CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director

Mayor Timothy M. Keller

March 24, 2020

Holden Rennaker, P.E.
Short Elliott Hendrickson, Inc.
934 Main Ave., Unit C
Durango, CO 81301

RE: Monterey Motel
2402 Central Ave. SW
Grading and Drainage Plan Stamp Date: 3/4/20
Hydrology File: J12D032

Dear Mr. Rennaker:

Based on the submittal received on 3/6/20 and Payment-in-Lieu received on 3/23/20, the Grading and Drainage Plan is approved for Building Permit.

Prior to Certificate of Occupancy (For Information):

1. Engineer's Certification, per the DPM Chapter 22.7: *Engineer's Certification Checklist For Non-Subdivision* is required.
2. City acceptance and close-out of the public Work Order will be required, unless a financial guarantee has been posted.

If you have any questions, please contact me at 924-3986 or earmijo@cabq.gov.

Sincerely,

Ernest Armijo, PE
Principal Engineer, Planning Dept.
Development Review Services

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov

MONTEREY MOTEL

GRADING AND DRAINAGE PLAN SUPPLEMENTAL CALCULATIONS AND FINDINGS

ALBUQUERQUE, NM

HOLDEN DANE RENNAKER
NEW MEXICO
25618
03/04/2020
PROFESSIONAL ENGINEER

March 05, 2020

Prepared by:
Short, Elliott, Hendrickson, Inc.
934 Main Ave., Unit C
Durango, CO 81301

SEH
Building a Better World for All of Us®

INTRODUCTION

The Monterey Motel project is a proposed motel renovation and addition located at 2402 Central Avenue SW, Albuquerque, NM 87104. The project includes two existing single story buildings which will be renovated during Phase 1 to have a combined footprint of approximately 5,900-sf. Phase 2 of the project will have an additional building around the existing pool deck that will have a footprint of 2,805-sf.

The following report summarizes calculations and findings supplemental to the submitted Grading and Drainage Plan. The Grading and Drainage Plan highlights both the existing and proposed conditions and flow calculations for each basin. The following sections provide more detail into certain design elements of the drainage scheme.

STORMWATER CONVEYANCE

Basins A1-A5 were all designed to surface flow to a concrete valley pan in the center of the drive aisle. The valley pan was designed to have a series of high and low points with a proposed inlet at each low point. These inlets were designed to be drained by a proposed 12-in storm drain trunk line. Proposed roof drain lines were also designed to tie into this trunk line system.

Valley Pan Inlets

The *Hydraflow Express Extension for AutoCad Civil3D* 2018 was used to model the proposed inlets to determine the water spread during the 100-year storm. The inlets were modelled per COA Type D Single Inlets in a sag condition. *Express* output is attached and shows that the maximum spread of these inlets during the highest 100-year flow for Basins A1-A5 (0.50-cfs) results in a spread of 6-ft – within the drive aisle.

Storm Drain Trunk Line

The *Hydraflow Express Extension for AutoCad Civil3D* 2018 was used to model the highest flow in the trunk line during the 100-year storm. The storm drain pipe was modelled as being 12-in PVC with a slope of 0.5%. *Express* output is attached and shows that the total developed flow of the site (2.63-cfs) flows through the pipe with a flow depth of 0.68-ft.

Roof Drain Inlets

Each proposed roof drain was designed to flow into an 8-in Nyoplast Drop-In Grate Inlet. The maximum 100-year storm flow of a building basin (0.39 cfs for the existing East Building) was found to pool up just over 3-in from the grate rim – 0.75-ft below the finish floor elevation. This flow assumption was found to be conservative as this basin flow was designed to be split over several drop inlets.

Roof Drain Collector

The *Hydraflow Express Extension for AutoCad Civil3D* 2018 was used to model the proposed roof drain trunk line to verify the lines can adequately convey the 100-year storm. The pipe was modelled as an 8-in PVC line with 0.5% slope with a flow of 0.62-cfs (the combined flow of the West Building and Addition). The *Express* results attached show that the proposed lines can adequately convey the flow.

ATTACHMENTS

- Output from *Hydraflow Express Extension for Civil 3D* (Valley Pan Inlet)
- Output from *Hydraflow Express Extension for Civil 3D* (Trunk Line Pipe)
- Design Sheet for Drop Grate Inlet for Nyoplast Drop Inlets
- Output from *Hydraflow Express Extension for Civil 3D* (Roof Drain Collector)
- Site FIRMette Map
- FIRM Panel

Inlet Report

MOMO Valley Pan Inlet

Drop Grate Inlet

Location	= Sag
Curb Length (ft)	= -0-
Throat Height (in)	= -0-
Grate Area (sqft)	= 4.00
Grate Width (ft)	= 2.08
Grate Length (ft)	= 3.33

Gutter

Slope, Sw (ft/ft)	= 0.040
Slope, Sx (ft/ft)	= 0.040
Local Depr (in)	= -0-
Gutter Width (ft)	= 3.00
Gutter Slope (%)	= -0-
Gutter n-value	= -0-

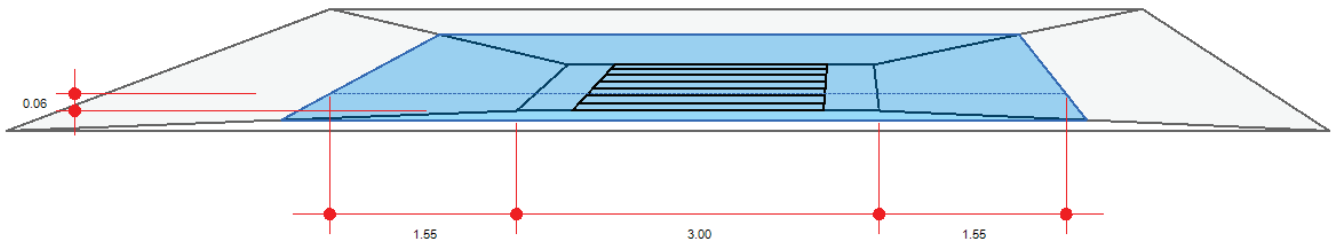
Calculations

Compute by:	Known Q
Q (cfs)	= 0.50

Highlighted

Q Total (cfs)	= 0.50
Q Capt (cfs)	= 0.50
Q Bypass (cfs)	= -0-
Depth at Inlet (in)	= 0.74
Efficiency (%)	= 100
Gutter Spread (ft)	= 6.09
Gutter Vel (ft/s)	= -0-
Bypass Spread (ft)	= -0-
Bypass Depth (in)	= -0-

All dimensions in feet



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Wednesday, Jan 29 2020

TRUNK LINE

Circular

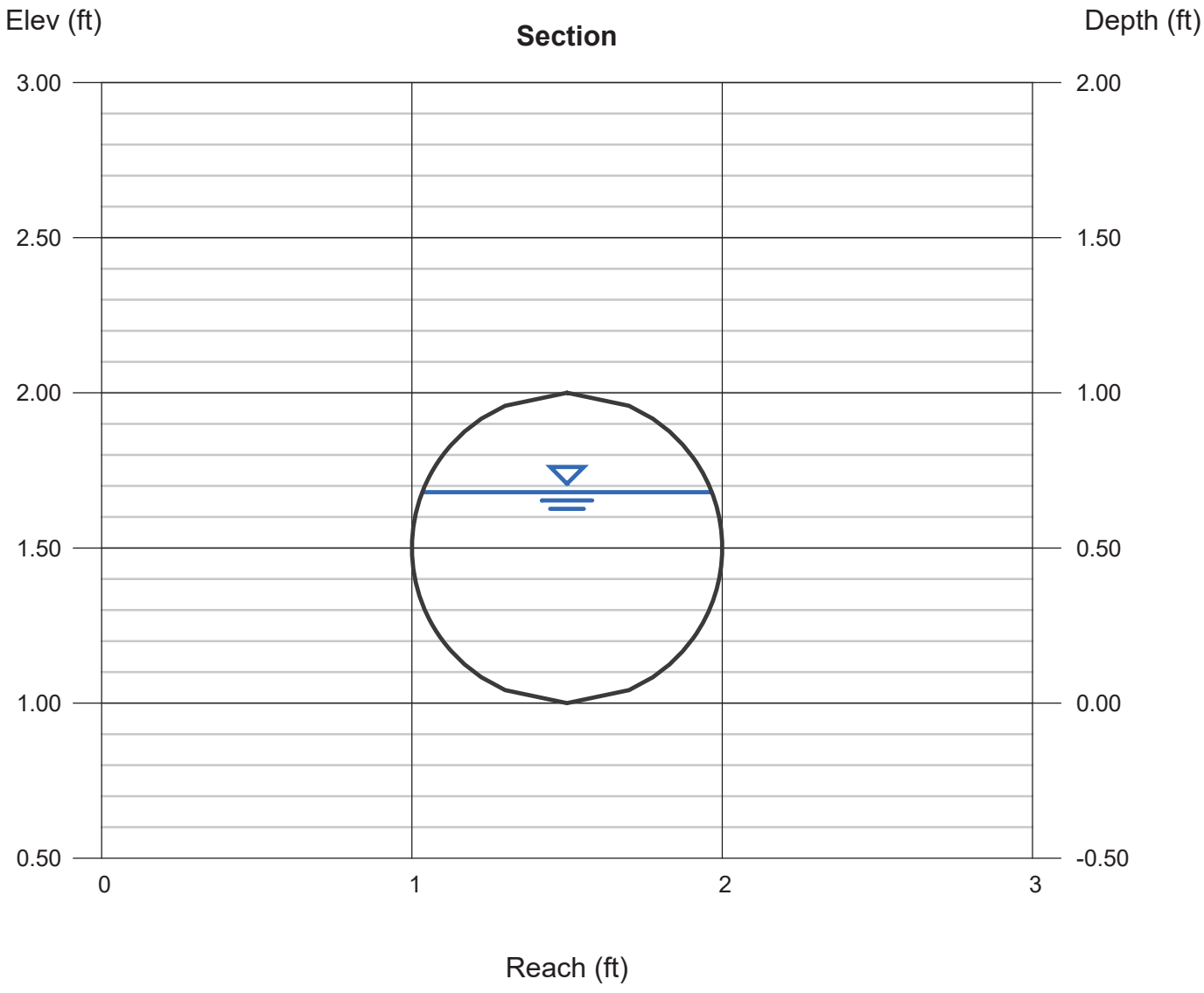
Diameter (ft)	= 1.00
Invert Elev (ft)	= 1.00
Slope (%)	= 0.50
N-Value	= 0.010

Calculations

Compute by:	Known Q
Known Q (cfs)	= 2.63

Highlighted

Depth (ft)	= 0.68
Q (cfs)	= 2.630
Area (sqft)	= 0.57
Velocity (ft/s)	= 4.62
Wetted Perim (ft)	= 1.94
Crit Depth, Yc (ft)	= 0.70
Top Width (ft)	= 0.93
EGL (ft)	= 1.01



Nyloplast Drop In Grates

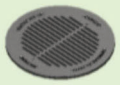

6" Drop In Grate


8" Drop In Grate


10" Drop In Grate


12" Drop In Grate


15" Drop In Grate


18" Drop In Grate


24" Drop In Grate

Applications

Nyloplast Drop In Grates are commonly used in non-traffic applications such as green spaces as well as atrium walkway areas. The Drop In grates are designed to fit most pipe types such as ADS N-12, PVC Sewer SDR35, PVC Schedule 40 and so on. They are light weight and easy to install while maintaining the durability of a ductile iron casting making them extremely versatile for an assortment of different applications.

Specifications

Nyloplast Drop In Grates conform to ASTM A536 grade 70-50-05 for ductile iron castings. These grate designs are not load rated like some of our other casting designs and therefore should not be used in vehicular traffic applications.

Inlet Capacity Information

NYLOPLAST INLET CAPACITY CHART DATA									
NYLOPLAST CASTINGS	GRATE SIZES	GRATE OPEN AREA (sq.in.)	PERIMETER OF GRATE OPENINGS (in.)	FLOW RATE AT DIFFERENT HEAD PRESSURES (cfs)				CHANGE OVER FROM WEIR FLOW TO ORIFICE FLOW	
				0.25' (3")	0.50' (6")	0.75' (9")	1.00' (12")	FLOW (cfs)	HEAD (ft)
DROP IN GRATES	6 IN	9.98	16.47	0.165	0.230	0.285	0.330	0.085	0.065
	8 IN	19.30	22.29	0.320	0.450	0.555	0.640	0.180	0.090
	10 IN	32.80	28.58	0.550	0.770	0.950	1.080	0.410	0.130
	12 IN	39.75	33.70	0.680	0.950	1.150	1.290	0.490	0.140
	15 IN	62.03	41.78	1.049	1.450	1.790	2.060	0.855	0.175
	18 IN	84.61	48.69	1.400	1.950	2.430	2.800	1.280	0.210
	24 IN	164.94	66.76	2.300	3.800	4.750	5.450	3.000	0.300

*The Most **Advanced** Name in Drainage Systems®*

Nyloplast
3130 Verona Ave.
Buford, GA 30518
1-866-888-8479
www.nyloplast-us.com

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Wednesday, Mar 4 2020

Roof Drain Collector

Circular

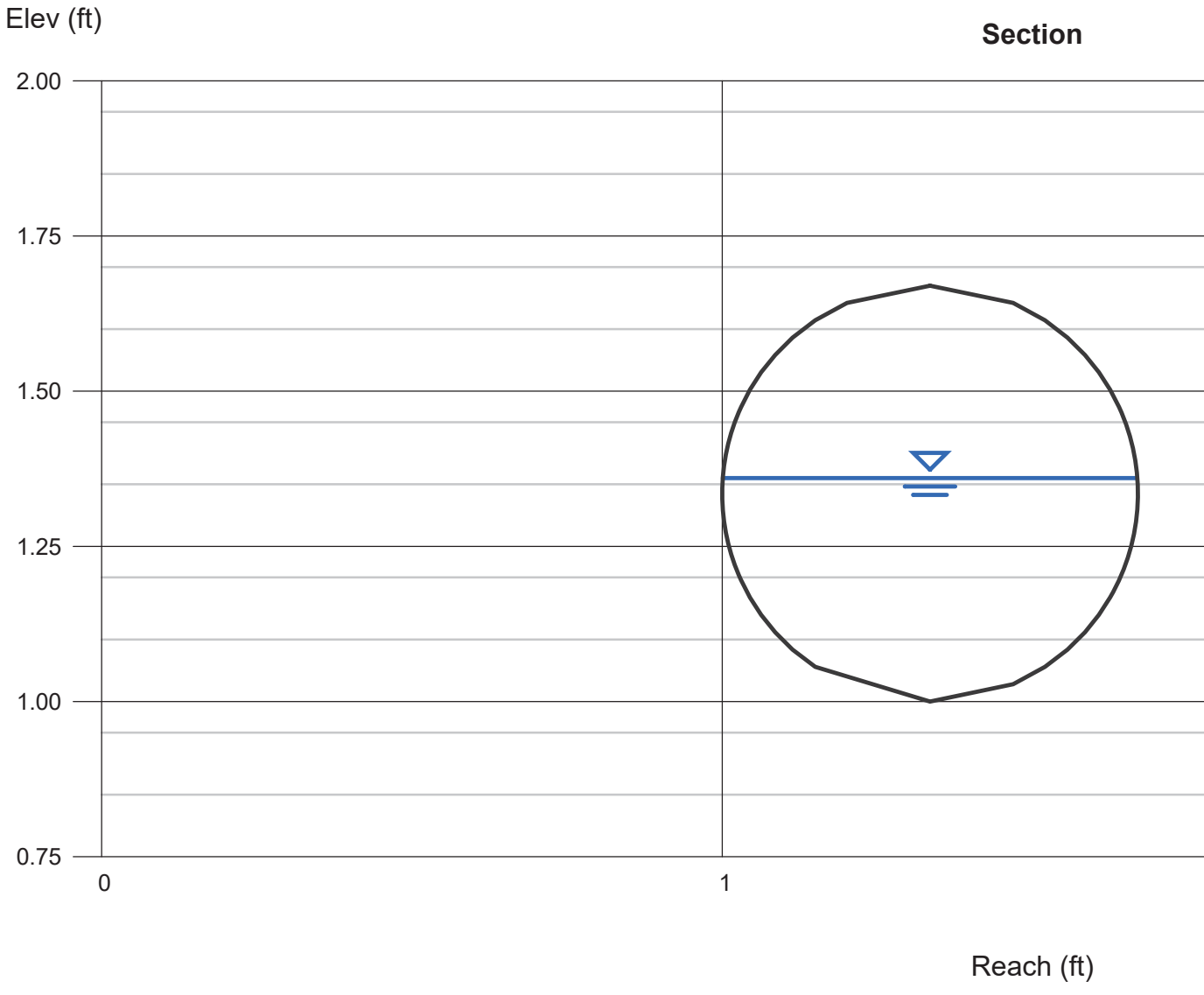
Diameter (ft)	= 0.67
Invert Elev (ft)	= 1.00
Slope (%)	= 0.50
N-Value	= 0.010

Calculations

Compute by:	Known Q
Known Q (cfs)	= 0.62

Highlighted

Depth (ft)	= 0.36
Q (cfs)	= 0.620
Area (sqft)	= 0.19
Velocity (ft/s)	= 3.20
Wetted Perim (ft)	= 1.11
Crit Depth, Yc (ft)	= 0.37
Top Width (ft)	= 0.67
EGL (ft)	= 0.52



National Flood Hazard Layer FIRMette

FEMA

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- 513 Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 2/26/2020 at 7:05:49 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction, and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in special flood hazard areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures in this jurisdiction.

The **projection** used in the preparation of this map was New Mexico State Plane, Central Zone (FIPS 3002). The **horizontal datum** was NAD83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey, SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit their website at http://www.ngs.noaa.gov/.

Base map information shown on this FIRM was provided in digital format by City of Albuquerque, 2010, Bernalillo County, 2004, and 2010, Bureau of Land Management, 2003, National Geodetic Survey, 2003, and United States Geological Survey (USGS), 1999. Additional information was photogrammetrically compiled at a scale of 1:12,000 from U.S. Department of Agriculture aerial photography dated 2009.

This map reflects more detailed and up-to-date **stream channel configurations** than those shown on the previous FIRM for this jurisdiction. The floodplains and floodways that were transferred from the previous FIRM may have been adjusted to conform to these new stream channel configurations. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map**, how to order products or the National Flood Insurance Program in general, please call the **FEMA Map Information eXchange (FMIX) at 1-877-FEMA-MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.

Accredited Levee Notes to Users: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/business/nfip/index.shtm.

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.

ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The Floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D Boundary

CBRS and OPA Boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

513 Base Flood Elevation line and value; elevation in feet*

(EL 987) Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

A — A Cross section line

23 — 23 Transect line

97° 07' 30", 32° 22' 30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

1000-meter Universal Transverse Mercator grid values, zone 13

5000-foot grid ticks: New Mexico State Plane coordinate system, Central zone (FIPSZONE 3002), Transverse Mercator

Bench mark (see explanation in Notes to Users section of this FIRM panel)

River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index.

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP PANEL
SEPTEMBER 26, 1996

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
April 2, 2002
November 19, 2003
September 26, 2008

August 16, 2012 - to update corporate limits, to change Base Flood Elevations, to add Special Flood Hazard Areas, to change Special Flood Hazard Areas, to add roads and road names, to incorporate previously issued Letters of Map Change.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET
150 0 150 300 METERS

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0331H

FIRM

FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO AND INCORPORATED AREAS

PANEL 331 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0331	H
BERNALILLO COUNTY UNINCORPORATED AREAS	350001	0331	H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
35001C0331H

MAP REVISED
AUGUST 16, 2012

Federal Emergency Management Agency

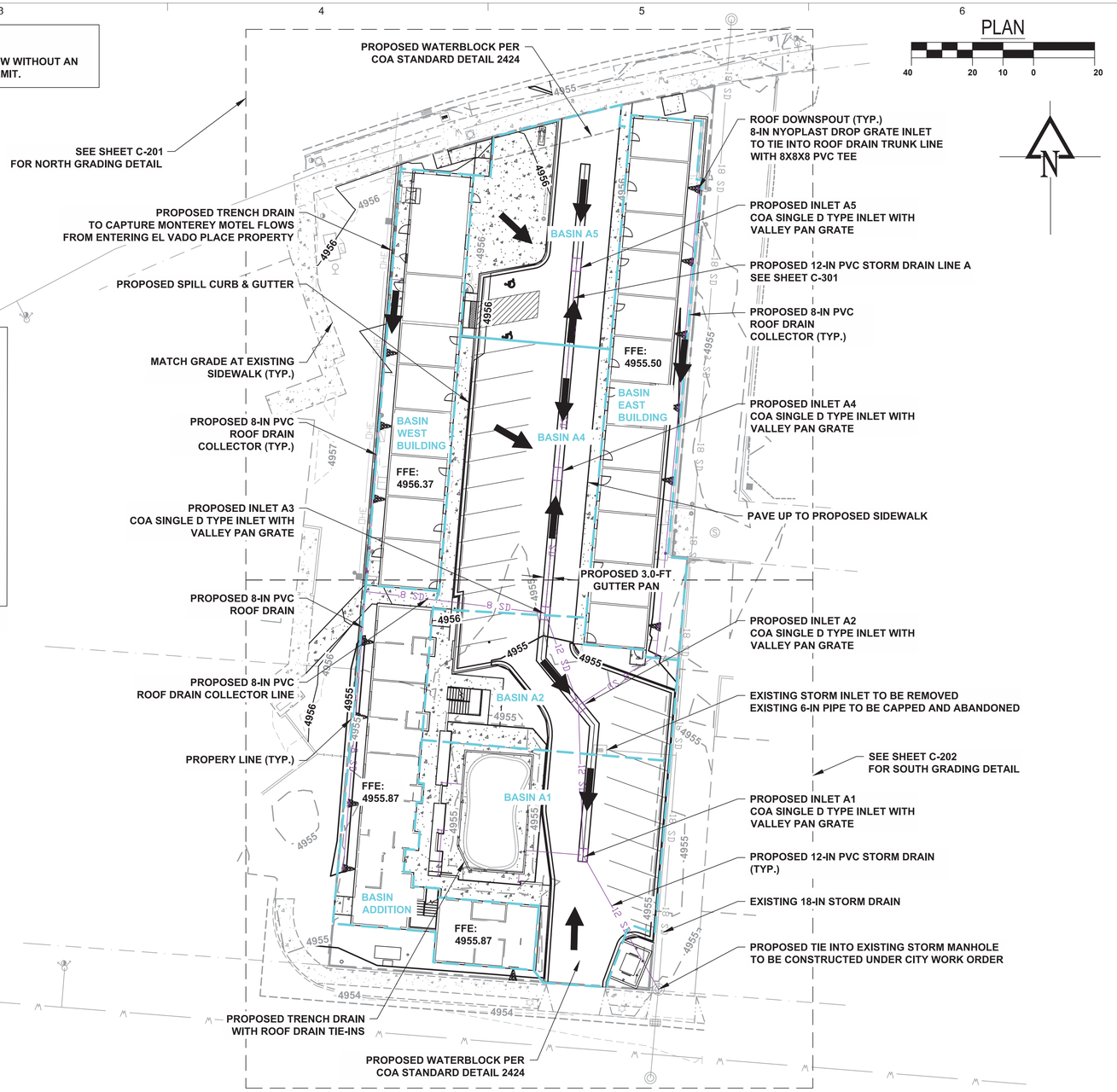
LEGAL DESCRIPTION:

LOT 11-A TRACTION PARK AND CITY ELECTRIC ADDITION
WITHIN
THE TOWN OF ALBUQUERQUE GRANT
PROJECTED SECTION 13, TOWNSHIP 10 NORTH, RANGE 2 EAST
NEW MEXICO PRINCIPAL MERIDIAN
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO

VERTICAL DATUM IS BASED ON CITY OF ALBUQUERQUE CONTROL SURVEY BENCHMARK "14_J12" HAVING A PUBLISHED ELEVATION OF 4965.465' (NAVD 1988)

NOTES:

1. NO WORK SHALL BE PERFORMED IN PUBLIC ROW WITHOUT AN APPROVED WORK ORDER OR EXCAVATION PERMIT.



PROJECT BACKGROUND INFORMATION

PROJECT AREA: 0.66 ACRES

ZONE: 2

FROM TABLE 6.7 FOR ZONE 2			
	EXCESS PRECIPITATION (INCHES)		
TREATMENT	2-YR	10-YR	100-YR
A	0	0.15	0.62
B	0.02	0.3	0.8
C	0.16	0.48	1.03
D	0.98	1.51	2.33

FROM TABLE 6.8 FOR ZONE 2			
	PEAK DISCHARGE (CFS/ACRE)		
TREATMENT	2-YR	10-YR	100-YR
A	0	0.41	1.71
B	0.08	0.95	2.36
C	0.61	1.59	3.05
D	1.66	2.71	4.34

EXISTING CONDITIONS:

THE PROPOSED DEVELOPMENT IS PRESENTLY AN EXISTING MOTEL THAT IS PREDOMINANTLY ASPHALT AND CONCRETE COVERED, WITH AREAS OF COMPACTED GRAVEL AND MINIMAL LANDSCAPING. THE EXISTING SITE DRAINS TO A LOW POINT IN THE SOUTH DRIVE AISLE WHERE IT IS CAPTURED BY A PRIVATE STORM DRAIN INLET. FLOWS FROM THIS INLET ARE THEN CONVEYED VIA A 6-IN STORM DRAIN LINE TO AN EXISTING CITY 18-IN STORM DRAIN TO THE EAST OF THE PROJECT SITE. MINOR NUISANCE FLOWS SURFACE FLOW TO BOTH NEW YORK AVENUE AND CENTRAL AVENUE.

TOTAL RUNOFF FROM THE EXISTING SITE WAS CALCULATED IN TABLE 1 OF THIS PLAN.

ADJACENT PROPERTIES WERE NOT FOUND TO DISCHARGE ONTO THE PROJECT SITE. THE EAST AND WEST LOT LINES HAVE AN EXISTING CMU WALL THAT PREVENT FLOWS FROM ENTERING OR LEAVING THE SITE.

PROPOSED CONDITIONS:

THE PROJECT WILL CONSIST OF TWO PHASES. PHASE 1 IS THE RENOVATION OF THE EXISTING MOTEL BUILDING WHICH RESULTS IN A SMALLER BUILDING AREA BASED ON THE DEMOLITION OF AN ADDITION ON THE WEST MOTEL BUILDING. PHASE 2 IS FOR A NEW BUILDING AROUND THE EXISTING POOL. BOTH PHASES WERE INCLUDED IN ALL STORM DRAIN CALCULATIONS TO ENSURE ADEQUATE FEATURE SIZING AND FOR DEVELOPED RUNOFF CALCULATIONS.

THE PROPOSED SITE WAS DESIGNED TO HAVE SLIGHTLY REDUCED IMPERVIOUS AREA FROM EXISTING CONDITIONS.

THE MIDDLE PORTION OF THE SITE WAS DIVIDED INTO BASINS A1, A2, A4, AND A5 WHICH WERE DESIGNED TO DRAIN TO THEIR RESPECTIVELY NAMED INLETS. INLET A3 IS NEAR A HIGH POINT IN THE GUTTER PAN WHICH RESULTS IN NEGLIGIBLE FLOW. THIS INLET WAS DESIGNED PREMARILY TO PROVIDE A CHANGE OF DIRECTION OF THE STORM DRAIN PIPE.

FLOWS FROM THE ROOF AND FROM BEHIND EACH BUILDING WILL BE CONVEYED VIA A STORM DRAIN COLLECTION SYSTEM THAT RUNS BEHIND EACH BUILDING. ROOF DOWNSPOUTS WERE DESIGNED TO DISCHARGE INTO A SMALL AREA DRAIN WHICH WILL TIE INTO THESE COLLECTION LINES.

PONDING FEATURES ON-SITE WERE NOT REASONABLY ABLE TO BE DESIGNED BASED ON THE CONSTRAINTS OF THE SITE. 23,087-SF OF IMPERVIOUS AREA WILL NOT BE TREATED ON-SITE AND THE DEVELOPER IS REQUESTING TO PAY A FEE IN-LIEU OF MANAGING ON SITE PER TABLE 6.17 OF THE DRAFT DPM. THIS AREA INCLUDES THE IMPERVIOUS AREA OF THE PHASE 2 BUILDING AND POOL DECK.

STORM VOLUMES AND PEAK FLOW CALCULATIONS ARE SHOWN IN TABLES 3 AND 4. WATER QUALITY VOLUME CALCULATIONS ARE SHOWN IN TABLE 5.

THE DEVELOPED OVERALL FLOWS WILL BE SLIGHTLY REDUCED FROM THE EXISTING CONDITIONS, AS SHOWN IN TABLE 2. THE RUNOFF PATTERN WAS ALTERED SLIGHTLY TO CONVEY FLOWS TO AN EXISTING STORM DRAIN MANHOLE AS OPPOSED TO THE EXISTING 6-IN STORM DRAIN CONNECTION.

TABLE 1 - EXISTING SITE OVERALL RUNOFF

		PEAK (CFS)		
LAND TREATMENT	AREA (ACRES)	2-YR	10-YR	100-YR
B	0.01	0.00	0.01	0.02
C	0.11	0.07	0.17	0.34
D	0.55	0.91	1.49	2.39
TOTAL	0.67	0.98	1.67	2.75

TABLE 2 - DEVELOPED SITE OVERALL RUNOFF

		PEAK (CFS)		
LAND TREATMENT	AREA (ACRES)	2-YR	10-YR	100-YR
B	0.14	0.01	0.13	0.33
C	0	0.00	0.00	0.00
D	0.53	0.88	1.44	2.30
TOTAL	0.67	0.89	1.57	2.63

TABLE 3 - DEVELOPED BASIN VOLUME TABLE

BASIN	TREATMENT B AREA (ACRES)	TREATMENT D AREA (ACRES)	TOTAL AREA (ACRES)	EXCESS PRECIPITATION (IN)	V100 - 360 (CF)	V100 - 1440 (CF)	V100 - 4 DAY (CF)	V100 - 10 DAY (CF)
A1	0.01	0.11	0.12	2.203	959	1134	1373	1656
A2	0.02	0.08	0.1	2.024	735	880	1080	1316
A4	0	0.1	0.1	2.33	846	991	1191	1427
A5	0	0.08	0.08	2.33	677	793	953	1141
WEST BUILDING	0.02	0.06	0.08	1.948	566	682	841	1030
EAST BUILDING	0.02	0.08	0.1	2.024	735	880	1080	1316
ADDITION	0.02	0.06	0.08	1.948	566	682	841	1030

TABLE 4 - DEVELOPED BASIN RUNOFF TABLE

BASIN	Q2 (CFS)	Q10 (CFS)	Q100 (CFS)
A1	0.18	0.31	0.50
A2	0.13	0.24	0.39
A4	0.17	0.27	0.43
A5	0.13	0.22	0.35
WEST BUILDING	0.10	0.18	0.31
EAST BUILDING	0.13	0.24	0.39
ADDITION	0.10	0.18	0.31

TABLE 5 - DEVELOPED WATER QUALITY TABLE

BASIN	PRIVATE IMPERVIOUS AREA (SF)	80TH PERCENTILE EVENT (IN)	VOLUME REQUIRED (CF)	VOLUME PROVIDED (CF)	FEE-IN LIEU OF VOLUME (CF)	FEE-IN LIEU OF AREA (SF)
SITE	23087	0.26	500	0	500	23087

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REVISIONS

DRAWN BY: HR

CHECKED BY: PR

SHEET TITLE

GRADING AND DRAINAGE PLAN

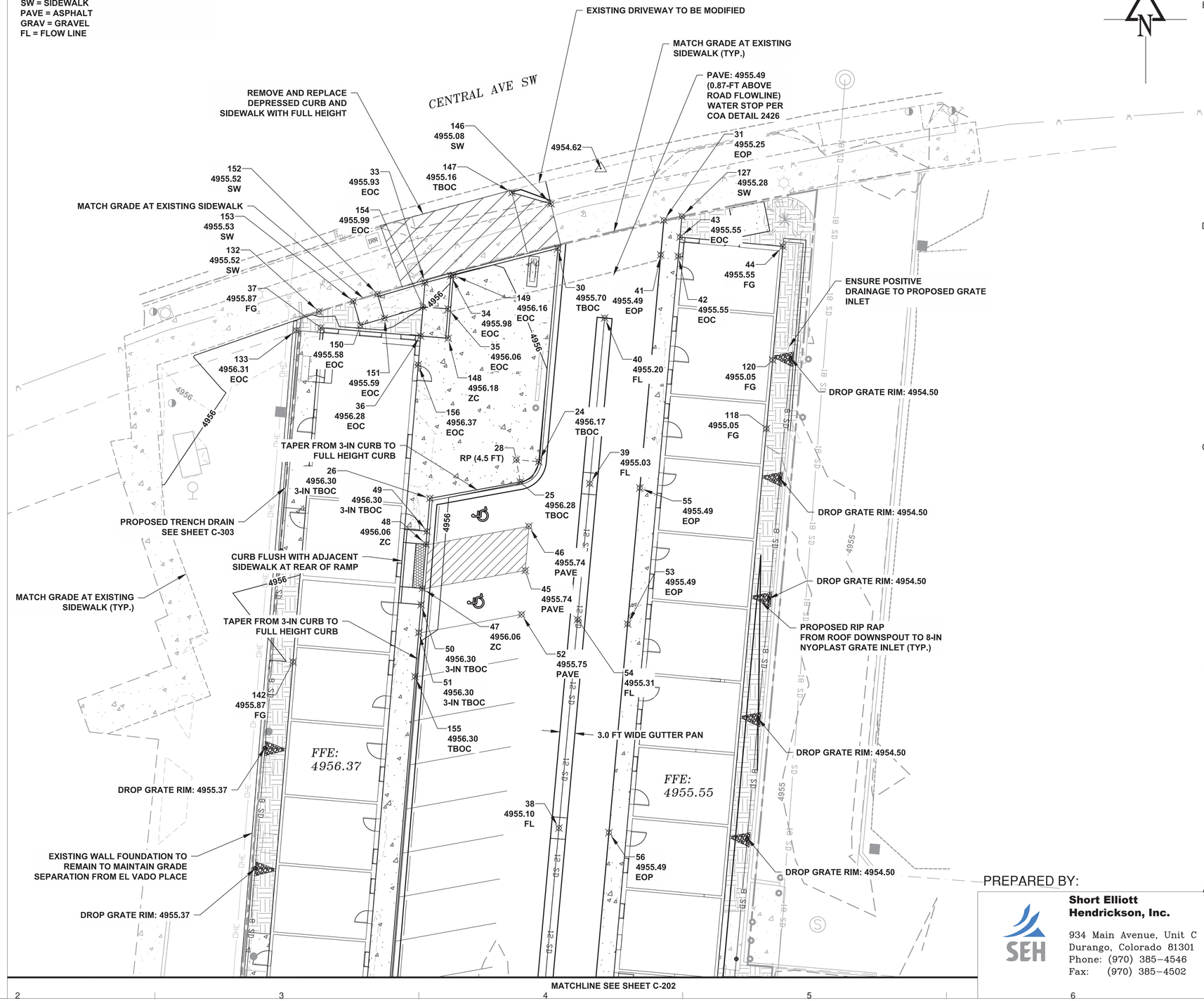
C-102

Point Table				
Point #	Northing	Easting	Elevation	Description
24	1490186.75	1513075.70	4956.17	TBOC
25	1490182.72	1513072.02	4956.28	TBOC
26	1490179.47	1513054.03	4956.30	3-IN TBOC
28	1490187.15	1513071.21		RP (4.5 FT)
30	1490229.21	1513079.50	4955.70	TBOC
31	1490234.79	1513100.59	4955.25	EOP
33	1490222.37	1513053.07	4955.93	EOC
34	1490223.72	1513058.20	4955.98	EOC
35	1490217.16	1513057.66	4956.06	EOC
36	1490211.76	1513052.19	4956.28	EOC
37	1490213.41	1513032.30	4955.87	FG
38	1490113.85	1513079.70	4955.10	FL
39	1490182.40	1513085.85	4955.03	FL
40	1490215.35	1513088.80	4955.20	FL
41	1490227.91	1513099.97	4955.49	EOP
42	1490227.61	1513103.46	4955.55	EOC
43	1490231.43	1513103.80	4955.55	EOC
44	1490229.59	1513124.27	4955.55	FG
45	1490165.12	1513073.02	4955.74	PAVE
46	1490173.89	1513073.74	4955.74	PAVE
47	1490161.55	1513052.55	4956.06	ZC
48	1490170.32	1513053.27	4956.06	ZC
49	1490172.91	1513053.49	4956.30	3-IN TBOC
50	1490158.31	1513052.28	4956.30	3-IN TBOC
51	1490152.78	1513051.82	4956.30	3-IN TBOC
52	1490156.35	1513072.29	4955.75	PAVE
53	1490154.46	1513093.38	4955.49	EOP
54	1490155.35	1513083.42	4955.31	FL
55	1490181.51	1513095.81	4955.49	EOP
56	1490112.96	1513089.66	4955.49	EOP
118	1490193.33	1513121.01	4955.05	FG
120	1490206.97	1513122.24	4955.05	FG
127	1490235.57	1513104.17	4955.28	SW
132	1490216.63	1513031.96	4955.52	SW
133	1490212.87	1513027.45	4956.31	EOC
142	1490146.92	1513026.79	4955.87	FG
146	1490238.07	1513078.12	4955.08	SW
147	1490240.29	1513070.36	4955.16	TBOC
148	1490211.32	1513057.68	4956.18	ZC
149	1490223.86	1513058.73	4956.16	EOC
150	1490213.91	1513040.20	4955.58	EOC
151	1490215.31	1513045.00	4955.59	EOC
152	1490220.09	1513043.61	4955.52	SW
153	1490218.67	1513038.81	4955.53	SW
154	1490217.57	1513052.68	4955.99	EOC
155	1490144.01	1513051.09	4956.30	TBOC
156	1490206.05	1513051.72	4956.37	EOC

NOTES:

FFE = FINISHED FLOOR ELEVATION
FG = FINISHED GRADE
TBOC = TOP BACK OF CURB
ZC = TOP BACK OF ZERO CURB
EOC = EDGE OF CONCRETE
EOP = EDGE OF PAVEMENT
SW = SIDEWALK
PAVE = ASPHALT
GRAV = GRAVEL
FL = FLOW LINE

PLAN
20 10 5 0 10



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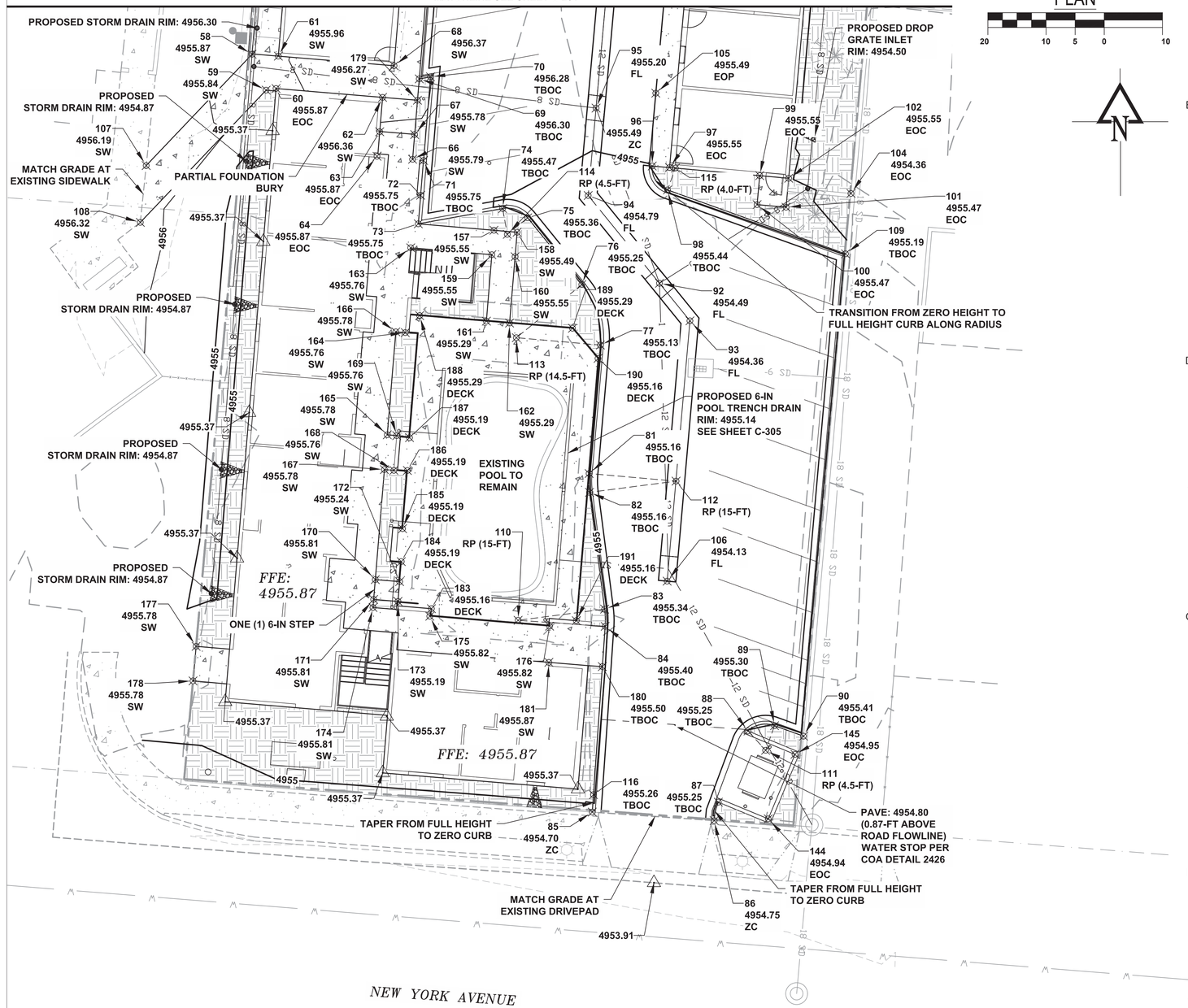
SHEET TITLE

NORTH DETAILED GRADING PLAN

C-201

Point Table				
Point #	Northing	Easting	Elevation	Description
58	1490077.43	1513016.48	4955.87	SW
59	1490071.26	1513018.90	4955.84	SW
60	1490071.54	1513020.61	4955.87	EOC
61	1490077.11	1513021.00	4955.96	SW
62	1490070.02	1513038.92	4956.36	SW
63	1490064.11	1513038.43	4955.87	EOC
64	1490059.88	1513037.96	4955.87	EOC
66	1490059.38	1513044.07	4955.79	SW
67	1490063.62	1513044.43	4955.78	SW
68	1490075.46	1513040.89	4956.37	SW
69	1490073.20	1513045.22	4956.30	TBOC
70	1490073.55	1513047.16	4956.28	TBOC
71	1490059.16	1513045.96	4955.75	TBOC
72	1490053.18	1513045.47	4955.75	TBOC
73	1490048.27	1513045.06	4955.75	TBOC
74	1490050.90	1513059.55	4955.47	TBOC
75	1490049.30	1513063.85	4955.36	TBOC
76	1490037.83	1513073.16	4955.25	TBOC
77	1490027.43	1513076.35	4955.13	TBOC
81	1490005.34	1513074.41	4955.16	TBOC
82	1490002.10	1513074.48	4955.16	TBOC
83	1489982.03	1513077.08	4955.34	TBOC
84	1489979.06	1513077.17	4955.40	TBOC
85	1489947.13	1513074.96	4954.70	ZC
86	1489945.66	1513095.91	4954.75	ZC
87	1489948.83	1513096.62	4955.25	TBOC
88	1489961.08	1513101.72	4955.25	TBOC
89	1489961.98	1513106.28	4955.30	TBOC
90	1489960.18	1513111.26	4955.41	TBOC
92	1490038.05	1513086.51	4954.49	FL
93	1490031.60	1513091.74	4954.36	FL
94	1490053.14	1513074.26	4954.79	FL
95	1490068.17	1513075.60	4955.20	FL
96	1490058.22	1513085.25	4955.49	ZC
97	1490057.95	1513088.24	4955.55	EOC
98	1490054.09	1513087.89	4955.44	TBOC
99	1490056.56	1513103.73	4955.55	EOC
100	1490051.58	1513103.28	4955.47	EOC
101	1490051.13	1513108.26	4955.47	EOC
102	1490056.11	1513108.71	4955.55	EOC
104	1490053.50	1513119.42	4954.36	EOC
105	1490070.74	1513085.88	4955.49	EOP
106	1489986.83	1513087.82	4954.13	FL
107	1490058.29	1512998.29	4956.19	SW
108	1490048.52	1512997.28	4956.32	SW
109	1490043.12	1513118.48	4955.19	TBOC
110	1489980.10	1513062.21		RP (15-FT)
111	1489957.75	1513104.75		RP (4.5-FT)
112	1490004.03	1513089.36		RP (15-FT)
113	1490028.69	1513061.90	4955.25	RP (14.5-FT)

Point Table				
Point #	Northing	Easting	Elevation	Description
114	1490046.47	1513060.35		RP (4.5-FT)
115	1490057.86	1513089.24		RP (4.0-FT)
116	1489950.11	1513075.17	4955.26	TBOC
144	1489945.96	1513105.20	4954.94	EOC
145	1489957.05	1513109.79	4954.95	EOC
157	1490047.16	1513058.06	4955.55	SW
158	1490046.83	1513062.04	4955.49	SW
159	1490042.97	1513057.70	4955.55	SW
160	1490042.63	1513061.69	4955.55	SW
161	1490031.54	1513056.75	4955.29	SW
162	1490031.21	1513060.74	4955.29	SW
163	1490044.15	1513043.75	4955.76	SW
164	1490029.57	1513042.82	4955.76	SW
165	1490011.99	1513039.73	4955.78	SW
166	1490029.70	1513041.19	4955.78	SW
167	1490006.02	1513039.23	4955.78	SW
168	1490005.88	1513040.86	4955.76	SW
169	1490011.86	1513041.35	4955.76	SW
170	1489987.10	1513037.66	4955.81	SW
171	1489983.69	1513037.38	4955.81	SW
172	1489986.75	1513041.85	4955.24	SW
173	1489983.35	1513041.56	4955.19	SW
174	1489982.30	1513037.26	4955.81	SW
175	1489980.80	1513047.04	4955.82	SW
176	1489979.09	1513067.62	4955.82	SW
177	1489975.62	1513006.87	4955.78	SW
178	1489969.68	1513006.34	4955.78	SW
179	1490069.52	1513044.92	4956.27	SW
180	1489972.14	1513076.69	4955.50	TBOC
181	1489972.87	1513067.50	4955.87	SW
183	1489982.10	1513047.31	4955.16	DECK
184	1489990.20	1513042.13	4955.19	DECK
185	1489995.86	1513042.35	4955.19	DECK
186	1490005.86	1513043.18	4955.19	DECK
187	1490011.50	1513043.55	4955.19	DECK
188	1490032.49	1513045.29	4955.29	DECK
189	1490030.31	1513071.56	4955.29	DECK
190	1490025.13	1513075.94	4955.16	DECK
191	1489980.04	1513072.21	4955.16	DECK



PLAN

20 10 5 0 10

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CHECKED BY: PR

SHEET TITLE

SOUTH DETAILED GRADING PLAN

C-202

PROPOSED ADDITION ROOF DRAIN
SEE SHEET C-304

PROPOSED WEST ROOF DRAIN
SEE SHEET C-303

PROPOSED POOL DRAIN
SEE SHEET C-305

PROPOSED INLET A1
COA SINGLE D TYPE INLET WITH
VALLEY PAN GRATE
STA: 0+59.73
N: 1489988.98
E: 1513088.01

PROPOSED INLET A3
COA SINGLE D TYPE INLET WITH
VALLEY PAN GRATE
STA: 1+40.89
N: 1490068.17
E: 1513075.60

PROPOSED INLET A4
COA SINGLE D TYPE INLET WITH
VALLEY PAN GRATE
STA: 1+86.74
N: 1490113.85
E: 1513079.70

PROPOSED INLET A5
COA SINGLE D TYPE INLET WITH
VALLEY PAN GRATE
STA: 2+55.57
N: 1490182.40
E: 1513085.85

TIE INTO EXISTING STORM MANHOLE
STA: 0+09.24
N: 1489944.94
E: 1513112.72

12-IN PVC PIPE
BEARING: S1° 45' 06.95"E
LENGTH: 45.9-FT

PROPOSED INLET A2
COA SINGLE D TYPE INLET WITH
VALLEY PAN GRATE
STA: 1+08.85
N: 1490038.05
E: 1513086.51

12-IN PVC PIPE
BEARING: S29° 17' 40
LENGTH: 46.6-FT

BEGIN STORM ALIGNMENT
STA:0+02.29
N:1489939.15
E:1513116.61

12-IN PVC PIPE
BEARING: S19° 53' 50.23"E
LENGTH: 28.7-FT

12-IN PVC PIPE
BEARING: S5° 07' 26.88"W
LENGTH: 42.9-FT

12-IN PVC PIPE
BEARING: S5° 07' 26.88"W
LENGTH: 65.9-FT

END STORM ALIGNMENT
STA:2+71.91
N:1490198.67
E:1513087.31

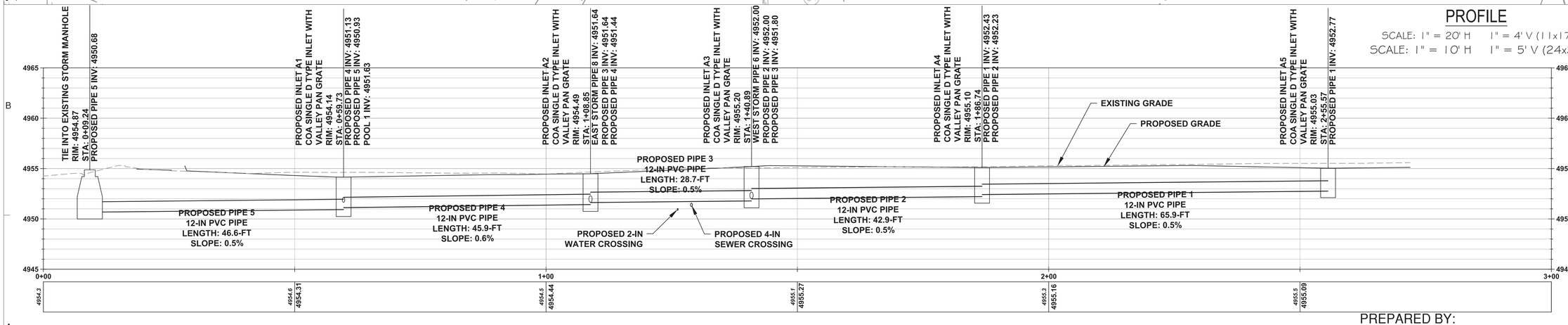
PROPOSED EAST ROOF DRAIN
SEE SHEET C-302

RIP RAP RUNDOWN (TYP.)

PLAN
20 10 5 0 10

PROFILE

SCALE: 1" = 20' H 1" = 4' V (11x17)
SCALE: 1" = 10' H 1" = 5' V (24x36)



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CHECKED BY: PR

SHEET TITLE

STORM P-PRO

C-301

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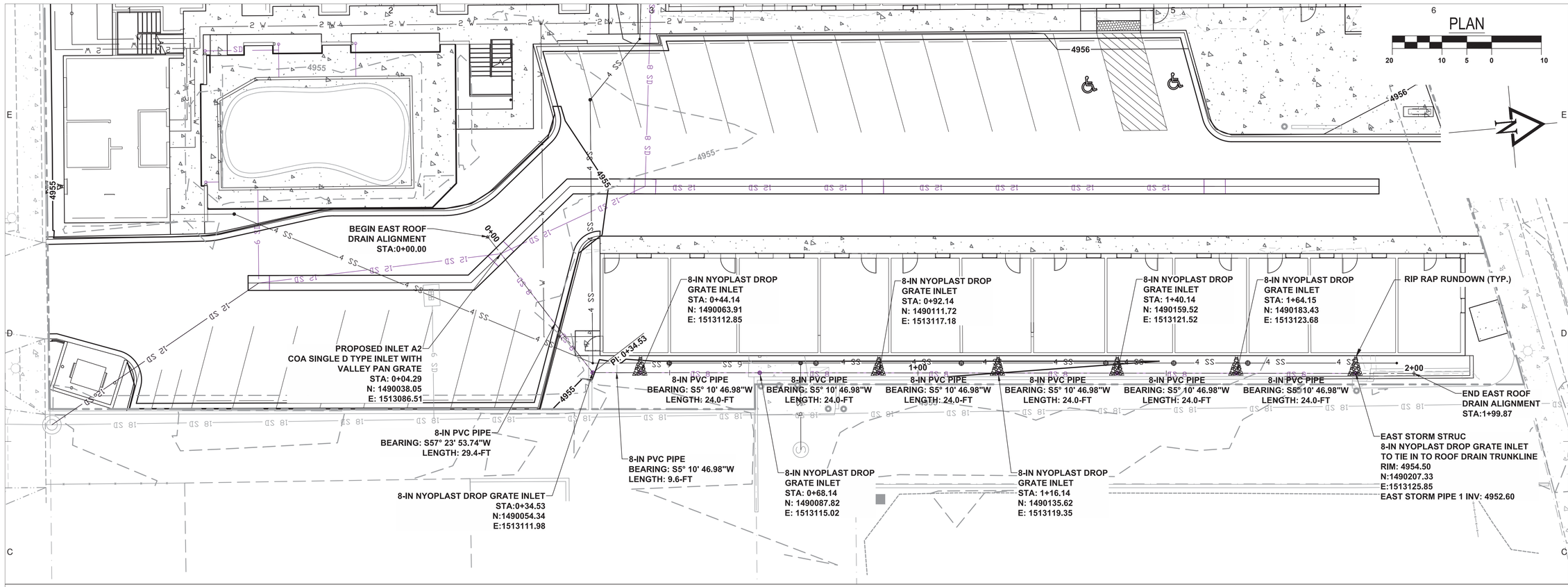

PROFILE

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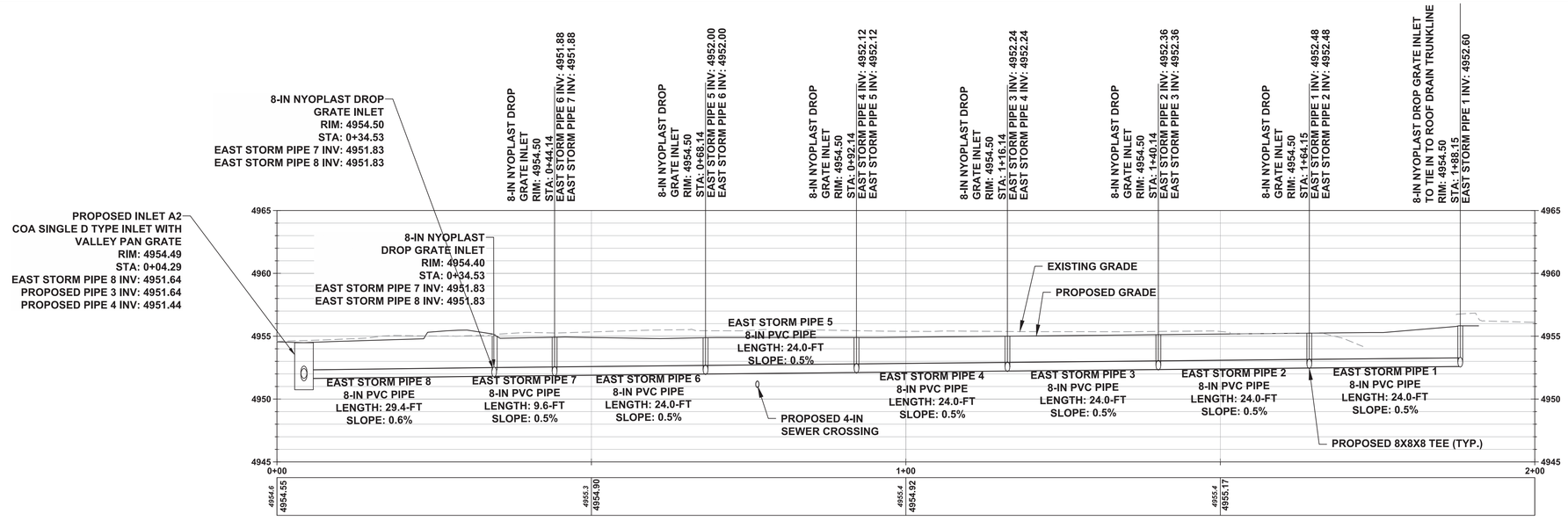
SCALE: 1" = 10' H 1" = 5' V (24x36)



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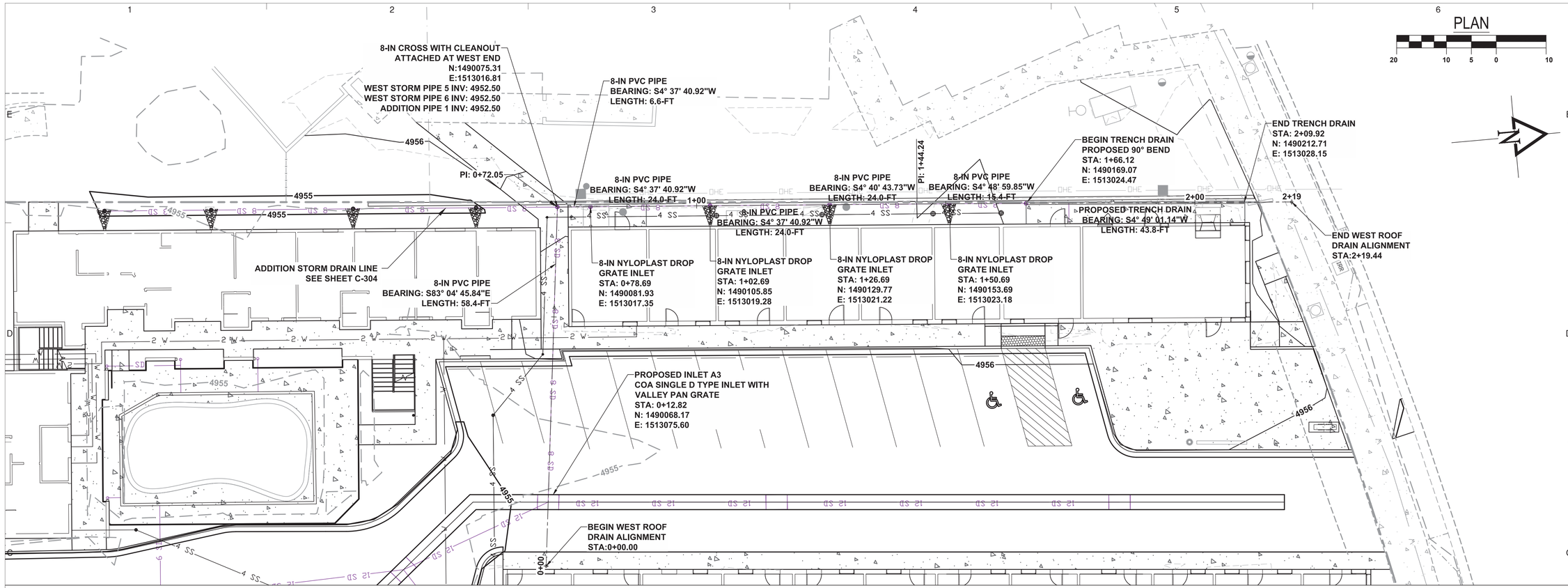
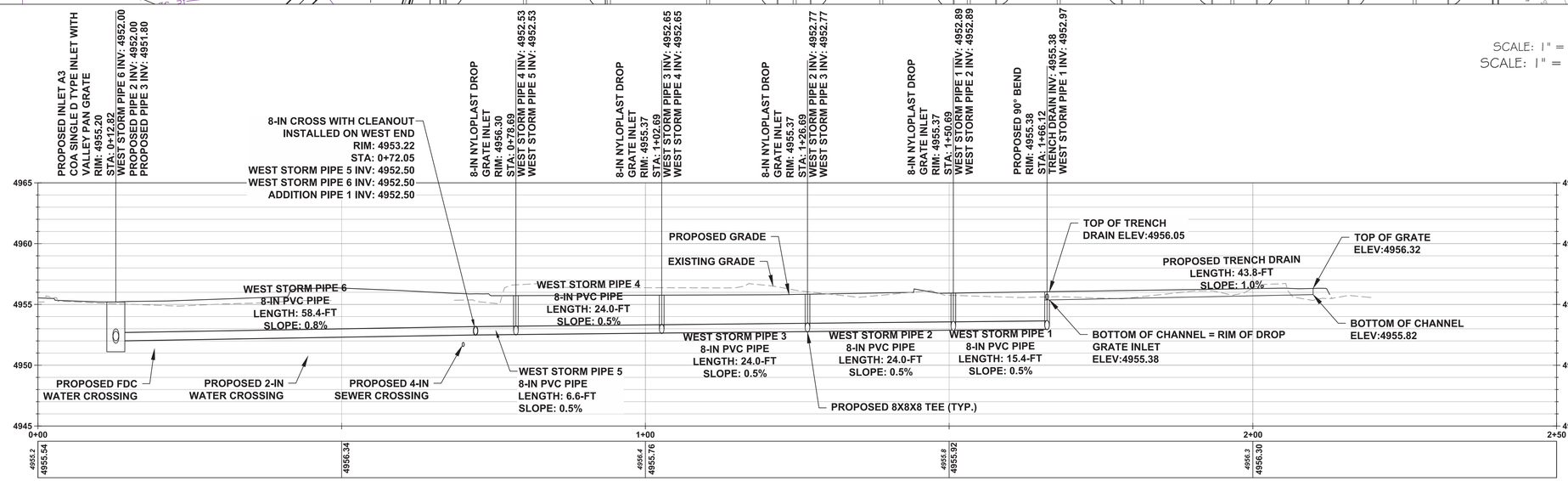
SHEET TITLE

EAST ROOF DRAIN P-PRO

C-302





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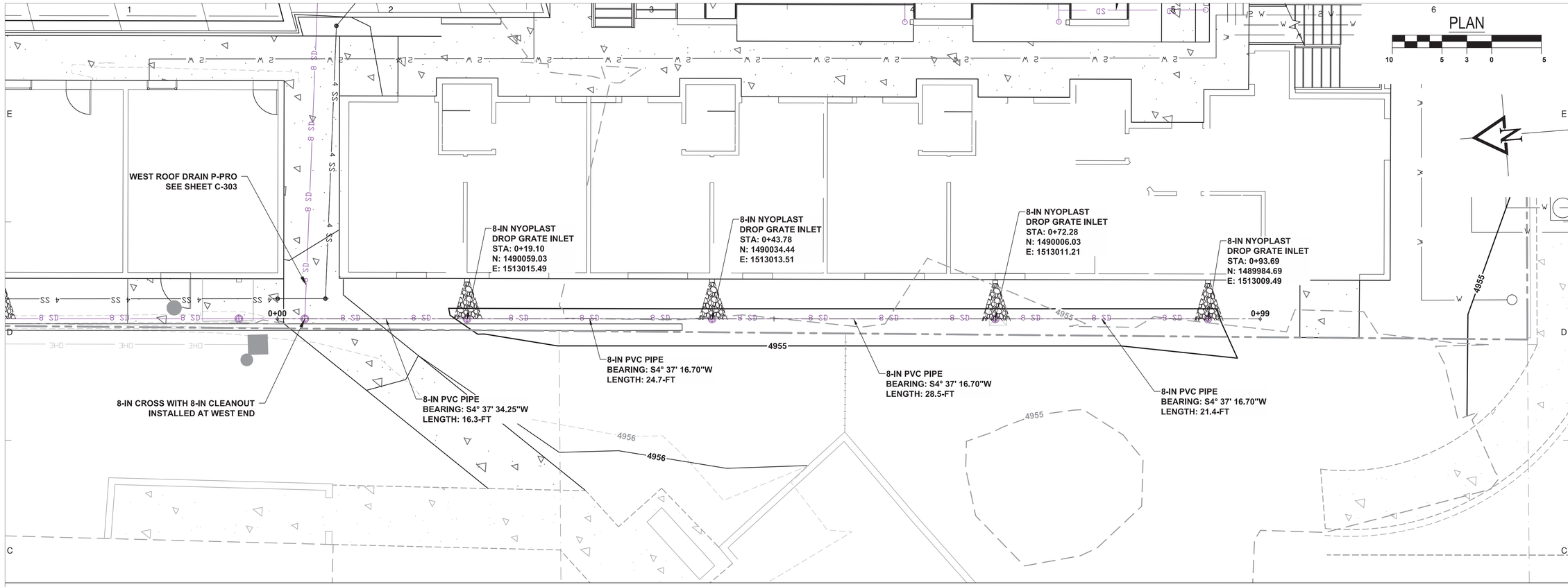
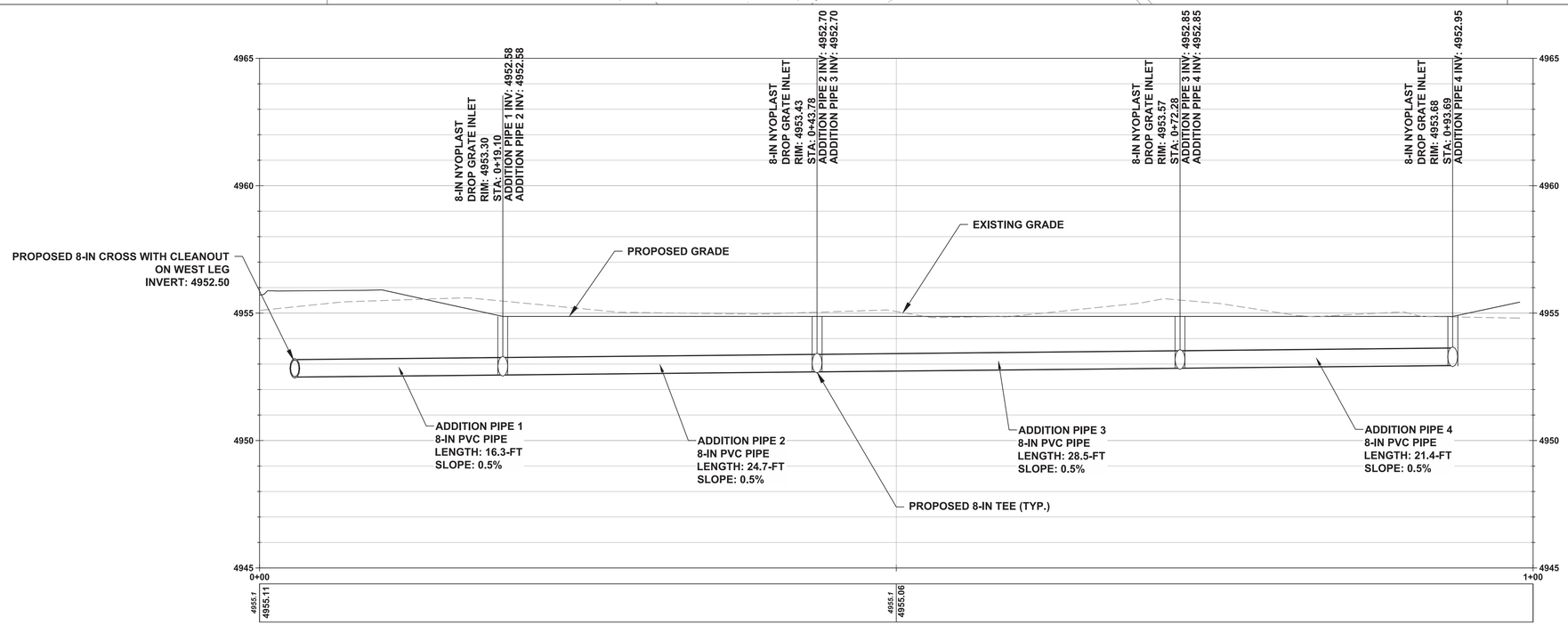
SHEET TITLE

WEST ROOF
DRAIN P-PRO

C-303





PROFILE

SCALE: 1" = 10' H 1" = 5' V (11x17)
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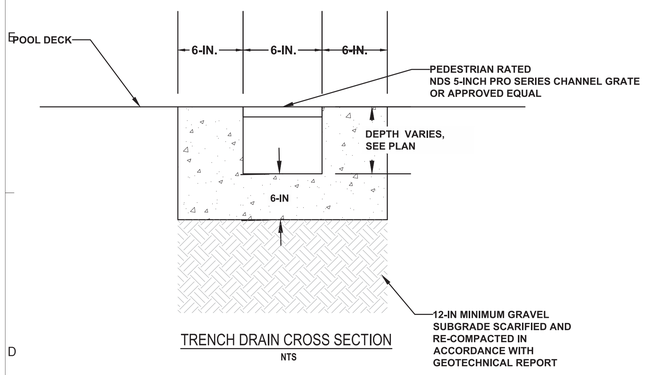
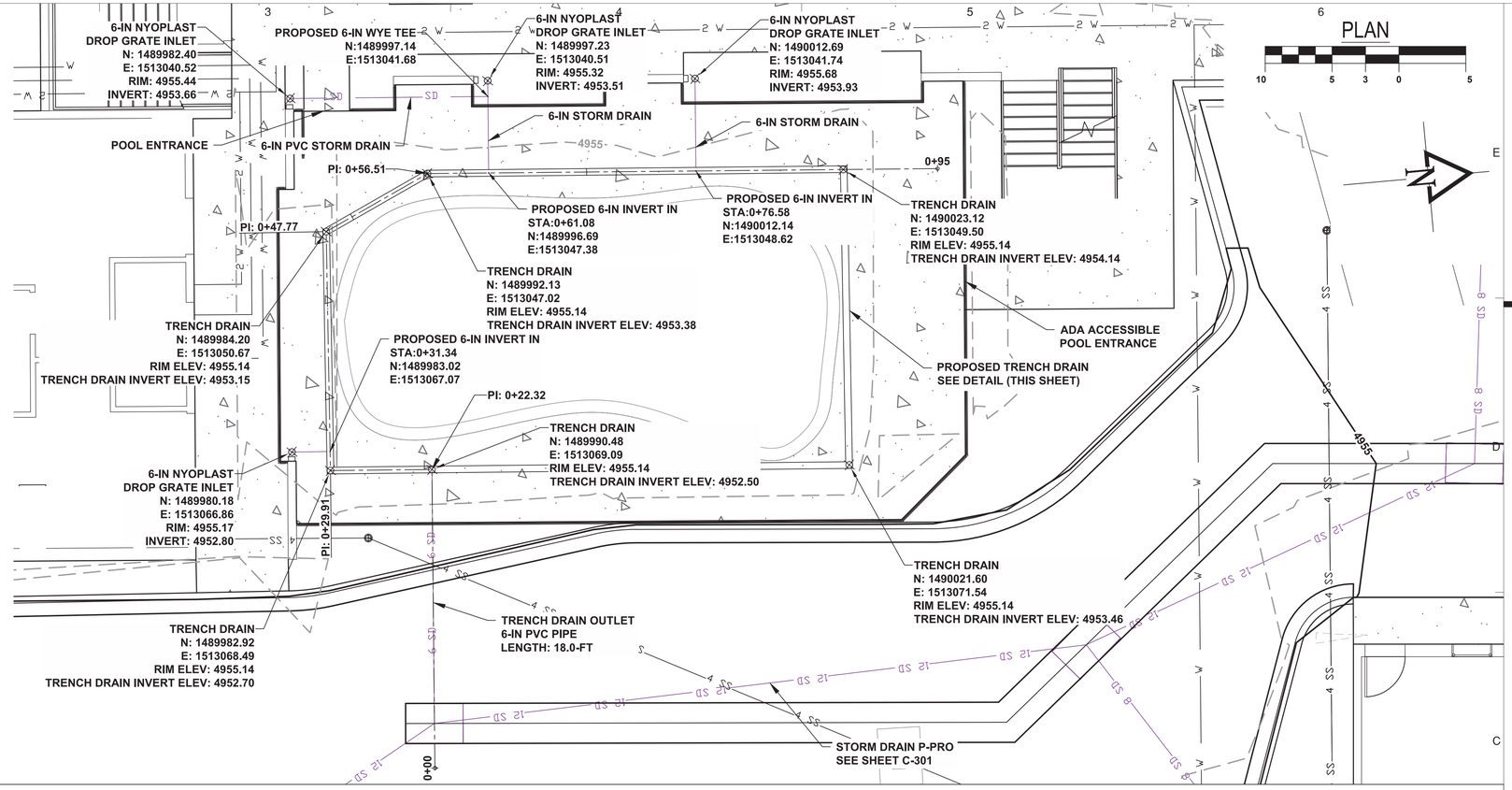
ADDITION
ROOF DRAIN
P-PRO

C-304



TRENCH DRAIN CROSS SECTION

NTS



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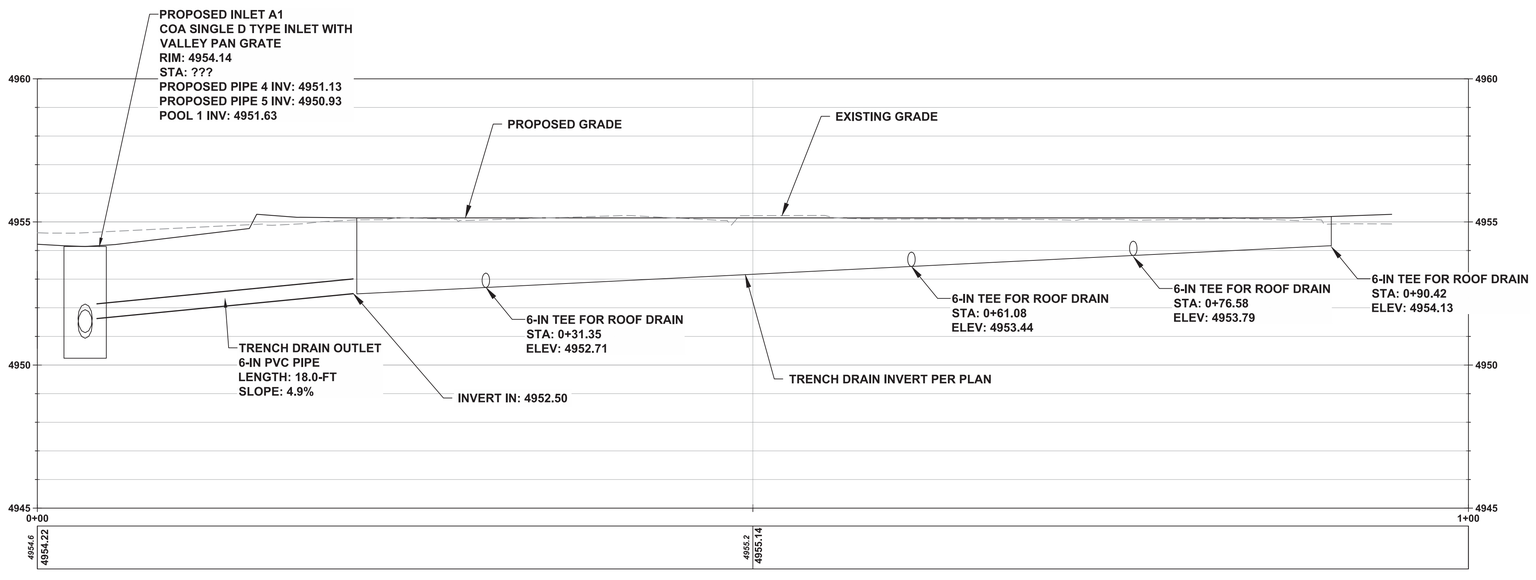

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03/04/2020
PROFESSIONAL ENGINEER

MONTEREY MOTEL
2402 CENTRAL AVE SW
ALBUQUERQUE, NM 87104

DATE: 03/04/2020

REVISIONS

DRAWN BY: HR

CHECKED BY: PR

SHEET TITLE

POOL DRAIN
P-PRO

C-305

City of Albuquerque Treasury
J-24 Deposit
Date: 3/4/2020 Office: ANNEX
Station ID Cashier: TRSRMS
Batch: 11148 Trans: 2
Fund: 305 Activity ID7547210
Account: 461615 Project ID24_ms4
Dept ID: Bus.Unit: pcdmd
Alloc Amt: $4,000.00
Trans Amt: $4,000.00
Check Tendered : $4,000.00

TREASURY DIVISION DAILY DEPOSIT

Transmittals for:
PROJECTS Only

Payment In-Lieu for Storm Water Quality Volume Requirement

CASH COUNT	AMOUNT	ACCOUNT NUMBER	FUND NUMBER	BUSINESS UNIT	PROJECT ID	ACTIVITY ID	AMOUNT
TOTAL CHECKS	$ 4000.00	461615	305	PCDMD	24_MS4	7547210	$ 4000.00
TOTAL AMOUNT						TOTAL DEPOSIT	**$4000.00**

Hydrology#: J12D032 Name: Monterey Motel, 23087 sf imp.
Payment In-Lieu For Storm Water Quality Volume Requirement

Address/Legal Description: 2402 Central Avenue SW
LOTS 11-A, TRACTION PARK AND CITY ELECTRIC ADDITION

DEPARTMENT NAME: Planning Department/Development Review Services, Hydrology

PREPARED BY Dana Peterson PHONE 924-3695

BUSINESS DATE 2/20/20

DUAL VERIFICATION OF DEPOSIT _____
EMPLOYEE SIGNATURE

AND BY _____
EMPLOYEE SIGNATURE

REMITTER: _____

AMOUNT: _____

BANK: _____

CHECK #: _____ DATE ON CHECK: _____

The Payment-in-Lieu can be paid at the Plaza del Sol Treasury, 600 2nd St. NW. **Bring three copies of this invoice to the Treasury** and provide a copy of the receipt to Hydrology, Suite 201, 600 2nd St. NW, or e-mail with the Hydrology submittal to PLNDRS@cabq.gov.