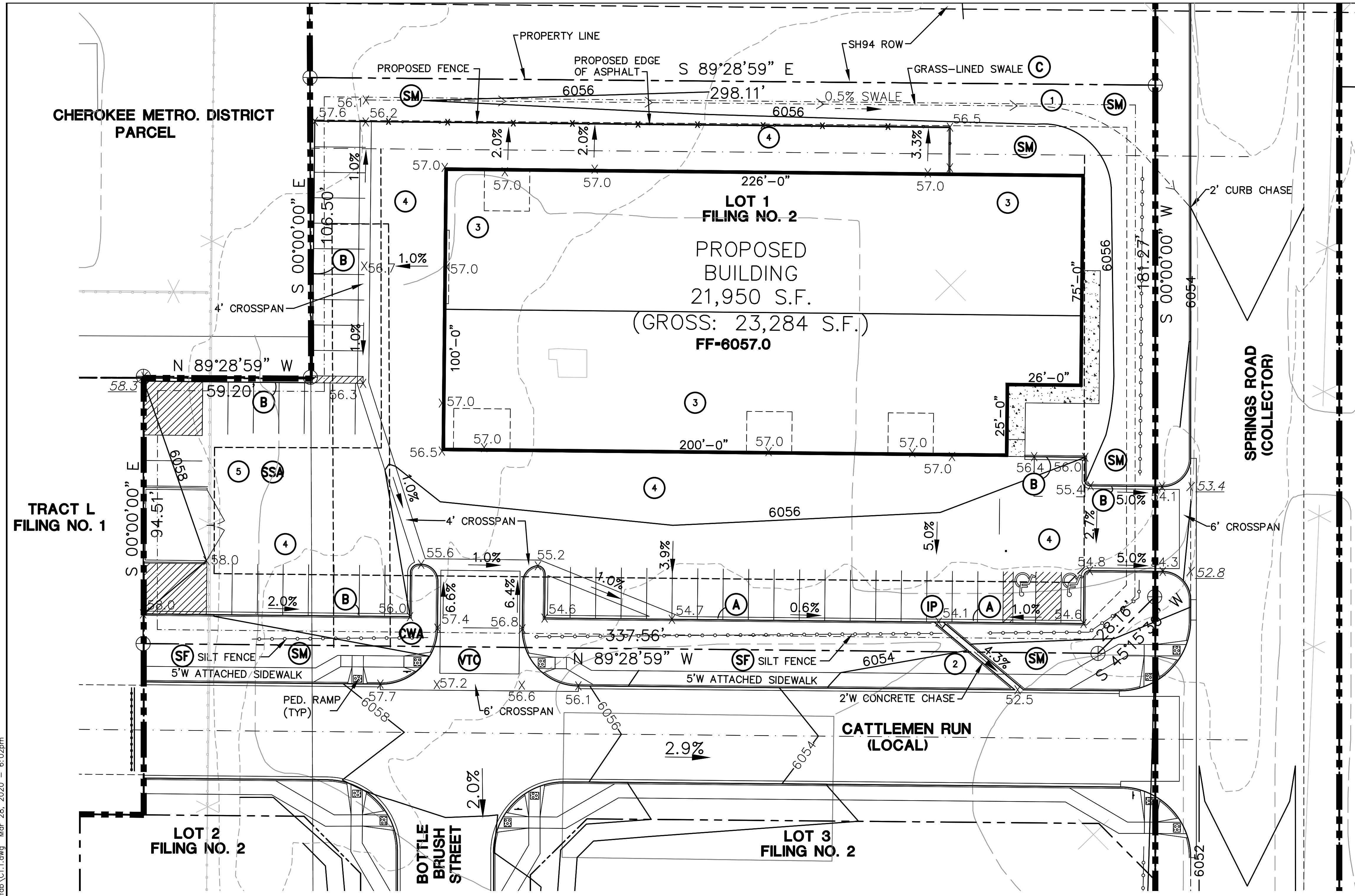
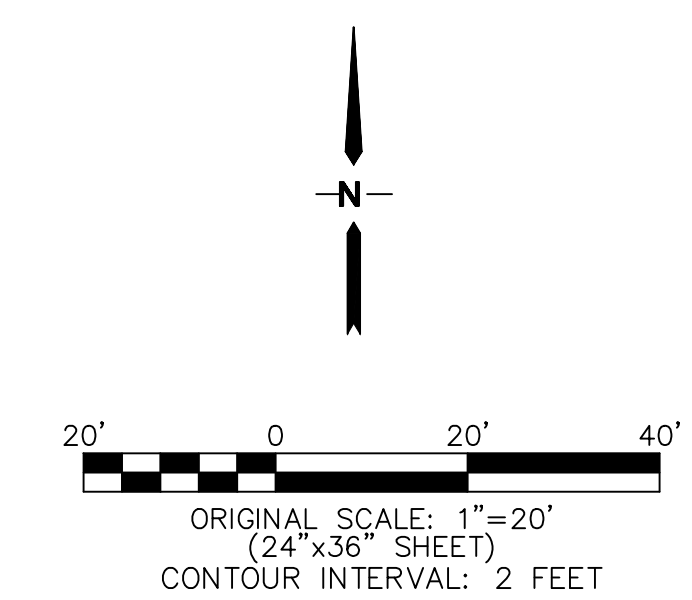
KEYED NOTES:

- 1 TOPSOIL & STRIPPINGS STOCKPILE AREA (SP)
- 2 CONTRACTOR MAY WASTE EXCESS CUT MATERIAL OR BORROW SUITABLE FILL MATERIAL FROM THIS AREA. MAINTAIN POSITIVE DRAINAGE & MATCH INTO EXISTING GRADES WITH 3:1 MAX. SLOPE.
- 3 PREPARE AND COMPACT BUILDING FOUNDATION & SLAB PER PROJECT GEOTECHNICAL REPORT
- 4 PARKING LOT PAVING PER GEOTECHNICAL REPORT (4" ASPHALT OVER 6" AGGREGATE BASE UNLESS NOTED OTHERWISE)
- 5 STORAGE AREA FOR BUILDING MATERIALS, EQUIPMENT, CONSTRUCTION WASTE, & STOCKPILES (CONTRACTOR MAY ADJUST AS NEEDED)

SITE GRADING & EROSION CONTROL PLAN

NO.	REVISION	BY	DATE

HORZ. SCALE: 1"=20'
 VERT. SCALE: N/A
 SURVEYED: N/A
 CREATED: 3/20/20
 PROJECT NO: 090001
 SHEET: C1.1

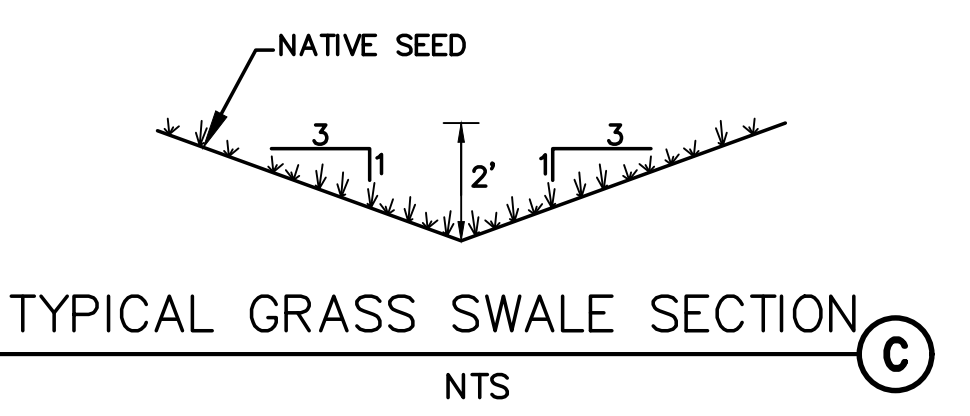
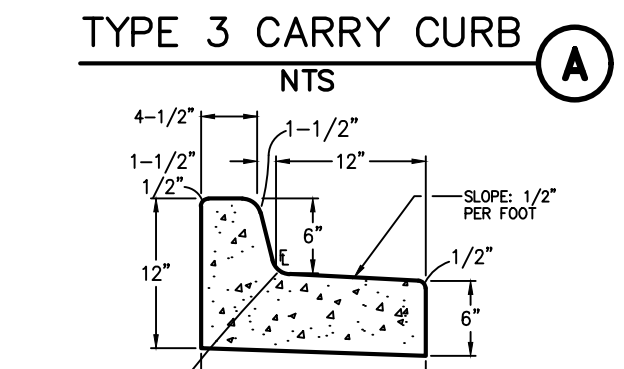
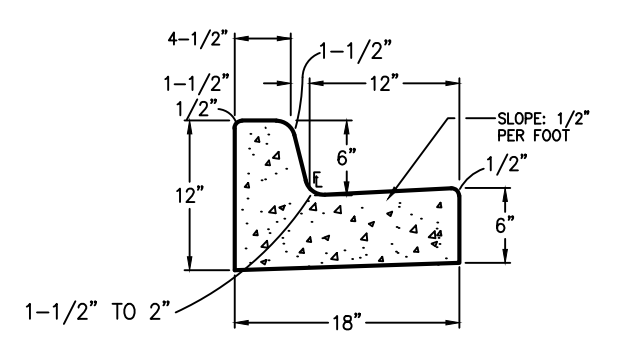


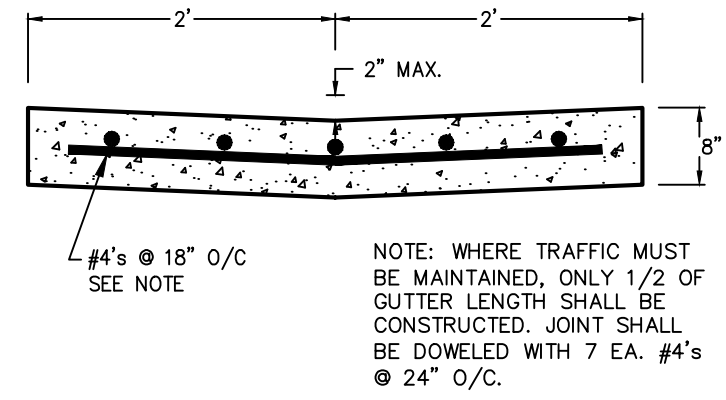
LEGEND:

- BOUNDARY LINES
- 6490 EXISTING CONTOURS
- 6490 PROPOSED CONTOURS
- x 99.00 PROPOSED SPOT ELEVATION (FLOWLINE)
- PROPOSED STREET PROFILE GRADE
- CUT-FILL DEMARCATION LINES
- FLOW DIRECTION ARROWS

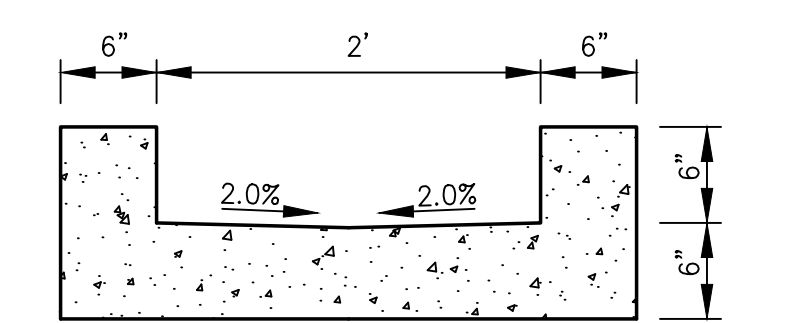
EROSION CONTROL LEGEND:

- IP INLET PROTECTION (GRAVEL FILTER)
- SF SILT FENCE
- VTC VEHICLE TRACKING CONTROL PAD (PER EPC STD. DETAIL)
- SM SEED AND MULCH
- STB STRAW BALE BARRIER
- TSB TEMPORARY SEDIMENT BASIN
- RR RIPRAP
- CWA CONCRETE WASHOUT AREA
- SSA STABILIZED STAGING AREA

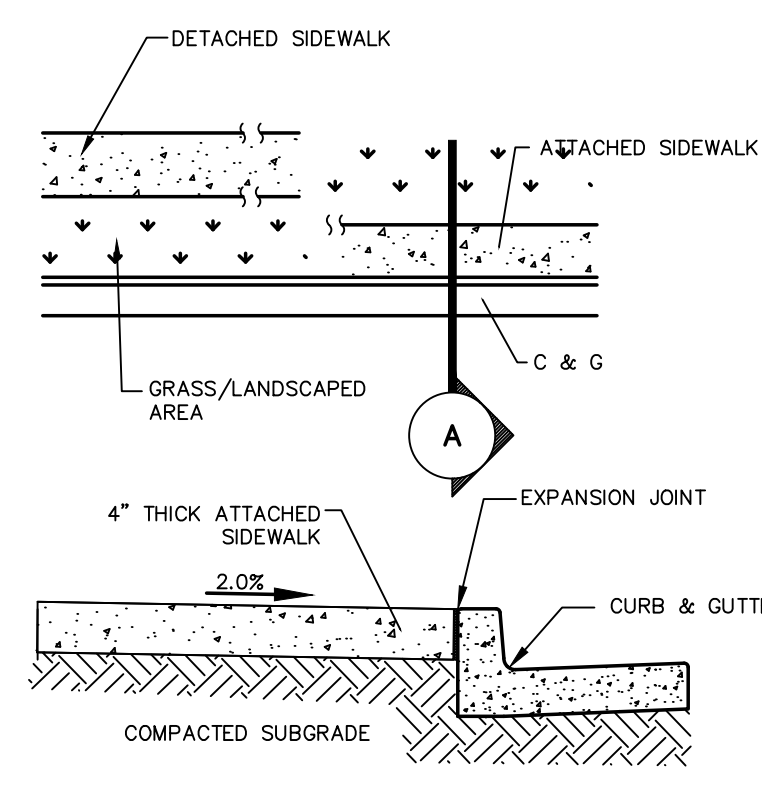




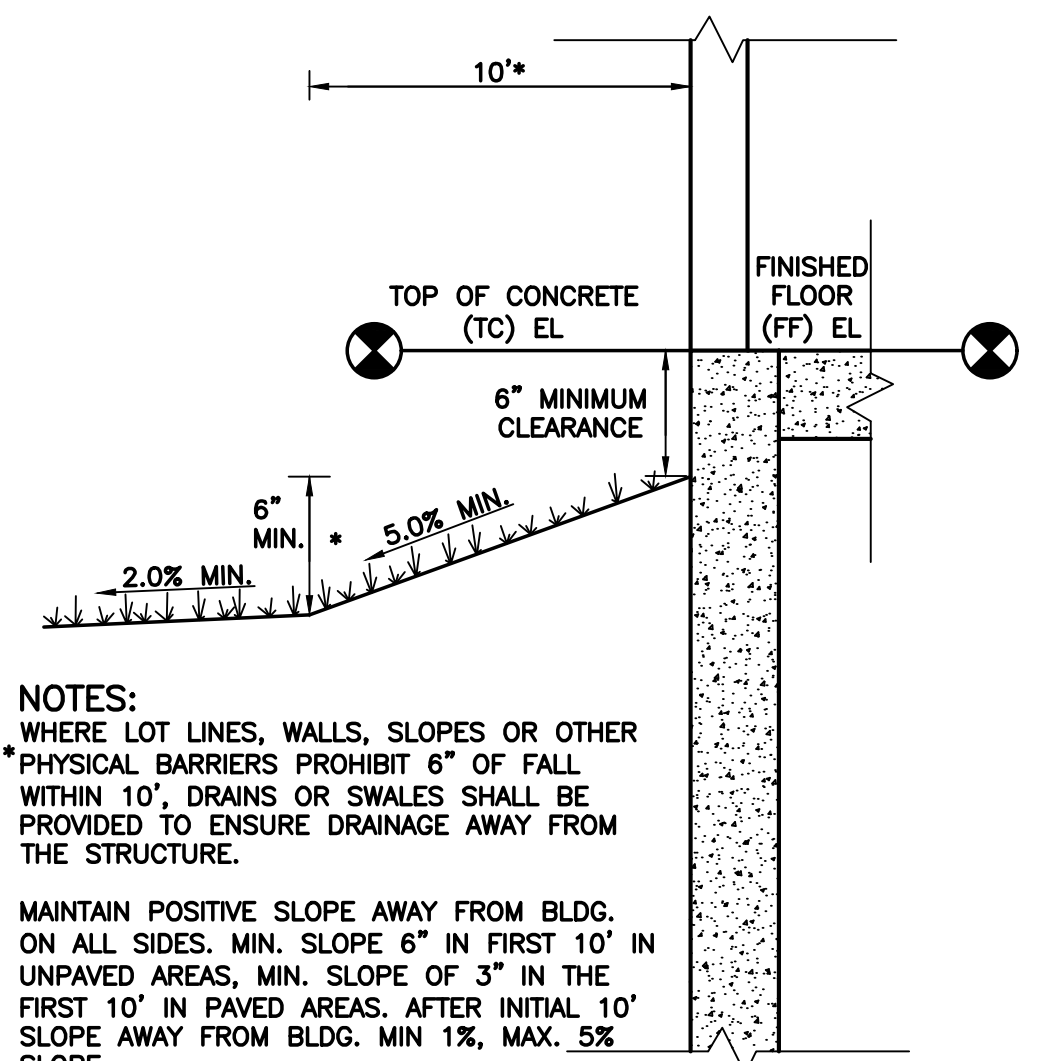
TYPICAL CONCRETE CROSSSPAN (A)
SCALE: 1" = 1'-0"



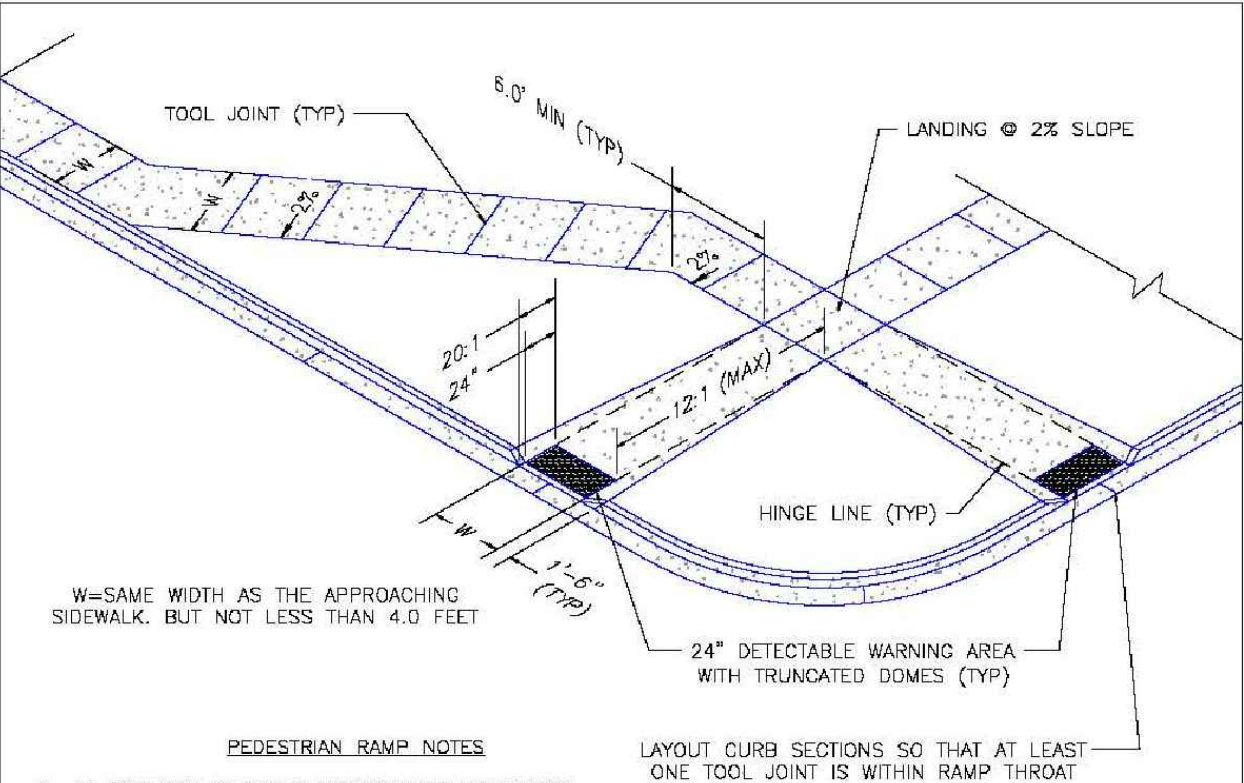
CURB CHASE SECTION (C)
SCALE: 1"=1' H&V



CONCRETE SIDEWALK DETAIL (B)
N.T.S.



TYPICAL BUILDING DRAINAGE DETAIL (D)
SCALE: NTS

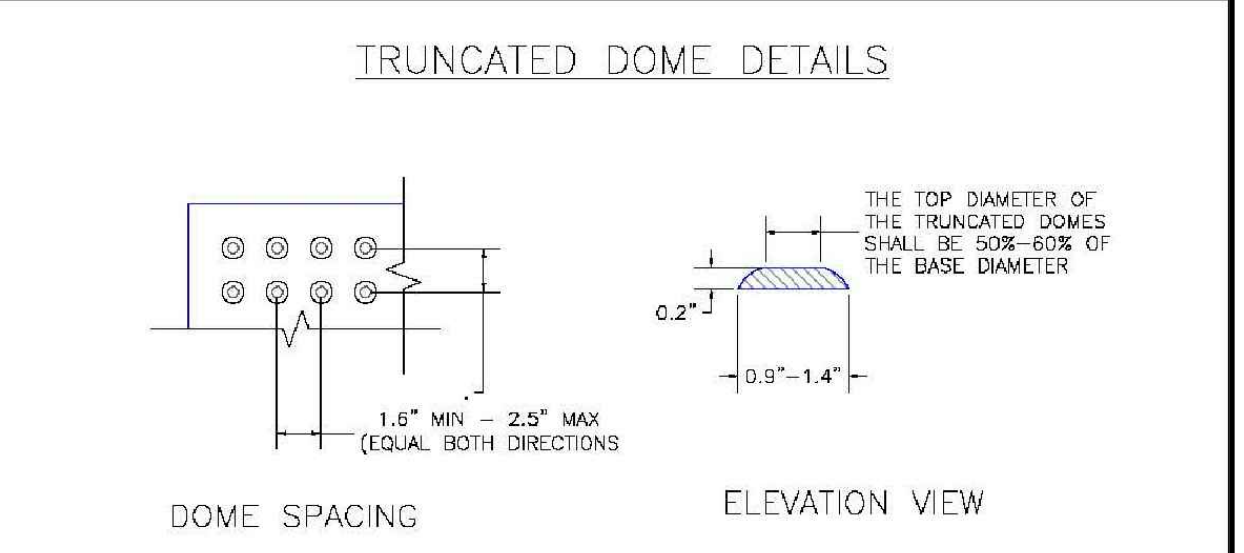


Pedestrian Intersection Ramp Standard Drawing

DATE APPROVED: 7/9/09
 ANDRÉ P. BRACKIN
 DEPARTMENT OF TRANSPORTATION

REVISION DATE: 12/8/15
 FILE NAME: SD_2-41

EL PASO COUNTY DEPARTMENT OF TRANSPORTATION

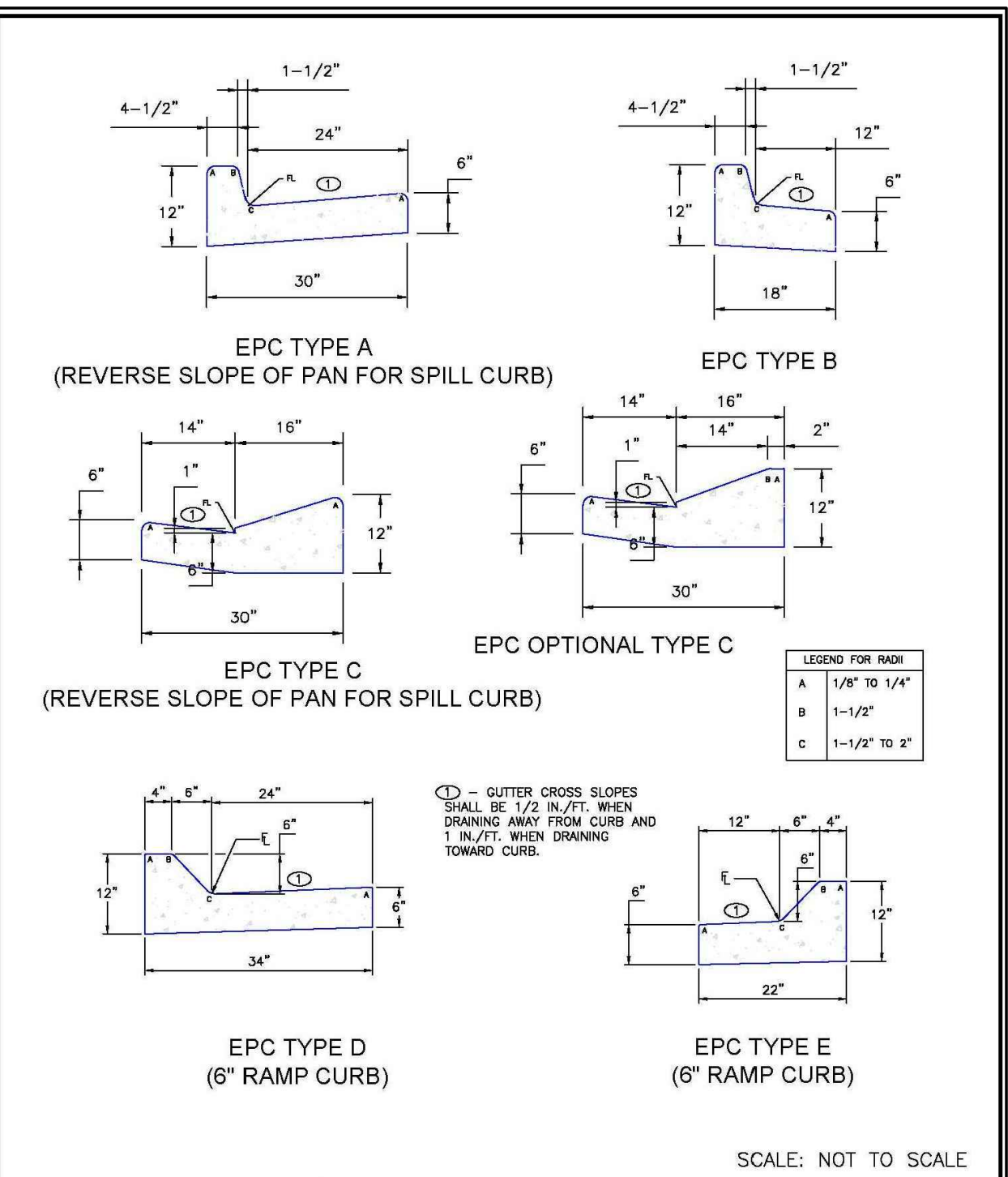


Truncated Dome Details Standard Drawing

DATE APPROVED: 1/1/08
 JOHN A. MCCARTY
 DEPARTMENT OF TRANSPORTATION

REVISION DATE: 11/25/15
 FILE NAME: SD_2-42

EL PASO COUNTY DEPARTMENT OF TRANSPORTATION

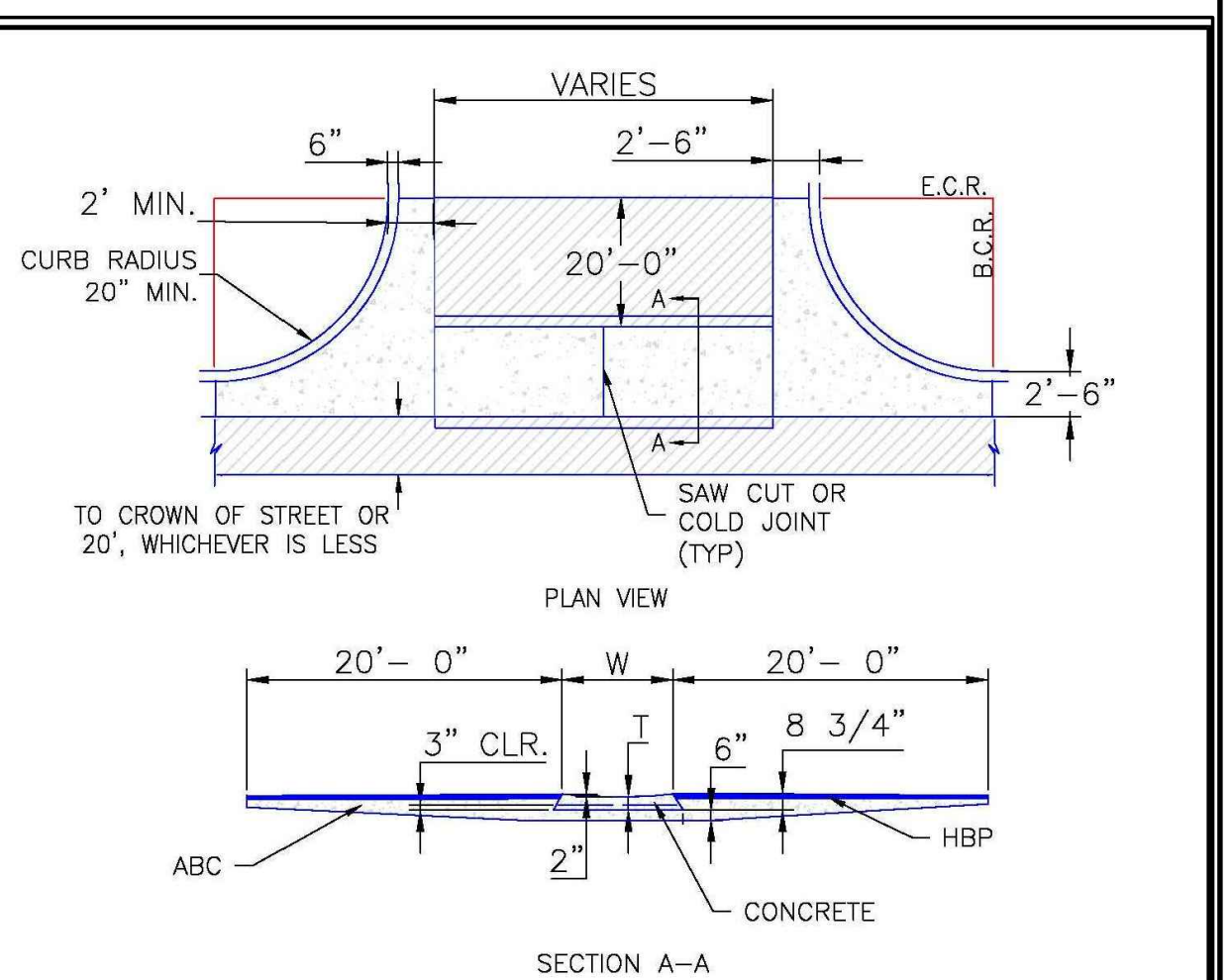


Typical Curb and Gutter Details Standard Drawing

DATE APPROVED: 8/11/11
 ANDRÉ P. BRACKIN
 DEPARTMENT OF TRANSPORTATION

REVISION DATE: 12/8/15
 FILE NAME: SD_2-20

EL PASO COUNTY DEPARTMENT OF TRANSPORTATION



Typical Cross Pan Layout Detail Standard Drawing

DATE APPROVED: 8/11/11
 ANDRÉ P. BRACKIN
 DEPARTMENT OF TRANSPORTATION

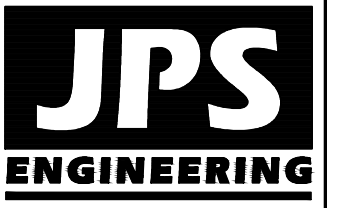
REVISION DATE: 12/8/15
 FILE NAME: SD_2-26

EL PASO COUNTY DEPARTMENT OF TRANSPORTATION

GENERAL CIVIL NOTES:

- All construction shall meet the following standards & specifications:
 - 2009 International Building Code.
 - Pikes Peak Regional Building Code, latest edition.
 - El Paso County Engineering Criteria Manual (ECM), latest edition.
 - Project Geotechnical Report.
- The contractor shall be responsible for the notification and field location of all existing utilities, whether shown on the plans or not, before beginning construction. Location of existing utilities shall be verified by the contractor prior to actual construction.
- The contractor shall have one (1) signed copy of these approved plans and one (1) copy of the appropriate design and construction standards and specifications at the job site at all times:
 - El Paso County Engineering Criteria Manual.
- Storm drain pipe shall be rcp class iii with class c bedding unless otherwise noted.
- Stationing is at centerline unless otherwise noted. All elevations are at flowline unless otherwise noted. All dimensions are from face of curb unless otherwise noted. Lengths shown for storm sewer pipes are to center of manhole.
- Contractor shall coordinate with gas, electric, telephone and cable t.v. Utility suppliers for installation of all utilities. Minimum cover for all dry utilities shall be 36".
- Contractor shall remove and dispose of all existing structures, debris, waste and other unsuitable fill material found within the limits of excavation.
- Match into existing grades at 3:1 max cut and fill slopes.
- Revegetation of all disturbed areas shall be done with 4" topsoil and dry land grass seed after fine grading is complete ("foothills seed mix").
- Erosion control shall consist of silt fence and hay bales as shown on the drawing, and topsoil with grass seed, which will be watered until vegetation has been re-established.
- The erosion control measures outlined on this plan are the responsibility of the contractor to monitor and replace, regrade, and rebuild as necessary until vegetation is re-established.
- Contractor shall implement best management practices in a manner that will protect adjacent properties and public facilities from the adverse effects of erosion and sedimentation as a result of construction and earthwork activities within the project site.
- Additional erosion control measures may be required as determined by site conditions.
- The contractor will take the necessary precautions to protect existing utilities from damage due to this operation. Any damage to the utilities will be repaired at the contractor's expense, and any service disruption will be settled by the contractor.
- All backfill, sub-base, and/or base course material shall be compacted per the project geotechnical report and County specifications.
- Concrete used in curb and gutter, sidewalk, and crosspan construction shall meet County criteria.
- All finished grades shall have a minimum 1.0% slope to provide positive drainage.
- Contractor shall obtain all required permits prior to beginning work.

INTELIFAB LOT 1, MAYBERRY, COLORADO SPRINGS, FIL. NO. 2



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

NO.	DATE	REVISION
1	3/30/20	SDP SUBMITTAL

CIVIL NOTES & DETAILS

HORZ. SCALE: N/A	DRAWN: BJJ
VERT. SCALE: N/A	DESIGNED: JPS
SURVEYED: RAMPART	CHECKED: JPS
CREATED: 3/28/20	LAST MODIFIED: 3/30/20
PROJECT NO: 090001	MODIFIED BY: BJJ

SHEET: **C2.1**

PCD PROJECT NO. PPR-20xx

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